CONSTRUCTION QUALITY ASSURANCE

FINAL REPORT

PHASE IV - CELL 2 FINAL COVER AND PHASE V - CELL 6 LINER CONSTRUCTION ON-SITE DISPOSAL FACILITY

United States Department of Energy
Fernald Environmental Management Project
Fernald, Ohio

prepared by

GEOSYNTEC CONSULTANTS

Fernald Field Office
7400 Willey Road, MS:38
Hamilton, Ohio 45013

under

Fluor Fernald, Inc.
Contract No. 03FF0699

DEPARTMENT OF ENERGY
UNITED STATES OF AMERICA

REVISION 0
FEBRUARY
VOL

APPENDICES I THRU U

APPENDIX I

CONTRACTOR'S CERTIFICATION OF ACCEPTANCE OF SUBGRADE SURFACE

CELL 2 CAP

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: FLUOR FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool, OK	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ 80 MIL HDT - WEST SLOPE Phase IV GCL PLACEMENT - WEST SLOPE

DATE	PANEL NOS.	SIGNATURE
6/21/03 (GCL)	GCL-1(562), GCL-2(919), GCL-3(948), GCL-4(560), GCL-5(780), GCL-6(791)	
80 Mil HDT	* 10210326 1 (370') (west crest to bottom limits) NOT WELDED 6/21/03	

000005

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: Istre Co	NAME: FLUOR FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
ADDRESS: 13811 S. Portland, Glenpool OK 74033	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR, FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 / PHASE IV

DATE	PANEL NOS.	SIGNATURE
6/22/03	GCL-7(794), GCL-8(767)	[signature]
* GCL	GCL-9(526), GCL-10(804)	
(EAST Slope)	GCL-11(754), GCL-12(844) Printed	
(WEST Slope)	GCL-13(745), GCL-14(732)	
	GCL-15(791) Digital, GCL-16(801), GCL-17(561)	
80 Mil HDPE	P-2 (102103279) - East Slope	
	P-3 (102103292) - West Slope	

000006

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: (W) SHEET NO. 2 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool, OK	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR, FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 / PHASE II

DATE	PANEL NOS.	SIGNATURE
6/23/03	GCL-18 to	
* GCL	Roll # 788, 730, 525, 898, 789, 828, 564, 899, 827, 900, 943, 926, 938	[signature]
80 Mil S.S.	P-4, P-5, P-6, P-7	
	Roll # 102103324	
	Roll # 102103291	
	Roll # 102103320	
	Roll # 102103274	[signature]

000007

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: Istre Co.	NAME: FERNALD REMEDIATION CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool, OK 74033	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	[signature]
	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP #2 | PHASE IV

DATE	PANEL NOS.	SIGNATURE
6/24/03	GCL-32 to 49	
*GCL Installed	Roll# 917, 941, 933, 920, 916, 932, 955, 923, 947, 922, 940, 922, 937, 893, 894, 878, 890	[signature]
80 Mil HDPE Installed	P-8, P-9, P-10, P-11, P-12 P-8 - 102103269 P-9 102103264 P-10 102103267 P-11 102103285 P-12 102103271	[signature]

000008

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: Istre Co.	NAME: FERNALD ENVIRONMENTAL MANAGEMT PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool, OK 74033	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co, do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap # 2 / PHASE IV

DATE	PANEL NOS.	SIGNATURE
6-25-03	GCL #50 to	
GCL installed Roll numbers	#871, #940, #887, #880, #867 #906, #799, #798, #886, #829 #826, #889, #842	[signature]
80 Mil HDT Installed Roll Numbers & Panel No:	P-13 - HDT080A503/102103253 P-14 - HDT080A503/102103253 P-15 - HDT080A503/102103205 P-16 - HDT080A503/102103310	[signature]

000009

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Sapulpa Rd Colmpoolnok 74033	LOCATION: FERNALD OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, the undersigned, duly authorized representative of the Installer, Istre Co., do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP #2 / CELL #2 PHASE IV

DATE	PANEL NOS.	SIGNATURES		
		INSTALLER	GEOSYNTEC	FDF
6/28/03	Roll #'s 838, 843, 876,			
	791 (Partial), 949 (Partial)			
*GCL Installed	999, 799 (Partial), 845,			
	905, 935, 921 (Partial)			
	(East Slope)			
80 Mil HDT	P-17 (102103334)			
(East Slope)	P-18 (102103301)			
	P-19 (102103333)			
	P-20 (102103342)			

000010

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: Fluor/FERNALD Environmental Management Project
ADDRESS: 13811 S. Poplar Pl. Claremore, OK 74033	LOCATION: Fernald, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, the undersigned, duly authorized representative of the Installer, Istre Co., do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP/CELL #2 Phase IV

DATE	PANEL NOS.	SIGNATURES		
		INSTALLER	GEOSYNTEC	FDF
6/30/03	849, 837, 954, 840		[signature]	
	907, 863, 835, 831, 871			
GCL	918, 839, 840, 834, 757			
	929, 758, 526	[signature]		
80 Mil HDT	P21 - HDT080AC53 / 10203312		[signature]	
	P22 - " / 102103345			
	P23 " / 102103330			
	P24 " / 102103265	[signature]		

000011

GeoSyntec Consultants REVIEWED BY: [signature] SHEET NO. 7 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: FLUOR CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl. Glenpool, OK 74033	LOCATION: FERNALD, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRE Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP #2, CELL #2 / PHASE I & 2

DATE	PANEL NOS.	SIGNATURE
7/1/03	763, 793, 885, 868, 875,	
	728, 549, 820, 792, 733,	
GCL Installed	563, 797, 771, 823, 796	
	774, 732, 888, 800	[signature]
80 Mil HDT	P25 HDT080A503/102103254	
Installed	P26 HDT080A503/102103314	
	P27 HDT080A503/102103341	
	P28 HDT080A503/102103236	
	P29 HDT080A503/102103283	[signature]

000012

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: [signature] SHEET NO. 8 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: Istre Co.	NAME: Fernald Closure Project
ADDRESS: 13811 S. Poplar Pl Glenpool, OK 74033	LOCATION: Fernald, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cell #2 - PHASE IV

DATE	PANEL NOS.	SIGNATURE
7-3-03	778, 687, 776, 886, 785 819, 884, 769, 768, 883	
GCL Installed	832, 690,	[signature]
80 mil HDT	P-30 HDT080AS03/102103296	
	P-31 HDT080AS03/102103346	
	P-32 HDT080AS03/102103317	[signature]
	P-33 HDT080AS03/102103304	

000013

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: TW SHEET NO. 9 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co	NAME: FLUOR FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl, Glenpool, OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Grp #2 Phase IV

DATE	PANEL NOS.	SIGNATURE
7/11/03		
GCL Installed	Roll # 733, #887, #730	[signature]
80 Mil HDT	Roll # HDT08DA503/10210326 P-34 and P-35	[signature]

000014

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: ISTRE CO.	NAME: FLUOR FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl. Glenpool, OK 74033	LOCATION: HAMILTON OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRE Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 - Cell #2 - PHASE IV

DATE	PANEL NOS.	SIGNATURE
7/12/03		
GCL installed	Roll # 848, 885, 907, 904, 862, 815, 810, 832, 897, 734, 817, 833, 822	[signature]
80 Mil HDT	P-36 - HDTC80ASC3/102103268 P-37 - HDTC80ASC3/102103268 P-38 - HDTC80ASC3/102103321 P-39 - HDTC80ASC3/102103337 P-40 - HDTC80ASC3/102103336	[signature]

000015

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl, Glenpool, OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Co. do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 - Cell #2 - PHASE III

DATE	PANEL NOS.	SIGNATURE
GCL 7/13/03	#819, #902, #874, #896 no other Roll#s from Fluor	[signature]
80 mil HDT 7/13/03	P-41 - HDT080A503/10203319	
	P-42 - HDT080A503/10210328-7	
	P-43 - HDT080A503/10203282	
	P-44 - HDT080A503/10203282	
	P-45 - HDT080A503/10203282	
	P-46 - HDT080A503/10203282	[signature]

000016

CELL 6 SECONDARY

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The ISTM Co.	NAME: Fernald Closure Project
ADDRESS: 13911 S. Poplar Pl Glenpool OK 74033	LOCATION: Hamilton Ohio
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: Fluor Fernald

I, The undersigned, duly authorized representive of Istm do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

Cell #6

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/17/03 GCL	Roll #823 865, 777, 879, 890 #811, #694, #893, #818,	
80 MIL HDT	HDT080AS03/102103338-S1	
	HDT080AS03/102103338-S2	
	HDT080AS03/102103338-S3	
	HDT080AS03/102103338-S4	
	HDT080AS03/102103338-S5	
	HDT080AS03/102103282-S6	
	HDT080AS03/102103282-S7	
	HDT080AS03/102103226-S8	
	HDT080AS03/102103226-S9	

000018

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The ISTEC Co.	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl	
Glenpool, OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTEC COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ (Cell #6) OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/18/03	#809, #781, #816, #820	
	#866, #892, #840, #771	
GCL		
80 Mil HDT	HDT080A503/102103206 - S-10	
	HDT080A503/102103208 - S-11	
	HDT080A503/102103208 S-12	
	HDT080A5307/102103204 S-13	
	HDT080A503/102103204 S-14	
	HDT080A503/102103204 S-15	

000019

©GEOSYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: (W) SHEET NO. 2 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Istre Co.	NAME: FLOUR CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl	
Glenpool, OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRE COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ (Cell #6) OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/22/03	#582, #580, #585, #636	
	#559, 894, 838, 867	
GCL		
	S-16 - HDT080AS03/102103240	
	S-17 - HDT080AS03/102103211	
	S-18 - HDT080AS03/102103211	
	S-19 HDT080AS03/102103210	
	S-20 HDT080AS03/102103210	

000020

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: ISTRE Co.	NAME: FLUOR FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Peoplan Pl Glenpool OK 74033	LOCATION: HAMILTON OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRE COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ Cell #6 OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/23/03 GCL	#587, #589, 772, 821, 868 #581, 588, 583, 704, 702 #736, 700, 774, 737, 570 #574	
80 MIL HDT	P-21- HDT080AS03/102103218 P-22- HDT080AS03/102103218 P23- HDT080AS03/102103231 P24- HDT080AS03/102103271 P25- HDT080AS03/102103228 P26- HDT080AS03/102103228 S27- HDT080AS03/102103288 S28- HDT080AS03/102103288	

000021

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: W SHEET NO. 4 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NA Istre Co.	NAME: FLUOR FERNALD PRESSURE Project
ASS: 13811 S. Poplar Pl	
Glenpool OK 74033	LOCATION: HAMILTON, OHIO
ALLER HORIZED RESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of Istre Company o hereby accept the surface on which the geosynthetics will be installed and shall be esponsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

ARY: ☐ SECONDARY: ■ Cell #6 OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/24/03 GCL	#701, #570, #575, #776, #458, #735, #572, 458(HLD), 569, 630, 457(HLD), 606, 605, 627, 456(HLD), 573, 460(HLD) 654, 655,	
7/24/03 80 Mil HDT	HDT080AS03/102103259 - S-29 HDT080AS03/102103257 - S-30 HDT080AS03/102103353 - S-31 HDT080AS03/102103289 - S32 HDT080AS03/102103263 - S33	

000022

SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: TW SHEET NO. 5 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: Istre Co	NAME: Fernald Closure Project
ADDRESS: 13811 S. Poplar Pl Glenpool, OK 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: Fluor Fernald

I, The undersigned, duly authorized representive of Istre Company do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ Cell #6 OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
7/25/03 GCL	692, 624, 627, 582, 634, 579, 641, 839, 632, 604, 653, 818, 633, 635, 482, 628, 636, 637	[signature]
7/25/03 80 mil HDT	S-34 - HDT080AS03/102103262 S-35 - HDT080AS03/102103306 S-36 HDT080AS03/102103308 S-37 HDT080AS03/102103309 S-38 HDT080AS03/102103315	[signature]

000023

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Pstn Co	NAME: FLUOR FERNOLD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☒ Cell #6 OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
7/29/03 GCL	633(520), [redacted], 628, 721, 485, 453, 463, 484, 483, 607, 631, 742, 891, 571, 800, 724	
7/29/03 80 Mil HDT	S-39 HDT080AS03/102103212 S-40 HDT080AS03/102103266 S-41 HDT080AS03/102103339 S-42 HDT080AS03/102103332	

000024

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: (W) SHEET NO. 7 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible] Co	NAME: FLUOR FERNALD CLOSURE PROJECT
ADDRESS: 13911 S. [illegible] Blanchard OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ☒ Cell #6 OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
7/30/03	#454, #462, #459, #446, #783	
GCL	#781, #779, #743, #447, #628	
(West End IC Berm)	#780, #707	
	S-55 - HDT080A503/102103325	
	S-54 - HDT080A503/102103325	
	S53 - HDT080A503/102103325	
	S52 - HDT080A503/102103281	
7/30/03	S51 - HDT080A503/102103281	
80 Mil HDT	S43 - HDT080A503/102103209	
West End IC Berm	S44 - HDT080A503/102103209	
	S45 - HDT080A503/102103275	
	S46 - HDT080A503/102103275	
	S47 - HDT080A503/102103275	
	S48 - HDT080A503/102103275	
	S49 - HDT080A503/102103281	
	S50 - HDT080A503/102103281	

000025

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible]	NAME: Fluor Fernald Closure Project
ADDRESS: 1388 US Highway [illegible] Sherrill OK 74033	LOCATION:
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: Fluor Fernald

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ Cell #6 OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
7/31/03 GCL SW Corner of Cell #6	#857, #864, #817, #855 #778, #710, #586, #784	[signature]
GML	S-56-HDT080A503/102103258 S-57-HDT080A503/102103258	[signature]

000026

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: [illegible] SHEET NO. 9 OF 12

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The ISM Co.	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar Pl Glenpool, OK. 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ (Cell #6) OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8/1/03 80 Mil HDT	S-58 HDT080AS03/102103335	
8/6/03 GCL (West Half (GCL#6)	#460, #668, 458, 708, 706, 782 603, 455, 464, 632, 458, 156 361, 367, 719, 720, 667, 722	
8/6/03 80 Mil HDT	S-59 - HDT080AS03/102103272 S-60 - HDT080AS03/102103335 S-61 - HDT080AS03/102103205 S-62 - HDT080AS03/102103238	

000027

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The ISTRC Co.	NAME: FERNALD CLOSURE project
ADDRESS: 13811 S. Poplar Pl Bixenpool, OK. 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRC Company do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☐ SECONDARY: ■ Cell #6 OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
8/7/03	S-63- HDT080AS03/102103294	
	S-64- HDT080AS03/102103347	
80 MIL HDT		
(West End)		
N & S of		
drainage cor.		

000028

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible] Co.	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Poplar [illegible] Collinsville, OK, 74033	LOCATION: HAMILTON OHIO
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: FLUOR FERNALD

I, The undersigned, duly authorized representive of ISTRE COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

Cell #6

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
8/8/03	S-65 - HDT080A503/102103340	
	S-66 - HDT080A503/102103224	
	S-67 HDT080A503/102103300	
	S-68 HDT080A503/102103352	
	S-69 - HDT080A503/102103302	[signature]

000029

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: (W) SHEET NO. 12 OF 12

CELL 6 PRIMARY

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible] Co	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar Pl Glenpool, OK 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-12-03	P1-HDT080A503/102103213	
	P2-HDT080A503/102103213	
80mil HDPE	P3-HDT080A503/102103299	
GML	P4-HDT080A503/102103299	
	P5-HDT080A503/102103299	
	P6-HDT080A503/102103299	
	P7-HDT080A503/102103213	
	P8-HDT080A503/102103260	
	P9-HDT080A503/102103260	
	P10-HDT080A503/102103260	
	P11-HDT080A503/102103260	[signature]
		CHW [signature]

CERTIFICATE OF ACCEPTANCE
SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: ESTeCo	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar St. Glenpool, OK 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-13-03	P-12 - HDT080A503/102103239	
	P-13 - HDT080A503/102103239	
80 mil HDPE	P-14 - HDT080A503/102103203	
GML	P-15 - HDT080A503/102103203	
	P-16 - HDT080A503/102103311	
	P-17 HDT080A503/102103311	[signature]
		CHW

000032

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: John Q.	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar Pl Sheppard AK 74083	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-14-03	P-18 HDT080AS503/102103313	
80 mil HDPE	P-19 HDT080AS503/102103207	
GML	P 20- HDT080AS503/102103207	
	P21 - HDT080AS03/102103270	
	P22 - HDT080AS03/102103270	
	P23 - HDT080AS03/102103354	
	P24 - HDT080AS03/102103354	
	P25 - HDT080AS03/102103344	[signature]
		CHW [signature]

000033

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible] Co.	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar Pl	
Glenpool, OK 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-15	P-26 HDT080A503/102103206	
80 mil HDPE	P-27 HDT080A503/102103201	
GML	P28 HDT080A503/102103256	[signature]
		CHW [signature]

000034

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: John D.	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar St Glenpool, OK 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of ISTRE COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
8-18-03	P-29 HDT080AS03/102103252	
80mil HDPE	P-30 HDT080AS03/102103343	
GML	P31 HDT080AS03/102/03229	
	P32 HDT080AS03/102/103202	[signature]
		CHW

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: [signature] SHEET NO. 5 OF 11

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Sistu Co.	NAME: Fluor Fernald
ADDRESS: 13811 S. Poplar Pl	
Coleman, OK, 74033	LOCATION: Hamilton, Ohio
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-19-03	P-33 HDT080AS03/102103280	
80 mil HDPE	P34 HDT080AS03/102103318	
GML	P35 HDT080AS03/102103295	
	P36 HDT080AS03/102103230	

000036

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: SHEET NO. 6 OF 11

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

5371

INSTALLER	PROJECT
NAME: The IsTec Co.	NAME: FERNALD CLOSURE PROJECT
ADDRESS: 13811 S. Peoria Pl	
Skiatook, OK 74033	LOCATION: HAMILTON, OHIO
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: DOE

I, The undersigned, duly authorized representive of ISTEC COMPANY do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

DATE	PANEL NOS.	SIGNATURE
8/21/03	P-37- HDT080AS03/102103222	
	P-38 - HDT080AS03/102103348	
	P-39 - HDT080AS03/102103326	
		RTB

000037

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: RTB SHEET NO. D OF 11

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The J.S.T. Co	NAME: Fluor Fernald
ADDRESS: 1881 S. Poplar Pl. Glenpool, OK 74033	LOCATION: Hamilton, OH
INSTALLER AUTHORIZED REPRESENTATIVE:	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-22-03	P40-HDT080A503/102103344	
80 mil HDPE	P41-HDT080A503/102103278	
GML	P42-HDT080A503/102103278	
	P43-HDT080A503/102103290	
	P44-HDT080A503/102103290	

000038

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: _____ SHEET NO. 9 OF 11

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Lost Co.	NAME: Fluor Fernald
ADDRESS: 13811 S. Peoria Pl Glenpool, OK 74033	LOCATION: Hamilton, OH
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-25-03	P45 - HDT080AS03/102103220	
80mil HDPE	P46 - HDT080AS03/102103220	
GML	P47 - HDT080AS03/102103273	
	P48 - HDT080AS03/102103273	
	P49 - HDT080AS03/102103217	
	P50 - HDT080AS03/102103217	RTH
	P51 - HDT080AS03/102103223	
	P52 - HDT080AS03/102103223	
	P53 - HDT080AS03/102103223	
	P54 - HDT080AS03/102103223	
	P55 - HDT080AS03/102103259	
	P56 - HDT080AS03/102103259	
	P57 - HDT080AS03/102103259	
	P58 - HDT080AS03/102103216	
	P59 - HDT080AS03/102103216	[signature]

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: RTH SHEET NO. 9 OF 11

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: The Tetra Co.	NAME: Fluor Fernald
ADDRESS: 13811 S. Peoplant Pl. Glenpool, OK, 74033	LOCATION: Hamilton, OH
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER: DOE

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-26	P-60 HDT080AS03/102103227	
	P-61 HDT080AS03/102103297	RTH
	P-62 HDT080AS03/102103215	
	P-63 HDT080AS03/102103214	[signature]

000040

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: RTH SHEET NO. 10 OF 11

5371

CERTIFICATE OF ACCEPTANCE SUBGRADE SURFACE

INSTALLER	PROJECT
NAME: [illegible] Co.	NAME:
ADDRESS: 138 11 S. Poplar Pl. Glenpool OK 74033	LOCATION:
INSTALLER AUTHORIZED REPRESENTATIVE: [signature]	OWNER:

I, The undersigned, duly authorized representive of _____ do hereby accept the surface on which the geosynthetics will be installed and shall be responsible for maintaining the suitability of this surface, in accordance with the project specifications. (i.e., The contractor shall not install the geosynthetics until the subgrade surface is acceptable. Installation of the geosynthetics will be considered acceptance of the subgrade.)

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ _____

DATE	PANEL NOS.	SIGNATURE
8-28-03	P64 HDT 080A503/102103316	
	P65- HDT080A503/102103322	RTH
	P66 - HDT080A503/102103251	
	P67 - HDT080A503/102103331	
	P68 - HDT080A503/102103225	[signature]

000041

©GEO SYNTEC CONSULTANTS FILE NO. 3-03-CAS REVIEWED BY: [illegible] SHEET NO. 11 OF 11

APPENDIX J

GEOMEMBRANE PANEL PLACEMENT MONITORING LOGS

CELL 2 CAP

GEOSYNTEC CONSULTANTS

FLUOR FERNALD 5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. GO3211 TASK NO.: 3.3

DESCRIPTION: CAP #2 / PHASE I YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: CAP #2 PRODUCT TYPE: 80 Mil HDT

PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID	
1	HDT080AS03/102103261	6/22/03	315pm	West Slope - Toe to Crest	22.5	393	RH	8842.5
2	HDT080AS03/102103279	6/22/03	427pm	East " " "	22.5	363		8167.5
3	HDT080AS03/102103292	6/22/03	1115am	West " " "	22.5	378		8505
4	HDT080AS03/102103324	6/23/03	900am	East " " "	22.5	377		8482.5
5	HDT080AS03/102103291	6/23/03	1110am	West " " "	22.5	382		8595
6	HDT080AS03/102103320	6/23/03	1320pm	East " " "	22.5	377		8482.5
7	HDT080AS03/102103294	6/23/03	1350pm	West " " "	22.5	382		8595
8	HDT080AS03/102103269	6/24/03	920am	East " " "	22.5	381		8572.5
9	HDT080AS03/102103264	6/24/03	1100am	" " " "	22.5	378		8505
10	HDT080AS03/102103267	6/24/03	1300pm	" " " "	22.5	378		8505
11	HDT080AS03/102103285	6/24/03	1600pm	West " " "	22.5	382		8595
12	HDT080AS03/102103271	6/24/03	1745pm	" " " "	22.5	381		8572.5
13	HDT080AS03/102103253	6/25/03	1323pm	Top of Crest - South of EXT	22.5	169		3802.5
14	HDT080AS03/102103253	6/25/03	1400pm	" "	22.5	169		3802.5
15	HDT080AS03/102103205	6/25/03	1430pm	East Slope - Toe to Crest	22.5	376		8460
16	HDT080AS03/102103310	6/25/03	1600pm	West " " "	22.5	382		8595
17	HDT080AS03/102103334	6/28/03	1000am	East Slope Crest to Toe	22.5	378	W	8505
18	HDT080AS03/102103301	6/28/03	1435	East Slope Crest to Toe	22.5	387	W	8707.5
19	HDT080AS03/102103333	6/28/03	1500	West Slope Crest to Toe	22.5	380	RH	8550
20	HDT080AS03/102103342	6/28/03	1530	West Slope Crest to Toe	22.5	389	W	8752.5
21	HDT080AS03/102103312	6/30/03	940	West Slope Crest to Toe	22.5	385	RW	8662.5
22	HDT080AS03/102103345	6/30/03	1105	East Slope Crest to Toe	22.5	385	RH	8662.5
23	HDT080AS03/102103330	6/30/03	1400	West Crest to Toe of Slope	22.5	380	RH	8550
				TOTALS:(1)	517.5	8,332	1	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: ~~178,949~~ 187,470 (ft^2) ACCUMULATED: ~~178,949~~ 187,470 (ft^2)

NOTES:

000044

©GEOSYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: W SHEET NO. 1 OF: 2

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 33

DESCRIPTION: 80 Mil T Cap #2 - Phase V YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: Cap #2 phase V PRODUCT TYPE: 80 Mil Texture

PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID	
24	HDT080AS03/102103265	6/30/03	[illegible]	East Slope Crest To Toe	22.5	380	RH	8550
25	HDT080AS03/102103254	7/1/03	0845	West Slope Crest To Toe	22.5	384	RH	8640
26	HDT080AS03/102103314	7/1/03	0930	West Slope Crest To Toe	22.5	384	RH	8640
27	HDT080AS03/102103341	7/1/03	1305	East Slope Crest To Toe	22.5	384	RH	8640
28	HDT080AS03/102103236	7/1/03	1410	East Slope Crest To Toe	22.5	384	RH	8640
29	HDT080AS03/102103283	7/1/03	1545	East Slope Crest To Toe	22.5	384	RH	8640
30	HDT080AS03/102103296	7/3/03	1015	West Slope Crest To Toe	22.5	381	RH	8572.5
31	HDT080AS03/102103346	7/3/03	1130	West Slope Crest To Toe	22.5	382	RH	8595
32	HDT080AS03/102103317	7/3/03	1330	East Slope Crest To Toe	22.5	383	RH	8617.5
33	HDT080AS03/102103304	7/3/03	1455	East Slope Crest to Toe	22.5	383	RH	8617.5
* 34	HDT080AS03/102103268	7/11/03	1110	North Tie Seam Top of Crest	6'	22'	RH	132
* 35	HDT080AS03/102103268	7/11/03	1110	North Tie Seam Top of Crest	6'	22'	RH	132
36	HDT080AS03/102103268	7/12/03	1000	West Crest Top of Cap	22.5	171	RH	3847.5
37	HDT080AS03/102103268	7/12/03	1040	East Crest Top of Cap	22.5	174	RH	3915
38	HDT080AS03/102103321	7/12/03	1300	West Slope Crest to Toe	22.5	375	RH	8437.5
39	HDT080AS03/102103337	7/12/03	1345	West Slope Crest to Toe	22.5	373	RH	8392.5
40	HDT080AS03/102103336	7/13/03	1535	West Slope Crest to Toe (South)	22.5	381	RH	8572.5
41	HDT080AS03/102103319	7/13/03	940	East Slope Crest to Toe	22.5	376	RH	8460
42	HDT080AS03/102103287	7/13/03	1005	East Slope Crest to Toe	22.5	373	RH	8392.5
43	HDT080AS03/102103282	7/13/03	1340	West Slope Crest to South Edge	22.5	83	RH	1867.5
44	HDT080AS03/102103282	7/13/03	1340	West Slope Crest to South Edge	22.5	81	RH	1822.5
* 45	HDT080AS03/102103282	7/14/03	1330	North Tie in Seam Top of Cap	6	22'	RH	132.0
* 46	HDT080AS03/102103282	7/14/03	1330	"	6	22'	RH	132.0
				TOTALS:(1)	451.5 / 22.5	6260		140,388

NOTE: (1) APPROXIMATE AREA: THIS PAGE: 140,388 (ft²) ACCUMULATED: 327,594 (ft²)

NOTES: 178,949 from Pg #1 - Panel 34 and P35 were cut out & removed

* 45 and 46 Replaces 34 and 35.

TOTAL SQ FT for Cap * 327,594 sq. ft.

000045

CELL 6 SECONDARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GP3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE I YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: _____ PRODUCT TYPE: 80 MIL HDT

	PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
2790	S-1	HDT080AS03/102103338	7/17/03	1330	East Slope Toe to	22.5	124	RA
1215	S-2	HDT080AS03/102103338	7/17/03	1355	Center IC Berm / SE Corner	22.5	54	RA
312	S-3	HDT080AS03/102103338	7/17/03	1405	Center IC Berm / SE Corner	~~22~~ 12	26	RA
472.5	S-4	HDT080AS03/102103338	7/17/03	1455	East Slope Toe to Anchor	22.5	21	RH
855	S-5	HDT080AS03/102103338	7/17/03	1500	East Slope Toe to Anchor	22.5	38	RH
1440	S-6	HDT080AS03/102103282	7/17/03	1507	East Slope Toe to Anchor	22.5	64	RH
1440	S-7	HDT080AS03/102103282	7/17/03	1517	East Slope Toe to Anchor	22.5	64	RH
865	S-8	HDT080AS03/102103226	7/17/03	1525	East Slope Toe to Anchor	22.5	38	RA
2790	S-9	HDT080AS03/102103226	7/17/03	1530	From South Limit of Liner to 10' N. of Inside IC Berm	22.5	124	RA
2767	S-10	HDT080AS03/102103226	7/18/03	1300	"	22.5	123	RA 276
2767.5	S-11	HDT080AS03/102103208	7/18/03	1350	"	22.5	123	RA
2767.5	S-12	HDT080AS03/102103208	7/18/03	1421	"	22.5	123	RA
2767.5	S-13	HDT080AS03/102103204	7/18/03	1430	"	22.5	123	RA
2885	S-14	HDT080AS03/102103204	7/18/03	1520	"	22.5	128	RA
2867.5	S-15	HDT080AS03/102103240	7/18/03	1620	"	22.5	123	RH
2925	S-16	HDT080AS03/102103240	7/22/03	1350	"	22.5	130	RH
2925	S-17	HDT080AS03/102103211	7/22/03	1355	"	22.5	130	RH
2970	S-18	HDT080AS03/102103211	7/22/03	1455	"	22.5	132	RH
2992.5	S19	HDT080AS03/102103210	7/22/03	1535	"	22.5	133	RH
3037.5	S20	HDT080AS03/102103210	7/22/03	1600	"	22.5	135	RH
2925	S21	HDT080AS03/102103218	7/23/03	0830	"	22.5	130	RH
2902.5	S22	HDT080AS03/102103218	7/23/03	0922	"	22.5	129	RH
2925	S23	HDT080AS03/102103231	7/23/03	1000	"	22.5	130	RH
					TOTALS:(1)	519.5	2347	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: ~~52,530~~ 52,544.5 (ft²) ACCUMULATED: ~~52,530~~ 44.5 (ft²)

NOTES:

000047

©GEOSYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: W SHEET NO. ____ OF: ____

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: 603211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE II YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: _____ PRODUCT TYPE: 80 MIL HDT

	PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
2925	S-24	HDT080A503/102103271	7/23/03	1022	From South Limits to 11' N of Tie	22.5	130	RH
2925	S-25	HDT080A503/102103278	7/23/03	1035	"	22.5	130	RH
2926	S-26	HDT080A503/102103228	7/23/03	1355	"	22.5	130	RH
2925	S-27	HDT080A503/102103288	7/23/03	1420	"	22.5	130	RH
2970	S-28	HDT080A503/102103288	7/25/03	1445	"	22.5	132	RH
2925	S-29	HDT080A503/102103259	7/24/03	1525	"	22.5	130	RH
8617	S-30	HDT080A503/102103257	7/24/03	1805	From East Anchor West, 15' Tie	22.5	383	RH
8707.5	S-31	HDT080A503/102103353	7/24/03	1410	"	22.5	387	RH
8752.5	S-32	HDT080A503/102103289	7/24/03	1500	"	22.5	389	RH
8550	S-33	HDT080A503/102103263	7/24/03	1700	"	22.5	380	RH
8640	S34	HDT080A503/102103262	7/25/03	950	"	22.5	384	RH
8640	S35	HDT080A503/102103306	7/25/03	1035	"	22.5	384	RH
8619	S36	HDT080A503/102103308	7/25/03	1335	Northern Tie in to Cell #5	22.5	383	RH
8640	S37	HDT080A503/102103309	7/25/03	1517	From East Anchor N. of Drain	22.5	384	RH
8640	S38	HDT080A503/102103315	7/25/03	1625	"	22.5	384	RH
8640	S39	HDT080A503/102103212	7/29/03	1540	"	22.5	384	RH
8640	S40	HDT080A503/102103266	7/29/03	1815	"	22.5	384	RH
8640	S41	HDT080A503/102103339	7/29/03	1827	"	22.5	384	RH
8840	S42	HDT080A503/102103332	7/29/03	1829	"	10	384	RH
3015	S43	HDT080A503/102103209	7/30/03	1100	From Southern Limits EAST over to Berm	22.5	134	RH
3037.5	S44	HDT080A503/102103209	7/30/03	1126	"	22.5	135	RH
3037.5	S45	HDT080A503/102103275	7/30/03	1520	"	22.5	135	CHW
1462.5	S46	HDT080A503/102103275	7/30/03	1604	WEST 4:1 Slope Cell #7	22.5	65	CHW
					TOTALS:(1)	525	~~6245~~ 6245	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: 135,713.5 (ft²) ACCUMULATED: 188,258 (ft²)

NOTES: 52,530 SQ. FT. from previous page

~~000048~~

©GEOSYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: _____ SHEET NO. ____ OF: ____

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase V Cell #6 YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: _____ PRODUCT TYPE: 80mil HDPE

52196
57

	PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
1350	547	HDT 080A503/102103275	7/30/03	1610	West 4:1 Slope Cell #7	22.5	68'	CHW
990	548	HDT 080 A503/102103275	7/30/03	1620	Length = FWAT	22.5	~~46~~ 44'	CHW
675	549	HDT 080 A503/102103281	7/30/03	1628		22.5	CHW ~~44~~ 30	CHW
787.5	550	HDT 080 A503/102103281	7/30/03	1637	West 4:1 Slope Cell #6	22.5	CHW ~~53~~ 35	CHW
1192.5	551	HDT 080A503/102103281	7/30/03	1645		22.5	CHW ~~67~~ 53	CHW
3060	552	HDT080A503/102103281	7/30/03	1700	IC Berm	22.5	136	CHW
3060	553	HDT080A503/102103325	7/30/03	1710		22.5	136	CHW
3082	554	HDT080A503/102103325	7/30/03	1725		22.5	137	CHW
1162.5	555	HDT080A503/102103325	7/30/03	1750		22.5	CHW ~~82~~ 65	CHW
8235	556	HDT080A503/102103298	7/31/03	1347	Floor of Cell #6 SW Corner	22.5	366	CHW
8302.5	557	HDT080A503/102103258	7/31/03	1435		22.5	369	CHW
585	558	HDT080A503/102103236	8/1/03	935	South East Corner - EAST Berm - SOUTH Limits	9'	65	RH
8190	559	HDT080A503/102103236	8/6/03	1020	FWAT - EAST	22.5	364	RH
8212.5	560	HDT080A503/102103335	8/6/03	1318	FWAT - EAST	22.5	365	RH
8055	561	HDT080A503/102103205	8/6/03	1550	FWAT East	22.5	358'	RH
8100	562	HDT080A503/102103238	8/6/03	1610	FWAT East	22.5	360'	RH
8280	563	HDT080A503/102103294	8/7/03	1300	FWAT EAST	22.5	368'	RH
8280	564	HDT080A503/102103347	8/7/03	1400	FWAT EAST	22.5	368'	RH
8280	565	HDT080A503/102103340	8/8/03	1310	FWAT "	22.5	368'	RH
8280	566	HDT080A503/102103224	8/8/03	1335	FWAT "	22.5	368'	RH
8302.5	567	HDT080A503/102103300	8/8/03	1470	FWAT "	22.5	369'	RH
8370	568	HDT080A503/102103352	8/8/03	1453	FWAT "	22.5	~~372~~ 372'	RH
560	569	HDT080A503/102103281	8/8/03	1426	FWAT "	4'	140'	RH
					TOTALS:(1)	485.5	5296 (5296)	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: 115,691.5 (ft²) ACCUMULATED: ~~115,690~~ (ft²)

NOTES: 135,711 from pg. #1 TOTAL: ~~251,401 sf~~

000049

TOTAL - ~~303,930~~ 303,949.5

©GEOSYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: (TW) SHEET NO. _____ OF: _____

CELL 6 PRIMARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

PANEL PLACEMENT LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase V Cell #6 YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: _____ PRODUCT TYPE: 80mil HDPE

PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
P1	HDT080AS03/102103213	8-12-03	1100	IC Berm 3037.5	22.5	135	CHW
P2	HDT080AS03/102103212	8-12-03	1130	↓ 3037.5	22.5	135	CHW
P3	HDT080AS03/102103299	8-12-03	1300	↓ 3060	22.5	136	CHW
P4	HDT080AS03/102103299	8-12-03	1515	East 4:1 Slope Cell #7 1440	22.5	64	CHW
P5	HDT080AS03/102103299	8-12-03	1525	↓ 1417.5	22.5	63	CHW
P6	HDT080AS03/102103299	8-12-03	1533	↓ 855.0	22.5	38	CHW
P7	HDT080AS03/102103213	8-12-03	1541	East 4:1, End of IC Berm	20.5	25	CHW
P8	HDT080AS03/102103260	8-12-03	1555	East 4:1 Slope Cell #6	22.5	44	CHW
P9	HDT080AS03/102103260	8-12-03	1559	↓ 1372.5	22.5	61	CHW
P10	HDT080AS03/102103260	8-12-03	1618	IC Berm 1305	22.5	58	CHW
P11	HDT080AS03/102103260	8-12-03	1635	↓ 390 CHW	~~22.5~~ 13.0	30	CHW
P12	HDT080AS03/102103239	8-13-03	0925	IC Berm 3037.5	22.5	135	CHW
P13	HDT080AS03/102103239	8-13-03	0935	3037.5	22.5	135	CHW
P14	HDT080AS03/102103203	8-13-03	0950	3037.5	22.5	135	CHW
P15	HDT080AS03/102103203	8-13-03	1015	3037.5	22.5	135	CHW
P16	HDT080AS03/102103311	8-13-03	1032	3037.5	22.5	135	CHW
P17	HDT080AS03/102103311	8-13-03	1105	3060	22.5	136	CHW
P18	HDT080AS03/102103313	8-14-03	0845	SE Floor of Cell #6 - Tie In 8460	22.5	376	CHW
P19	HDT080AS03/102103207	8-14-03	1135	IC Berm 3060	22.5	136	CHW
P20	HDT080AS03/102103207	8-14-03	1302	3060	22.5	136	CHW
P21	HDT080AS03/102103270	8-14-03	1320	3105	22.5	138	CHW
P22	HDT080AS03/102103270	8-14-03	1335	3127.5	22.5	139	CHW
P23	HDT080AS03/102103354	8-14-03	1419	3105	22.5	138	CHW
				TOTALS:(1)	506	2663	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: ~~59,588~~ 59,582.5 (ft²) ACCUMULATED: ~~59,588~~ 59582.5 (ft²)

NOTES:

000051

©GEO SYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: TW SHEET NO. 1 OF: 3

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase V Cell #6 YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: _____ PRODUCT TYPE: 80mil HDPE

PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
P24	HDT080AS03/102103354	8-14-03	1435	IC Berm 3150	22.5	140'	CHW
P25	HDT080AS03/102103324 CHW	8-14-03	1453	3127.5	22.5	139'	CHW
P26	HDT080AS03/102103206	8-15-03	0925	Cell #6 East 4:1 to Floor 8460	22.5	376'	CHW
P27	HDT080AS03/102103201	8-15-03	1127	8482.5	22.5	377	CHW
31680ft.² P28	HDT080AS03/102103256	8-15-03	1307	8460	22.5	376'	CHW
P29	HDT080AS03/102103252	8-18-03	0920	8505	22.5	378'	CHW
P30	HDT080AS03/102103343 CHW	8-18-03	1030	8482.5	22.5	377'	CHW
P31	HDT080AS03/102103229	8-18-03	1330	8460	22.5	376'	CHW
P32	HDT080AS03/102103202	8-18-03	1456	8460	22.5	376'	CHW
P33	HDT080AS03/102103280	8-19-03	1010	8437.5	22.5	375'	CHW
P34	HDT080AS03/102103318	8-19-03	1113	8437.5	22.5	375'	CHW
P35	HDT080AS03/102103295	8-19-03	1505	8437.5	22.5	375'	CHW
P36	HDT080AS03/102103230	8-19-03	1527	8144 CHW	~~22.5~~ 19	376'	CHW
P37	HDT080AS03/102103222	8-21-03	1100	Cell #6 West 4:1 to Floor CHW 5565	~~22.5~~ 15	371'	RH
P38	HDT080AS03/102103348	8-21-03	1320	8325	22.5	370'	CHW
P39	HDT080AS03/102103326	8-21-03	1355	8235	22.5	366'	CHW
P40	HDT080AS03/102103344	8-22-03	1000	IC Berm 3127.5	22.5	139	CHW
P41	HDT080AS03/102103278	8-22-03	1032	3127.5	22.5	139	CHW
P42	HDT080AS03/102103278	8-22-03	1120	3127.5	22.5	139	CHW
P43	HDT080AS03/102103290	8-22-03	1325	3105	22.5	138'	CHW
104085ft.² P44	HDT080AS03/102103290	8-22-03	1348	3105	22.5	138	CHW
P45	HDT080AS03/102103220	8-25-03	0913	3082.5	22.5	137	CHW
P46	HDT080AS03/102103220	8-25-03	0929	3105	22.5	138	CHW
				TOTALS:(1)	506.5	~~110812~~	6491

NOTE: (1) APPROXIMATE AREA: THIS PAGE: 141,949 (ft²) ACCUMULATED: ~~110860.5~~ 201,531.5 (ft²)

NOTES:

000052

©GEO SYNTEC CONSULTANTS FILE NO. 3-04-PPL REVIEWED BY: (TW) SHEET NO. 2 OF: 3

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

PANEL PLACEMENT LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: Phase V Cell #6 YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: _____ PRODUCT TYPE: 80mil HDPE

PANEL NO.	BATCH / ROLL NO.	DATE (day/mo)	TIME	PLACEMENT LOCATION COMMENTS	APPROX WIDTH (ft)	APPROX LENGTH (ft)	QA ID
P47	HDT080AS03/102103273	8-25-03	1024	IC Berm 3127.5	22.5	139	CHW
P48	HDT080AS03/102103273	8-25-03	1039	3105	22.5	138	CHW
P49	HDT080AS03/102103217	8-25-03	1300 CHW ~~1159~~	3105	22.5	138	CHW
P50	HDT080AS03/102103217	8-25-03	1309	3150	22.5	140	CHW
P51	HDT080AS03/102103223	8-25-03	1515	2444 CHW	~~22.5~~ 17	142	CHW
P52	HDT080AS03/102103223	8-25-03	1538	1102.5 CHW	~~22.5~~ 22.5	49	CHW
P53	HDT080AS03/102103223	8-25-03	1600	West 4:1 Cell #7 1395	22.5	62	CHW
P54	HDT080AS03/102103223	8-25-03	1604	1305	22.5	58	CHW
P55	HDT080AS03/102103259	8-25-03	1615	900	22.5	40	CHW
P56	HDT080AS03/102103259	8-25-03	1625	West 4:1, Center of IC Berm 675	22.5	30	CHW
P57	HDT080AS03/102103 ~~246~~ 259 CHW	8-25-03	1645	West 4:1 Cell #6 990	~~22.5~~	44	CHW
P58	HDT080AS03/102103216	8-25-03	1650	1305	22.5	58	CHW
P59	HDT080AS03/102103216	8-25-03	1700	464 ~~8445~~	8.	58	CHW
P60	HDT080AS03/102103227	8-26-03	0935	West 4:1 Floor of Cell #6 8445	22.5	374	CHW
P61	HDT080AS03/102103297	8-26-03	1047	8437.5	22.5	375	CHW
P62	HDT080AS03/102103215	8-26-03	1410	8437.5	22.5	375	CHW
P63	HDT080AS03/102103214	8-26-03	1520	8437.5	22.5	375	CHW
P64	HDT080AS03/102103316	8-28-03	0940	West 4:1 - Floor of Cell #6 8347.5	22.5	371	CHW
P65	HDT080AS03/102103322	8-28-03	1000	8370	22.5	372	CHW
P66	HDT080AS03/102103251	8-28-03	1320	8437.5	22.5	375	CHW
P67	HDT080AS03/102103331	8-28-03	1415	8437.5	22.5	375	CHW
P68	HDT080AS03/102103225	8-28-03	1500	8460	22.5	376	CHW
				TOTALS:(1)		98,818	

NOTE: (1) APPROXIMATE AREA: THIS PAGE: 98,818 sq. ft (ft²) ACCUMULATED: ~~268678.5~~ 300,349.5 (ft²)

NOTES:

000053

APPENDIX K

GEOMEMBRANE TRIAL SEAM LOGS

FIELD TENSIOMETER CALIBRATION

5371

PWT INC.
Plastic Welding Technologies
INTERNATIONAL

CALIBRATION CERTIFICATE

Customer Name: THE ISTRE CO.
Tensiometer Serial Number: LOAD CELL / INDICATOR

110 Volt ☐
220 Volt ☐
LBS

Device Calibrated: S-Type load cell
Range: 0-500 lbs. Tension
Model No: M2300-500
Serial No: 126721

Calibration Apparatus:
Dead Weight system w/
Fluke Model 8840A Multimeter

W1	2	R1	810
W2	152	R2	2680
W3	302	R3	4554

Readout Model No: 2840AG-24123
Readout Serial No: 10553035-149
Channel No: N/A

Indicator reading with no load: 0

Applied Force lbs.	Output (mv):	Display reading:	Deviation Error:
2	2.425	2	0.00
52	4.296	52	0.00
102	6.168	102	0.00
152	8.040	152	0.00
202	9.909	202	0.00
252	11.776	252	0.00
302	13.657	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 10 V DC

Scale Factor (1):	0.0802	Offset (1):	-63
Scale Factor (2):	0.0800	Offset (2):	-64
Break point:	2680	Calibration Check #	

Traceable to NIST Standards

*NOTE: Readout and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated readouts and load cells are not interchangeable.

This calibration conforms to the standards set by ASTM E4.

Calibration performed by: BILL AULTZ

Signature: Bill Aultz Date: 5/21/03

000056

6125 Enterprise Drive, #10
Diamond Springs, CA 95619
800-635-6693

Ph: (530) 622-2791
Fax (530) 622-2704
www.plasticweldingtechnologies.com

FUSION

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 03

DESCRIPTION: Cap 2 Phase IV YEAR: 2003 (June)

CONTRACTOR: FLUOR FERNALD / Istre Co. TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/F)	FUSION MEASURED SPEED (°C/F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	QA ID
TS-1	6/22/03	0826am	09	S.S.	60 80 T/T - S.S.	750°	28%	122/130 137/122	150/147	P		RH
TS-2	6/22/03	0821am	01	T.B.	S.S. S.S 80-80	750°	40%	161/175 163/170	203/212	P		RH
TS-3	6/22/03	1319pm	01	T.B	S.S S.S- 80-80	750°	55%	123/140 156/145	156/153	P		RH
TS-4	6/22/03	1337pm	09	J.E.	T/T S.S- 60-80	750°	28%	126/143 116/115	128/125	P		RH
TS-5	6/23/03	945am	01	J.E	S.S S.S 80/80	750°	50%	168/172 149/153	206-210	P		RH
TS-6	6/23/03	1330pm	09	S.S.	S.S. S.S 80/80	750°	52%	145/144 137/133	158-154	P		RH
TS-7	6/23/03	1439pm	01	J.E.	S.S. S.S. 80/80	750°	60%	143/151 151/143	155/151	P		RH
TS-8	6/24/03	955am	01	J.E.	S.S. S.S 80/80	750°	55%	181/175 188/177	205-202	P		RH
TS-9	6/24/03	1415pm	01	J.E.	S.S. S.S 80/80	750°	60%	148/144 140/142	151 151	P		RH
TS-10	6/24/03	1515pm	09	S.S.	S.S. S.S. 80/80	750°	52%	137/141 146/131	151 154	P		RH
TS-11	6/25/03	1320pm	09	S.S.	S.S. S.S 80/80	750°	52%	153/135 129/149	152 154	P		RH
TS-12	6/25/03	1321pm	01	J.E.	T S 80/80	750°	40%	165/162 153/153	186 176	P		RH
TS-13	6/26/03	0910am	09	S.S.	S S 80 80	750°	52%	87 (PEEL)	—	F		RH
TS-14	6/26/03	1000am	09	S.S.	S S 80 80	750°	52%	163/162 162/154	200 192	P		RH
TS-15	6/26/03	1010am	09	S.S.	S T 80 80	750°	52%	157/147 181/154	196 191	P		RH
TS-16	6/26/03	1115am	01	SS	S T 80 80	750°	40%	161/156 164/166	177 181	P		RH
TS-17	6/28/03	0956	09	SS	80 80	750°	50%	148/190 144/196	206/206	P		RH
TS-18	6/28/03	1400	09	SS	80 80	750°	65%	145/134 150/146	167/182	P		RH
TS-19	6/28/03	1400	01	JI	80 80	750°	65%	145/135 135/140	169/167	P		RH
TS-20	6/30/03	910	01	J.E.	T T 80/80	750°	50%	145/138 138/164	203/196	P		RH
TS-21	6/30/03	1130	01	SS	S S 80 80	750°	50%	165/138 159/140	174/173	P		RH
TS-22	6/30/03	1346	07	J.I.	S S 80 80	750°	50%	134/140 124/145	183/165	P		RH
TS-23	6/30/03	1530	01	SS	S S 80 80	750°	50%	154/159 162/151	173/190	P		RH
TS-24	7/1/03	0915	07	TB	S S 80 80	750°	50%	172/147 146/164	198/208	P		RH
TS-25	7/1/03	1330	01	SS	S S 80 80	750°	60%	157/149 151/143	167/173	P		RH

(1) Pre-test
(2) retest

000058

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 33 04

DESCRIPTION: Cap #2/CELL #2 - PHASE IV YEAR: 2003

CONTRACTOR: FLUOR FERNALD/Istre CO. TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/°F)	FUSION MEASURED SPEED (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	QA ID
TS-26	7/1/03	1345	07	TB	S/S 80/80	750°	50%	175/146 154/131	168-158	P		RH
TS-27	7/3/03	1020	09	SS	S/S 80/80	800°	66%	145/166 148/188	188-193	P		RH
TS-28	7/3/03	1330	01	TB	S/S 80/80	800°	65%	141/144 145/144	156-161	P		RH
TS29	7/3/03	1506	09	SS	S/S 80/80	800°	70%	143/145 155/165	168-160	P		RH
TS-30	7/11/03	1140	02	SS	S/S 80/80	750°	40%	165/160 190/158	176/216	P		RH
TS-31	7/11/03	1110	02	SS	S/T 80/60	750°	40%	140/131 163/193	169/170	P		RH
TS32	7/12/03	1000	09	SS	S/S 80/80	750°	55%	124/142 184/155	194-199	P		RH
TS33	7/12/03	1310	09	SS	S/T 80/80	800°	28%	151/152 159/173	180-181	P		RH
TS34	7/12/03	1340	01	TT	T/T 80/80	750°	55%	160/140 156/155	175-160	P		RH
TS35	7/12/03	1620	09	SS	S/S 80/80	750°	55%	153/156 165/150	187-181	P		RH
TS36	7/13/03	1023	09	SS	S/S 80/80	800°	55%	174/147 162/154	171-170	P		RH
TS37	7/13/03	1515	09	SS	S/T 80/80	800°	28%	151/155 154/155	190-197	P		RH
TS38	7/14/03	845	09	SS	T/T 80/80	800°	23%	190/184 186/155	250-245	P		RH
TS39	7/14/03	1335	09	SS	T/T 80/80	800°	25%	184/166 159/171	212-174	P		RH
TS40	7/14/03	1347	09	SS	T/T 80/60	850°	25%	149/154 138/135	→ AD!	F	F	RH
TS41	7/14/03	1530	09	SS	T/T 80/60	750°	39%	120/114 125/126	120-125	P		RH
TS42	7/14/03	1537	09	SS	T/T 80/60	750°	39%	133/131 133/131	124-124	P		RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000059

EXTRUSION

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G03211 TASK NO.: 3.3

DESCRIPTION: Cap 2/ PHASE IV YEAR: 2003

CONTRACTOR: FLUOR FERNALD/Istre Co. TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	TEST RESULTS PASS	TEST RESULTS FAIL	RE-TEST NO.	QA ID
TS-1	6/23/03	848am	03	DL	TT/SS 60/80	475°	500°C	139 172	166 165	P			RH
TS-2	6/23/03	850am	03	DL	SS/SS 80/80	475°C	500°C	152 (PEEL)			F		RH
TS-3	6/23/03	907am	03	DL	SS/SS 80/80	525°C	550°C	(PEEL)			F	1	RH
TS-4	6/23/03	955am	03	DL	SS/SS 80/80	525°C	550°C	197 165	235 241	P		2	RH
TS-5	6/23/03	1040pm	03	DB	SS/SS 80/80	525°C	550°C	174 145	184 175	P			RH
TS-6	6/23/03	1355pm	03	DL	SS/SS 80/80	525°C	550°C	171 156	189 187	P			RH
TS-7	6/24/03	0825am	03	TB	SS/SS 80/80	525°	550°	163 (PEEL)			F		RH
TS-8	6/24/03	0906am	03	TB	SS/SS 80/80	525°	550°	143 152	245 244		P		RH
TS-9	6/24/03	0925am	03	TB	SS/SS 80/80	525°	550°	166 149	240 243		P		RH
TS-10	6/24/03	0930am	06	TB	SS/SS 80/80	525°	550°	138 142	252 249		P		RH
TS-11	6/24/03	1335pm	06	TB	SS/SS 80/80	525°	550°	134 136	179 182		P		RH
TS-12	6/24/03	1345pm	03	TB	SS/SS 80/80	525°	550°	158 168	195 163		P		RH
TS-13	6/24/03	1730pm	06	TB	SS/SS 80/80	525°	550°	177 162	197 197		P		RH
TS-14	6/24/03	1330pm	03	TB	SS/SS 80/80	525°	550°	158 168	195 163		P		RH
TS-15	6/25/03	1025am	06	TB	SS/SS 80/80	525°	550°	166 146	219 227		P		RH
TS-16	6/25/03	1030am	03	DL	SS/SS 80/80	525°	550°	144 (PEEL)			F		RH
TS-17	6/25/03	1050am	03	DL	SS/SS 80/80	525°	550°	176 190	189 192		P		RH
TS-18	6/25/03	1100am	03	DL	SS/SS 80/80	525°	550°	180 174	181 209		P		RH
TS-19	6/25/03	1550am	06	TB	SS/SS 80/80	525°	550°	165 170	197 199		P		RH
TS-20	6/25/03	1555	03	DL	SS/SS 80/80	525°	550°	162 160	191 192		P		RH
TS-21	6/25/03	1645	03	DL	TT/SS 60/80	400°	500°	119 113	128 127		P		RH
TS-22	6/26/03	0830	06	TB	SS/SS 80/80	525°	550°	160 138	238 243		P		RH
TS-23	6/26/03	0900	06	TB	TT/TT 60/80	475°	500°	121 125	149 141		P		RH
TS-24	6/28/03	1355	06	TB	60/80	525	550	155	134				
TS-25	6/30/03	0810	06	TB	SS/SS 80/80	525	550	157 176	217 249	P			RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000061

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: 603211 TASK NO.: 3.3

DESCRIPTION: CAP #2/CELL #2 PHASE II YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS-26	6/30/03	0825	06	DL	T 80/T 80	525°C	550°C	117/131	226/235	P			RH
TS-27	6/30/03	1330	06	DL	T 80/T 80	525°C	550°C	168/168	182/188	P			RH
TS-28	6/30/03	1430	03	DL	T 80/T 80	525°C	550°C	153/152	187/196	P			RH
TS-29	7/1/03	0830	03	TB	T 80 T 80	525°C	550°C	120/163	239/242	P			RH
TS-30	7/1/03	0845	03	DL	T 80 T 80	525°C	550°C	151/207	230/230	P			RH
TS-31	7/1/03	1343	03	DL	T 80 T 80	525°C	550°C	153/172	214/202	P			RH
TS-32	7/3/03	1005	06	DL	T 80 T 80	525°C	550°C	206/176	193/215	P			RH
TS-33	7/13/03	900	03	DL	T 80 T 80	525°C	550°C	AD 2	N/A		F		RH
TS-34	7/13/03	915	03	DL	T 80 T 80	525°	550°C	142/152	202/181	P			RH
TS-35	7/13/03	920	03	DL	T 80 T 80	525°	550°C	AD 2	N/A		F		RH
TS-36	7/13/03	943	03	DL	T 80 T 80	525°	550°C	AD 1	N/A		F		RH
TS-37	7/13/03	948	03	DL	T 80 T 80	525°	550°C	AD 2	N/A		F		RH
TS-38	7/13/03	1010	03	DL	T 80 T 80	525°	550°C	138 AD 2	N/A		F		RH
TS-39	7/13/03	1010	03	DL	T 80 T 80	525°	550°C						
TS-40	7/13/03	1015	03	TB	T 80 T 80	525°	550°C	175/163	210/207	P			RH
TS-41	7/13/03	1415	03	TB	T 80 T 80	525°	550°C	172/166	168/182	P			SS
TS-42	7/14/03	815	03	TB	T 80 T 80	525°	550°C	141/137	245/242	P			RH
TS-43	7/14/03	825	03	DL	T 80 T 80	525°	550°C	214/144	240/247	P			RH
TS-44	7/14/03	1355	03	TB	T 80 T 80	525°	550°C	192/166	209/206	P			RH
TS-45	7/15/03	805	03	TB	T 80 T 80	525°	550°C	169/164	227/224	P			RH
TS-46	7/16/03	820	03	TB	T 80 T 80	525°	550°C	167/150	214/213	P			RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000062

FUSION

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G0~~0109~~ 3211 TASK NO.: ~~02~~ 33

DESCRIPTION: CELL 6 - PHASE 2 YEAR: 2003 (JULY)

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE - MAL0896

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/F)	FUSION MEASURED SPEED (°C/F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	TEST RESULTS PASS	TEST RESULTS FAIL	QA ID
TS-1	7/17/03	1420	09	SS	80S/80S	750°C	55%	145/165 179/190	202-208	P	—	RH
TS-2	7/17/03	1420	09	SS	80S/80S	750°C	55%	179/164 180/167	187-188	P	—	RH
TS-3	7/18/03	1100	09	SS	80T/80T	750°C	38%	172/188 177/165	210-210	P	—	RH
TS-4	7/18/03	1100	09	SS	80S/80T	750°C	38%	144/174 140/183	211-210	P	—	RH
TS-5	7/18/03	1300	01	DL	80S/80S	750°C	55%	137/137 147/145	179-185	P	—	RH
TS-6	7/18/03	1356	09	SS	80S/80S	750°C	55%	142/152 137/161	192-215	P	—	RH
TS-7	7/22/03	1340	09	SS	80S/80S	800°C	61%	147/170 134/173	196-210	P	—	RH
TS-8	7/23/03	0937	09	SS	80S/80S	800°C	55%	195/175 176/175	247-250	P	—	RH
TS-9	7/23/03	1310	09	SS	80S/80S	800°C	60%	159/175 165/172	209-200	D	—	RH
TS-10	7/23/03	1325	09	SS	80T/80S	800°C	38%	162/141 181/169	204-201	P	—	RH
TS-11	7/23/03	1340	01	TB	80S/80S	800°C	55%	164/169 170/169	202-208	P	—	RH
TS-12	7/24/03	0825	09	SS	80S/80S	800°C	55%	186/151 163/188	213-219	P	—	RH
TS-13	7/24/03	0845	09	SS	80T/80S	800°C	38%	178/179 171/157	219-222	P	—	CHW
TS-14	7/24/03	1325	09	SS	80T/80S	800°C	38%	179/163 167/176	191-190	P	-	RH
TS-15	7/24/03	1330	01	JI	80S/80S	800°C	63%	154/161 154/149	181-188	P	-	RH
TS-16	7/24/03	1620	07	JI	80S/80S	475°F	10%	137/151 149/121	172-197	P	-	RH
TS-17	7/25/03	832	02	JI	80S/80S	800°C	55%	171/181 178/174	227-225	P	-	RH
TS-18	7/25/03	930	09	SS	80S/80S	800°C	55%	144/144 144/155	197-214	P	-	RH
TS-19	7/25/03	1515	09	SS	80S/80S	800°C	60%	150/02 135/135	199-196	P	-	RH
TS-20	7/25/03	1520	09	SS	80T/80S	800°C	38%	169/159 154/170	189-181	P	-	RH
TS-21	7/26/03	~~1520~~ 0725 CHW	09	SS	80T/80S	800°C	34%	149/188 175/171	210-202	P	—	CHW
TS-22	7/29/03	1430	09	SS	80T/80T	800°C	60%	180/165 199/187	200-194	P	-	RH
TS-23	7/29/03	1645	01	JI	80T/80T	800°C	56%	165/165 168/161	193-198	P	—	RH
TS-24	7/30/03	0915	09	SS	80T/80S	800°C	32%	173/185 183/182	214-243	P	—	CHW
TS-25	7/30/03	1330	09	SS	80S/80S	800°C	65%	171/170 176/173	203-203	P	—	CHW

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000064

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase V Cell # 6 YEAR: 2003

CONTRACTOR: Istre Co. TENSIOMETER DESCRIPTION: Columbine

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/°F)	FUSION MEASURED SPEED (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	QA ID
TS26	7/30/03	1120	09	SS	S/S 80/80	800°C CHW	65%	154/151 149/163	209-202	P	—	CHW
~~1330~~	~~7/30/03~~	~~1330~~	~~06~~	~~DL~~	~~T/T 80/80~~							
TS27	7/30/03	1644	07	DL	S/S 80/80	475°F	10%	171/148 147/160	164-184	P	—	CHW
TS28	7/31/03	0825	09	SS	T/T 80/80	800°C	32%	187/130 136	peel	—	F	CHW
TS29	7/31/03	0855	09	SS	T/T 80/80	800°C	32%	186/157 194/150	230-226	P	—	CHW
TS30	7/31/03	0855	09	SS	T/T 80/80	800°C	32%	198/161 179/174	219-224	P	—	CHW
TS31	7/31/03	1435	09	SS	S/S 80/80	800°C	60%	165/163 169/153	217-219	P	—	CHW
TS32	7/31/03	1615	09	SS	T/S 80/80	800°C	38%	164/186 169/154	199-203	P	—	CW
TS33	8/1/03	1045	09	SS	S/S 80/80	800°C	60%	185/193 184/186	232-229	P	—	RH
TS34	8/6/03	914	09	SS	S/S 80/80	800°C	55%	165/157 167/161	200-201	P	—	RW
TS35	8/6/03	1330	09	SS	S/S 80/80	800°C	60%	135/166 170/171	182-185	P	—	CHW
TS36	8/6/03	1545	09	SS	T/T 80/80	800°C	36%	117/192 142/186	227-223	P	—	CHW
TS36	8/6/03	1550	09	SS	S/S 80/80	800°C	60%	183/161 119/173	191-187	P	—	CHW
TS37	8/7/03	0845	09	SS	T/T 80/80	800°C	28%	196/162 189/135	246-250	P		RH
TS38	8/7/03	0855	09	SS	S/T 80/80	800°C	36%	125 (AD)	—		F	RH
TS39	8/7/03	0900	09	SS	S/T 80/80	800°C	28%	118/181 127/158	206-205	P		RW
TS40	8/7/03	0900	09	SS	S/T 80/80	800°C	30%	128/147 166/108	—		F	RH
TS41	8/7/03	1037	09	SS	S/T 80/80	800°C	30%	193/119 183/135	201-196	P		RH
TS42	8/7/03	1050	09	SS	T/T 80/80	800°C	30%	188/121 165/120	219-210	P		RH
TS43	8/7/03	1055	07	TB	S/S 80/80	800°C	10%	178/177 151/174	222-224	P		RH
TS44	8/7/03	1355	09	SS	S/S 80/80	800°C	60%	162/165 172/169	181-180	P		CHW
TS45	8/8/03	1315	07	TB	S/S 80/80	800°C	10%	162/150 151/153	181-181	P		RH
TS46	8/8/03	1320	09	SS	S/S 80/80	800°C	70%	170/150 174/131 (AD)	—		F	RH
TS47	8/8/03	1340	09	SS	S/S 80/80	800°C	65%	131/136 155/137	171-184	P		CW
TS48	8/8/03	1340	09	SS	S/S 80/80	East	65%	135/172 147/142	202-193	P		RW

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000065

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04

DESCRIPTION: 80 MIL HDT - CELL #6 - PHASE I YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	MATERIAL DESCRIPTION (1)	FUSION WEDGE (SET/°C/°F)	FUSION MEASURED SPEED (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	TEST RESULTS PASS	TEST RESULTS FAIL	QA ID
TS49	8/8/03	1325	R3	DL	S/S 80 80	800°C	30%	134/162 141/160	208-192	P	NO AC	RJK
TS50	8/9/03	0800	09	SS	T/T 80 80	800°C	32%	100/130 20/143	255-247			RJK

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000066

EXTRUSION

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: 6Q3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE V YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE - ACCUFA LITE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS-1	7/22/03	0830	03	DL	T 80 T 80	550°C	525°C	176-173	236-234	P			RH
TS-2	7/22/03	1300	03	DL	T 80 T 80	550°C	525°C	201-196	232-222	P			RH
TS-3	7/23/03	0830	03	DL	T 80 T 80	550°C	525°C	194-186	251-247	P			RH
TS-4	7/23/03	1400	03	DL	T 80 T 80	525°C	550°C	167-162	233-242	P			RH
TS-5	7/25/03	0815	03	DL	T 80 T 80	525°C	550°C	AD			F		RH
TS-6	7/25/03	0815	03	TB	T 80 T 80	525°C	550°C	AD			F		RH
TS-7	7/25/03	0835	03	TB	T 80 T 80	525°C	550°C	AD			F		RH
TS-8	7/25/03	0850	03	DL	T 80 T 80	525°C	550°C	195/173	226-232	P		1	RH
TS-9	7/25/03	0850	03	DL	T 80 T 80	525°C	560°C	178-163	225-232	P		2	RH
TS-10	7/25/03	1700	03	TB	T 80 T 80	525°C	550°C	180-184	233-202	P			RH
TS-11	7/29/03	830	06	DL	T 80 T 80	525°C	550°C	150-150	251-250	P			RH
TS-12	7/29/03	830	06	TB	T 80 T 80	525°C	550°C	151-154	253-246	P			RH
TS-13	7/29/03	1330	06	TB	T 80 T 80	525°C	550°C	165-206	228-220	P			RH
TS-14	7/30/03	0745	06	DL	T 80 T 80	525°C	550°C	197-160	236-243	P			CHW
TS-15	7/30/03	1330	06	DL	T 80 T 80	525°C	550°C	196-192	205-224	P			CHW
TS-16	8/1/03	0911	06	DL	T 80 T 80	525°C	550°C	158-139	232-230	P			CHW
TS-17	8/1/03	1320	06	DL	T 80 T 80	525°C	550°C	197-172	213-215	P			RH
TS-18	8/4/03	0820	06	DL	T 80 T 80	525°C	550°C	189/160	232-233	P			CHW
TS-19	8/5/03	1130	06	TB	T 80 T 80	525°C	550°C	198/189	232-239	P			RH
TS-20	8/5/03	1500	06	TB	T 80 T 80	525°C	550°C	166/173	219-230	P			RH
TS-21	8/6/03	0805	06	DL	T 80 T 80	525°C	550°C	171/173 (AD)	—	—	F		RH
TS-22	8/6/03	0840	06	DL	T 80 T 80	525°C	550°C	171/174	224-224	P	—	1	RH
TS-23	8/6/03	0900	06	DL	T 80 T 80	525°C	550°C	156/159	225-234	P	—	2	RH
TS-24	8/6/03	1315	06	DL	T 80 T 80	525°C	550°C	180/173	207-208	P	—	—	CHW
TS-25	8/7/03	1355	03	DL	T 80 T 80	550°C	525°C	171/AD	—		F		CHW

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T) OR TEXTURED/TEXTURED (T/T).

000068

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 3

DESCRIPTION: Cell #6 Phase I YEAR: 2003

CONTRACTOR: Fluor / Istre Co. TENSIOMETER DESCRIPTION: Columbine Accura Lite

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS26	8/7/03	1430	03	DL	T 80 T 80	525°C	550°C	171/182 166/188	214-209	P	—	1	CHW
TS27	8/7/03	1430	03	DL	T 80 T 80	525°C	550°C	202/193	213-197	P	—	2	CHW
TS28	8/8/03	0830	03	DL	T 80 T 80	525°C	550°C	169/157	234/240	P	—	—	RH
TS29	8/8/03	0730	03	DL	T 80 T 80	525°C	550°C	143/147	249/238	P	—	—	CHW
TS30	8/11/03	0811	03	DL	T 80 T 80	525°C	550°C	163-147	250-226	P	—	-	RH
TS31	8/11/03	1330	03	TB	T 80 T 80	525°C	550°C	187-172	216-227	P	—	—	RH
TS32	8/12/03	0800	06	TB	T 80 T 80	525°C	550°C	166-175	247-237	P	—	—	RH
TS33	8/13/03	0818	06	TB	80T/80T	525°C	550°C	175-155	219-229	P	—		RH
TS34	8/13/03	1340	06	TB	80T/80T	525°C	550°C	164-168	208-214	P	—		RH
TS35	8/14/03	0810	06	TB	80T/80T	525°C	550°C	191-177	226-242	P	—		RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000069

CELL 6 PRIMARY

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: ~~C00409~~ C03211 TASK NO.: ~~04~~ 323

DESCRIPTION: 80 MIL HDT (PRIMARY) YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/°F)	FUSION MEASURED SPEED (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	TEST RESULTS PASS	TEST RESULTS FAIL	QA ID
TS1	8/12/03	1313	09	SS	80S/80S	800°C	65%	171/126 121/126	187-185	P	—	RH
TS2	8/12/03	1645	09	SS	80S/80T	800°C	36%	151/181 148/173	217-223	P	—	CHW
TS3	8/13/03	0930	09	SS	80S/80S	800°C	38%	138/171 157/164	202-198	P	—	CHW
TS4	8/13/03	0935	09	SS	80S/80T	800°C	38%	178/157 177/193	229-228	P	—	CHW
TS5	8/13/03	0940	09	SS	80T/80T	800°C	60%	199/174 239/195	231-230	P	—	CHW
TS6	8/13/03	1400	09	SS	80S/80S	800°C	60%	165/137 149/169	213-212	P	—	CHW
TS7	8/13/03	1405	09	SS	80T/80T	800°C	38%	177/171 154/158	249-212	P	—	CHW
TS8	8/13/03	1410	09	SS	80T/80S	800°C	38%	124/164 171/138	213-209	P	—	CHW
TS9	8/14/03	1315	09	SS	80S/80S	800°C	65%	173/154 170/174	206-191	P	—	CHW
TS10	8/15/03	0835	09	SS	80S/80T	750°C	36%	181/161 179/160	215-203	P	—	CHW
TS11	8/15/03	1030	09	SS	80S/80S	750°C	65%	165/125 145/126	189-176	P	—	CHW
TS12	8/18/03	0900	09	SS	80S/80S	800°C	60%	144/162 163/157	212-217	P	—	CHW
TS13	8/18/03	1430	09	SS	80S/80S	800°C	60%	180/160 146/163	190-186	P	—	CHW
TS14	8/19-03	1300	02	JI	80S/80S	750°C	60%	155/144 148/150	197-197	P	—	CHW
TS15	8/19/03	1300	09	SSC	80S/80S	800°C	60%	162/169 157/140	182-183	P	—	CHW
TS16	8/20/03	1030	09	J.I	80T/80T	~~750~~°C	38%	167/179 174/168	199-220	P		RH
TS17	8/20/03	1500	09	SS	80S/80T	750°	38%	171/162 182/155	195-217	P	-	RH
TS18	8/20/03	1500	09	SS	80T/80T	750°	38%	175/169 165/179	193-216	P	—	RH
TS19	8/21/03	800	09	SS	80S/80T	750°	38%	185/185 175/154	230-232	P	-	RH
TS20	8/21/03	800	09	SS	80T/80T	750°	38%	189/162 181/158	(AD) —		F	RH
TS21	8/21/03	1030	09	SS	80T/80T	750°	38%	179/162 183/168	209-207	P	-	RH
TS22	8/21/03	1030	09	SS	80T/80T	750°	38%	175/158 181/161	208-214	P	—	RH
TS23	8/21/03	1345	02	JI	80S/80S	750°C	60%	168/163 160/160	190-178	P	—	CHW
TS24	8/21/03	1345	09	SS	80S/80S	750°C	60%	152/174 Peel	-	P	F	CHW
TS25	8/21/03	1507	09	JI	80S/80S	800°C	63%	156/152 152/146	174-170	P	—	CHW

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T) OR TEXTURED/TEXTURED (T/T).

000071

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

TRIAL SEAM LOG - FUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: ~~GQ0409~~ GQ3211 TASK NO.: ~~04~~ 03

DESCRIPTION: CELL #6 - PHASE V YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	FUSION WEDGE (SET/°C/F)	FUSION MEASURED SPEED (°C/F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	TEST RESULTS PASS	TEST RESULTS FAIL	QA ID
TS26	8/22/03	1025	02	SSC	80S/80S	800°	63%	162/161 148/159	191-187	P	-	RH
TS27	8/22/03	1105	09	SSC	80S/80S	800°	60%	182/167 160/186	219-223	P	-	RH
TS28	8/22/03	1400	09	SSC	80T/80T	750°	34%	171/149 182/133	196-223	P	-	RH
TS29	8/25/03	825	09	SSC	80T/80T	750°	38%	183/171 159/155	241-226	P	-	RH
TS30	8/25/03	1035	07	JI	80S/80S	750°	9.5%	164/145 161/169	197-221	P	-	RH
TS31	8/25/03	1320	09	SSC	80S/80S	800°	60%	169/151 180/154	211-219	P	-	RH
TS32	8/26/03	845	09	SSC	80T/80T	750°	38%	185/181 171/161	214-208	P	-	RH
TS33	8/26/03	1020	07	JI	80S/80S	750°	9.5%	178/149 165/164	218-211	P	-	RH
TS34	8/26/03	1340	07	JI	80S/80S	750°	9.5%	138/149 163/156	201-201	P	-	RH
TS35	8/26/03	1340	09	SSC	80T/80S	750°	38%	134/168 154/176	212-221	P	-	RH
TS36	8/27/03	900	09	SSC	80T/80T	750°	36%	164/176 175/174	204-216	P	-	RH
TS37	8/28/03	815	09	SSC	80T/80T	750°	38%	148/185 181/170	(AD)		F	RH
TS38	8/28/03	855	09	SSC	80T/80T	750°	38%	181/187 184/194	242-234	P	-	RH
TS39	8/28/03	855	09	SSC	80T/80T	750°	38%	197/165 166/175	228-221	P	-	RH
TS40	8/28/03	1000	02	DL	80S/80S	800°	60%	182/179 179/170	185-190	P	-	RH
TS41	8/28/03	1005	09	SSC	80S/80S	800°	60%	144/161 162/154	190-194	P	-	RH
TS42	8/28/03	1310	02	DL	80S/80S	800°	60%	151/160 166/155	177-169	P	-	RH
TS43	8/28/03	1330	09	SSC	80S/80S	800°	60%	149/164 154/144	178-176	P	-	RH
TS44	8/28/03	1615	09	SSC	80T/80S	750°	36%	164/137 166/147	198-193	P	-	RH
TS45	8/28/03	1615	09	SSC	80T/80T	750°	36%	167/148 132/150	198-198	P	-	RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000072

EXTRUSION

GEOSYNTEC CONSULTANTS

FLUOR FERNALD 5371

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: 407211 TASK NO.: 3.3

DESCRIPTION: CELL #6 · PHASE I YEAR:

CONTRACTOR: FLUOR DANIELS TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS1	8-14-03	1400	06	TB	80T/80T	525°C	550°C	192/181	198/200	P	—	—	CHW
TS2	8-15-03	0730	06	TB	80T/80T	525°C	550°C	145/147	216/223	P	—	—	CHW
TS3	8-15-03	1340	06	TB	80T/80T	525°C	550°C	161/164	193/182	P	—	—	CHW
TS4	8-18-03	0815	06	TB	80T/80T	525°C	550°C	149/161	/Peel		F	TS5	CHW
TS5	8-18-03	0913	06	TB	80T/80T	525°C	550°C	142/122	243/219	P	—	—	CHW
TS6	8-18-03	0913	06	TB	80T/80T	525°C	550°C	135/137	241/242	P	—	—	CHW
TS7	8-18-03	1310	06	TB	80T/80T	525°C	550°C	196/146	214/224	P	—	—	CHW
TS8	8-18-03	1400	03	JI	80T/80T	525°C	550°C	193/176	207/215	P	—	—	CHW
TS9	8-18-03	1720	06	TB	80T/80T	525°C	550°C	171/175	212/228	P	—	—	CHW
TS10	8-19-03	0815	06	TB	80T/80T	525°C	550°C	162/143	219/215	P	—	—	CHW
TS11	8-19-03	1315	06	TB	80T/80T	525°C	550°C	201/187	192/219	P	—	—	CHW
TS12	8-20-03	0800	06	TB	80T/80T	525°C	550°C	183/186	213-218	P	-	-	RH
TS13	8-20-03	1340	06	TB	80T/80T	525°C	550°C	179/162	191-196	P	-	-	RH
TS14	8-21-03	815	06	TB	80T/80T	525°C	550°C	154/156	218-215	P	-	—	RH
TS15	8-21-03	1330	06	TB	80T/80T	525°C	550°C	149/150	207-200	P	—	—	CHW
TS16	8-22-03	1018	06	TB	80T/80T	525°C	550°C	157/135	196-192	P	—	—	CHW
TS17	8-25-03	0825	06	TB	80T/80T	525°C	550°C	155/172	250-243	P	—	—	RH
TS18	8-25-03	1400	06	TB	80T/80T	525°C	550°C	185/181	179-206	P	—	—	CHW
TS19	8-26-03	0800	06	TB	80T/80T	525°C	550°C	136/162	216-223	P	—	—	CHW
TS20	8-27-03	0810	06	TB	80T/80T	525°C	550°C	144/129	209-206	P	—	—	CHW
TS20	8-28-03	0838	06	TB	80T/80T	525°C	550°C	179/158 200/144	—	P	—	—	CHW
TS21	8-29-03	0930	~~06~~ 03	JI	80T/80T	525°C	550°C	171/160 168/144 178/149	171-Peel	—	F	TS22/TS23	CHW
TS22	8-29-03	1000	03	JI	80T/80T	525°C	550°C		224-205	P	—	—	CHW
TS23	8-29-03	1000	03	JI	80T/80T	525°C	550°C	173/147	208-209	P	—	—	CHW
TS24	8-29-03	1400	03	JI	80T/80T	525°C	550°C	145/150	190-184	P	—	—	CHW

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000074

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 · PHASE I YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS15	9-3-03	1330	03	JI	80T/80T	525°C	550°C	187/190	219/195	P	—	—	CHW
TS16	9-4-03	0930	03	JI	80T/80T	525°C	565°C or 550°C	184/181	259/263	P	—	—	CHW
TS17	9-4-03	1300	03	JI	80T/80T	525°C	550°C	154/159	242/243	P	—	—	CHW
TS-18	9-5-03	900	03	J1	80T/80T	525°C	550°C	158-160	243/240	P	—	—	RH
TS19	9-5-03	1315	03	J1	80T/80T	525°C	550°C	186-189	228/225	P	—	—	RH
TS20	9-8-03	940	03	J1	80T/80T	525°C	550°C	172-131	252-249	P	—	—	RH
TS21	9-9-03	820	03	J1	80T/80T	525°C	550°C	128-157	248-249	P	—	—	RH
TS22	9-10-03	1340	03	J1	80T/80T	525°C	550°C	195-195	202-217	P	—	—	RH
TS23	9-10-03	800	03	J1	80T/80T	525°C	550°C	168-152	253-253	P	—	—	RH
TS24	9-10-03	1420	03	J1	80T/80T	525°C	550°C	187-178	175-189	P	—	—	RH
TS25	9-11-03	855	03	J1	80T/80T	525°C	550°	187-190	243-250	P	—	—	RH
TS26	9-12-03	1525	03	J1	80T/80S	525°C	550°	168-163	208-217	P	—	—	RH
TS-27	9-12-03	1525	03	J1	80T/80S	525°C	550°	143-130	206-220	P	—	—	RH
TS-28	9-13-03	930	03	J1	80T/80T	525°	550°	141-133	241-232	P	—	—	RH
TS-29	9-13-03	930	03	J1	80T/80S	525°	550°	151-169	229-242	P	—	—	RH
TS-30	9-13-03	1310	03	J1	80T/80S	525°	550°	179-178	226-236	P	—	—	RH
TS-31	9-13-03	1310	03	J1	80T/80T	525°	550°	160-149	219-229	P	—	—	RH
TS-32	9-15-03	1330	03	J1	80T/80T	525	550	182-184	232-236	P	—	—	RH
TS-33	9-15-03	1330	03	J1	80T/80S	525	550	170-166	228-221	P	—	—	RH
TS-34	9-16-03	920	03	J1	80T/80S	525	550	127-139	216-239	P	—	—	RH
TS-35	9-16-03	920	03	J1	80T/80T	525	550	176-172	249-252	P	—	—	RH
TS-36	9-16-03	1400	03	J1	80T/80T	525	550°	170-179	228-240	P	—	—	RH
TS-37	9-17-03	930	03	J1	80T/80S	525	550	163-154	229-209	P	—	—	RH
TS-38	9-17-03	930	03	J1	80T/80T	525	550	169-173	236-242	P	—	—	RH
TS-39	9-17-03	1400	03	J1	80T/80T	525	550	181-169	227-238	P	—	—	RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).

000075

GEOSYNTEC CONSULTANTS

FLUOR FERNALD

5371

TRIAL SEAM LOG - EXTRUSION

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G03211 TASK NO.: 3.

DESCRIPTION: CELL #6 - PHASE V YEAR: 2003

CONTRACTOR: FLUOR FERNALD TENSIOMETER DESCRIPTION: COLUMBINE

TRIAL SEAM NO.	DATE (day/mo)	TIME	MACHINE NO.	OPER ID	(1) MATERIAL DESCRIPTION	EXTRUSION PREHEAT (SET/°C/°F)	EXTRUSION BARREL (°C/°F)	TEST RESULTS PEEL (ppi/psi)	TEST RESULTS SHEAR (ppi/psi)	PASS	FAIL	RE-TEST NO.	QA ID
TS-40	9/18/03	940	03	J1	80T/80T	525°	550°	129 133	189 211	P	–	–	RH
TS-41	9/18/03	940	03	J1	80T/80S	525°	550°	130 126	206 209	P	–	–	RH
TS-42	9/18/03	1500	03	J1	80T/80T	525°	550°	197 217	240 222	P	–	–	RH
TS-43	9/19/03	830	03	J1	80T/80T	525°	550°	174 180	226 232	P	–	–	RH
TS-44	10/6/03	945	03	J1	80T/80T	525°	560°	169 185	220 237	P	–	–	RH
TS-45	10/17/03	830	03	J1	80T/80T	525°	550°	165 167	215 210	P	–	–	RH
TS-46	10/22/03	1430	03	TB	80T/80T	525°	550°	128 148	255 262	P	–	–	RH

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T) OR TEXTURED/TEXTURED (T/T).

000076

APPENDIX L

GEOMEMBRANE PRODUCTION SEAM LOGS

5371

CELL 2 CAP

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO. G03741 — TASK NO.: 3.3 04

DESCRIPTION: Cap #2 / PHASE III — YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☑ Cap #2 — CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
6/22/03	1014am	09	S.S.	P1/C-1	0 WT	370'	370	RH	West Toe 0-363'	30/28	208pm/213pm	HW	P	APT	RH
6/22/03	130pm	01	T.B	P1/P3	0 WT	370'	370	RH	West Toe 0-370'	30/29	309pm/314pm	HW	P	APT	RH
6/22/03	140pm	09	J.E	P2/31	355	370	15'	RH	355-370'	29/29	925am 930am	HW	P	APT	RH
6/22/03	140pm	09	J.E	P2/32	349	355	6'	RH	349'-355'	30/30	900 AM 905 AM	HW	P	APT	RH
6/22/03	140pm	09	J.E	P2/34	303	301 ET	268'	RH	East Toe 0'-301'	30/30	927 AM 932 AM	HW	P		RH
6/22/03	140pm	09	J.E	P2/34	301	349	48'	RH	301'-349'	30/30	915AM 920AM	HW	P		RH
6/23/03	140pm	09	J.E	P2/34	0'	33'	33'	RH	0'-33'	30/29	1027 AM 1032 AM	HW	P		RH
6/23/03	1000pm	09	J.E	P2/P4	0'	370'	370'	RH	0-370'	32/31	1409 PM 1414 PM	HW	P		RH
6/23/03	1350pm	09	S.S	P3/P5	0'	35'	35'	RH	0-35'	30/30	1655 pm 1700 pm	HW	P		RH
6/23/03	1350pm	09	S.S.	P3/P5	42'	227'	185'	RH	42'-227'	30/30	1655 pm 1700 pm	HW	P		RH
6/23/03	1350pm	09	S.S.	P3/P5	227'	362'	135'	RH	227'-362'	30/30	1612 pm 1617 pm	HW	P		RH
6/23/03	1350pm	09	S.S.	P3/P5	362'	394'	32'	RH	362'-394'	30/30	1612 pm 1617 pm	HW	P		RH
6/23/03	1445pm	01	J.E	P4/P6	0'	380'	380	RH	0'-380'	30/30	1620 pm 1625 pm	HW	P		RH
						TOTAL (1)	2545'								

NOTE: (1) SEAM LENGTH: THIS PAGE (4) (ft) ACCUMULATED 2545 (ft) (4)

SEAMS 1 and SEAM 2 Are 80 Mil HD to 60 Mil HDT (Tie in Seam to Cell #1 Cap) All other seams and PANELS Are 80 Mil HDPE. 2273 L.FT. (THIS PAGE)

000079

537

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 663211 TASK NO.: 3.3

DESCRIPTION: Cap #2 Phase IV

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☑ Cap #2 CELL

CONTRACTOR: FLUOR FERNALD / Istre Co.

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
6/23/03	1615	09	S.S.	P5/P7	0	384	384'	RH	0-384	30/30 1605/1610	—	HW	P	APT	RH
6/24/03	965AM	01	J.E.	P6/P8	0	386	386	RH	0-386	29/29 1130/1136	—	HW	P		RH
6/24/03	1120AM	01	J.E	P8/P9	0	381	381	RH	0-381	31/30 1635/1640	—	HW	P		RH
6/24/03	210AM	01	J.E	P9/P10	0	379	379'	RH	0-379	1637/1642 30/30	—	HW	P		RH
6/24/03	1610pm	09	S.S.	P7/P11	0	320	370	RH	0-320	30/30 1104/1107	—	HW	P		RH
6/24/03	1750pm	09	S.S.	P11/P12	0	386	386	RH	0-386	30 1111/1116	—	HW	P		RH
6/24/03	1600pm	09	S.S.	P7/P11	340	391	51'	RH	340'-391'	30/30 1104/1107	—	HW	P		RH
6/25/03	1540	01	JE	P14/2	0	22	22'	RH	22' From South Ext.	30/30 1631/1636	—	HW	P		RH
6/25/03	1550	01	JE	P14/4	22	44	22'	RH	22'-44'	30/30 1631/1636	—	HW	P		RH
6/25/03	1600	01	JE	P14/6	44	66	22'	RH	44'-66'	30/30 1631/1636	—	HW	P		RH
6/25/03	1610	01	JE	P14/8	66	88	22'	RH	66'-88'	30/30 1631/1636	—	HW	P		RH
6/25/03	1620	01	JE	P14/9	88	110	22'	RH	88'-110'	30/30 1631/1636	—	HW	P		RH
6/25/03	1630	01	JE	P14/10	110	132	22'	RH	110'-132'	30/30 1631/1636	—	HW	P		RH
						TOTAL (1)	2469								

NOTE: (1) SEAM LENGTH: THIS PAGE 2469 Linear feet (ft) ACCUMULATED 5014 (ft) (11)

000080

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: HW

SHEET NO. 2 OF 10

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. G03211 TASK NO.: 03

DESCRIPTION: Cap #2 / Phase II 80 Mil GML

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 / Phase I

CONTRACTOR: FLUOR FERNALD / Istre Co.

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
6/25/03	1615	01	JE	P13/P14	0	110	110	RH	From ext. ed south 0-110	30/30 1704/1709		HW	P		RH
6/25/03	1707	01	JE	P13/P1	0	22	22	RH	From Ext Tie in	30/29 1720/1725		HW	P		RH
6/25/03	1701	01	JE	P13/P3	22	44	22	RH		30/29 1720/1725		HW	P		RH
6/25/03	1655	01	JE	P13/P5	44	66	22	RH		30/29 1720-1725		HW	P		RH
6/25/03	1649	01	JE	P13/P7	66	88	22	RH		30/29 1720-1725		HW	P		RH
6/25/03	1643	01	JE	P13/P11	88	110	22	RH		30/29 1720-1725		HW	P		RH
6/25/03	1536pm	09	SS	P10/15	0	382	382	RJ	0-382 FET	30/30 1030-1035		HW	P		RJ
6/25/03	1759pm	03	DL	P14/31		~~382~~	22	RH		(EXTRUSION)	Panel Removed	HW	P	VBOX	RH
6/25/03	1825pm	03	DL	P13/31			22	RH		(EXTRUSION)		HW	P	VBOX	RH
6/25/03	1706pm	09	SS	P12/P16	0	376	376	RH	From WT 0-377'	950/955 32/32		HW	P		RH
6/26/03	1015am	09	SS.	P13/P16	132	154	22	RH	From Ext Tie in	1030/1035 30/30		HW	P		RH
6/26/03	1022am	09	SS	P13/12	110	132	22	RH	From Ext Tie in	1030/1035 30/30		HW	P		RH
6/26/03	1033am	09	SS	P13/P14	110	169	59	RH		1101/1106 30/30		HW	P		RH
					TOTAL (1)		1125								

NOTE: (1) SEAM LENGTH: THIS PAGE 1125 L.ft (II) ACCUMULATED ~~6908~~ 6139 (II)

Seams that were extruded were tie in seams to Cap #1, Cell #1 existing. (East to West)

Seam P14/31 and Seam P13/31 were cut out due to failed Destructs (DS-14, 1B, and 28)

000081

537

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cap #2 - 80 Mil HDT Placement

PROJECT NO.: GQ3211 TASK NO.: 0433

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 -

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__t__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
6/21/03	1014am	09	S.S.	1/C1	0	370	370	RH	Toe of W. Slope East			HW			
6/22/03	140pm	09	J.E	2/C1-31	0	22	22	RH		Seams were removed Failed OS's 14 & 28					
6/23/03	140pm	09	J.E	2/C1-31	0	22	22	RH							
6/23/03	140pm	09	J.E	2/C1-31	0	22	22	RH							
6/23/03		06	T.B	1/3	0	22	22	RH							
6/28/03	1022	09	SS	10/14	0	8'	8'	W	Top of East Slope	30/30	10:22AM 10:27AM	HW	P	APT	W
6/28/03		09	SS	10/14	8'	11'	3'	W	Top of East Slope	30/30	10:22AM 10:27AM	HW	P		W
6/28/03		09	SS	14/15	11'	21'	10'	W	Top of East Slope	30/30	10:22AM 10:27AM	HW	P		W
6/28/03	1025	09	SS	15/17	0	377'	377'	W	Top of East Slope EOS	31/31	1324 1330	HW/222#	P		W
6/28/03	1445	09	SS	17/18	0	387'	387'	W	Toe of East Slope to Top	31/30	1625 1630	HW	P		W
6/28/03	1525	01	JI	16/19	0	13'	13	W	Top of West Slope to Toe	30/30	902 907	HW	P		RH
6/28/03	1525	01	JI	16/19	13	380	367'	RH	Bottom of Slope to cpss	32/32	923 928	HW	P		RH
6/26/03	1525	09	SS	19/20	0	583	388	RH	Bottom of Toe - Ø -	33/31	915 920	HW	P		RH
						TOTAL (1)	2006								

NOTE: (1) SEAM LENGTH: THIS PAGE 2006 (1) ACCUMULATED 8145 (1)

Seams 2/C1 were removed due to failed Destruct 14, 14A, and 14B See daily report 7-14-03.

280000

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: W

SHEET NO. 4 OF 10

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GO3211 TASK NO.: 3.3

DESCRIPTION: CAP #2, CELL #2 - PHASE 4

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP #2

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__ ± __ psi for 5 min.)	VACUUM BOX (_____ sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
6/30/03	955	07	J.I	20/21	0	385	385	RH	0-385	30 1320 30 1325	—	HW	P	APT	RH
6/30/03	1355	01	S.S.	18/22	0	381	381	RH	0-381	30 1805 30 1810	—	HW	P	APT	RH
6/30/03	1430	07	J.I.	21/23	0	206	206	RH	Western Bottom Half of Seam	31 1605 30 1610	—	HW	P		RH
6/30/03	1430	07	J.I.	21/23	206	380	174	RH	Western Top Half of Seam	30 1600 30 1605	—	HW	P		RH
6/30/03	1640	01	SS	22/24	0	380	380	RH		30 1605 30 1610	—	HW	P		RW
7/1/03	920	07	TB	23/25	0	384	384	RH	Top of Crest To Bottom Toe	30 1135 30 1140	—	HW	P		RH
7/1/03	1100	07	TB	25/26	0	381	381	RH	Top of Crest To Bott Toe	30 1445 30 1450	—	HW	P		RH
7/1/03	1340	01	SS	24/27	0	143	143	RH	From Toe To 143' Crest	30 1420 30 1425	—	HW	P		RH
7/1/03	1340	01	SS	24/27	143	384	241	RH	From 143' From Toe to Crest	31 1431 30 1436	—	HW	P		RH
7/1/03	1406	07	TB	27/28	0	383	383	RH	From Toe to Crest	31 1722 31 1729	—	HW	P		RH
7/1/03	1610	01	SS	28/29	0	384	384	RH	East Slope Crest to Toe	30 1055 30 1100	—	HW	P		RH
7/3/03	1055	09	SS	26/30	0	381	381	RH	West Slope Crest to Toe	31 1937 29 1937	—	HW	P		RH
7/3/03	1305	09	SS	30/31	0	381	381	RH	West Slope Crest to Toe	31 1500 30 1505	—	HW	P		RH
						TOTAL (1)	4204								

NOTE: (1) SEAM LENGTH: THIS PAGE 4204 (ft) ACCUMULATED 12,349 (ft)

000083

53741

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: [illegible]

SHEET NO. 5 OF 10

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: FLUOR FERNALD 80 mil HDPE

PROJECT NO.: G03211 TASK NO.: 3.3 ~~04~~

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__psi for 5 min.)	VACUUM BOX (__sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
~~7/3/03~~				~~30/31~~				~~RH~~	~~Crest to toe West Slope~~						
~~7/3/03~~				~~31/32~~				~~RH~~	~~East Slope Crest to toe~~						
7/3/03	1510	09	SS	32/33	0	381	381	RH	East Slope	32	1620				
									Crest to toe	32	1625				
7/3/03	1447	01	TB	~~29/32~~	0	384	384	RH	East Crest	30	1600	HW	P	APT	RH
									To Toe	30	1605	HW	P	APT	RH
7/11/03	1118	02	SS	~~34/35~~	0	4	4	RH	Center Seam Top of Crest this m. seam						RH
7/11/03	1309	02	SS	34/13	0	17	17	RH	South Side Toe of Panel Top of Crest	30/32	30/30	HW	P	air test	RH
7/11/03	1309	02	SS	35/13	17	19	2	RH	↓	↓	↓	HW	P	complete	RH
7/11/03	1309	02	SS	35/14	19	41	22	RH				HW	P	for	RH
7/11/03	1346	02	SS	34/1-C1	0	17	17		North Side 1/8 in Seam Top of Crest	30					
7/11/03	1346	02	SS	35/31-C1	25	41	16		↓						
7/11/03	1346	02	SS	35/1-C1	17	25	8	↓							
				TOTAL (1)			851								

Removed - Cut out 7/18/03 Failed Destruct

NOTE: (1) SEAM LENGTH: THIS PAGE 851 (ft) ACCUMULATED 13200

*NOTE: CAP#1 WAS cut out and removed on 7-11-03. Panels 34 and 35 were fusion welded into place and Air tested end to end, both sides of Panels. Seams associated with P34 and P35 were cut out and replaced with New panels. AT'S and P34, P35 are non-existance

00084

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 6 OF 10

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cap #2 - Cell #2 - Phase V 80 mil HDT

PROJECT NO. 60 3211 TASK NO.: 04

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 - Cell #2 - Phase V

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/12/03	1055	09	SS	36/37	0	171'	171'	RH	Top of Crest Center Seam	30/30 1300/1305	—	HW	P	APT	RH
7/12/03	1355	09	SS	37/17	0	22'	22		Top of Crest Crest Train	31/29 1127/1132	—	HW	P		RH
7/12/03	1405	09	SS	37/18	22	44'	22			31/29 1127/1132	—	HW	P		RH
7/12/03	1409	09	SS	37/22	44	66	22			31/29 1127/1132	—	HW	P		RH
7/12/03	1414	09	SS	37/24	66	88	22			31/29 1127/1132	—	HW	P		RH
7/12/03	1420	09	SS	37/27	88	110	22			31/29 1127/1132	—	HW	P		RH
7/12/03	1425	09	SS	37/28	110	132	22	SS		30/30 1113/1118	—	HW	P		SS
7/12/03	1432	09	SS	37/29	132	154	22			30/30 1333/1335	—	HW	P		RH
7/12/03	037	09	SS	37/32	154	171	17			30/30 1333/1335	—	HW	P		RH
7/12/03	1355	01	JI	31/38	0	373	373		West Slope Top of Crest	30/30 805/810	—	HW	P		RH
7/12/03	1605	09	SS	36/31	0	13	13		West Slope Top of Crest	31/29 1113/1119	—	HW	P		RH
7/12/03	1608	09	SS	36/30	13	35	22			31/29 1113/1118	—	HW	P		RH
						TOTAL (1)	750								

NOTE: (1) SEAM LENGTH: THIS PAGE 750 (1) ACCUMULATED ~~15,103~~ 13,950 (1)

00085

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 7 OF 10

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: 6Q3211 TASK NO.: 33

DESCRIPTION: Cap #2/Cell #2 - PHASE V 80 Mil HDT YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2/Cell #2 - PHASE V CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
7/12/03	1511	09	SS	36/26	35	57	22	RH	West Slope Crest Tie in	31/29 111.3/118	—	HW	P	APT	RH
7/12/03	1517	09	SS	36/25	57	79	22	RH		30/30 1035/1040	—	HW	P		RH
7/12/03	1525	09	SS	36/23	79	101	22	RH		30/30 1035/1040	—	HW	P		RH
7/12/03	1531	09	SS	36/21	101	123	22	RH		31/30 1034/1039	—	HW	P		RH
7/12/03	1535	09	SS	36/20	123	145	22	RH		31/30 1034/1039	—	HW	P		RH
7/12/03	1541	09	SS	36/19	145	167	22	RH		31/30 1034/1039	—	HW	P		RH
7/12/03	1546	09	SS	36/16	167	170	3	RH		VT SEAM	—	HW	P	VT	SS
7/12/03	1630	09	SS	39/40	0	382	382	RH		30/30 833/838	—	HW	P	APT	RH
7/12/03	1620	01	J.I	39/39	0	383	383	RH		30/30 815/820	—	HW	P		RH
7/13/03	1050	09	SS	41/42	0	376	376	RH	East Slope Crest to Toe	30/30 1415/1420	—	HW	P		RH
7/13/03	1304	09	SS	33/41	0	373	373	RH	East Slope Crest to Toe	31/30 1500/1505	—	HW	P		RH
						TOTAL (1)	1649								

(38)

NOTE: (1) SEAM LENGTH: THIS PAGE 36/21, 36/20, 36/19 were Air tested w/one AT Test. (66') (11) ACCUMULATED ~~16,752~~ 15,599 (11)
36/23, 36/25 were Air Tested same time together (44')
3' SEAM 36/16 WILL BE VACUUM TESTED DUE TO SHORTNESS OF SEAM

980008

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 03211 TASK NO.: 3.3

DESCRIPTION: Cap #2 Cell #2 - PHASE V

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (_±_psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/13/03	1615	09	SS	32/44	0	12	12	RH	East Slope Crest T/S	30/30 1650/1655	—	HW	P	APT	RH
7/13/03	1619	09	SS	33/44	12	34	22			30/30 1650/1655	—	HW	P		RH
7/13/03	1626	09	SS	41/44	34	56	22			30/30 1650/1655	—	HW	P		RH
7/13/03	1631	09	SS	42/44	56	78	22			30/30 1650/1655	—	HW	P		RH
7/13/03	1455	09	SS	43/44	0	81	81		Center Seam Top of Cap	30/31 1500/1505	—	HW	P		RH
7/13/03	1040	09	SS	37/44	0	22	22		Cross Seam E/W Center Seam	30/30 1020/1025	—	HW	P		RH
7/13/03	1845	09	SS	36/43	0	22	22			30/30 1020/1025	—	HW	P		RH
7/13/03	1543	09	SS	31/43	0	14	14		West Slope Crest T/S	31/ 1621/1632	—	HW	P		RH
7/13/03	1537	09	SS	33/43	14	36	22			31/ 1621/1632	—	HW	P		RH
7/13/03	1531	09	SS	39/43	36	58	22			31/ 1621/1632	—	HW	P		RH
7/13/03	1525	09	SS	40/43	58	80	22			31 1621/1632	—	HW	P		RH
						TOTAL (1)	283'								

NOTE: (1) SEAM LENGTH: THIS PAGE Seam 31/43, 38/43, 39/43 and 40/43 All AIR TESTED same test. (1) ACCUMULATED ~~17,035~~ 15,882 (1)

Seams on East Tie in 32/43, 33/43, 41/43, 42/43, tested end to end ATOK

* 17,035 ACTUAL Seam Lenght = 34.07 Destructs (35 TAKEN)

0087

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: (N)

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cap #2 - Cell #2 - PHASE I

PROJECT NO. 60321 TASK NO.: 33

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2 - Cell #2 - PHASE I

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__/__ psi for 5 min.)	VACUUM BOX (_____ sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/14/03	945	09	SS	14/37	0	22	22	RH	Center Top of Cap	30/30 1120/1125	—	HW	P	APT	RH
7/14/03	945	09	SS	13/36	22	44	22	RH	↓	30/30 1120/1125	—	HW	P		RH
7/14/03	1350	09	SS	13/46	0	22	22	RH	North Tie In Seam	30/30 1420/1425	—	HW	P		RH
7/14/03	1350	09	SS	14/45	22	44	22	RH	North Tie In Seam	30/30 1420/1425	—	HW	P		RH
7/14/03	1540	09	SS	46/1-C1	0	12	12	RH	North Tie In Seam	30/30 1600/1605	—	HW	P		RH
7/14/03	1542	09	SS	45/1-C1	12	22	10	RH	North Tie In Seam	30/30 1600/1605	—	HW	P		RH
7/14/03	1546	09	SS	45/3-C1	22	41	19	RH	North Tie In Seam	30/30 1600/1605	—	HW	P	↓	RH
						TOTAL (1)	129								

NOTE: (1) SEAM LENGTH: THIS PAGE 129' ft (ft) ACCUMULATED 16,011 (ft)

880008

53711

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: (W)

SHEET NO. 10 OF 10

CELL 6 SECONDARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 - Phase V

PROJECT NO. G03211 TASK NO.: 3.3

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (___psi for 5 min.)	VACUUM BOX (___sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/17/03	1506	09	SS	S1/S2	0	124	124'	RH	South Limit to 10' N. of IC Toe	1616/1621 30/30		HW	P		
7/17/03	1537	01	DL	S4/S5	0	28	28'	RH	East Anchor to Slope Toe	1603/1607 30/30		HW	P	Air test	RH
7/17/03	1540	09	SS	S5/S6	0	45'	45'	RH	East Anchor to Toe of Slope	1603/1608 31/31		HW	P		RH
7/17/03	1548	09	SS	S6/S7	0	64'	64'	RH	East Anchor to Toe of Slope	1615/1620 31/30		HW	P		RH
7/17/03	1600	01	DL	S4/S8	0	20'	20'	RH	East Anchor to Toe of Slope	1622/1627 30/30		HW	P		RH
7/17/03	1645	09	SS	S1/S4	0	124'	124'	CHW	South Limit to 10' N of IC Toe	1705/1710 30/30		HW	P		CHW
7/17/03	1633	01	DL	S2/S3	0	36	36	CHW	East End of IC Berm	1648/1653 30/30		HW	P		CHW
7/18/03	1121	09	SS	S7/S1	0	22	22'	RH	North of South Limit	1300/1305 32/32		HW	P		CHW
7/18/03	1130	09	SS	S6/S1	22	37	15'	RH	North of South Limit	1300/1305 32/32		HW	P		RH
7/18/03	1257	09	SS	S6/S2	37	50	13'	RH	North East of 1/2/6 ICB	1318/1323 30/30		HW	P		RH
7/18/03	1302	09	SS	S5/S3	72	81	9'	RH	North East of 1/2/6 ICB	1325/1330 30/30		HW	P		RH
7/18/03	1304	09	SS	S4/S3	81	107	26'	RH	Top of ICB South End	1330/1335 30/30		HW	P		RH
7/18/03	1312	09	SS	S8/S3	107	117	10'	RH	NW on East Slope ICB	1330/1335 33/33		HW	P		RH
					TOTAL (1)		536'								

NOTE: (1) SEAM LENGTH: THIS PAGE 536'

* ICB = Berm

(ft) ACCUMULATED 536' (ft)

537

000090

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 1 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GD7211 TASK NO.: 3.3

DESCRIPTION: Cell #6 - Phase V

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/18/03	1314	09	SS	S8/S2	117	141	24	RH	Inside IC Berm	1326/1331 31/31		HW	P	APT	RH
7/18/03	1257	09	SS	S5/S2	56	72	22	RH	Inside IC Berm	1318/1322 30/30		HW	P		RH
7/18/03	1333	01	DL	S9/S10	0	123	123	RH	From South Limits North	1358/1403 31/31		HW	P		RH
7/18/03	1403	01	DL	S10/S11	0	123	123	RH	From South Limits North	1400/1405 32/31		HW	P		RH
7/18/03	1421	09	SS	S11/S12	0	123	123	RH	From South Limits North	1410/1415 31/31		HW	P		RH
7/18/03	1445	01	DL	S12/S13	0	123	123	RH	From South Limits North	1408/1413 30/30		HW	P		RH
7/18/03	1610	01	DL	S13/S14	0	123	123	RH	From South Limit to 10'N	1415/1420 32/32		HW	P		RH
7/18/03	1630	09	SS	S14/S15	0	126	126	RH	From South Limit to LCB	1420/1425 31/31		HW	P		RH
7/22/03	1415	09	SS	S15/S16	0	130	130	RH	From South Limit of Liner	1610/1615 33/33		HW	P		RH
7/22/03	1450	09	SS	S16/S17	0	130	130	RH	From South Limit of Liner	1609/1614 30/30		HW	P		RH
7/22/03	1516	09	SS	S17/S18	0	132	132	RH	From South Limit of Liner	1620/1625 30/30		HW	P		RH
7/22/03	1612	09	SS	S18/S19	0	132	132	RH	From South Limit of Liner	914/919 32/32		HW	P		RH
7/22/03	1693	09	SS	S19/S20	0	134	134	RH	From South Limit of Liner	915/920 31/31		HW	P		RH
						TOTAL (1)	~~1985~~ 1445								

NOTE: (1) SEAM LENGTH: THIS PAGE 1445 (11) ACCUMULATED ~~1985~~ 1,981 (11)

PANELS WERE INSTALLED South to North over IC Berm from Southern limit edge.

000091

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GQ3211 TASK NO.: 33

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/22/03	946	09	SS	S20/S21	0	130	130	RH	From South Limits to BKLTC	1030/1035 31/31		HW	P	APT	RH
7/23/03	1013	09	SS	S21/S22	0	130	130	RH	"	1045/1050 31/31		HW	P		RH
7/23/03	1040	09	SS	S22/S23	0	130	130	RH	"	1108/1113 30/30		HW	P		RH
7/23/03	1105	09	SS	S23/S24	0	130	130	RH	"	1130/1135 32/32		HW	P		RH
7/23/03	1130	09	SS	S24/S25	0	130	130	CHW	"	1259/1302 31/31		HW	P		RH
7/23/03	1414	01	TB	S25/S26	0	130	130	RH	"	1446/1451 31/30		HW	P		RH
7/23/03	1435	09	SS	S26/S27	0	131	131	RH	"	1500/1505 31/31		HW	P		RH
7/23/03	1454	01	TB	S27/S28	0	132	132	RH	"	[illegible] 3/3		HW	P		RH
7/24/03	851	09	SS	S28/S29	0	131	131	RH	"	930/935 30/30		HW	P		RH
7/24/03	1534	09	SS	S8/30	0	51	51	RH	From West Anchor-Wall	1631/1636 30/30		TB	P		RH
7/24/03	1515	09	SS	S2/30	51	55	4	RH	↓	1604/1609 31/31		TB	P		RH
7/24/03	1509	09	SS	S1/30	55	77	22	RH	↓	1604/1609 31/31		TB	P		RH
7/24/03	1501	09	SS	S9/30	77	100	23	RH	↓	1604/1609 31/31		TB	P	↓	RH
						TOTAL (1)	1274								

1043

NOTE: (1) SEAM LENGTH: THIS PAGE 1274 (1) ACCUMULATED ~~2719~~ 3255 (1)

0000092

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: [illegible]

SHEET NO. 3 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO. G03211 TASK NO.: 3.3

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (_±_psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
7/24/03	1455	09	SS	S10/S30	100	122	22'	RH	East Anchor Trench-West	1604/1609 31/31		TB	P	APT	RH
7/24/03	1449	09	SS	S11/S30	122	145	23'	RH				TB	P		RH
7/24/03	1444	09	SS	S12/S30	145	167	22'	RH				TB	P		RH
7/24/03	1437	09	SS	S13/S30	167	189	22	RH				TB	P		RH
7/24/03	1431	09	SS	S14/S30	189	212	23	RH				TB	P		RH
7/24/03	1427	09	SS	S15/S30	212	234	22	RH				TB	P		RH
7/24/03	1420	09	SS	S16/S30	234	257	23	RH				TB	P		RH
7/24/03	1411	09	SS	S17/S30	257	280	23	RH				TB	P		RH
7/24/03	1406	09	SS	S18/S30	280	302	22	RH				TB	P		RH
7/24/03	1400	09	SS	S19/S30	302	324	22	RH				TB	P		RH
7/24/03	1352	09	SS	S20/S30	324	348	24	RH				TB	P		RH
7/24/03	1347	09	SS	S21/S30	348	370	22	RH				TB	P		RH
7/24/03	1345	09	SS	S22/S30	370	384	14	RH				TB	P		RH
						TOTAL (1)	~~306~~	284							

NOTE: (1) SEAM LENGTH: THIS PAGE All Seams tested with Air end to end 1604/1609 31/31 (ft) ACCUMULATED ~~3025~~ 3539 (ft)

000093

GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: (W)

SHEET NO. 4 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 Phase II

PROJECT NO.: 6Q3211 TASK NO.: 0433

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

CONTRACTOR: ISTRE COMPANY

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/24/03	1541	01	JT	S30/S31	385	276	109	RH	from East Anchor West	1703/1708 31/30		TB	P	APT	RH
7/24/03	1650	07	JI	S31/S32	387	0	387	RH	"	1703/1708 31/31		TB	P		RH
7/24/03	1605	09	SS	S30/S31	276	0	276	RH	"	1835/1840 34/33		TB	P		RH
7/24/03	1711	09	SS	S32/S33	0	380	380	RH	"	1810/1815 31/31		TB	P		RH
7/25/03	1020	09	SS	S33/S34	0	380	380	RH	"	1309/1314 31/30	ATOK North TIE IN	TB	P		RH
7/25/03	1055	02	JI	S34/S35	0	384	384	RH	"	1311/1316 30/30		TB	P		RH
7/25/03	1610	09	SS	S36/S37	0	384	384	RH	"	0915/0920 32/32	13'-31' 0945/0950 31/31	HW	P		CHW
7/25/03	0800	09	SS	S36/C6	0	383	383	RH	North Tie in C-5	0915/0920 CHW 32/32	32'-93' 0948/0953 33/33	HW	P		CHW
7/25/03	1720	09	SS	S37/S38	0	384	384	RH	"	0914/0923 31/31	96'-125' 0957/1002 34/33	HW	P		CHW
											126'-342' 1002-1007 32/32				
											343'-384' 1009-1014 30/30				
						TOTAL (1)	3067								

4177 1152

6092

NOTE: (1) SEAM LENGTH: THIS PAGE Existing Panels in Cell #5 are S-66 (East) S-111 (West) (ft) ACCUMULATED ~~6092~~ 6,6086 (ft)

000094

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 5 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 · Phase I

PROJECT NO.: GQ3211 TASK NO.: 33 ~~04~~

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/29/03	1605	09	SS	538/539	0	384	384	RH	From East Anchor West	813/813 33/33		HW	P	APT	RH
7/29/03	1645	01	JI	539/540	0	384	384	RH	From EAST Anchor West	816/821 32/32		HW	P		RH
7/29/03	1835	09	SS	540/541	0	384	384	RH	"	840/845 32/32		HW	P		RH
7/29/03	1918	01	JI	541/542	0	34	34	RH	"	0852/0857 31/31		JI	P		CHW
7/29/03	1938	09	SS	542/542	34	384	350	RH	"	845/850 31/31		HW	P		RH
~~7/30/03~~	~~0930~~	~~09~~	~~SS~~	~~534/542~~	~~0~~	~~384~~	~~384~~	~~CHW~~	~~"CHW~~						
7/30/03	0930	09	SS	542/535	384	0	384	CHW		1137/1142 33/31		HW	P	APT	CHW
7/30/03	1411	09	SS	529/543	0	134	134	CHW		1823/1828 32/32		HW	P		CHW
7/30/03	1432	09	SS	543/544	0	139	139	CHW		1818/1823 33/32		HW	P		CHW
7/30/03	1544	09	SS	544/545	0	135	135	CHW		1825/1830 33/33		HW	P		CHW
7/30/03	1620	09	SS	544/547	65	0	65	CHW		1037/1042 32/32		HW	P		RH
7/30/03	1632	09	SS	547/548	64	0	64	CHW		1855/1900 32/32		HW	P		CHW
7/30/03	1647	09	SS	548/549	44	0	44	CHW		1908/1913 31/31		HW	P		CHW
						TOTAL (1)	2501								

NOTE: (1) SEAM LENGTH: THIS PAGE 2501 (11) ACCUMULATED ~~8593~~ 9167 (11)

Seam 41/42 01 HEATING ELEMENTS FAILED, 09 TOOK OVER APPROX 30' FW END.

000095

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 6 OF 19

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE CO.

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/30/03	1659	09	SS	549/550	44	0	44	CHW		1910/1915 34/34		HW	P	–	CHW
7/30/03	1711	09	SS	550/551	0	53	53	CHW		1915/1920 30/30		HW	P	–	CHW
7/30/03	1722	07	DL	545/552	0	136	136	CHW	0-136'	1828/1833 34/34		HW	P	–	CHW
7/30/03	1750	09	SS	552/553	0	136	136	CHW		1821/1836 31/30		HW	P	–	CHW
7/30/03	1825	09	SS	553/554	0	136	136	CHW		1836/1841 32/31		HW	P	–	CHW
7/30/03	1832	07	DL	554/555	0	82	82	CHW		1900/1905 32/31		HW	P	–	CHW
7/31/03	0930	09	JI/SSC	551/555	0	14	14	CHW		920/925 31/31		HW	P	–	CHW
7/31/03	0937	09	JI/SSC	550/555	14	43	29	CHW		920/925 31/31		HW	P		RJ
7/31/03	0947	09	JI/SSC	549/555	43	67	24	CHW		920/925 31/31		HW	P		RJ
7/31/03	0955	09	JI/SSC	548/555	67	97	30	CHW		0855/0900 31/31		HW	P		RJ
7/31/03	1007	09	SSC	546/554	146	123	23	CHW		0753/0759 32/32		HW	P	–	RJ
?– 7/31/03	1016	09	SSC	547/554	123	124 ~~0~~	CHW 6' ~~30~~	CHW		0753/0758 32/32		HW	P	–	RJ
7/31/03	1500	09	SSC	556/557	0	366	366	CHW		1500/1505 30/30		HW	P	–	RJ
						TOTAL (1)	~~1099~~	1079							

NOTE: (1) SEAM LENGTH: THIS PAGE SEAM 547/554 WAS AIR TESTED IN SECTIONS. (6') AND (12'), AND (5'). SEAM 551/555, 550/555 and 549/555 WAS AIR TESTED END TO END.

(11) ACCUMULATED ~~9692~~ 10,186 (11)

960000

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL

REVIEWED BY: (W)

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 043

DESCRIPTION: CELL #6 - PHASE II YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
7/31/03	1715	09	SSC	551/554	0	13	13	CHW	~~FWAT~~	1922/1927 30/30		HW	P	—	CHW
7/31/03	1726	09	SSC	551/556	8	55	47	CHW	FWAT	1445/1456 33/33		HW	P	—	RH
7/31/03	1741	09	SSC	554/556	55	78	23	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1749	09	SSC	553/556	78	98	20	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1757	09	SSC	552/556	98	120	22	CHW		1515/1520 31/29		HW	P	—	RH
7/31/03	1806	09	SSC	545/556	120	142	22	CHW		1515/1520 31/29		HW	P	—	RH
7/31/03	1814	09	SSC	544/556	142	166	24	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1822	09	SSC	543/556	166	189	23	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1827	09	SSC	528/556	189	211	22	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1832	09	SSC	528/556	211	234	23	CHW		1515/1520 31/29		HW	P	—	RW
7/31/03	1837	09	SSC	527/556	234	256	22	CHW		1515/1520 31/29		HW	P	—	RH
7/31/03	1842	09	SSC	526/556	256	279	23	CHW		1515/1520 31/29		HW	P	—	RH
7/31/03	1847	09	SSC	525/556	279	302	23	CHW		1515/1520 31/29		HW	P	—	RH
						TOTAL (1)	307								

NOTE: (1) SEAM LENGTH: THIS PAGE _____ (ft) ACCUMULATED ~~9999~~ 10,493 (ft)

Seam 54/56 to 23/24/52 Air Tested end to end (277')

* FWAT= From West Anchor Trench

000097

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

DESCRIPTION: CELL #6 - PHASE V

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

CONTRACTOR: ISTRE COMPANY

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__psi for 5 min.)	VACUUM BOX (____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
7/31/03	1852	09	SSC	S24/S56	302	324	22	CHW	From West Anchor Trench	1515/1520 31/29		HW	P	—	RH
7/31/03	1857	09	SSC	S23/S56	324	347	23	CHW	↓	1537/1542 31/31		HW	P	—	RH
7/31/03	1901	09	SSC	S22/S56	347	364	17	CHW	↓	1537/1542 31/31		HW	P	—	RH
7/31/03	1909	09	SSC	S30/S56	0	22	22	RH	↓	1555/1600 31/31		HW	P	—	RH
7/31/03	1916	09	SSC	S31/S57	22	44	22	RH	↓	1600/1605 32/32		HW	P	—	RH
? - 8/4/03	1016	09	SSC	S48/S54	129	123	6'	RH	From South Limits	0753/0758 32/32		HW	P	—	RH
8/4/03	1016	09	SSC	S47/S54	117	110	7'	RH	|	0820/0825 33/31	8-4-03	HW	P	—	RH
8/4/03	1016	09	SSC	S47/S54	102	97	5'	RH	|	820/825 32/32		HW	P	—	RH
7/29/03	1230	06	DL	B3/S13	190	194	4'	RH			VTOK 7/31/03	AC	P	—	RH
7/29/03	1230	06	DL	B4/S14	194	216	22'	RH			VTOK 7/31/03	AC	P	—	RH
7/29/03	1230	06	DL	B5/S15	216	238	22'	RH			VTOK 7/31/03	AC	P	—	RH
7/29/03	1230	06	DL	B6/S16	238	242	4'	RH			VTOK 7/31/03	AC	P	—	RH
7/29/03	1230	06	DL	C3/30	190	242	52'	RH			VTOK 7/31/03	AC	P	—	RH
					TOTAL (1)		~~265'~~ 228								

Cap #3 seams

NOTE: (1) SEAM LENGTH: THIS PAGE Cap #3 seams covers Cap #1 and #2 that failed destructively. (1) ACCUMULATED ~~10,364~~ 10,721 (1)

860000

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RW

SHEET NO. 9 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE II YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐ CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8/1/03	935	09	SS	S7/S58	0	65	65	RH	SOUTH Limits SE corner	1725/1730 30/30		HW	P	–	CW
8/1/03	946	09	SS	S1/S58	0	13	13	RH	"	735/740 30/29		HW	P		CW
8/6/03	1020	09	SS	S57/S59	0	364	364	RH	FWAT	1505/1510 31/31		HW	P	–	RH
8/6/03	1318	09	SS	S58/S60	0	365	365	RH	FWAT	1515/1520 32/32		HW	P	–	RH
8/6/03	1626	09	SS	S61/S62	0	358	358	RH	FWAT	1030/1035 32/32		HW	P	–	RH
✓ 8/6/03	1535	09	SS	S59/S32	0	22	22	RH	FNTS	0958/1003 31/31		HW	P	–	CHW
✓ 8/6/03	1542	09	SS	S60/S33	0	22	22	RH	↓	0958/1003 31/31		HW	P	–	CHW
8/6/03		09	SS	S61/S36	0	22	22	RH	↓	1040/1045 31/31		HW	P	–	CW
8/6/03		09	SS	S62/S37	0	22	22	RH	↓	1040/1045 31/31		HW	P	–	CW
8/7/03	1334	07	TO	S63/S62	0	368	368	RH	FWAT	34/33 31/31 1035/1030 1105/1110	225→0 225→368	HW	P	—	CHW
8/7/03	1050	09	SS	P111-C5/S61	0	~~380~~	~~380~~	RH	↓	1415/1420 31/31		HW	P	–	RH
8/7/03	1430	09	SS	S64/S60	0	368	368	RH	↓	32/32 100%/103		HW	P	—	CHW
8/7/03	~~1050~~	09	SS	P111-C5/S61	180	283	103	RH	↓	1415/1420 33/33		HW	P		RH
						TOTAL (1)	~~2357~~	2272							

NOTE: (1) SEAM LENGTH: THIS PAGE 2,272 (ft) ACCUMULATED ~~12621~~ 12,993 (ft)

* FNTS = From Northern Tie in Seam

* FWAT = From WEST ANCHOR Trench

660000

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: (W)

SHEET NO. 10 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 - Phase II

PROJECT NO. 603211 TASK NO.: 33 ~~04~~ Rev

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST							
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8/8/03	1351	07	TB	S63/S65	0	368	368	RH		32/32 1019/		HW	P	—	CHW
8/8/03	320	09	SS	S65/S66	0	369	369	RH		32/32 0823/0828		HW	P	—	CHW
8/8/03	1437	R3	DL	S66/S67	360	369	9	RH		31/31 1121/1126		HW	P	—	CHW
8/8/03	1525	09	SS	S67/S68	0	369	369	RH		32/32 0825/0830		HW	P	—	CHW
8/8/03	1506	07	TB	S64/S68	0	50'	50'	RH		959/1004 34/34		HW	P		RH
8/8/03	1617	07	TB	S64/S69	232	372	140'	RH		31/31 0848/0853		HW	P	—	CHW
8/8/03	1502	07	TB	S66/S67	360	62	298'	RH	150'-354'	~~31/31 1121/1120~~ 31/31 844/849	~~360-367~~ 50-150 31/31 0912/0917	HW	P	—	CHW
8/8/03	1558	07	TB	S66/S67	50	0	50'	RH		1001/1002 31/31		HW	P		RH
8/8/03	0810	09	SS	S68/S69	~~247~~ ~~232~~	372	125'	RH		31/31 ~~0846~~ 0910/0915		HW	P	—	CHW
8/9/03	0836	09	SS	S69/S35	114	119	5'	RH		CAPPED BY RS120		—	—	—	CHW
8/9/03	0828	09	SS	S68/S35	119	141	22'	RH		35/34 0942/0947		HW	P		CHW
8/9/03	0835	09	SS	S67/S41	141	164	23'	RH		35/34 0942/0947		HW	P		CHW
8/9/03	0841	09	SS	S66/S40	164	187	23'	RH		35/34 0942/0947		HW	P		CHW

TOTAL (1) ~~1888~~ CHW 1851

NOTE: (1) SEAM LENGTH: THIS PAGE 8/8/03 09 SS S68/S42 138'-141' 35/34 0942/0947 ATOK

567/S42 141-143 35/34 0942/0947 ATOK

(11) ACCUMULATED ~~14697~~ CHW (11) ~~14447~~ 14844

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 11 OF 14

000100

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 323 04

DESCRIPTION: Cell #6 - Phase V YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8/9/03	0847	09	SS	S65/S39	187	210	23	CHW		31/31 1013/1018		HW	P		CHW
* 8/9/03	0839	09	SS	S64/S34	91	114	23	CHW		31/31 ~~0964/0989~~		HW	P		CHW
8/9/03	1120	09	SS	S62/S37	236	256	20	CHW		30/30 1106/1111		HW	P		CHW
8/9/03	1127	09	SS	S61/S36	256	275	19	CHW		30/30 1106/1111		HW	P		CHW
8/7/03	1050	09	SS	P111-C5/S41	283	322	39'	RH	EAST OF WAT	1442/1447 32/32		HW	P		RH
8/7/03	1050	09	SS	P111-C5/S40	322	330	8'	RH	"	1442/1447 35/35		HW	P		RH
8/8/03	1502	07	TB	S64/S66	50	150	100'	RH	"	831/836 31/31		HW	P		RH
8/8/03	1502	07	TB	S64/S68	150	233	83'	RH	"	830/835 30/30		HW	P		RH
8/11/03	1045	03	DL	C6/S39	0	6	6'	RH	368' FWAT 44' FNTS		VTOK	AC	P		RH
8/11/03	1045	03	DL	C5/S38	6	28	22'	RH	"		VTOK	AC	P		RH
8/11/03	1045	03	DL	C5/S37	~~46~~	48	2	RH	"	EXTENDED SEAMS (CAPS)	VTOK	AC	P		RH
8/11/03	1045	03	DL	C5/S62	46	48	2	RH			VTOK	AC	P		RH
8/11/03	1045	03	DL	C5/63	48	60	~~12~~	RH			VTOK	AC	P		RH
					TOTAL (1)		~~369~~	359							

NOTE: (1) SEAM LENGTH: THIS PAGE Cap #5 is over seam not wedge welded due to loss of overlap. (II) ACCUMULATED: ~~14,856~~ 15,203

000101

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: 80 Mil HDT - Cell #6 - Phase II

PROJECT NO.: G03211 TASK NO.: 33 ~~034~~

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

YEAR: 2003

CONTRACTOR: FLUOR DANIEL

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8/11/03	1045	03	DL	C5/S65	60	62	2	RH	60' FNTS		VTOK	AC	P		RH
8/11/03	1403	03	TB	C6/S61	360	330	30	RH	FWAT	EXTRUDED (CAPS) —	VTOK	AC	P		RH
8/11/03	1403	03	TB	C6/S36	2	4	2	RH	FNTS	—	VTOK	AC	P		RH
8/11/03	1403	03	TB	C6/66	360	340	20	RH	FWAT	—	VTOK	AC	P		RH
8/11/03	1403	03	TB	C6/111	340	330	10	RH	FWAT	—	VTOK	AC	P		RH
8/12/03	900	06	TB	C4/S64	245	372	127	RH	FWAT	—	VTOK	AC	P		RH
8/12/03	1300	06	TB	C4/S68	372	245	127	RH	FWAT	—	VTOK	AC	P		RH
8/13/03	910	06	TB	C8/30	15	22	7	RH	FSB-Ic Berm	—	VTOK	AC	P		RH
8/13/03	910	06	TB	C8/56	22	37	15	RH	"	—	VTOK	AC	P		RH
8/13/03	910	06	TB	C8/31	37	22	15	RH	"	EXTRUSION WELDS —	VTOK	AC	P		RH
8/13/03	910	06	TB	C8/67	15	22	7	RH	"	—	VTOK	AC	P		RH
8/14/03	845	06	TB	C7/S66	0	50	50	RH	From West Anchor	—	VTOK	AC	P		RH
8/14/03	845	06	TB	C7/S67	0	50	50	RH	"	—	VTOK	AC	P		RH
					TOTAL (1)		~~474~~	462							

NOTE: (1) SEAM LENGTH: THIS PAGE Cap #6 is over N. Tie Seam were there was 4 sheets together, could not be fussion welded. Cap #8 was over Failed DS24 on cross seam, Approx 22 feet in lenght. Cap #7 extruded over failed seam S66/S67.

(II) ACCUMULATED ~~15,330~~ 15,665 (II)

0001102

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: TW

SHEET NO. 13 OF 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE II

PROJECT NO.: GQ3211 TASK NO.: 33

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRC COMPANY

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__psi for 5 min.)	VACUUM BOX (____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8/18/03	902	06	TB	P11/S61	0	90	90	RW	From West Anchor		8/19/03 AC	AC	P	VTOK	RW
8/18/03	1315	06	TB	C9/P111	0	90	90	RW	"		8/19/03 AC	VC	P	VTOK	RW
						TOTAL (1)	180								

NOTE: (1) SEAM LENGTH: THIS PAGE 180'

(1) ACCUMULATED 15,845 (1)

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL

REVIEWED BY: W

SHEET NO. 14 OF 14

000103

CELL 6 PRIMARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-12-03	1329	09	SSC	P1/P2	0	135	135	CHW	0-135	31/31 1639/1644		HW	P		CHW
8-12-03	1354	09	SSC	P2/P3	0	136	136	CHW	0-136	32/32 1641/1646		HW	P		CHW
8-12-03	1540	09	SSC	P4/P5	0	63	63	CHW	0-63	32/32 0819/0824		HW	P		CHW
8-12-03	1550	09	SSC	P5/P6	0	54	54	CHW	0-54	32/32 0820/0825		HW	P		CHW
8-12-03	1604	09	SSC	P6/P7	0	25	25	CHW	0-25	30/30 0809/0814		HW	P		CHW
8-12-03	1611	09	SSC	P8/P9	61	0	61	CHW	61-0	32/32 0800/0805		HW	P		CHW
8-12-03	1648	09	SSC	P10/P11	0	40	40	CHW	0-40	32/32 0801/0806		HW	P		CHW
8-12-03	1655	09	SSC	P7/P8	25	0	25	CHW	25-0	30/30 0808/0813		HW	P		CHW
8-13-03	0950	09	SSC	P3/P12	0	135	135	CHW	0-135	32/32 1442/1447		~~HW~~ CHW TB	P	RH	CHW
8-13-03	1017	09	SSC	P12/P13	0	135	135	CHW	0-135	32/32 1445/1450		TB	P	RH	CHW
8-13-03	1045	09	SSC	P13/P14	0	135	135	CHW	0-135	34/33 1449/1454		TB	P	RH	CHW
8-13-03	1113	09	SSC	P14/P15	0	135	135	CHW	0-135	34/34 1452/1457		TB	P	RH	CHW
8-13-03	1140	09	SSC	P15/P16	0	135	135	CHW	0-135	34/34 1455/1500		TB	P	RH	CHW
						TOTAL (1)	1214								

NOTE: (1) SEAM LENGTH: THIS PAGE _____ (ft) ACCUMULATED 1214 (ft)

000105

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. 1 OF _____

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase II

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST							
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-13-03	1205	09	SSC	P16/P17	0	135	135	CHW	0-135	32/31 1457/1502	———	TB	P / —	——— RH	CHW
8-13-03	1450	09	SSC	P7/P11	87'	107'	20	CHW	87-107	31/31 1822/1827	———	HW	P / —	———	CHW
8-13-03	1457	09	SSC	P8/P10	149'	122	27	CHW	149-122	32/32 1818/1823	———	HW	P / —	———	CHW
8-13-03	1506	09	SSC	P8/P11	122	107	15	CHW	122-107	32/32 1818/1823	———	HW	P / —	———	CHW
8-13-03	1511	09	SSC	P6/P11	87	69	18	CHW	87-69	34/34 1835/1840	———	HW	P / —	———	CHW
8-13-03	1517	09	SSC	P6/P10	69	51	18	CHW	69-51	No AIR CHANNEL				———	CHW
8-13-03	1523	09	SSC	P5/P10	51	39	12	CHW	51-39	No AIR CHANNEL				———	CHW
8-13-03	1528	09	SSC	P1/P4	0	23	23	CHW	0-23	30/30 0848/0853	———	HW	P / —	———	CHW
8-13-03	1537	09	SSC	P1/P5	23	39	16	CHW	23-39	31/31 0847/0852	———	HW	P / —	———	CHW
8-13-03	1540	09	SSC	P1/P10	39	112	73	CHW	39-112	30/30 0814/0819	———	HW	P / —	———	CHW
8-13-03	1553	09	SSC	P1/P9	112	138	22	CHW	——— Capped By						
8-14-03	1336	09	SSC	P17/P19	0	136	136	CHW	0-136	31/31 1500/1505	———	TB	P / —	———	CHW
8-14-03	1403	09	SSC	P19/P20	0	136	136	CHW	0-136	35/35 1505/1510	———	TB	P / —	———	CHW
						TOTAL (1)	651 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE _____

(ft) ACCUMULATED 1865 ✓ (ft)

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. 2 OF ____

000106

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR:

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST							
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__/__ psi for 5 min.)	VACUUM BOX (_____ sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-14-03	1429	09	SS	P20/P21	0	136	136	CHW	0-136	33/33 1542/1547		TB	P		CHW
8-14-03	1445	09	SS	P21/P22	0	138	138	CHW	0-138	35/34 1544/1549		TB	P		CHW
8-14-03	1522	09	SS	P22/P23	0	138	138	CHW	0-138	31/31 1606/1611		TB	P		CHW
8-14-03	1552	09	SS	P23/P24	0	138	138	CHW	0-138	33/32 1618/1623		TB	P		CHW
8-14-03	1620	09	SS	P24/P25	0	139	139	CHW	0-139	34/33 1657/1702		TB	P		CHW
8-15-03	0854	09	SS	P18/P23	375	353	22	CHW	375-353	35/34 1540/1545		JI	P		CHW
8-15-03	0902	09	SS	P18/P22	353	331	22	CHW	353-331	35/34 1540/1545		JI	P		CHW
8-15-03	0907	09	SS	P18/P21	331	308	23	CHW	331-308	35/34 1548/1548		JI	P		CHW
8-15-03	0913	09	SS	P18/P20	308	285	23	CHW	308-285	35/34 1540/1545		JI	P		CHW
8-15-03	0918	09	SS	P18/P19	285	262	23	CHW	285-262	35/34 1540/1545		JI	P		CHW
8-15-03	0924	09	SS	P18/P17	262	240	22	CHW	262-240	35/34 1540/1545		JI	P		CHW
8-15-03	0929	09	SS	P16/P18	240	217	23	CHW	230-240 230-217	35/34 1540/1545 40/40 1609/1614		JI	P		CHW
8-15-03	0925	09	SS	P15/P18	217	195	22	CHW	217-195	31/31 1725-1730		HW	P		CHW
					TOTAL (1)		869 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE _____

(ft) ACCUMULATED 2734 ✓ (ft)

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: CRW

SHEET NO. 3 OF ____

000107

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST							
DATE (doy/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__psi for 5 min.)	VACUUM BOX (__sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-15-03	0941	09	SS	P14/P18	195	172	23	CHW	195-172	31/31 1726/1731	—	HW	P	—	CHW
8-15-03	0946	09	SS	P13/P18	172	149	23	CHW	172-149	34/33 1735/1740	—	HW	P	—	CHW
8-15-03	0952	09	SS	P12/P18	149	127	22	CHW	149-127	32/32 1736/1741	—	HW	P	—	CHW
8-15-03	0957	09	SS	P3/P18	127	104	23	CHW	127-104	32/31 1746/1751	—	HW	P	—	CHW
8-15-03	1003	09	SS	P2/P18	104	82	22	CHW	104-82	32/31 1745/1750	—	HW	P	—	CHW
8-15-03	1009	09	SS	P1/P18	82	59	23	CHW	82-69	32/31 1745/1750	—	HW	P	—	CHW
8-15-03	1014	09	SS	P9/P18	59	0	59	CHW	0-59	32/31 1755/1800	—	HW	P	—	CHW
8-15-03	1105	09	SS	P18/P26	376	0	376	CHW	0-376	32/32 1805/1810	—	HW	P	—	CHW
~~3682~~ 8-15-03	1230	09	SS	P26/P27	377	0	377	CHW	0-377	812/817 31/31	—	HW	P	—	CHW
8-15-03	1400	09	SS	P27/P28	376	0	376	CHW	0-125 125-190 205-375	33/33 1614/1619 31/31 1629/1634 32/32 1632/1637	—	HW TB HW HW	P P P P	—	RH CHW RH
8-18-03	1000	09	SS	P28/P29	378	0	378	CHW	0-378	32/32 1650/1655		HW			CHW/RH
8-18-03	1230	09	SS	P29/P30	377	0	377	CHW	0-377	32/32 813/818	—	HW	P	—	RH
8-18-03	1450	09	SS	P30/P31	376	0	376	CHW	0-183 183-375	32/32 1702/1707 31/31 1710/1715		HW	P	—	CHW/RH
						TOTAL	(1) 2455								

NOTE: (1) SEAM LENGTH: THIS PAGE

Seam P18/P26 capped (376') due to destructive failure - Seam cut out and replaced by cap #P4

(1) ACCUMULATED 5189 (1)

000108

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ___ OF ___

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase I

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-18-03	1630	09	SSC	P31/P32	Ø	376	376	CHW	0-375	32/32 1703/1707	—	HW	P	—	RH
8-19-03	1320	02	JI	P32/P33	Ø	375	375	CHW	0-375	33/33 822/827	—	HW	P	—	RH
8-19-03	1326	09	SSC	P33/P34	Ø	375	375	CHW	0-375	32/32 826/831	—	HW	P	—	RH
8-19-03	1525	09	SSC	P34/P35	Ø	375	375	CHW	0-375	32/32 852/857	—	HW	P	—	RH
8-19-03	1555	02	JI	P35/P36	Ø	376	376	CHW	0-375	32/32 855/900	—	HW	P	—	RH
~~8-20-03~~	~~1050~~	~~09~~	~~SS~~	P36/C5	0	92	92	RH	0-92	32/32 1125/1130		HW	P	—	RH
~~8-20-03~~	~~1050~~	~~09~~	~~SS~~	P36/C5	~~92~~	~~375~~	~~283~~	~~RH~~	~~FCAT 92-375~~	~~31/31~~	~~1415/1420~~	~~HW~~	~~P~~		~~RH~~
8-20-03		09	SS	P36/P50	0	67	67	CHW	0-67	31/31	1415/1420	HW	P	—	RH
8-20-03		09	SS	P36/P33	67	89	22	CHW	67-79	31/31	1415/1420	HW	P	—	RH
~~8-20-03~~		~~09~~	~~SS~~	~~P36/P34~~	~~89~~	~~190~~	~~215~~	~~CHW~~	79-92	31/31	1416/1420	HW	P	—	RH
8-20-03		09	SS	P36/P35	~~92~~ 110 CHW	~~110~~ 132 CHW	~~18~~ 22	CHW	92-110	32/32	1125/1130	HW	P	—	RH
8-20-03		09	SS	P36/P36	~~110~~ 132 CHW	~~132~~ 154 CHW	22	CHW	110-132	32/32	1125/1130	HW	P	—	RH
					TOTAL (1)		~~2406~~ RH								

Same seams

NOTE: (1) SEAM LENGTH: THIS PAGE 2031'

(1) ACCUMULATED ~~7595~~ RH 7220

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

0000109

0371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG – Extrusion

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST							
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__psi for 5 min.)	VACUUM BOX (____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-19-03	0928	06	TB	P10/CP1	69	39	30	CHW	SOUTHSIDE IC Berm			BW	P / –	VTOK	RH
8-19-03	0938	06	TB	P7/CP1	66	69	3	CHW	SOUTHSIDE IC Berm			BW	P / –	VTOK	RH
8-19-03	0945	06	TB	P6/CP1	69	52	17	CHW	VALLEY-SEAM EAST ICBERM			BW	P / –	VTOK	RH
8-19-03	0953	06	TB	P5/CP1	52	39	13	CHW	"			BW	P / –	VTOK	RH
8-19-03	1345	06	TB	P1/CP2	112	104	8	CHW	NORTH SIDE IC Berm			BW	P / –	VTOK	RH
* 8-19-03	1349	06	TB	P10/CP2	0	8	8	CHW	NORTH SIDE IC Berm			BW	P / –	VTOK	RH
8-19-03	1351	06	TB	P8/CP2	105	111	6	CHW	NORTH SIDE IC Berm			BW	P / –	VTOK	RH
8-19-03	1402	06	TB	P9/CP2	111	132	21	CHW	NORTH SIDE IC Berm			BW	P / –	VTOK	RH
8-19-03	1415	06	TB	P1/CP2	132	112	20	CHW	NORTH SIDE IC Berm			BW	P / –	VTOK	RH
												BW	P / –	VTOK	RH
												"	P / –		
							TOTAL (1)	126–							

NOTE: (1) SEAM LENGTH: THIS PAGE *0-8 EW @ ≈104'

(1) ACCUMULATED ~~7721~~ Revised 7346' 9/26/03 RH (1)

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

0000110

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

DESCRIPTION:

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-20-03		09	SSC	P36/P37	154	176	22	CHW	154-176	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P38	176	198	22	CHW	176-198	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P39	198	220	22	CHW	198-220	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P40	220	242	22	CHW	220-242	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P41	242	264	22	CHW	242-264	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P42	264	286	22	CHW	264-286	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P43	286	306	20	CHW	286-306	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P44	306	328	22	CHW	306-328	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P45	328	350	22	CHW	328-350	32/32 1125/1130	—	HW	P	—	RH
8-20-03		09	SSC	P36/P46	350	361	11	CHW	350-361	32/32 1125/1130	—	HW	P	—	RH
8-21-03		09	SSC	C4/P18	0	375	375		0-343 343-375	32/32 1302/1307 32/32 1140/1145	—	HW	P	—	CHW
8-21-03	830	09	SSC	C4/P26	375	0	375	RH	0-375	32/30 1303/1308	—	HW	P	—	CHW
8-21-03	1400	02	JI	P37/P38	371	0	371	CHW	33-371 33-35 35-0	31/31 1006/1011 31/31 1004/1009 32/31 1019/1024	—	HW	P	—	CHW
						TOTAL (1)	1328 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE _____ (ft) ACCUMULATED ~~9049~~ 8674 RH ✓ (ft)

Revised 9/26/03

0000111

53 of 71

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RW

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase I

PROJECT NO.: GQ3211 TASK NO.: ~~04~~

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (II)	QA ID	LOCATION (II)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-21-03	1520	09	JI	P38/P39	370	0	370	CHW	0-370	31/30 1029/1034	—	HW	P	—	CHW
8-22-03	1040	~~09~~ 02 CHW	SSC	P25/P40	0	38	38	CHW	0-38	33/33 1355-1400	—	HW	P	—	CHW
8-22-03	1120	09	SSC	P25/P40	38	139	101	CHW	38-139	32/31 1353-1358	—	HW	P	—	CHW
8-22-03	1250	09	SSC	P40/P41	0	139	139	CHW	0-139	32/32 1347-1352	—	HW	P	—	CHW
8-22-03	1317	09	SSC	P41/P42	0	139	139	CHW	0-139	30/30 1342-1347	—	HW	P	—	CHW
8-22-03	1351	09	SSC	P42/P43	0	138	138	CHW	0-138	30/30 1335-1340	—	HW	P	—	CHW
8-25-03	0825	09	SSC	P44/P37	371	368	3	CHW	371-368	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0826	09	SSC	P47/P37	368	346	22	CHW	368-346	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0910	09	SSC	P78/P37	346	324	22	CHW	346-324	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0916	09	SSC	P79/P37	324	302	22	CHW	324-302	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0922	09	SSC	P80/P37	302	281	21	CHW	302-281	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0927	09	SSC	P82/P37	281	259	22	CHW	281-270	32/32 1058-1103	—	HW	P	—	CHW
8-25-03	0956	09	SSC	P83/P37	259	237	22	CHW	259-270	32/32 1444-1449	—	HW	P	—	CHW
						TOTAL (I)	1059		237-259	32/32 1434-1439	—	HW	P	—	CHW

NOTE: (I) SEAM LENGTH: THIS PAGE _____ (II) ACCUMULATED ~~10108~~ LH (III)

REVISED 9/26/03 9733 RH

000112

537

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: BW

SHEET NO. ____ OF 1

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase II

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (II)	QA ID	LOCATION (II)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-25-03	1004	09	SSC	P85/P37	237	215	22	CHW	237-215	32/32 1434-1439	—	HW	P	—	CHW
8-25-03	1010	09	SSC	P86/P37	215	193	22	CHW	193-215	32/30 1434/1439	—	HW	P	—	CHW
8-25-03	1016	09	SSC	P87/P37	193	172	21	CHW	172-193	31/31 1418-1423	—	HW	P	—	CHW
8-25-03	1022	09	SSC	P88/P37	172	149	23	CHW	172-149	30/30 1417/1422	—	HW	P	—	CHW
8-25-03	1027	09	SSC	P90/P37	149	128	21	CHW	128-149	33/33 1125-1130	—	HW	P	—	CHW
8-25-03	1033	09	SSC	P91/P37	128	106	22	CHW	106-128	33/33 1125-1130	—	HW	P	—	CHW
8-25-03	1038	09	SSC	P93/P37	106	85	21	CHW	85-106	33/33 1125-1130	—	HW	P	—	CHW
8-25-03	1044	09	SSC	P94/P37	85	64	21	CHW	85-85	33/33 1125-1130	—	HW	P	—	CHW
8-25-03	1051	09	SSC	P97/P37	64	0	64	CHW	64-12	32/31 1412-1417	—	HW	P	—	CHW
8-25-03	0950	07	JI	P43/P44	0	138	138	CHW	0-138	32/31 1412-1417	—	HW	P	—	CHW
8-25-03	1025	07	JI	P44/P45	0	137	137	CHW	0-137	32/32 1328-1333	—	HW	P	—	CHW
8-25-03	1100	07	JI	P45/P46	0	137	137	CHW	0-137	32/32 1328-1333	—	HW	P	—	CHW
8-25-03	1130	07	JI	P46/P47	0	138	138	CHW	0-138	30/30 1311-1316	—	HW	P	—	CHW
						TOTAL (I)	787			31/31 1311-1316	—	HW	P	—	CHW

NOTE: (I) SEAM LENGTH: THIS PAGE _____ (II) ACCUMULATED ~~10895~~ RH (II)

Revised 9/26/03 10520 RH

0001113

371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: BH

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase I

PROJECT NO. GQ3211 TASK NO.: 3 ~~04~~

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-25-03	1200	07	JI	P47/P48	0	138	138	CHW	0-138	34/34 1141-1146	—	HW	P	—	CHW
8-25-03	1330	09	SSC	P48/P49	0	138	138	CHW	0-138	32/32 1140-1145	—	HW	P	—	CHW
8-25-03	1358	09	SSC	P49/P50	0	138	138	CHW	0-138	32/32 1125-1130	—	HW	P	—	CHW
8-25-03	1540	09	SSC	P50/P51	0	140	140	CHW	0-140	31/31 1125-1130	—	HW	P	—	CHW
8-25-03	1610	09	SSC	P51/P52	0	142	142	CHW	0-142	34/34 0930-0935	—	HW	P	—	CHW
8-25-03	1627	09	SSC	P53/P54	62	0	62	CHW	0-62	32/32 0924-0929	—	HW	P	—	CHW
8-25-03	1643	09	SSC	P54/P55	58	0	58	CHW	0-58	32/32 0924-0929	—	HW	P	—	CHW
8-25-03	1703	09	SSC	P55/P56	30	0	30	CHW	0-30	33/32 0913-0918	—	HW	P	—	CHW
8-25-03	1716	09	SSC	P56/P57	0	30	30	CHW	0-30	33/32 0912-0917	—	HW	P	—	CHW
8-25-03	1725	09	SSC	P57/P58	0	58	58	CHW	0-58	32/32 0855/0900	—	HW	P	—	CHW
8-25-03	1740	09	SSC	P58/P59	0	58	58	CHW	0-58	32/31 0855/0900	—	HW	P	—	CHW
8-26-03	0931	09	SSC	P59/P59	168	160	8	CHW	168-160	31/31 1320-1325	—	HW	P	—	CHW
8-26-03	0941	09	SSC	P59/P58	160	136	24	CHW	160-136	33/33 1445-1450	—	HW	P	—	CHW
						TOTAL (1)	1024 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE _____

(ft) ACCUMULATED 11,919 RH

Revised 9/26/03 11,544 RH

000114

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2002

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-26-03	0947	09	SSC	PS2/PS7	136	103	33	CHW	136-103	31/31 1505-1510	—	HW	P	—	CHW
8-26-03	0958	09	SSC	PS2/PS6	103	81	22	CHW	103-81	31/31 1505-1510	—	HW	P	—	CHW
8-26-03	1003	09	SSC	PS2/PS5	81	49	32	CHW	81-49	31/31 1535-1540	—	HW	P	—	CHW
8-26-03	1016	09	SSC	PS1/PS4	49	22	27	CHW	49-22	34/34 1540-1545	—	HW	P	—	CHW
8-26-03	1026	09	SSC	PS1/PS3	22	0	22	CHW	0-22	30/30 1545-1550	—	HW	P	—	CHW
8-26-03	1105	07	JI	PL8/PL1	0	374'	374'	CHW							
8-26-03	1425	07	JI	PL1/PL2	0	375	375'	CHW	0-375	33/33 1745/1750	—	HW	P	—	CHW
8-26-03	1425	09	SSC	PS4/PL0	0	59	59	CHW	0-59	33/33 1746/1751	—	HW	P	—	CHW
8-26-03	1445	09	SSC	PS1/PL0	59	79	20	CHW	59-79	33/33 1746/1751	—	HW	P	—	CHW
8-26-03	1450	09	SSC	PS4/PL0	79	101	22	CHW	79-101	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1455	09	SSC	PL4/PL0	101	124	23	CHW	101-124	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1503	09	SSC	PL8/PL0	124	147	23	CHW	124-147	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1508	09	SSC	PL7/PL0	147	169	22	CHW	147-169	33/33 1746-1751	—	HW	P	—	CHW
					TOTAL	(1)	1054 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE PS1/PS7 - ≈ 2' - was not logged or air tested but was capped (RP177) (11) ACCUMULATED 12973 Revised 9/26/03 12,598 (11) CA

000115

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: [illegible]

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase II

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-26-03	1515	09	SSC	P44/P60	169	192	23	CHW	162-192	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1520	09	SSC	P45/P60	192	214	22	CHW	192-214	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1527	09	SSC	P44/P60	214	237	23	CHW	214-237	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1535	09	SSC	P43/P60	237	260	23	CHW	237-260	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1541	09	SSC	P42/P60	260	283	23	CHW	260-283	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1548	09	SSC	P41/P60	283	305	22	CHW	283-305	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1554	09	SSC	P49/P60	305	328	23	CHW	305-328	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1559	09	SSC	P25/P60	328	351	23	CHW	328-351	33/33 1746-1751	—	HW	P	—	CHW
8-26-03	1607	09	SSC	P24/P60	351	373	22	CHW	351-373	33/33 1746-1751	—	HW	P	—	CHW
HW ~~102~~ 579 8-26-03	1615	07	JI	P62/P63	0	375	375	CHW	0-375	32/32 0910-0915	—	HW	P	—	CHW
8-26-03	1720	09	SSC	P18/P60	0	20	20	CHW	0-22	35/35 1020-1025	—	HW	P	—	CHW
8-26-03	1728	09	SSC	RP120 P60	20	22	2	CHW	20-22	35/35 1020-1025	—	HW	P	—	CHW
8-26-03	1729	09	SSC	RP120 P60	22	24	2	CHW	20-22	32/32 1022-1027	—	HW	P	—	CHW
						TOTAL (1)	603 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE _____ (ft) ACCUMULATED 13576 (ft)

Revised 9/26/03 13,201 RH

000116

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase II

PROJECT NO.: GQ3211 TASK NO.: ~~04~~ 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

CONTRACTOR: ISTRE Company

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
8-26-03	1730	09	SSC	~~P26~~/P61	24	46	22	CHW	22-46	32/32 1022-1027	—	HW	P / —	—	RH
8-26-03	1736	09	SSC	P27/P62	46	68	22	CHW	46-68	31/31 1015-1020	—	HW	P / —	—	RH
8-26-03	1743	09	SSC	P28/P63	68	91	23	CHW	68-91	35/35 1026-1031	—	HW	P / —	—	RH
8-28-03	0935	09	SSC	P34/P39	204	227	23	CHW	204-227	33/33 1335-1340	—	HW	P / —	—	CHW
8-28-03	0943	09	SSC	P35/P38	227	250	23	CHW	227-250	33/33 1335-1340	—	HW	P / —	—	CHW
8-28-03	0949	09	SSC	P36/P37	250	265	15	CHW	250-265	33/33 1335-1340	—	HW	P / —	—	CHW
8-28-03	1030	09	SSC	P39/P64	371	0	375	CHW	0-375	31/31 1037-1042	—	HW	P / —	—	RH
✓ 8-28-03	1039	CHW ~~09~~ 07	JI	P64/P65	372	0	372	CHW	0-372	33/33 0912-0917	—	HW	P / —	—	RH
✓ 8-28-03	1334	02	DL	P65/P66	371	0	371	CHW	0-371	31/31 0840-0845	—	HW	P / —	~~RH~~	RH
8-28-03	1448	09	SS	P66/P67	CHW ~~375~~ 0	375	375	CHW	0-67 67-375	31/31 0850-0855 33/32 1000-1005	—	HW	P / —	—	RH
✓ 8-28-03	1650	09	SS	P67/P68	0	375	375	CHW	200-375	31/30 100-1005	—	HW	P / —	—	RH
8-28-03	1525	02	DL	P63/P68	0	376	376	CHW	0-376	33/33 0923-0928	—	HW	P / —	—	RH
~~8-28-03~~															
						TOTAL (1)	2372 ✓								

NOTE: (1) SEAM LENGTH: THIS PAGE

(1) ACCUMULATED ~~15948 RH~~ Revised 9/26/03 15573 (1) RH

000147

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL

REVIEWED BY: RH

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: PROJECT NO.: TASK NO.: 04

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ YEAR:

CONTRACTOR:

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (±psi for 5 min.)	VACUUM BOX (sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
8-28-03	1859	09	SS	P29/P68	91	113	22	RH	91-113	34/34 1305-1310	—	HW	P	—	CHW
8-28-03	1906	09	SS	P30/P67	113	135	22	RH	113-135	34/34 1309-1310	—	HW	P	—	CHW
8-28-03	1913	09	SS	P31/P66	135	144	9	RH	135-144	31/31 1415-1420	—	HW	P	—	CHW
8-28-03	1917	09	SS	P32/P65	168	181	13	RH	168-181	31/31 1322-1325	—	HW	P	—	
8-28-03	1921	09	SS	P33/P64	181	204	23	RH	181-204	32/32 1323-1328	—	HW	P	—	CHW
						TOTAL (1)	89 ✓								

89

NOTE: (1) SEAM LENGTH: THIS PAGE

(ft) ACCUMULATED ~~16,039~~ RH (ft)

Revised 9/26/03 15,662 RH

0001118

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

537 1

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: G03211 TASK NO.: 3

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☒ EXTRUDED SEAMS AND CAPS

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (ft)	QA ID	LOCATION (ft)	AIR PRESSURE (±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
9/13/03	940	03	J1	CAP3R/P9	0	64	64	RH	0-64' FEAT		9/13/03	RW	P / -	VTOK	RH
9/13/03	940	03	J1	CAP3R/CAP2	64	66	2	RH	FEAT		9/13/03	RW	P / -	VTOK	RH
9/13/03	940	03	J1	CAP3R/P1	66	70	4	RH	FEAT		9/13/03	RW	P / -	VTOK	RH
9/13/03	940	03	J1	CAP3R/P18	0	70	70	RH	FEAT		9/13/03	RW	P / -	VTOK	RH
9/13/03	1115	03	J1	CAP6R/P43	0	140	140	RH	FSL		9/15/03	RW	P / -	VTOK	RH
9/13/03	1115	03	J1	CAP6R/P44	0	140	140	RH	FSL		9/15/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P67	133	138	5	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P30	133	138	5	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P31	138	158	20	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P66	138	158	20	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P32	158	170	2	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/13/03	0940	03	J1	CAP8R/P68	158	170	2	RH	375' FEAT FNTS		9/16/03	RW	P / -	VTOK	RH
9/15/03	1325	03	J1	CAP8R/P37	154	176	22	RH	FEAT		9/15/03	RW	P / -	VTOK	RH
				TOTAL (1)			~~427~~ RH 496								

NOTE: (1) SEAM LENGTH: THIS PAGE 496

FEAT = From East Anchor Trench

FNTS = From North Tie in Seam

FSL = From Southern Limits

(11) ACCUMULATED ~~17,022~~ RH 16,158 (11) RH

Revised 9/26/03

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. ____ OF ____

000119

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GQ3211 TASK NO.: 3.

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☒ EXTRUDED SEAMS AND CAPS

YEAR: 2003

CONTRACTOR: FLUOR FERNALD

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (1)	QA ID	LOCATION (1)	AIR PRESSURE (___psi for 5 min.)	VACUUM BOX (____sec.)	OPERATOR ID	PASS/FAIL	ACTION	QA ID
9/15/03	1325	03	J1	CAP5R/P38	176	198	22	RH	FEAT		9/15/03	RW	P / -	VTOK	RW
9/15/03	1325	03	J1	CAP5R/P37	198	220	22	RH	FEAT		9/15/03	RW	P / -	VTOK	RH
9/15/03	1325	03	J1	CAP5R/P36	154	220	66	RH	FEAT		9/15/03	RW	P / -	VTOK	RH
9/16/03	1026	03	J1	CAP9R/P86	213	203	10	RH	FWAT		9/17/03	RW	P / -	VTOK	RH
9/16/03	1026	03	J1	CAP9R/P87	203	181	22	RH	FWAT		9/17/03	RW	P / -	VTOK	RH
9/16/03	1026	03	J1	CAP9R/P89	181	158	23	RH	FWAT		9/17/03	RW	P / -	VTOK	RH
9/16/03	1026	03	J1	CAP9R/P90	158	136	22	RH	FWAT		9/17/03	RW	P / -	VTOK	RW
9/16/03	1026	03	J1	CAP9R/P91	136	120	16	RH	FWAT		9/17/03	RW	P / -	VTOK	RW
9/16/03	1026	03	J1	CAP9R/P37	120	213	93	RH	FWAT		9/17/03	RW	P / -	VTOK	RH
9/17/03	945	03	J1	CAP10R/P37	30	86	56	RH	FWAT		9/18/03	RW	P / -	VTOK	RH
9/17/03	945	03	J1	CAP10R/P38	30	86	56	RH	FWAT		9/18/03	RW	P / -	VTOK	RH
9/16/03	1410	03	J1	CAP7R/P62	43	83	40	RH	FWAT		9/16/03	RW	P / -	VTOK	RH
9/16/03	1410	03	J1	CAP7R/P63	43	83	40	RH	FWAT		9/16/03	RW	P / -	VTOK	RH
						TOTAL (1)	488								

NOTE: (1) SEAM LENGTH: THIS PAGE

P-86, P-87, P-89, P-90, P-91 are on CELL #5.

P38/CAP5R, P37/CAP9R, P39/CAP5R are on CELL 5 SIDE.

CAP 9R WAS CUT OUT AGAIN AND re-welded AFTER PT41 fails destructivily.

(11) ACCUMULATED ~~16,525~~ 16,646 RH

Revised 9/26/03

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: RH

SHEET NO. 5 OF 5

000120

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRODUCTION SEAM SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: 04

DESCRIPTION: CELL #6 - PHASE V

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

CONTRACTOR: ISTRE CO.

PRODUCTION SEAM				LOCATION					NONDESTRUCTIVE TEST						
DATE (day/mo)	TIME	MACHINE NO.	OPERATOR ID	SEAM NO.	BEGIN	END	ACTUAL SEAM LENGTH (II)	QA ID	LOCATION (II)	AIR PRESSURE (__±__psi for 5 min.)	VACUUM BOX (_____sec.)	OPERATOR ID	PASS/ FAIL	ACTION	QA ID
9/16/03	1315	03	J1	C11R/P67	64'	75'	11'	RH	From South Side Top of PB2 to P-67.		VTOK	RW	P -	VTOK	RH
9/18/03	1530	03	J1	C12R/P67	56'	64'	8'	RH	From South Side Top to P-67		VTOK	RW	P -	VTOK	RH
9/18/03	1620	03	J1	C13R/P68	53'	56'	3'	RH	From North Side of PB-1 to P-66.		VTOK	RW	P -	VTOK	RH
						TOTAL (1)									

NOTE: (1) SEAM LENGTH: THIS PAGE _____ (II) ACCUMULATED 16,668 (II)

0000121

53711

©GEOSYNTEC CONSULTANTS FILE NO. 3-07-SSL REVIEWED BY: _____

SHEET NO. ____ OF ____

APPENDIX M

GEOMEMBRANE DESTRUCTIVE SEAM TEST LOGS AND LABORATORY TEST RESULTS

CELL 2 CAP

TEST LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. 403211 TASK NO.: ~~04.1~~ 3.8

DESCRIPTION: Cap #2 - Phase IV

YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 60/80S - 113/88 80F/80S - 151/115 - FUSION

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2 / Phase V

DISTRIBUTION: LABORATORY: ☑ ARCHIVE: ☑ INSTALLER: ☑ OTHER:

SAMPLE DATA						FIELD DATA						LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS-1	F	1/C-1	342'	09	S.S.	118	122	158	P	6/22/03	RH	6/24/03	133.5	127.7	149.2	P		RH
DS-1	F	"	"	"	"	119	122	165	P	6/23/03	RH	6/24/03	133.5	127.7	149.2	P		RH
DS-2	F	P2/P34 C-1	255'	09	J.E	137	127	173	P	6/23/03	RH	6/24/03	138.6	146.2	157.3	P		RH
DS-2	F	P2/P34 C-1	255'	09	J.E	141	143	170	P	6/23/03	RH	6/24/03	138.6	146.2	157.3	P		RH
DS-3	F	P2/P4	138'	09	J.E	169	151	182	P	6/23/03	RH	6/24/03	156.8	189.4	240.3	P		RH
DS-3	F	P2/P4	138'	09	J.E	161	155	173	P	6/23/03	RH	6/24/03	156.8	189.4	240.3	P		RH
FWT DS-4	F	P3/P5	335'	01	SS	164	154	181	P	6/23/03	RH	6/24/03	184.8	165.6	241.6	P		RH
DS-4	F	P3/P5	335	01	S.S.	171	154	177	P	6/23/03	RH	6/24/03	184.8	165.6	241.6	P		RH
DS-5	F	P6/P8	358'	01	J.E	148	146	177	P	6/24/03	RH	6/25/03	169.3	174.4	233.6	P		RH
DS-5	F	P6/P8	358'	01	J.E	152	146	174	P	6/24/03	RH	6/25/03	169.3	174.4	233.6	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000425

53771

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 04.1

DESCRIPTION: CAP #2 / PHASE II YEAR: 2003

CONTRACTOR: FLOUR FERNALD TEST REQUIREMENTS: 80 Mil 151-115 60 Mil 113-88

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ CAP #2

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA						FIELD DATA							LABORATORY DATA							
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS-6	F	5/7 100' FWT	100'	09	S.S.	149	148	177	P	6/24/03	RH	6/25/03	166	147	235.5	P		RH
DS-6	F	5/7 100' FWT	100'	09	S.S.	153	145	180	P	6/24/03	RH	6/25/03	166	147	235.5	P		RH
DS-7	F	8/9 150 FET	150'	01	JE	172	168	176	P	6/24/03	RH	6/25/03	165.1	175.5	236.4	P		RH
DS-7	F	8/9 150 FET	150'	01	JE	158	161	181	P	6/24/03	RH	6/25/03	165.1	175.5	236.4	P		RH
DS-8	F	9/10 250 FET	250'	01	JE	38/163	158	169	P	6/24/03	RH	6/25/03	144.3	174.4	234.2	P		RH
DS-8	F	9/10 250 FET	250'	01	JE	158/162	138	177	P	6/24/03	RH	6/25/03	189.2	147.4	231.4	P		RH
DS-9	F	P 7/11		09	SS	144	178	246'	P	6/25/03	TW	6/25/03	183.5	185.9	236.5	P		RH
DS-9	F	P 7/11		09	SS	183	149	246'	P	6/25/03	TW	6/25/03	183.5	185.9	236.5	P		RH
DS-10	F	P 11/12		09	SS	165	164	300'	P	6/25/03	TW	6/27/03	184.5	185.6	236.5	P		RH
DS-10	F	P 11/12		09	SS	168	159	300'	P	6/25/03	TW	6/27/03	190.8	169.8	240.7	P		RH
DS-11	E	P14/P1-9		03	DL	109	106	160	P	6/26/03	RH	6/27/03	101.8	(SE-3)	154.5	F		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

DS-11 - EXTRUSION WELD - TIE IN TO CELL #1 P-1 60 mil HOT / 80 Mil HOT

DS-FAILS DESTRUCT TESTING (LAB), SEAM WAS CAPPED THEN DESTRUCT #14 WAS PULLED FROM EXT. WELD.

SW

921000

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 603011 TASK NO.: 37

DESCRIPTION: Cap #2/Cell #2 PHASE IV YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 Mil - 151/115 60 Mil - 113/88

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2 / PHASE IV

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER: Cap #2 - Phase IV

SAMPLE DATA						FIELD DATA						LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS12	F	12/16 351 FWT	351	09	S.S.	154	162	179	P	6/26/03	RH	6/27/03	190.8	185.6	240.7	P		RH
DS12	F	12/16 351 FWT	351	09	S.S.	159	162	188	P	6/26/03	RH	6/27/03	190.8	169.8	240.7	P		RH
DS13	F	10/15 297 FET	297	09	S.S.	174	168	192	P	6/26/03	RH	6/27/03	171.7	165.3	239.2	P		RH
DS13	F	10/16 297 FET	297	09	S.S.	184	159	188	P	6/26/03	RH	6/27/03	171.7	165.3	239.2	P		RH
5480 DS14	E	C1/PIC1	393	06	TB	106	106	140	P	6/30/03	RH	7/1/03	112.4	-	133.5	F		RH
DS14	E	C1/PIC1	393	06	TB	122	122	144	P	6/30/03	RH	7/1/03	112.4	-	133.5	F		RH
DS15	F	18/20	267	09	SS	162	160	176	P	6/30/03	RH	7/1/03	171.3	180.3	239.7	P		RH
DS15	F	19/20	267	09	SS	150	160	176	P	6/30/03	RH	7/1/03	178.9	180.3	238.3	P		RH
DS16	F	16/19	33	01	JI	161	154	168	P	6/30/03	RH	7/1/03	152.9	170.9	238.3	P		RH
DS16	F	16/19	33	01	JI	147	159	168	P	6/30/03	RH	7/1/03	152.9	170.9	238.3	P		RH
DS18	F	17/18	267	09	SS	163	177	181	P	6/30/03	RH	7/1/03	177.6	176.1	239.8	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION DESTRUCT #14 FAILED LAB TEST (SHEAR- ELONGATION) SEAM WILL BE CAPPED AGAIN BY FUSSION WELDING AN ADDITIONAL CAP OVER FAILED AREA. #14 HAD ONE SHEAR VALVE OF (62.8).

000127

5341

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. GQ3211 TASK NO.: 3.3 04.1

DESCRIPTION: Cap #2, Cell #2 PHASE IV YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80/80 151-115 60/80 113-84

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2/Cell #2 PHASE I

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA						FIELD DATA							LABORATORY DATA							
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS-17	E	17/18	262	09	SS	162	165	171	P	6/30/03	RH	7/1/03	177.6	176.1	239.8	P		RH
DS-18	F	15/17	267	01	JI	178	172	183	P	6/30/03	RH	7/1/03	182.8	180.5	241.9	P		RH
DS-18	F	15/17	267	01	JI	172	167	180	P	6/30/03	RH	7/1/03	182.8	180.5	241.9	P		RH
DS-19	F	20/21	187	07	JI	143	148	169	P	6/30/03	RH	7/1/03	175.2	159.6	238.2	P		RH
DS-19	F	20/21	187	07	J.I.	162	152	171	P	6/30/03	RH	7/1/03	175.2	159.6	238.2	P		RH
DS-20	F	22/24	50	01	SS	164	189	193	P	7/1/03	RH	7/3/03	178.5	170.9	240.0	P		RH
DS-20	F	22/24	50	01	SS	172	165	186	P	7/1/03	RH	7/3/03	178.5	170.9	240.0	P		RH
DS-21	F	23/25	363	07	TB	141	160	174	P	7/1/03	RH	7/3/03	156.4	157.5	236.7	P		RH
DS-21	F	23/25	363	07	TB	143	141	164	P	7/1/03	RH	7/3/03	156.4	157.5	236.7	P		RH
DS-22	F	24/27	165	01	SS	145	163	180	P	7/2/03	RH	7/3/03	193.4	157.3	235.6	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000428 53711

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 603211 TASK NO.: 04 33

DESCRIPTION: Cap #2, Cell #2 - PHASE IV YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 mil 151-115 60 mil 113/88

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2 - PHASE IV

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA						FIELD DATA						LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS-22	F	24/27	163'	08	SS	154	160	180	P	7/2/03	RH	7/3/03	193.4	157.3	235.6	P		RH
DS-23	F	27/28	150'	07	TB	154	141	173	P	7/2/03	RH	7/3/03	146.9	178.5	236.4	P		RH
DS-23	F	27/28	150'	07	TB	161	165	180	P	7/2/03	RH	7/3/03	146.9	178.5	236.4	P		RH
DS-24	F	28/29	342'	01	SS	168	175	183	P	7/3/03	RH	7/3/03	190.8	166.2	242.0	P		RH
DS-24	F	28/29	342'	01	SS	171	159	183	P	7/3/03	RH	7/3/03	190.8	166.2	242.0	P		RH
DS-14A	E	C/1C-C'	411'	06	TB	137	131	168	P	7/3/03	RH	7-8-03	AP	115.7	136.8		F	cut out RH
DS-14B	E	1C/1C-C'	431'	06	TB	126	127	183	P	7/3/03	RH	7-8-03		122.8	138.7		F	cut out RH
DS-25	F	26/30	272 East	09	SS	174	164	201	P	7/11/03	RH	7-14-03	190.8	166.2	242.2	P		RH
DS-25	F	26/30	272 West	09	SS	159	157	186	P	7/11/03	RH	7-14-03	179.2	164.5	242.2	P		RH
DS-26	F	30/31	242' Per	09	SS	178	177	181	P	7/11/03	RH	7-14-03	174.9	164.5	241.7	P		RH
DS-26	F	30/31	242' Per	09	SS	169	180	189	P	7/11/03	RH	7-14-03	174.9	164.5	241.7	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

DESTRUCT #14 WAS TRACED 10' EAST AND 10' WEST. DESTRUCTS MARKED AS DS14A AND DS14B.

DESTRUCT #14A & #14B BOTH FAILED SHEAR & PEEL TESTS IN LAB. AREA CUT OUT AND PIECE FUSSION WELDED IN.

000129

537 14

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cap #2 - Cell #2 PHASE IV 80 Mil HDT — PROJECT NO.: GQ3211 TASK NO.: 3.3

CONTRACTOR: FLUOR FERNALD — TEST REQUIREMENTS: 80 MIL HDT 151/113 — YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2 / Cell #2 - PHASE IV

SAMPLE DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
DS530	F	F	38/39	320' FWT	01	J1	153	167	202	P		7/13/03	RH	7/15/03	172.6	161.5	234.6	P		RH
DS530	F	F	38/39	320' FWT	01	J1	156	167	193	P		7/13/03	RH	7/15/03	172.6	161.5	234.6	P		RH
DS531	F	F	37/24	3' N of P 24/27	09	SS	198	182	209	P		7/13/03	RH	7/15/03	185.9	181.3	236.9	P		RH
DS531	F	F	37/24	3' N of P 24/27	09	SS	188	170	193	P		7/13/03	RH	7/15/03	185.9	181.3	236.9	P		RH
DS532	F	F	39/43	3' West of Test Hole	09	SS	182	182	184	P		7/13/03	RH	7/15/03	180.2	169.7	235.3	P		RH
DS532	F	F	39/43	3' EAST FOR	09	SS	169	154	207	P		7/13/03	RH	7/15/03	180.2	169.7	235.3	P		RH
DS533	F	F	39/43	11' S of 38/39	09	SS	182	170	193	P		7/13/03	RH	7/15/03	191.5	189.4	236	P		RH
DS533	F	F	39/43	11' S of 38/39	09	SS	185	165	183	P		7/14/03	RH	7/15/03	191.5	189.4	236	P		RH
F/T DS534	F	F	13/36	12' E of Panel 16	09	SS	174	177	180	P		7/14/03	RH	7/15/03	186	164.7	235.5	P		RH
F/T DS534	F	F	13/36	12' E of Panel 16	09	SS	162	175	184	P		7/14/03	RH	7/15/03	186	164.7	235.5	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION DESTRUCT #34 is the after of Failed Destruct 234

0001130

3711

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ321 TASK NO.: 3.3

DESCRIPTION: CAP#2/CELL#2 - PHASE IV

YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 Mil HDT- 151/115 60 Mil HDT- 115/84

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ 80 MIL HDT - CAP#2

SAMPLE DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA							FIELD DATA							LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
DS-27	F	F	34/32	150' FET	01	TB	151	163	191	P		7/11/03	RH	7/14/03	164.4	170.8	240.0	P		RH
DS-27	F	F	29/32	150' FET	01		155	167	190	P		7/11/03	RH	7/14/03	164.4	170.8	240.0	P		RH
DS-28	F	F	34/13	17'EOT P-1	02	SS	186	AD	—		F	7/11/03	RH	NOT	SENT	TO	LAB	F		RH
DS-28	F	F	34/13	17'EOT P-1	02	SS	186	AD	—		F	7/11/03	RH					F		RH
DS-29	F	F	31/38	150' FWT	01	JI	171	166	188	P		7/13/03	RH	7/15/03	176.8	184.4	230.9	P		
DS-29	F	F	31/38	150' FWT	01	JI	165	185	185	P		7/13/03	RH	7/15/03	176.8	184.4	230.9	P		
DS-28A	F	F	34/13	7'EOT P-1	02	SS	176	AD	—		F	Not Sent	RH		NOT SENT TO LAB FAILED FIELD TEST & REMOVED			F		RH
DS-28A	F	F	34/13	7'E of P-1	02	SS	169	AD	—		F	Not Sent	RH					F		RH
DS-28B	F	F	35/14	27'EOT P-1	02	SS	174	183	209	P		7/11/03	RH					F		RH
DS-28B	F	F	35/14	27'EOT P-1	02	SS	179	163	213	P		7/11/03	RH					F		RH

DT/BOT

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION Destruct #28, #28A and Destruct 28B failed field tests Seams were removed so therefore Destructs were not shipped to LAB.

0001131

©GeoSyn CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: (W)

SHEET NO. 7 OF 8

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 60 3211 TASK NO.: 3.3

DESCRIPTION: Cap #1 - Cell #1 - Phase IV

YEAR:

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 mil HDT 151-115

PRIMARY: ☐ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☒ Cap #2 - Cell #2 - Phase V

SAMPLE DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
D035	F	F	14/45	32 E of Panel 1	09	SS	183	177	188	P	7/14/03	RH	7/15/03	195.6	189.8	242.7	P		RH
D035	F	F	14/45	32 E of Panel 1	09	SS	180		183		7/14/03	RH	7/15/03	195.6	189.8	242.7	P		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001132

5371

©GeoSyn CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: W

SHEET NO. 8 OF 8

LABORATORY TEST RESULTS

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-1	148.0	BRK	130.5	SE1	127.0	SE1	
	147.4	BRK	133.9	SE1	127.5	SE1	-
	149.7	BRK	136.3	SE1	127.4	SE1	
	150.9	BRK	133.4	SE1	130.0	SE1	
	150.1	BRK	133.6	SE1	126.4	SE1	
DS-2	155.9	BRK	137.8	SE1	136.2	SE1	
	159.2	BRK	136.1	SE1	135.0	SE1	-
	157.7	BRK	133.7	SE1	156.5	SE1	
	158.2	BRK	146.0	SE1	165.0	SE1	
	155.6	BRK	139.4	SE1	138.6	SE1	
DS-3	241.3	BRK	157.8	SE1	179.3	SE1	
	239.9	BRK	155.7	SE1	192.3	SE1	-
	239.3	BRK	153.7	SE1	188.3	SE1	
	240.7	BRK	156.8	SE1	200.2	SE1	
	240.5	BRK	158.8	SE1	188.7	SE1	
DS-4	241.3	BRK	183.8	SE1	164.8	SE1	
	243.4	BRK	183.7	SE1	172.2	SE1	-
	242.8	BRK	191.0	SE1	172.4	SE1	
	240.8	BRK	184.9	SE1	148.3	SE1	
	239.7	BRK	175.8	SE1	171.2	SE1	
DS-5	232.6	BRK	162.5	SE1	171.1	SE1	
	233.3	BRK	167.8	SE1	162.3	SE1	-
	235.0	BRK	169.1	SE1	176.6	SE1	
	233.1	BRK	173.9	SE1	174.9	SE1	
	234.1	BRK	173.2	SE1	187.2	SE1	
DS-6	237.0	BRK	170.9	SE1	142.6	SE1	
	235.5	BRK	160.6	SE1	136.5	SE1	-
	235.6	BRK	170.9	SE1	142.7	SE1	
	235.2	BRK	167.0	SE1	136.1	SE1	
	234.2	BRK	160.7	SE1	177.2	SE1	
DS-7	237.6	BRK	168.4	SE1	178.9	SE1	-
	236.7	BRK	170.5	SE1	171.4	SE1	
	236.5	BRK	169.2	SE1	165.3	SE1	
	236.5	BRK	157.5	SE1	178.8	SE1	
	235.0	BRK	160.1	SE1	183.4	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000134

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-8	233.0	BRK	174.8	SE1	164.3	SE1	
	234.8	BRK	176.7	SE1	199.5	SE1	-
	236.0	BRK	180.1	SE1	176.0	SE1	
	234.6	BRK	177.1	SE1	165.7	SE1	
	232.6	BRK	172.7	SE1	166.7	SE1	
DS-9	223.4	BRK	169.5	SE1	149.6	SE1	
	231.0	BRK	206.7	SE1	140.5	SE1	-
	232.2	BRK	202.5	SE1	150.4	SE1	
	235.0	BRK	167.2	SE1	145.7	SE1	
	235.2	BRK	200.4	SE1	150.7	SE1	
DS-10	232.8	BRK	196.4	SE1	193.2	SE1	
	235.7	BRK	187.9	SE1	184.2	SE1	-
	236.8	BRK	170.4	SE1	185.7	SE1	
	237.7	BRK	178.7	SE1	182.8	SE1	
	239.6	BRK	184.2	SE1	183.5	SE1	
DS-12	241.7	BRK	200.0	SE1	171.5	SE1	
	241.3	BRK	185.4	SE1	172.6	SE1	-
	242.0	BRK	181.4	SE1	172.3	SE1	
	242.4	BRK	187.2	SE1	164.8	SE1	
	236.5	BRK	199.9	SE1	167.8	SE1	
DS-13	240.4	BRK	165.7	SE1	164.5	SE1	
	240.2	BRK	176.5	SE1	164.9	SE1	-
	241.3	BRK	171.7	SE1	161.7	SE1	
	240.9	BRK	172.9	SE1	166.5	SE1	
	233.4	BRK	171.7	SE1	169.0	SE1	
DS-15	238.8	BRK	161.0	SE1	188.3	SE1	
	241.9	BRK	167.4	SE1	183.0	SE1	-
	241.5	BRK	185.3	SE1	180.7	SE1	
	238.0	BRK	172.4	SE1	171.9	SE1	
	238.5	BRK	170.6	SE1	177.5	SE1	
DS-16	236.9	BRK	152.7	SE1	173.3	SE1	-
	238.5	BRK	153.5	SE1	158.8	SE1	
	238.9	BRK	152.7	SE1	170.7	SE1	
	239.1	BRK	156.4	SE1	171.5	SE1	
	238.1	BRK	149.5	SE1	177.5	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-17	239.1	BRK	175.1	SE1	189.5	SE1	
	239.2	BRK	178.9	SE1	167.8	SE1	-
	241.3	BRK	175.1	SE1	196.6	SE1	
	238.4	BRK	180.4	SE1	158.2	SE1	
	240.8	BRK	178.6	SE1	168.5	SE1	
DS-18	242.0	BRK	175.2	SE1	178.1	SE1	
	241.6	BRK	205.3	SE1	183.3	SE1	-
	241.7	BRK	164.9	SE1	181.6	SE1	
	242.8	BRK	182.0	SE1	173.7	SE1	
	241.5	BRK	186.4	SE1	165.8	SE1	
DS-19	239.3	BRK	180.7	SE1	158.3	SE1	
	241.1	BRK	174.3	SE1	162.1	SE1	-
	239.5	BRK	165.2	SE1	161.6	SE1	
	234.5	BRK	163.7	SE1	159.1	SE1	
	237.6	BRK	192.0	SE1	156.7	SE1	
DS-20	240.2	BRK	178.8	SE1	154.9	SE1	
	238.7	BRK	177.0	SE1	190.6	SE1	-
	240.2	BRK	178.8	SE1	181.1	SE1	
	240.3	BRK	177.0	SE1	154.8	SE1	
	240.8	BRK	181.0	SE1	173.2	SE1	
DS-21	235.5	BRK	164.8	SE1	149.6	SE1	
	236.4	BRK	151.6	SE1	166.4	SE1	-
	236.7	BRK	159.3	SE1	167.0	SE1	
	236.4	BRK	141.2	SE1	155.7	SE1	
	238.4	BRK	165.2	SE1	148.8	SE1	
DS-22	237.4	BRK	203.8	SE1	165.4	SE1	
	234.4	BRK	193.3	SE1	153.3	SE1	-
	236.3	BRK	181.3	SE1	155.8	SE1	
	234.3	BRK	186.0	SE1	152.0	SE1	
	235.4	BRK	202.6	SE1	160.1	SE1	
DS-23	236.8	BRK	145.0	SE1	211.1	SE1	-
	237.3	BRK	151.4	SE1	161.5	SE1	
	237.0	BRK	143.3	SE1	185.7	SE1	
	235.5	BRK	143.3	SE1	148.5	SE1	
	235.4	BRK	151.5	SE1	165.5	SE1	

DFSUM

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-24	242.1	BRK	190.0	SE1	166.5	SE1	
	240.4	BRK	191.5	SE1	168.0	SE1	-
	241.2	BRK	191.5	SE1	167.7	SE1	
	243.4	BRK	186.0	SE1	164.1	SE1	
	242.8	BRK	194.9	SE1	164.8	SE1	
DS-25	244.2	BRK	179.1	SE1	179.2	SE1	
	242.0	BRK	196.5	SE1	161.2	SE1	-
	240.3	BRK	182.4	SE1	162.5	SE1	
	243.0	BRK	166.3	SE1	152.3	SE1	
	241.7	BRK	171.5	SE1	167.1	SE1	
DS-26	242.7	BRK	160.3	SE1	156.8	SE1	
	241.3	BRK	198.1	SE1	175.1	SE1	-
	241.6	BRK	161.8	SE1	162.1	SE1	
	241.3	BRK	165.2	SE1	165.9	SE1	
	241.6	BRK	189.5	SE1	162.5	SE1	
DS-27	236.5	BRK	154.6	SE1	154.6	SE1	
	240.3	BRK	175.1	SE1	167.7	SE1	-
	241.1	BRK	156.1	SE1	162.4	SE1	
	240.8	BRK	180.5	SE1	185.7	SE1	
	241.2	BRK	155.7	SE1	163.4	SE1	
DS-29	231.0	BRK	177.9	SE1	186.4	SE1	
	231.5	BRK	174.9	SE1	182.2	SE1	-
	231.7	BRK	174.1	SE1	188.7	SE1	
	230.3	BRK	184.4	SE1	184.8	SE1	
	230.2	BRK	172.6	SE1	181.9	SE1	
DS-30	235.2	BRK	173.4	SE1	164.0	SE1	
	235.8	BRK	167.9	SE1	164.3	SE1	-
	233.0	BRK	172.5	SE1	161.9	SE1	
	234.9	BRK	174.1	SE1	164.6	SE1	
	234.0	BRK	174.9	SE1	152.5	SE1	
DS-31	238.7	BRK	180.7	SE1	180.7	SE1	-
	236.2	BRK	182.9	SE1	186.4	SE1	
	236.9	BRK	185.1	SE1	174.1	SE1	
	237.9	BRK	200.1	SE1	185.3	SE1	
	234.6	BRK	180.9	SE1	179.9	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-32	237.9	BRK	181.9	SE1	165.5	SE1	
	238.1	BRK	177.9	SE1	179.0	SE1	-
	232.5	BRK	179.5	SE1	182.4	SE1	
	232.8	BRK	180.5	SE1	156.1	SE1	
	235.3	BRK	181.4	SE1	165.4	SE1	
DS-33	237.6	BRK	194.5	SE1	188.4	SE1	
	235.6	BRK	185.0	SE1	184.5	SE1	-
	231.7	BRK	193.7	SE1	192.3	SE1	
	239.9	BRK	189.1	SE1	192.3	SE1	
	235.2	BRK	195.0	SE1	189.4	SE1	
DS-34	231.1	BRK	181.0	SE1	154.0	SE1	
	233.7	BRK	185.2	SE1	165.9	SE1	-
	237.7	BRK	191.5	SE1	165.8	SE1	
	237.2	BRK	186.4	SE1	162.4	SE1	
	237.7	BRK	186.0	SE1	175.5	SE1	
DS-35	236.5	BRK	193.0	SE1	198.7	SE1	
	240.5	BRK	197.0	SE1	195.0	SE1	-
	248.5	BRK	194.5	SE1	196.4	SE1	
	244.2	BRK	194.2	SE1	181.7	SE1	
	243.9	BRK	199.5	SE1	177.3	SE1	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000138

SUMMARY OF DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD

GEOSYNTEC
FLUOR FERNALD
GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
DS-11	167.3	BRK 1	110.0	SE 3	-
	123.9	SE 1	121.6	SIP	
	155.6	SE 1	106.1	SE 3	
	160.9	BRK 1	89.0	AD BRK	
	164.9	BRK 1	82.4	AD WLD	
DS-14	156.3	SE 1	88.3	BRK 2	-
	155.9	SE 1	119.7	SE 3	
	133.6	SE 1	109.6	SE 3	
	62.8	SE 1	116.3	SE 3	
	158.9	SE 1	128.2	SE 3	
DS-14A	156.9	BRK1	116.2	AD BRK	-
	69.2	SE1	119.5	AD BRK	
	157.6	BRK1	100.3	AD1	
	155.9	BRK1	99.7	AD BRK	
	144.3	SE1	141.0	AD BRK	
DS-14B	84.4	SE1	149.3	SE3	-
	144.3	SE1	142.8	AD BRK	
	162.8	SE1	97.5	AD BRK	
	163.2	BRK1	107.9	SE3	
	138.7	SE1	116.8	SE3	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	

BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DESUM

CELL 6 SECONDARY

TEST LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 603211 TASK NO.: 33

DESCRIPTION: Cell 6 - Phase II YEAR: 2003

CONTRACTOR: FLUOR FERNALD / ISTRE COMPANY TEST REQUIREMENTS: 115 Peel 151 Shear

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

	SAMPLE DATA						FIELD DATA							LABORATORY DATA							
	D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		RE-TEST	QA ID
r/r	DS-1	F	S1/S7	181' FSL	09	SS	160	147	219	P	—	7/22/03	RH	7/23/03	183.2	166.3	239.1	P	—		RH
s/r	DS-1	F	S1/S7	181' FSL	09	SS	148	148	208	P	—	7/22/03	RH	7/23/03	183.2	166.3	239.1	P	—		RH
s/s	DS-2	F	S13/S14	65' FSL	01	DL	178	168	250	P	—	7/22/03	RH	7/23/03	173.2	196.1	235.2	P	—		RH
s/s	DS-2	F	S13/S14	65' FSL	01	DL	180	186	251	P	—	7/22/03	RH	7/23/03	173.2	196.1	235.2	P	—		RH
s/s	DS-3	F	S9/S10	100' FSL	01	DL	155	185	248	P	—	7/22/03	RH	7/23/03	190.1	163.0	238.6	P	—		RH
s/s	DS-3	F	S9/S10	100' FSL	01	DL	208	161	249	P	—	7/22/03	RH	7/23/03	190.1	163.0	238.6	P	—		RH
s/s	DS-4	F	S17/S18	44' FSL	09	SS	146	174	242	P	—	7/22/03	RH	7/23/03	175.9	167.9	235.3	P	—		RH
s/s	DS-4	F	S17/S18	44' FSL	09	SS	165	171	249	P	—	7/22/03	RH	7/23/03	175.9	167.9	235.3	P	—		RH
s/s	SD-5	F	S21/S22	85' FSL	09	SS	177	138	218	P	—	7/23/03	RH	7/24/03	181.7	163.6	235.9	P	—		RH
s/s	SD-5	F	S21/S22	85' FSL	09	SS	163	185	234	P	—	7/23/03	RH	7/24/03	181.7	163.6	235.9	P	—		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION DESTRUCT #1 WAS 80T/80T OUT OF EAST TOE TIE IN SEAM.

0001422

T-5371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: 6Q3211 TASK NO.: ~~04~~ 33

DESCRIPTION: Cell #6 Phase II YEAR: 2003

CONTRACTOR: Fluor Fernald ISTRB Company TEST REQUIREMENTS: 115 peel - 151 shear

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA						FIELD DATA							LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
DS-6	F	11' FSL 525/526	11'	01	TB	163	204	254	P	—	7/23/03	RH	7/24/03	189.8	170.7	234.7	P	—		RH
DS-6	F	11' FSL 525/526	11'	01	TB	178	191	254	P	—	7/23/03	RH	7/24/03	189.8	170.7	234.7	P	—		RH
DS-7	F	14/30	204' FEAT	09	SS	153	167	231	D	—	7/25/03	RH	7/26/03	189.6	AD 35% 188.0	241.3	—	F		RH
DS-7	F	14/30	204' FEAT	09	SS	136	175	226	P	—	7/25/03	RH	7/26/05	189.6	186.0	241.3	—	F		RH
DS-8	F	30/31	175' FEAT	09	SS	154	160	213	P	—	7/25/03	RH	7/26/05	177.2	163.7	237.3	P	—		RH
DS-8	F	30/31	175' FEAT	09	SS	171	159	220	P	RH	7/25/03	RH	7/26/05	177.2	163.7	237.3	P	—		RH
DS-9	F	370' 33/34 FEAT	370'	09	SS	177	160	203	P	RH	7/25/03	RH	7/26/05	184.9	176.8	239.2	P	—		RH
DS-9	F	370' 33/34 FEAT	370'	09	SS	169	159	207	P	RH	7/25/03	RH	7/26/05	184.9	176.8	239.2	P	—		RH
DS-10	F	250' 34/35 FEAT	250'	02	JI	175	148	212	P	RH	7/25/03	RH	7/26/05	189.1	161.4	238.6	P	—		RH
DS-10	F	250' 34/35 FEAT	250'	02	JI	166	149	212	P	RH	7/25/03	RH	7/26/05	189.1	161.4	238.6	P	—		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001143

5371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Cell #6 Phase V YEAR: 2003

CONTRACTOR: Fluor Fernald ISTRE COMPANY TEST REQUIREMENTS: 115 Peel 151 Shear

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA						FIELD DATA						LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
SD 11	F	566/536	94	09	SS	~~179~~/177	188	202	P —	7-26-03	CHW	7/29/03	190.1	174.1	238.5	P —	—	RH
SD11	F	566/536	94	09	SS	184	160	197	P —	7-26-03	CHW	7/29/03	190.1	174.1	238.5	P —	—	RH
SD7A	F	514/530	191	09	SS	178	189	216	P —	7/29/03	RH	7/31/03	177.0	172.4	233.7	P —	--	RH
SD7B	F	514/530	191	09	SS	174	186	222	P —	7/29/03	RH	7/31/03	177.0	172.4	233.7	P —	—	RH
SD7B	F	515/530	214	09	SS	202	148(AD)	199	— F	7/29/03	RH	FAILED ON SITE				— F	B'	RH
SD7B	F	515/530	214	09	SS	188	154(AD)	218	— F	7/29/03	RH	FAILED ON SITE				— F	B'	RH
SD7B1	F	515/530	224	09	SS	181	179	212	P —	7/29/03	RH	7/30/03	189.7	171.8	249.2	P —	SD7B	RH
SD7B1	F	515/530	224	09	SS	176	154	209	P —	7/29/03	RH	7/30/03	189.7	171.8	249.2	P —	SD7B	RH
SD12	F	537/538	260	09	SS	183	185	225	P —	7/29/03	RH	7/30/03	182.1	172.6	240.7	P —		RH
SD12	F	537/538	260	09	SS	185	178	217	P —	7/29/03	RH	7/30/03	182.1	172.6	240.7	P —		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

SD 7A and SD7B are out of Southern Tie in, Northern side of IC Berm. Coupon "AD" from LAB at 35%.

TRACED Destruct on Tie in Seam S/T. SD7B' pulled 10' WEST OF SD7B, 20' WEST of SD7.

000144

5371

©GEOSYNTEC CONSULTANTS FILE NO. 3-10-DT1 REVIEWED BY: W SHEET NO. 3 OF 9

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. G03211 TASK NO.: 3.3

DESCRIPTION: CELL #6 · PHASE V YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 113/151 80 MIL HDT

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA						FIELD DATA						LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
SD13	E	C1/SD30	193	06	DL	off center		—	— F	7/29/03	RH					— F		RH
SD13	E	C1/SD30	193	06	DL	off center		—	— F	7/29/03	RH					— F		RH
SD13A1	E	C2/SD30	208	06	TB	159	160 (AD) SIP	—	— F	7/29/03	RH	samples not sent to LAB. see Note below				— F	SD13	RH
SD13A1	E	C2/SD30	208	06	TB	159	166	—	— F	7/29/03	RH					— F	SD13	RH
SD13A2	E	C2/SD30	206	06	TB	166 (AD)	160	—	— F	7/29/03	RH					— F	SD13A1	RH
SD13A2	E	C2/SD30	206	06	TB	—	—		— F	7/29/03	RH					— F	SD13A1	RH
SD13A3	E	C3/SD30	199	06	TB	114	117	200	P —	7/29/03	RH	7/30/03	117.8	—	211.4	P —	SD13A2	RH
SD13A3	E	C3/SD30	199	06	TB	94	121	205	P —	7/29/03	RH	7/30/03	117.8	—	211.4	P —	SD13A2	RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

Destruct samples SD#13, SD#13A, A1, A2 failed in field, samples not sent out.

000145

5371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. GQ3211 TASK NO.: 33

DESCRIPTION: CELL 6 · PHASE V 80 MIL HDT YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 115 · 151

PRIMARY: ☐ SECONDARY: ☒ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA						FIELD DATA							LABORATORY DATA						
D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
SD14	F	S38/S39	128'	09	SS	171	149	202	P	—	7/30/03	RH	7/31/03	177	172	234	P	—	—	CHW
SD14	F	S38/S39	128'	09	SS	173	184	215	P	—	7/30/03	RH	7/31/03	177	172	234	P	—	—	CHW
SD15	F	S39/S40	227'	01	JI	159	148	209	P	—	7/30/03	RH	7/31/03	169	158	234	P	—	—	CHW
SD15	F	S39/S40	227'	01	JI	153	156	222	P	—	7/30/03	RH	7/31/03	169	158	234	P	—	—	CHW
SD16	F	S40/S41	28'	09	SS	176	176	207	P	—	7/30/03	RH	7/31/03	192	173	239	P	—	—	CHW
SD16	F	S40/S41	28'	09	SS	180	169	224	P	—	7/30/03	RH	7/31/03	192	173	239	P	—	—	CHW
SD17	F	S35/S42	245'	09	SS	172	CHW ~~148~~ 167	129	P	—	7/30/03	TW	7/31/03	196	169	239	P	—	—	CHW
SD17	F	S35/S42	245'	09	SS	129 ~~147~~ CHW	CHW ~~160~~ 167	167	P	—	7/30/03	TW	7/31/03	196	169	239	P	—	—	CHW
SD18	F	S44/S45	43'	09	SS	175	169	233	P	-	8/1/03	RH	8/4/03	155.5	174.0	236.6	P	—	—	RH
SD18	F	S44/S45	43'	09	SS	166	178	213	P		8/1/03	RH	8/4/03	155.5	174.0	236.6	P	—	—	RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000146

5371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3 ~~04.1~~

DESCRIPTION: Cell #6 Phase I YEAR: 2003

CONTRACTOR: Fluor Fernald TEST REQUIREMENTS: Peel Fusion-115, Extrusion-84 Shear-151

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

	SAMPLE DATA						FIELD DATA						LABORATORY DATA						
	D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
	SD19	F	S54/S55	86'	07	DL	179	153	226	P –	8/1/03	RH	8/5/03	173.1	155.0	237.1	P –		RH
	SD19	F	S54/S55	86'	07	DL	158	156	240	P –	8/1/03	RH	8/5/03	173.1	155.0	237.1	P –		RH
S/T	SD20	F	S49/S50	14'	09	SS	149	178	253	P –	8/1/03	RH	8/5/03	193.1	159.4	245.0	P –		RH
S/T	SD20	F	S49/S50	14'	09	SS	178	177	246	P –	8/1/03	RH	8/5/03	193.1	159.4	245.0	P –		RH
	SD21	F	S47/S54	116'	09	SS	176	116	227	P –	8/1/03	RH	8/5/03	191.8	145.1	247.0	P –		RH
	SD21	F	S47/S54	116'	09	SS	181	174	241	P –	8/1/03	RH	8/15/03	191.8	145.1	247.0	P –		RH
	SD22	F	S56/S57	248'	09	SS	181	163	244	P –	8/1/03	RH	8/15/03	186.6	181.2	241.6	P –		RH
	SD22	F	S56/S57	248'	09	SS	168	171	230	P –	8/1/03	RH	8/5/03	186.6	181.2	241.6	P –		RH
	SD23	F	S23/S56	326'	09	SS	117	162	223	P –	8/1/03	RH	8/5/03	177.9	125.2	238.5	P –		RH
	SD23	F	S23/S56	326'	09	SS	134	177	216	P –	8/1/03	RH	8/5/03	177.9	125.2	236.5	P –		RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000147

5371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. G03211 TASK NO.: 033

DESCRIPTION: CELL #6 - PHASE 0 YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 MIL HDT. 115/151

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

	SAMPLE DATA						FIELD DATA							LABORATORY DATA							
	D.S. NO.	(1) TRACK	LOCATION SEAM	LOCATION DIST (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
1/1	SD 24	F	S31/S57	FST 24	D9	SS	175	199	209	P	—	8/1/03	CHW	8/5/03	168.4	166.7	250.2	—	F	SD24A	RH
1/T	SD 24	F	S31/S57	FST 24'	09	SS	169	189	217	P	—	8/1/03	CHW	8/5/03	168.4	166.7	250.2	—	F	SD24B	RH
	SD 25	F	S59/S60	215	09	SS	187	187	—	P	—	8/9/03	CHW	8/11/03	183.9	156.7	240.7	P	—	—	CHW
	SD 25	F	S59/S60	215	09	SS	143	157	—	P	—	8/9/03	CHW	8/11/03	183.9	156.7	240.7	P	—	—	CHW
	SD 26	F	P111/S61	69'	09	SS	140	140	—	P	—	8/9/03	CHW	8/11/03	165.7	110.9	236.0	—	F	—	CHW
	SD 26	F	P111/S61	69	09	SS	120	116	—	P	—	8/9/03	CHW	8/11/03	165.7	110.9	236.0	—	F	—	CHW
	SD 27	F	S62/S63	226	07	TB	140	148	—	P	—	8/9/03	CHW	8/11/03	158.8	159.8	239.3	P	—	—	CHW
	SD 27	F	S62/S63	226	07	TB	143	151	—	P	—	8/9/03	CHW	8/11/03	158.8	159.8	239.3	P	—	—	CHW
	SD 28	F	S65/S66	250	09	SS	132	159	—	P	—	8/9/03	CHW	8/11/03	166.7	146.0	239.1	P	—	—	CHW
	SD 28	F	S65/S66	250	09	SS	161	165	—	P	—	8/9/03	CHW	8/11/03	166.7	146.0	239.1	P	—	—	CHW

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000148

537

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: 03211 TASK NO.: 33

DESCRIPTION: CELL #5 - PHASE I

YEAR: 2003

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: COMIL HDJ - 115/151

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

SAMPLE DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA							LABORATORY DATA							
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
SD 29	F	—	364/369	361	07	TB	163	178	—	P	—	8/9/03	RH	8/11/03	184.1	~~AD PAK~~ 190.4	242.0	—	F	—	CHW
SD 29	F	—	364/369	361	07	TB	172	185	—	P	—	8/9/03	RH	8/11/03	184.1	190.4	242.0	—	F	—	CHW
SD 30	367/369	—	F	100	09	SS	148	175	—	P	—	8/9/03	RH	8/11/03	166.9	177.2	240.3	P	—	—	CHW
SD 30	367/368	—	F	100	09	SS	174	165	—	P	—	8/9/03	RH	8/11/03	166.9	177.2	240.3	P	—	—	CHW
SD31	C5/363	E	C5/363	390'	03	DL	147	153	—	P	—	8/11/03	RH	8/13/03	159.2	(AD)	240.5	—	F	—	RH
SD31	C5/363	E	C5/363	370'	03	DL	160	158	—	P	—	8/11/03	RH	8/13/03	159.2		240.5	—	F	—	RH
SD32	C6/361	E	C6/361	340'	03	TB	166	161	—	P	—	8/11/03	RH	8/13/03	150.7	—	234.3	P	—	—	RH
SD32	C6/361	E	C6/361	340'	03	TB	163	160	—	P	—	8/11/03	RH	8/13/03	150.7	—	234.3	P	—	—	RH
SD24A	F	—	531/556	14	09	SS	187/125	183/150	212/221	P	—	8/11/03	CHW	8/22/03	197.8	156.9	239.9	P	—	—	TW
SD24B	F	—	531/556	32	09	SS	187/176	168/177	~~232/205~~	P	—	8/11/03	CHW	8/12/03	190.7	140.4	245.1	P	—	—	[illegible]
SD28B	F	—	564/569	351	07	TB	—	—	Peel	—	F	8/11/03	CHW	8/13/03	181.0	(AD) 107.3	236.7	—	F	—	TW

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000149

537

©GeoSyn CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY: TW

SHEET NO. 8 OF 9

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase II PROJECT NO.: 603211 TASK NO.: 3

CONTRACTOR: FLUOR FERNALD TEST REQUIREMENTS: 80 MIL HDT 151/115 YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ RE-TEST: ☐ OTHER: ☐

SAMPLE DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		RE-TEST	QA ID
50-29.81	F	—	S66/S67	45'	07	TB	182	163	236	P	—	8/12/03	RH	8/13/03	164.6	166.8	243.1	P	-		RH
50 29.81	F	—	S66/S67	45'	07	TB	133	169	234	P	—	8/12/03	RH	8/13/03	164.6	166.8	243.1	P	-		RH
SD33	E	—	C4/S64	315'	06	TB	119	155	219	P	—	8/12/03	RH	8/13/03	136.9	166.8	243.0	P	-		RH
SD33	E	—	C4/S64	315'	06	TB	119	155	216	P	—	8/12/03	RH	8/13/03	136.9	—	243.0	P	-		RH
SD31A	E	—	C5/S63	481 FNTS	03	DL	159	142	-	P	—	8/13/03	RH	8/14/03	146.3	—	245.4	P	-		RH
SD31B	E	—	C5/S63	481 FNTS	03	DL	134	171 (00)		P	—	8/13/03	RH	8/14/03	174.8	—	235.7	P	-		RH
SD26A	F	F	P111/S61	42 FWAT	06	TB	169	108		P	F	8/13/03	RH	8/14/03	179.3	110.9	241.0	—	F		TW
SD26B	F	F	P111/S61	80 FWAT	06	TB	153	110	VALUES	—	F	8/13/03	RH	8/14/03	184.2	124.3	230.9	—	F		
SD26B	F	F	P111/S61	80 FWAT	06	TB	158	110		—	F	8/13/03	RH	8/14/03	184.2	124.3	230.9	—	F		
SD26A	F	F	P111/S61	42 FWAT	06	TB	178	120		P	—	8/13/03	RH	8/14/03	179.3	110.9	241.0	—	F		

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION * 26, 26A, 26B All broke well but values are low (Below Spec) WAS CAPED

0001450

53

©GeoSyn CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY: TW

LABORATORY TEST RESULTS

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-1	239.3	BRK	185.1	SE1	154.0	SE1	
	243.0	BRK	180.9	SE1	143.5	SE1	-
	238.7	BRK	178.2	SE1	188.8	SE1	
	238.9	BRK	191.0	SE1	166.9	SE1	
	235.7	BRK	180.9	SE1	178.5	SE1	
SD-2	234.2	BRK	181.2	SE1	199.3	SE1	
	234.1	BRK	178.5	SE1	197.3	SE1	-
	237.4	BRK	178.2	SE1	193.6	SE1	
	234.9	BRK	168.9	SE1	195.7	SE1	
	235.6	BRK	159.0	SE1	194.5	SE1	
SD-3	238.7	BRK	190.3	SE1	171.0	SE1	
	239.2	BRK	185.4	SE1	157.2	SE1	-
	239.2	BRK	188.0	SE1	164.9	SE1	
	238.4	BRK	190.3	SE1	162.3	SE1	
	237.7	BRK	196.6	SE1	159.5	SE1	
SD-4	236.2	BRK	166.3	SE1	168.2	SE1	
	236.5	BRK	194.1	SE1	172.2	SE1	-
	235.0	BRK	162.0	SE1	186.4	SE1	
	234.8	BRK	198.3	SE1	171.4	SE1	
	233.8	BRK	158.8	SE1	141.5	SE1	
SD-5	234.8	BRK	167.4	SE1	163.3	SE1	
	236.0	BRK	192.3	SE1	168.3	SE1	-
	237.0	BRK	172.7	SE1	164.5	SE1	
	237.3	BRK	187.4	SE1	168.9	SE1	
	234.5	BRK	188.7	SE1	153.0	SE1	
SD-6	234.9	BRK	186.4	SE1	164.9	SE1	
	234.0	BRK	174.7	SE1	168.5	SE1	-
	235.2	BRK	191.1	SE1	165.0	SE1	
	234.2	BRK	198.3	SE1	187.4	SIP	
	235.2	BRK	198.3	SE1	167.5	SE1	
SD-7	244.6	BRK	191.7	SE1	189.3	SE1	-
	239.1	BRK	181.1	AD BRK(35%)	195.9	SE1	
	240.6	BRK	194.9	SE1	188.2	SE1	
	240.5	BRK	183.7	SE1	184.7	SIP	
	241.9	BRK	196.5	SE1	182.0	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-7A	252.0	BRK	194.1	SE1	171.6	SE1	
	254.1	BRK	192.6	SE1	185.7	SE1	-
	253.7	BRK	189.4	SE1	179.3	SE1	
	240.8	BRK	196.0	SE1	183.3	SE1	
	248.9	BRK	188.4	SE1	186.5	SE1	
SD-7B2	248.4	BRK	197.7	SE1	172.0	SE1	
	250.2	BRK	197.2	SE1	165.8	SE1	-
	249.5	BRK	180.9	SE1	169.3	SE1	
	252.5	BRK	195.4	SE1	181.4	SE1	
	247.4	BRK	177.4	SE1	170.8	SE1	
SD-8	240.1	BRK	174.3	SE1	173.1	SE1	
	238.4	BRK	197.0	SE1	165.3	SE1	-
	236.5	BRK	183.2	SE1	167.9	SE1	
	236.4	BRK	169.4	SE1	167.9	SE1	
	234.9	BRK	161.9	SE1	144.1	SE1	
SD-9	238.3	BRK	161.0	SE1	179.5	SE1	
	241.1	BRK	188.0	SE1	180.0	SE1	-
	242.1	BRK	196.1	SE1	179.4	SE1	
	239.8	BRK	196.2	SE1	189.8	SE1	
	234.9	BRK	183.3	SE1	155.3	SE1	
SD-10	238.0	BRK	188.4	SE1	164.9	SE1	
	238.6	BRK	194.4	SE1	160.9	SE1	-
	239.9	BRK	208.7	SE1	164.8	SE1	
	240.6	BRK	200.7	SE1	160.8	SE1	
	236.0	BRK	153.4	SE1	155.5	SE1	
SD-11	235.3	BRK	184.6	SE1	177.3	SE1	
	239.2	BRK	188.9	SE1	182.6	SIP	-
	241.7	BRK	195.8	SE1	195.1	SIP	
	242.0	BRK	190.5	SE1	167.0	SE1	
	234.4	BRK	190.7	SE1	148.3	SE1	
SD-12	242.1	BRK	171.2	SE1	162.2	SE1	-
	240.5	BRK	170.5	SE1	190.7	SE1	
	242.2	BRK	172.0	SE1	199.0	SE1	
	237.6	BRK	174.2	SE1	189.5	SE1	
	241.0	BRK	175.2	SE1	168.9	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-14	236.6	BRK	166.0	SE1	192.6	SE1	
	229.5	BRK	164.1	SE1	179.0	SE1	-
	232.7	BRK	198.6	SE1	160.1	SE1	
	234.2	BRK	183.4	SE1	167.5	SE1	
	235.3	BRK	172.7	SE1	163.0	SE1	
SD-15	233.6	BRK	167.9	SE1	152.8	SE1	
	234.5	BRK	170.0	SE1	151.7	SE1	-
	232.5	BRK	171.1	SE1	155.1	SE1	
	235.0	BRK	167.1	SE1	166.5	SE1	
	236.5	BRK	167.2	SE1	154.3	SE1	
SD-16	239.7	BRK	192.2	SE1	165.9	SE1	
	237.0	BRK	189.0	SE1	167.4	SE1	-
	238.1	BRK	196.7	SE1	177.8	SE1	
	240.4	BRK	191.9	SE1	169.5	SE1	
	239.8	BRK	190.7	SE1	183.7	SE1	
SD-17	236.4	BRK	197.5	SE1	165.4	SE1	
	238.0	BRK	197.4	SE1	155.6	SE1	-
	240.8	BRK	201.7	SE1	157.0	SE1	
	239.2	BRK	189.3	SE1	176.3	SE1	
	239.8	BRK	193.0	SE1	186.2	SE1	
SD-18	238.0	BRK	170.9	SE1	181.5	SE1	
	237.2	BRK	151.6	SE1	164.1	SE1	-
	237.7	BRK	151.5	SE1	173.2	SE1	
	235.6	BRK	152.6	SE1	175.5	SE1	
	234.3	BRK	150.6	SE1	175.7	SE1	
SD-19	238.3	BRK	171.2	SE1	159.3	SE1	
	236.0	BRK	165.7	SE1	153.5	SE1	-
	238.2	BRK	174.4	SE1	154.7	SE1	
	236.2	BRK	174.7	SE1	157.1	SE1	
	236.6	BRK	179.6	SE1	150.5	SE1	
SD-20	246.0	BRK	202.0	SE1	147.1	SE1	-
	244.4	BRK	201.7	SE1	144.8	SE1	
	244.8	BRK	198.9	SE1	151.8	SE1	
	246.8	BRK	172.3	SE1	170.0	SE1	
	243.2	BRK	190.6	SE1	183.2	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000154

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-21	239.7	BRK	181.6	SE1	139.9	SE1	
	249.3	BRK	197.3	SE1	145.1	SE1	-
	245.9	BRK	198.1	SE1	145.0	SE1	
	250.9	BRK	195.7	SE1	145.0	SE1	
	249.3	BRK	186.4	SE1	150.7	SE1	
SD-22	243.4	BRK	191.3	SE1	186.2	SE1	
	242.1	BRK	195.3	SE1	180.0	SE1	-
	242.3	BRK	182.9	SE1	174.7	SE1	
	242.1	BRK	183.7	SE1	179.1	SE1	
	237.9	BRK	179.9	SE1	185.9	SE1	
SD-23	231.3	BRK	174.5	SE1	119.8	SE1	
	233.7	BRK	172.2	SE1	120.0	SE1	-
	237.9	BRK	180.4	SE1	127.8	SE1	
	246.7	BRK	185.8	SE1	133.0	SE1	
	243.0	BRK	176.6	SE1	125.7	SE1	
SD-24	240.6	BRK	185.0	SE1	169.7	SE1	
	255.8	BRK	188.3	SE1	167.5	SE1	-
	253.7	BRK	130.1	AD	193.3	SE1	
	251.5	BRK	137.1	AD	160.0	SE1	
	249.6	BRK	201.4	SE1	143.1	SE1	
SD-24A	267.2	BRK	199.2	SE1	170.3.	SE1	
	229.7	BRK	200.0	SE1	143.4	SE1	-
	238.0	BRK	207.7	SE1	179.0	SE1	
	233.6	BRK	185.1	SE1	161.9	SE1	
	231.1	BRK	196.8	SE1	129.9	SE1	
SD-24B	253.6	BRK	188.4	SE1	134.3	SE1	
	242.5	BRK	192.4	SE1	155.7	SE1	-
	245.1	BRK	198.2	SE1	129.5	SE1	
	239.1	BRK	184.9	SE1	149.1	SE1	
	245.0	BRK	189.5	SE1	133.3	SE1	
SD-25	240.7	BRK	178.1	SE1	174.1	SE1	-
	238.8	BRK	177.6	SE1	161.8	SE1	
	240.0	BRK	182.2	SE1	148.3	SE1	
	243.0	BRK	191.7	SE1	139.9	SE1	
	241.2	BRK	189.7	SE1	159.4	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000155

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-26	235.2	BRK	167.4	SE1	107.9	SE1	
	236.7	BRK	151.7	SE1	106.5	SE1	-
	234.9	BRK	162.4	SE1	110.2	SE1	
	236.8	BRK	165.6	SE1	111.9	SE1	
	236.4	BRK	181.1	SE1	115.9	SE1	
SD-26A	242.4	BRK	195.7	SE1	105.3	SE1	
	241.5	BRK	177.0	SE1	109.9	SE1	-
	241.7	BRK	181.5	SE1	125.5	SE1	
	239.5	BRK	166.5	SE1	110.7	SE1	
	239.9	BRK	175.9	SE1	103.1	SE1	
SD-26A1	236.4	BRK	186.5	SE1	117.0	SE1	
	239.7	BRK	172.1	SE1	129.7	SE1	-
	241.6	BRK	175.7	SE1	112.7	SE1	
	236.6	BRK	184.9	SE1	106.5	SE1	
	236.2	BRK	185.7	SE1	115.7	SE1	
26A2	243.7	BRK	167.5	SE1	144.4	SE1	
	244.9	BRK	176.1	SE1	135.1	SE1	-
	240.9	BRK	171.1	SE1	154.7	SE1	
	243.2	BRK	164.4	SE1	146.0	SE1	
	244.0	BRK	173.4	SE1	147.5	SE1	
SD-26B	231.0	BRK	195.7	SE1	126.6	SE1	
	231.3	BRK	182.4	SE1	130.5	SE1	-
	229.7	BRK	187.4	SE1	129.2	SE1	
	231.0	BRK	181.8	SE1	115.5	SE1	
	231.3	BRK	173.6	SE1	119.7	SE1	
SD-27	239.1	BRK	170.1	SE1	162.5	SE1	
	239.8	BRK	161.3	SE1	168.5	SE1	-
	241.1	BRK	153.4	SE1	156.1	SE1	
	239.1	BRK	150.4	SE1	147.7	SE1	
	237.6	BRK	158.6	SE1	164.4	SE1	
SD-28	237.7	BRK	164.8	SE1	155.7	SE1	-
	238.7	BRK	165.0	SE1	147.5	SE1	
	239.5	BRK	164.0	SE1	161.9	SE1	
	240.3	BRK	166.1	SE1	132.5	SE1	
	239.1	BRK	173.8	SE1	132.6	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000156

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
SD-29	240.9	BRK	186.6	SE1	184.4	AD	
	241.5	BRK	178.0	SE1	196.9	AD BRK (14%)	-
	242.8	BRK	186.8	SE1	197.6	SE1	
	241.7	BRK	188.6	SE1	191.5	SE1	
	242.9	BRK	180.4	SE1	179.8	SE1	
SD-29B	237.9	BRK	178.8	SE1	45.7	AD	
	237.3	BRK	183.8	SE1	110.9	AD	-
	236.5	BRK	182.0	SE1	100.9	AD	
	238.0	BRK	183.5	SE1	89.0	AD	
	234.1	BRK	177.1	SE1	189.9	AD	
SD-29B1	243.0	BRK	149.3	SE1	171.4	SE1	
	243.0	BRK	167.1	SE1	174.3	SE1	-
	243.0	BRK	176.4	SIP	151.8	SE1	
	243.0	BRK	170.1	SE1	181.2	SE1	
	243.6	BRK	159.9	SE1	155.3	SE1	
SD-30	240.5	BRK	176.2	SE1	158.3	SE1	
	241.1	BRK	177.2	SE1	201.0	SE1	-
	239.8	BRK	158.0	SE1	194.1	SE1	
	239.7	BRK	152.3	SE1	163.5	SE1	
	240.2	BRK	170.8	SE1	169.1	SE1	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	

PEEL (1) represents outer track or top flap.
PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000157

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS EXTRUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
SD-13A3	212.7	BRK 2	115.9	SE 3	-
	184.2	BRK 2	123.4	SE 3	
	211.0	BRK 2	113.5	SE 3	
	223.0	BRK 2	120.0	SE 3	
	216.1	BRK 2	116.6	SE 3	
SD-31	235.3	BRK 2	174.9	AD BRK	-
	245.8	BRK 2	141.1	SE 3	
	240.4	BRK 2	162.6	AD BRK	
	244.4	BRK 1	137.9	AD BRK	
	236.5	BRK 1	169.4	SE 3	
SD-31A	244.8	BRK 2	137.1	SE 3	-
	239.7	BRK 2	143.5	SE 3	
	246.7	BRK 2	154.0	SE 3	
	250.5	BRK 2	148.2	SE 3	
	245.2	BRK 2	148.5	SE 3	
SD-31B	231.1	SE 2	179.7	SE 3	-
	227.7	SE 2	176.9	SE 3	
	243.8	SE 2	173.3	SE 3	
	245.1	BRK 2	172.0	SE 3	
	231.0	BRK 2	172.0	SE 3	
SD-32	236.9	BRK 2	141.7	SE 3	-
	234.9	SE 2	146.0	SE 3	
	228.3	SE 2	144.0	SE 3	
	235.7	BRK 2	155.4	SE 3	
	235.6	BRK 1	166.5	SE 3	
SD-33	245.4	BRK 1	127.0	SE 3	-
	241.0	SE 2	153.2	SE 3	
	244.3	BRK 1	141.3	SE 3	
	240.7	BRK 2	126.2	SE 3	
	243.6	SE 2	186.8	SE 3	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	

BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE. DESUM

CELL 6 PRIMARY

TEST LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~01.1~~ 3

DESCRIPTION: Phase I cell #6

YEAR: 2003

CONTRACTOR: ISTRE/Fluor TEST REQUIREMENTS: F - 115 Peel 151 Shear; E - 84 Peel 151 Shear

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		RE-TEST	QA ID
PD1	F	—	P1/P9	120'FSL	09	SSC	108	156	—	—	F	8-18-03	CHW	—	—	—	—	—	—	PD1A	CHW
PD1	F	—	P1/P9	120'FSL	09	SSC	158	109	—	—	F	8-18-03	CHW	—	—	—	—	—	—	PD1B	CHW
PD2	F	—	P3/P12	25'FSL	09	SSC	153	157	—	P	—	8-18-03	CHW	8-19-03	~~140.9~~ 184.8 CHW	~~156.9~~ 187.2 CHW	~~248.9~~ 242.0 CHW	P	—	—	CHW
PD2	F	—	P3/P12	25'FSL	09	SSC	157	185	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—
PD3	F	—	P16/P17	80'FSL	09	SSC	165	194	—	P	—	8-18-03	CHW	8-19-03	191.7	172.4	239.9	P	—	—	CHW
PD3	F	—	P16/P17	80'FSL	09	SSC	168	175	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—
PD4	F	—	P5/P6	12'FEAT	09	SSC	143	169	—	P	—	8-18-03	CHW	8-19-03	183.0	175.5	243.9	P	—	—	CHW
PD4	F	—	P5/P6	12'FEAT	09	SSC	200	179	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—
PD5	F	—	P23/P24	65'FSL	09	SSC	154	141	—	P	—	8-18-03	CHW	8-19-03	188.1	174.5	239.0	P	—	—	CHW
PD5	F	—	P23/P24	65'FSL	09	SSC	193	171	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001161

53711

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY:

SHEET NO. 1 OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Phase I Cell #6

YEAR: 2003

CONTRACTOR: ISTRF / Fluor TEST REQUIREMENTS:

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
PD6	F	—	P16/P18	232' FEAT	09	SSC	174	134	—	P	—	8-18-03	CHW	8-19-03	187.0	159.5	243.8	P	—	—	CHW
PD6	F	—	P16/P18	232' FEAT	09	SSC	178	161	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—
PD7	F	—	P18/P26	174' FEAT	09	SSC	165	57	weld broke	—	F	8-18-03	CHW	8-19-03	—	—	—	—	—	PD7A	CHW
PD7	F	—	P18/P26	174' FEAT	09	SSC	—	—	—	—	F	8-18-03	CHW	8-19-03	—	—	—	—	—	PD7B	CHW
PD8	F	—	P27/P28	125' FEAT	09	SSC	188	197	—	P	—	8-18-03	CHW	8-19-03	184.1	164.5	241.1	P	—	—	CHW
PD8	F	—	P27/P28	125' FEAT	09	SSC	160	167	—	P	—	8-18-03	CHW	8-19-03	—	—	—	—	—	—	—
PD9	F	—	P28/P29	10' FEAT	09	SSC	174	139	225	P	—	8-19-03	CHW	8-20-03	190.6	151.5	248.8	P	—	—	CHW
PD9	F	—	P28/P29	10' FEAT	09	SSC	154	167	232	P	—	8-19-03	CHW	8-20-03	—	—	—	—	—	—	—
PD1A	F	—	P7/P9	3' FSL	09	SSC	158/124	179/161	—	P	—	8-18-03	CHW	8-19-03	180.3	156.9	240.9	P	—	—	CHW
PD1B	F	—	P9/P10	CHW ~~108 FSL~~ 2' of RP12	09	SSC	132/174	118/141	—	P	—	8-18-03	CHW	8-19-03	166.2	151.0	240.3	P	—	—	CHW

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001162 53771

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: ~~03~~ 04.1

DESCRIPTION: CELL #6 · PHASE II

YEAR: 2003

CONTRACTOR: FLUOR DANIELS TEST REQUIREMENTS: 80 MIL HDT 151/115 fussion 151/84 · extrusion

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD7A	F	—	P26/P27	375' FEAT	09	SSC	196/169	162/177	—	P —	8-18-03	CHW	8-19-03	168.3	176.7	236.3	P —	—	CHW
PD7B	F	—	P1/P8	~~245 of 62'~~ ~~P2-12~~	09	SSC	117/180	176/137	—	P —	8-18-03	CHW	8-19-03	196.6	158.0	244.9	P —	—	CHW
PD 10	F	—	P30/P31	100' FEAT	09	SSC	179/188	171/178	245	P —	8-20-03	RH	8-20-03	187.4	166.4	240.5	P —	—	CHW
PD 10	F	—	P30/P31	100' FEAT	09	SSC	179/188	171/178	241	P —	8-20-03	RH	—	—	—	—	— —	—	—
PD11	F	—	P31/P32	375 FEAT	09	SSC			—		8-20-03	RH	8-20-03	180.6	175.0	232.5	P —	—	CHW
PD11	F	—	P31/P32	375 FEAT	09	SSC	No Lap to Pull		—		8-20-03	RH	—	—	—	—	— —	—	—
PD12	—	E	P9/CP2	125' FSL	06	TB	183	161	—	P —	8-19-03	CHW	8-20-03	164.4	—	239.2	P —	—	CHW
PD12	—	E	P9/CP2	125' FSL	06	TB	168	167	—	P —	8-19-03	CHW	—	—	—	—	— —	—	CHW
PD13	F	—	P33/P34	122' FEAT	09	SSC	185	192	240	P —	8-20-03	RH	8-21-03	187.1	176.7	237.3	P —	—	CHW
PD13	F	—	P33/P34	122' FEAT	09	SSC	179	185	233	P —	8-20-03	RH	←	—	—	—	— —	—	←

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001163

5371

3-13-2

©GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY:

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Phase I Cell #6 YEAR: 2003

CONTRACTOR: FLUOR DANIELS/ISTRE TEST REQUIREMENTS: 80 MIL HOT 151/115 151/84 - EXTTUSION

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD 14	F	—	P34/P35	250' FEAT	09	SSC	168	171	233	P -	8/20/03	RH	8-22-03	174.1	161.7	231.8	P —	—	CHW
PD 14	F	—	P34/P35	260' FEAT	09	SSC	166	163	234	P -	8/20/03	RH	—	—	—	—	— —	—	—
PD 15	F	-	P35/P36	360' FEAT	02	J1	203	179	231	P -	8/20/03	RH	8-22-03	174.7	164.0	234.9	P —	—	CHW
PD 15	F	-	P35/P36	360' FEAT	02	J1	169	171	225	P -	8/20/03	RH	—	—	—	—	— —	—	—
PD 16	F	-	P34/C5	180' FEAT	09	SS	160	165	—	P -	8/20/03	RH	8-22-03	174.2	AD 159.4	219.9	— F	PD16A2 PD16B	CHW
PD 16	F	-	P36/C5	180' FEAT	09	SS	160	168	—	P -	8/20/03	RH	—	—	—	—	— —	—	CHW
X PD 17	F	-	P26/CP4	185' FEAT	09	SS	157	154	~~184~~ 184	P —	8-21-03	CHW	8-22-03	185.9	171.8	262.6	P —	—	CHW
X PD 17	F	-	P26 CP4	185' FEAT	09	SS	175	154	184	P —	8-21-03	RH	—	—	—	—	— —	—	—
PD 16 A	F	-	P36/P38 C5	190' FEAT	09	SS	160	160	—	P —	8/21/03	RH	8-23-03	AD BRK 161.3	174.6	232.6	— F	PD16A2	CHW
PD 16 A	F	—	P36/P38 C5	190' FEAT	09	SS	166	155	—	P —	8/21/03	RH	—	—	—	—	— —	—	—

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001164

5371

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: W SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: ~~GQ0409~~ GQ321C TASK NO.: ~~04.1~~ 33

DESCRIPTION: CELL #6 PHASE V YEAR: 2003

CONTRACTOR: FLUOR DANIELS / ISTRE TEST REQUIREMENTS: 80 MIL HDT - 161/115

PRIMARY: ☒ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA							FIELD DATA							LABORATORY DATA							
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
PD16 B	F	-	P36/P35 P37	170' FEAT	09	SS	161	155	—	P	—	8/21/03	RH	8-23-03	176.2	169.7	220.5	P	—	—	CHW
PD16 B	F	-	P36/P35 P37	170' FEAT	09	SS	165	160	—	P	-	8/21/03	RH	—	—	—	—	-	-	—	—
PD 18	F	—	P37/P38	14' FWAT	02	JI	149	178	243	P	—	8-25-03	RH	8-26-03	173.6	172.0	232.5	P	—	—	CHW
PD 18	F	-	P37/P38	14' FWAT	02	JI	163	169	243	P	—	8-25-03	RH	—	—	—	—	-	-	—	—
PD 16A2	F	—	P36/P38	202 FEAT	09	SS	180	199	226	P	—	8-25-03	RH	8-23-03	175.4	172.7	223.4	P	—	—	CHW
PD 16A2	F	—	P36/P38	202 FEAT	09	SS	177	183	241	P	—	8-25-03	RH	—	—	—	—	P	—	—	—
PD 19	F	—	P87/P37	183' FWAT	09	SS	~~148/147~~	~~176/148~~	214-223 Peel	—	F	8-25-03	RH	8-26-03	171.8	AOBRK ~~AO BRK~~ 149.5	~~CH~~ 225.8	P	F	—	CHW
PD 19	F	—	P87/P37	183' FWAT	09	SS	177	148	Peel	—	F	8-25-03	RH	—	—	—	—	-	-	PD19B2 PD19A2	—
PD 20	F	—	P43/P44	90' FSL	07	JI	142	168	—	P	P	8-26-03	CHW	—						PD20A3	CHW
PD 20	F	—	P43/P44	90' FSL	07	JI	170	159 —	Peel	—	F	8-26-03	CHW	—						PD20B3	CHW

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001655

53711

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~000409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Phase V cell #6

YEAR: 2003

CONTRACTOR: Fluor/Istec

TEST REQUIREMENTS:

PRIMARY: ☒ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ☒ ARCHIVE: ☒ INSTALLER: ☒ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD 21	F	—	P46/P47	73'FSL	07	JI	148	143	—	P / —	8-26-03	CHW	8-27-03	180.3	163.4	236.6	P / —	—	CHW
PD 21	F	—	P46/P47	73FSL	07	JI	~~163~~	~~140~~ ~~151~~	~~Peel~~	P / —	8-26-03	CHW	—	—	—	—	— / —	—	—
PD 22	F	—	P51/P52	76'FSL	09	SSC	140	169	—	P / —	8-26-03	CHW	8-27-03	185.1	134.9	236.3	P / —	—	CHW
PD 22	F	—	P51/P52	76'FSL	09	SSC	129	164	—	P / —	8-26-03	CHW	—	—	—	—	— / —	—	—
PD 23	F	—	P52/P57	130'FSL	09	SSC	132	169	—	P / —	8-26-03	CHW	8-27-03	186.8	173.3	237.3	P / —	—	CHW
PD 23	F	—	P52/P57	130'FSL	09	SSC	167	129	—	P / —	8-26-03	CHW	—	—	—	—	— / —	—	—
PD 19A	F	—	P89/P37	168'FWAT	09	SSC	111	—	Peel	— / F	8-27-03	CHW	—						
PD 19A	F	—	P89/P37	168 FWAT	09	SSC	125	—	Peel	— / F	8-27-03	CHW	—						
PD 19B	F	—	P86/P37	197'FWAT	09	SSC	155	159	—	P / —	8-27-03	CHW	—						
PD 19B	F	—	P86/P37	197'FWAT	09	SSC	68	—	Peel	F / F			—						

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

00166

53371

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V cell #6 PROJECT NO.: GQ0409 TASK NO.: 04.1

CONTRACTOR: ISTRE/Fluor TEST REQUIREMENTS: YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD 20A	F	—	P43/P44	105' FSL	07	JI	149	154	—		F	8-27-03	CHW	—						
PD 20A	F	—	P43/P44	105' FSL	07	JI	—	—	—	—	—	8-27-03	CHW	—						
PD 20B	F	—	P43/P44	77' FSL	07	JI	159	136	—	P	—	8-27-03	CHW	—						
PD 20B	F	—	P43/P44	77' FSL	07	JI	161	—	—	E	F	8-27-03	CHW	—						
PD 24	F	—	P60/P61	330' FWAT	07	JI	131	148	—	P	—	8-27-03	CHW	8-28-03	170.7	161.9	243.8	P	—	CHW
PD 24	F	—	P60/P61	330' FWAT	07	JI	148	135	—	P	—	8-27-03	CHW	—						
PD 25	F	—	P44/P60	188' FWAT	09	SS	145	177	—	P	—	8-27-03	CHW	8-28-03	175.8	167.0	239.7	P	—	CHW
PD 25	F	—	P44/P60	188' FWAT	09	SS	164	151	—	P	—	8-27-03	CHW	—	—	—	—	—	—	—
PD 26	F	—	P62/P63	59' FWAT	07	JI	158	150	—	P	—	8-27-03	CHW	8-28-03	158.9	AD BRK 157.0	236.7 ~~237.4~~ CHW	E	F	PD26A PD26B	CHW
PD 26	F	—	P62/P63	59' FWAT	07	JI	152	144	—	P	—	8-27-03	CHW	8-28-03	—	—	—	—	—	—

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001167

5371

©GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY:

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Phase II · CELL 4

YEAR: 2003

CONTRACTOR: FLUOR FERNALD/ISTRE TEST REQUIREMENTS: 80 MIL HDT - 115/151 - FUSSION 84/188 · ext

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		RE-TEST	QA ID
PD 27	F	—	P27 P62	52'	09	SSC	176	168	—	P	—	8-27-03	CHW	8-28-03	182.3	167.4	228.7	P	—	—	CHW
PD 27	F	—	P27 P62	52'	09	SSC	161	161	—	P	—	8-27-03	CHW	—	—	—	—	—	—	—	—
PD 19A3	F	—		153' FWAT	09	SSC	187	160	—	P	—	8-27-03	CHW	8-28-03	184.5	AD BRK 153.6	248.1	P	F	PD19A3	CHW
PD 19B2	F	—		210' FWAT	09	SSC	160	163	—	P	—	8-27-03	CHW	8-28-03	179.6	153.6	233.1	P	—	—	CHW
PD 20A2	F	—	P43 P44	—	07	JI	Peel	—	—	—	F	8-27-03	CHW	—							
PD 20B2	F	—	P43 P44		07	JI															
PD 28'	—	E	Cell 4 L5	P37 160' FEAT	06	TB	88 Peel	—	—	—	F	8-27-03	CHW	—						PD26A	
PD 28	—	E	Cell 4 L5	P37 160' FEAT	06	TB	—	—	—	—	F	8-27-03	CHW	—						PD28B	
PD 20A3	F	—	P44 P45	2' FSL	07	JI	161	140	—	P	—	8-27-03	CHW	8-28-03	163.7	160.0	241.9	P	—	—	CHW
PD 20A2	F	—	P44 P45	2' FSL	07	JI	144	149	—	P	—	8-27-03	CHW	~~8-28-03~~							

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~000409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: CELL #6 · PHASE II

YEAR: 2003

CONTRACTOR: FLUOR FERNALD/ISTRE TEST REQUIREMENTS: 80 mil HDT 115/151-fussion 84/151 - ext.

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐ 80 mil HDT

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD 20B2	F	—	P43/P44	71'FSL	07	JI	167	151 Peel	—	—	F	8-27-03	CHW							
PD 20B2	F	—	P43/P44	71'FSL	07	JI	150	163 Peel	—	—	F	8-27-03	CHW							
PD 19B2	F	—	P37/P36	210'FWAT	09	SSC	164	147	—	P	—	8-27-03	CHW	8-28-03	179.6	153.6	233.1	P	—	CHW
PD 19B2	F	—	P37/P36	210'FWAT	09	SSC	160	171	—	P	—	8-27-03	CHW							
PD 19A2	F	—	P37/P37	117'FWAT	09	SSC	131	171	—	P	—	8-27-03	CHW	8-28-03	AD BRK 184.5	153.6	248.1	F	PD 19A3	
PD 19A2	F	—	P37/P37	117'FWAT	09	SSC	177	159	—	P	—	8-27-03	CHW							
-27 PD 20B3	F	—	P43/P44	51'FSL	07	JI	153	154	—	P	—	8-27-03	CHW	8-28-03	177.4	AD BRK 172.1	235.8	F	PD 20B4	CHW
-27 PD 20B3	F	—	P43/P44	51'FSL	07	JI	141	158	—	P	—	8-27-03	CHW							
1-8-17 PD 28A	—	E	P38CS/CSA	190'FEAT	06	TB	73	Peel 73	—	—	F	8-27-03	CHW							
PD 28B	—	E	C3/P9	5'FEAT	06	TB	Peel 103	143	—	—	F	8-27-03	CHW							

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

0001169

53711

©GEOSYNTEC CONSULTANTS FILE NO. 3-10-DTL

REVIEWED BY: TW

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~3-3~~ 04.1

DESCRIPTION: CELL #6 · PHASE V

YEAR: 2003

CONTRACTOR: FLUOR FERNALD/ISTRE TEST REQUIREMENTS: 80MIL HDT 115/151 FUSSION 84/167 · EXT.

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD28 A2	—	E	P38 / C5A	190' FEAT	06	TB	89/95	—	216-223	P / —	8-28-03	RH	8/30/03	94.8	(values)	221.2	— / F		RH
PD28 A3	—	E	P37 / C5A	202 ~~177~~' FEAT	06	TB	105/84	—	209-221	P / —	828-03	RH	8/30/03	144.7	(AD)	217.2	— / F		RH
PD 28B2	—	E	P9 / C3	15' FEAT	06	TB	133/155	—	211-216	P / —	8-28-03	RH	8/30/03	144.7		217.2	P / —		RH
PD 28B3	—	E	P18 / C3	30' FEAT	06	TB	AD Peel	—	—	— / F	8-28-03	RH	8/30/03	166.0	(AD)	227.3	P / F		RH
PD 28B4	—	E	P18 / C3	45 FEAT	06	TB	AD Peel	—	—	— / F	8-28-03	RH	8/30/03	107.6	(AD)	231.5	— / F		RH
PD 29	F	—	P64 / P65	335 FWAT	07	JI	169/175	158/160	—	P / —	8-29-03	CHW	8/30/03	177.9	166.9	234.4	P / —		RH
PD 30	F	—	P65 / P66	155 FWAT	02	DL	161/146	161/168	—	P / —	8-29-03	CHW	8/30/03	171.1	179.4	240.4	P / —		RH
PD 31	F	—	P66 / P67	16' FWAT	09	SSC	116/144	167/173	—	P / —	8-29-03	CHW	8/30/03	175.5	143.2	236.5	P / —		RH
PD 32	F	—	P67 / P68	175' FWAT	02	DL	178/179	148/144	—	P / —	8-29-03	CHW	8/30/03	199.7	155.8	233.8	P / —		RH
PD 26A	F	—	P62 / P63	70' FWAT	07	JI	165/156	155/150	—	P / —	8-29-03	CHW	8/30/03	160.8	153.7 (AD)	236.5	— / F		RH
PD 26B	F	—	P62 / P63	50' FWAT	07	JI	146/165	142/141	—	P / —	8-29-03	CHW	8/30/03	148.7	153.1	235.7	P / —		RH

32-24

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

000170

5371

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE II PROJECT NO.: GO3211 TASK NO.: 3.3

CONTRACTOR: FLUOR FERNALD / ISTRE TEST REQUIREMENTS: 115/151 80 MIL HDT 84/115 - 80 MIL HDT - Extr. YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

SAMPLE DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL	RE-TEST	QA ID
PD 20B3	F	—	P43/P44	35'FSL	07	JI	144	160	—	P ~	8/28/03	CHW	8/29/03	107.6	(AD)	231.5	— F		RH
PD 20B3	F	—	P43/P44	35'FSL	07	JI	—	—	210-218	P -	8/28/03	CHW	—						
PD 19A3	F	—	P90/P37	145'FWAT	09	SSC	Peel 152/172	190/191	—	— F	9-4-03	CHW	CAPPED OVER, SEAM CUT OUT BY CAP 9R						RH
PD 19A3	F	—	P90/P37	145'FWAT	09	SSC	Peel 164/157	183/188	—	— F	9-4-03	CHW	CAPPED OVER, SEAM CUT OUT, REPLACED BY CAP 9R'						
PD 33	F	—	P33/P65	190' From Iceberm Tie In Seam	09	SSC	163	178	—	P —	8-29-03	CHW	8/20/03	178.7	178.1	229.2	P —		RH
PD 33	F	—	P33/P65		09	SSC	174	179	—	P —	8-29-03	CHW	8/30/03	178.7	178.1	229.2	P —		RH
PD 20B4	F	-	43/44	5'FSL	07	JI	149	166	218	P	9-3-03	RH	SEAM CUT OUT AND REPLACED BY CAP 6R						RH
PD 20B4	F	-	43/44	5'FSL	07	JI	161	144	216	P —	9-3-03	RH	SEAM CAPPED BY CAP 6R						RH
PD 26B2	F	—	62/63	80'FWAT	07	JI	152/149	161/154	—	P —	9-4-03	CHW	9/5/03	170.1	157.3	234.3	P -		RH
PD 26B2	F	—	62/63	80'FWAT	07	JI	171/149	149/149	—	P —	9-4-03	CHW	9/5/03	170.1	157.3	234.3	P —		RH
PD 19A4	F	—	P10/P37	134'FWAT	09	SSC	184/168	191/191	—	P —	9-4-03	CHW	9/5/03	176.9 (AD)	156.2	233.0	— F	✓	RH
							163/174	192/179											

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION

33.29

112

0001771

537

GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: Phase II

YEAR: 2003

CONTRACTOR: Isrle Company/Fluor TEST REQUIREMENTS: Extrusion - 84 Peel 151 Shear Fusion 115 Peel 151 Shear

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		DATE SAMPLED/SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/FAIL		RE-TEST	QA ID
PD34	E	—	P44/RP	122'FSL	03	JI	~~109~~/128	—	216/236	P	—	9-4-03	CHW	9-5-03	143.4	(AD)	227	—	F	✓	RH
PD35	E	-	CAP3D/P9	5'FEAT	03	JI	162	167	218/230	P	-	9-5-03	RH	9-6-03	119.4	(AD)	239.6	—	F	✓	RH
PD4A5	F	F	P41/P37	118'FWAT	09	SS	186/160	184/184	220/207	P	-	9-5-03	RH	9-6-03	193.8	180.0	2352	P	—		RH
PD34A	E	-	C6/P44	133'FSL	03	JI	— GRIND		—	—	F		RH	—							RH
PD34B	E	-	C6/P44	112'FWAT	03	JI	— GRIND		—	—	F		RH	—							RH
PD36	E	—	CSC/P38	210'FEAT	03	JI	125	124	208/214	P	-	9-5-03	RH	9-6-03	136.5	-	218.3	P	—		RH
PD34A2	E	-	C6/P43	132'FSL	03	JI	89	126	202/199	P	-	9-5-03	RH	9-6-03	126.0	-	235.4	P	—		RH
PD34B2	E	—	C6/P44	102'FSL	03	JI	134	118	216/204	P	—	9-5-03	RH	9-6-03	132.3	—	242.4	P	—		RH
PD35A	E	-	P9/E313	20'FEAT	03	JI	192	196	208/206	P	-	9-8-03	RH	9-9-03	162.7	(AD)	245.3	—	F		RH
PD35B	E	-	CAP6/P43	5'FSL	03	JI	111	199	222/210	P	-	9-8-03	RH	9-9-03	146.3		235.3	P	—		RH
PD37	E	-	CAP9/P37	133'FWAT	03	JI	135	145	232/228	P	-	9-8-03	RH	9-9-03	139.7	(AD)	241.3	—	F		RH

37-36

128

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION Cap 6 was cut out and Replaced by Cap 6R.

0001172

9371

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~000409~~ CP3211 TASK NO.: ~~04.1~~ 8.3

DESCRIPTION: CELL #6 - PHASE 3

YEAR: 2003

CONTRACTOR: FLUOR FERNALD / ESTRE TEST REQUIREMENTS: 80 MIL HDT 115/151 FUS 84/115 EXT

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA						LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL	RE-TEST	QA ID
D37A	E		C9/P37	FWAT 125'	03	J1	139	158 (AO)	173	F -	—	RH	—					—	RH
D37B	E		C9/P37	FWAT 145'	03	J1	189 (AO)	174 (AO)	170	F -	—	RH	—					—	RH
PD35A[1]	E		C3B/C9	FEAT 30'	03	J1	142 (AO)	114 (AO)	135	F -	—	RH	—					—	RH
PD37A[2]	E		P37/C9	FWAT 115'	03	J1	149	172	—	P -	9/9/03 9-9-03	RH	9-10-03	157.2		230.6	P -	—	RH
PD37B[2]	E		P37/C9	FWAT 150'	03	J1	109	124	—	P -	9-9-03	RH	9-10-03	137.2		231.0	- F	—	RH
PD35A[3]	E		CB3/CB3	FEAT 35'	03	J1	(AO!)	—	—	F -	—	RH	—					—	RH
PD35A[4]	E		P18/CB3	FEAT 25	03	J1	112	143	(AO) 103 —	F -	—	RH	—					—	RH
PD35A[5]	E		P18/CB3	FEAT 15	03	J1	142	110	148	P -	9-9-03	RH	9-10-03	149.5		233.9	P -	—	RH
PD37B[3]	E		C9/P37	FWAT 160	03	J1	125	117	—	P -	9-10-03	RH	9-11-03	144.2	(AO)	243.3	F		RH
PD37B[4]	E		C9/P37	FWAT, 170	03	J1	145	145	—	P -	9-11-03	RH	9-12-03	157.3	—	234.3	P -	—	RH
PD38	E		C3A/P4	20' FEAT	03	J1	150	152	—	P -	9-13-03	RH	9-14-03	156.5	—	232.0	P -	—	RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION Cap 9 was cut out and Replaced by Cap 9R'
Cap 3B was cut out and Replaced by Cap 3R.

38-45

000173

51371

©GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: RW SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

DESTRUCTIVE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: ~~GQ0409~~ GQ3211 TASK NO.: ~~04.1~~ 3

DESCRIPTION: CELL #6 - PHASE II

YEAR: 2003

CONTRACTOR: FLUOR FERNALD/Istre TEST REQUIREMENTS: 80 MIL HDT 151/115 - FUSSION 84/115 - EXTRUSION

PRIMARY: ■ SECONDARY: ☐ RE-TEST: ☐ OTHER: ☐

DISTRIBUTION: LABORATORY: ■ ARCHIVE: ■ INSTALLER: ■ OTHER:

SAMPLE DATA							FIELD DATA							LABORATORY DATA						
D.S. NO.	TRACK (1) SINGLE	TRACK (1) DOUBLE	LOCATION SEAM	LOCATION DISTANCE (ft)	MACH NO.	OPER ID	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		DATE SAMPLED/ SHIPPED (day/mo)	QA ID	DATE OF RESULTS (day/mo)	AVG PEEL (PPI/PSI) INSIDE	AVG PEEL (PPI/PSI) OUTSIDE	AVG SHEAR (PPI/PSI)	PASS/ FAIL		RE-TEST	QA ID
PD39	E		CAP6R/P43	48' FSL	03	J1	127	136	226	P	—	9/13/03	RH	9/15/03	156.5	—	232.0	P	-	—	RH
PD40	E		P36/C5R	172' FEAT	03	J1	144	161	229	P	—	9/15/03	RH	9/16/03	152.6	—	228.8	P	-	—	RH
PD41	E		P87/C9R	170' FWAT	03	J1	121	(AD)	—	—	F	9/16/03	RH	→	SEAM	CUT OUT	AND REPLACED	BY	CAP9R'.		
PD41A	E		P87/C9R	183' FWAT	03	J1	130	(AD)	—	—	F	9/16/03	RH	→							
PD41B	E		P37/C9R	153' FWAT	03	J1	115	(AD)	—	—	F	9/16/03	RH	→							
PD41A'	E		P87/C9R	133' FWAT	03	J1	150	138	233	P	—	9/16/03	RH	→							
PD41B'	E		P37/C9R	202' FWAT	03	J1	120	(AD)	—	—	F	9/16/03	RH	→							
PD42	E		P86/C8R'	183' FWAT	03	J1	181	169	227	P	—	9/17/03	RH	9/18/03	162.3	—	226.6	P	-	—	RH

NOTES: (1) TRACK TYPES: E = EXTRUSION F = FUSION Cap9R WAS cut out and replaced by CAP9R' due to Destructive Failures. (PD41)
PD#41 WAS not shipped to Lab, due to 100% AD in Field.

000174

5371

©GEO SYNTEC CONSULTANTS FILE NO. 3-10-DTL REVIEWED BY: SHEET NO. ____ OF ____

LABORATORY TEST RESULTS

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-1A	243.3	BRK	150.5	SE1	189.8	SE1	
	241.5	BRK	146.7	SE1	186.0	SE1	-
	240.4	BRK	162.5	SE1	167.6	SE1	
	240.0	BRK	165.7	SE1	176.1	SE1	
	239.5	BRK	157.2	SE1	181.9	SE1	
PD-1B	240.9	BRK	182.7	SE1	128.0	SE 1	
	240.3	BRK	168.9	SE1	160.3	SE 1	-
	241.5	BRK	165.4	SE1	145.0	SE 1	
	241.2	BRK	168.8	SE1	162.6	SE 1	
	238.0	BRK	145.3	SE1	159.3	SE 1	
PD-2	240.2	BRK	184.7	SE1	177.0	SE1	
	241.5	BRK	186.2	SE1	181.0	SE1	-
	242.0	BRK	183.5	SE1	169.0	SE1	
	243.2	BRK	191.5	SE1	200.6	SE1	
	242.9	BRK	198.2	SE1	178.4	SE1	
PD-3	240.4	BRK	199.0	SE1	178.0	SE1	
	239.4	BRK	192.8	SE1	168.5	SE1	-
	238.5	BRK	200.5	SE1	178.8	SE1	
	241.0	BRK	166.6	SE1	182.2	SE1	
	240.4	BRK	199.6	SE1	154.6	SE1	
PD-4	243.5	BRK	202.8	SE1	188.4	SE1	
	244.2	BRK	184.0	SE1	167.1	SE1	-
	244.2	BRK	183.0	SE1	181.1	SE1	
	246.7	BRK	186.8	SE1	176.3	SE1	
	241.1	BRK	173.6	SE1	164.6	SE1	
PD-5	240.0	BRK	193.5	SE1	174.6	SE1	
	240.8	BRK	194.2	SE1	175.1	SE1	-
	237.7	BRK	186.3	SE1	172.0	SE1	
	239.3	BRK	194.3	SE1	175.8	SE1	
	237.4	BRK	172.4	SE1	175.0	SE1	
PD-6	244.6	BRK	187.7	SE1	163.7	SE1	-
	244.9	BRK	190.9	SE1	176.3	SE1	
	244.7	BRK	199.9	SE1	173.6	SE1	
	241.7	BRK	192.0	SE1	149.5	SE1	
	243.2	BRK	164.5	SE1	134.6	SE1	

EEL (1) represents outer track or top flap.
EEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD

GEOSYNTEC
FLUOR FERNALD
GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-7A	235.8	BRK	185.7	SE1	168.1	SE1	
	235.4	BRK	153.1	SE1	177.1	SE1	-
	235.6	BRK	169.5	SE1	182.1	SE1	
	237.5	BRK	164.6	SE1	170.1	SE1	
	237.0	BRK	168.5	SE1	186.0	SE1	
PD-7B	246.1	BRK	204.5	SE1	140.1	SE 1	
	244.9	BRK	187.0	SE1	180.2	SE 1	-
	244.3	BRK	200.4	SE1	144.0	SE 1	
	248.7	BRK	200.3	SE1	189.3	SE 1	
	240.7	BRK	191.1	SE1	136.6	SE 1	
PD-8	241.2	BRK	194.1	SE1	158.1	SE1	
	242.7	BRK	196.4	SE1	160.0	SE1	-
	242.4	BRK	164.2	SE1	159.5	SE1	
	240.9	BRK	186.7	SE1	176.8	SE1	
	240.2	BRK	179.1	SE1	168.2	SE1	
PD-9	250.6	BRK	187.6	SE1	139.3	SE1	
	250.1	BRK	185.4	SE1	155.0	SE1	-
	247.8	BRK	194.7	SE1	145.3	SE1	
	248.2	BRK	198.6	SE1	157.4	SE1	
	247.4	BRK	186.7	SE1	160.3	SE1	
PD-10	241.6	BRK	183.9	SE1	180.9	SE1	
	240.0	BRK	184.3	SE1	158.8	SE1	-
	240.4	BRK	179.9	SE1	177.4	SE1	
	241.1	BRK	189.3	SE1	164.3	SE1	
	239.3	BRK	199.7	SE1	150.6	SE1	
PD-11	231.5	BRK	185.6	SE1	186.9	SE1	
	231.0	BRK	179.2	SE1	180.3	SE1	-
	231.2	BRK	181.8	SE1	167.7	SE1	
	233.4	BRK	172.7	SE1	162.7	SE1	
	235.3	BRK	183.7	SE1	177.2	SE1	
PD-13	234.9	BRK	155.8	SE1	188.5	SE1	-
	239.1	BRK	190.0	SE1	199.4	SE1	
	237.3	BRK	178.8	SE1	165.4	SE1	
	235.0	BRK	175.6	SE1	183.5	SE1	
	240.1	BRK	183.6	SE1	198.5	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD

GEOSYNTEC
FLUOR FERNALD
GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppl)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppl)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppl)	PEEL (2) BREAK CODE (3)	REMARKS
PD-14	230.7	BRK	162.6	SE1	171.1	SE1	
	234.2	BRK	159.3	SE1	180.8	SE1	-
	230.7	BRK	158.4	SE1	182.2	SE1	
	231.5	BRK	160.1	SE1	170.5	SE1	
	232.1	BRK	168.2	SE1	165.8	SE1	
PD-15	235.6	BRK	153.3	SE1	175.7	SE 1	
	236.4	BRK	155.1	SE1	156.8	SE 1	-
	235.8	BRK	167.7	SE1	175.1	SE 1	
	233.4	BRK	172.0	SE1	180.5	SE 1	
	233.3	BRK	171.7	SE1	185.6	SE 1	
PD-16	221.9	BRK	175.5	SE1	139.6	SE1	
	212.6	BRK	174.9	SE1	160.7	SE1	-
	217.4	BRK	173.2	SE1	168.7	SE1	
	221.1	BRK	172.8	SE1	152.5	AD	
	226.3	BRK	174.4	SE1	175.7	SE1	
PD-16A	238.9	BRK	179.0	SE1	165.4	SE1	
	240.5	BRK	178.1	SE1	190.0	SE1	-
	225.4	BRK	124.4	AD BRK (16%)	179.1	SE1	
	228.2	BRK	155.3	SE1	173.3	SE1	
	229.8	BRK	169.9	SE1	175.3	SE1	
PD-16A2	223.0	BRK	171.4	SE1	179.4	SE1	
	229.9	BRK	171.3	SE1	184.1	SE1	-
	223.9	BRK	174.7	SE1	177.2	SE1	
	231.5	BRK	185.7	SE1	169.1	SE1	
	218.5	BRK	173.7	SE1	153.9	SE1	
PD-16B	226.3	BRK	174.5	SE1	174.9	SE1	
	208.5	BRK	170.7	SE1	170.1	SE1	-
	220.2	BRK	162.2	SE1	171.6	SE1	
	225.9	BRK	170.0	SE1	181.7	SE1	
	221.8	BRK	171.0	SE1	182.6	SE1	
PD-17	262.2	BRK	185.9	SE1	163.5	SE1	-
	264.1	BRK	188.8	SE1	187.0	SE1	
	268.1	BRK	184.3	SE1	166.9	SE1	
	257.1	SE1	197.0	SE1	158.3	SE1	
	261.7	BRK	183.4	SE1	181.3	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-18	234.4	BRK	178.2	SE1	174.2	SE1	
	233.4	BRK	182.2	SE1	171.1	SE1	-
	233.0	BRK	179.0	SE1	173.7	SE1	
	232.1	BRK	164.9	SE1	173.1	SE1	
	229.5	BRK	163.7	SE1	167.8	SE1	
PD-19	229.3	BRK	177.9	SE1	152.1	SE 1	
	229.7	BRK	135.7	AD BRK(11%)	138.6	SE 1	-
	219.6	BRK	167.5	SE1	152.3	SE 1	
	224.6	BRK	174.3	SE1	144.4	SE 1	
	225.6	BRK	203.8	SE1	159.9	SE 1	
PD-19A2	250.3	BRK	151.0	AD BRK(25%)	168.0	SE1	
	247.8	BRK	169.4	SE1	179.6	SE1	-
	247.9	BRK	202.6	SE1	142.4	SE1	
	245.4	BRK	206.4	SE1	132.7	SE1	
	249.1	BRK	193.3	SE1	145.5	SE1	
PD-19A4	230.7	BRK	136.1	AD BRK (19%)	159.1	SE1	
	222.8	BRK	194.9	SE1	173.6	SE1	-
	214.8	BRK	201.2	SE1	146.6	SE1	
	228.9	BRK	175.7	SE1	143.5	SE1	
	227.0	BRK	176.6	SE1	158.1	SE1	
PD-19A5	241.3	BRK	185.2	SE1	172.2	SE1	
	228.4	BRK	196.7	SE1	187.8	SE1	-
	236.5	BRK	198.0	SE1	167.6	SE1	
	236.1	BRK	190.8	SE1	181.2	SE1	
	233.6	BRK	198.4	SE1	190.9	SE1	
PD-19B2	227.0	BRK	180.4	SE1	148.9	SE1	
	234.4	BRK	171.1	SE1	146.1	SE1	-
	238.4	BRK	211.8	SE1	159.7	SE1	
	236.5	BRK	176.7	SE1	163.3	SE1	
	229.0	BRK	158.0	SE1	147.8	SE1	
PD-20A3	242.0	BRK	170.3	SE1	190.9	SE1	
	243.5	BRK	176.6	SE1	148.2	SE1	-
	241.5	BRK	177.2	SE1	156.6	SE1	
	241.9	BRK	150.9	SE1	147.4	SE1	
	240.8	BRK	143.7	SE1	156.5	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-20B3	234.0	BRK	169.8	SE1	157.2	SE1	
	236.8	BRK	184.8	SE1	161.0	SE1	-
	236.9	BRK	185.8	SE1	186.5	AD BRK(33%)	
	236.1	BRK	170.2	SIP	180.7	AD BRK(50%)	
	235.4	BRK	178.8	SE1	175.2	AD BRK(30%)	
PD-20B4	239.2	BRK	186.4	SE1	152.2	SE1	
	237.0	BRK	170.8	SIP	154.6	SE1	-
	239.3	BRK	180.1	SE1	156.1	SE1	
	240.5	BRK	186.4	SE1	155.4	SE1	
	240.7	BRK	177.9	SE1	159.4	SE1	
PD-21	235.6	BRK	175.0	SE1	161.4	SE1	
	236.8	BRK	176.8	SE1	158.1	SE1	-
	236.5	BRK	187.4	SE1	161.6	SE1	
	236.1	BRK	184.4	SE1	160.0	SE1	
	235.9	BRK	177.8	SE1	178.0	SE1	
PD-22	236.8	BRK	182.9	SE1	130.1	SE1	
	238.1	BRK	187.3	SE1	132.2	SE1	-
	236.5	BRK	183.9	SE1	146.4	SE1	
	232.6	BRK	181.5	SE1	127.1	SE1	
	237.6	BRK	190.0	SE1	138.8	SE1	
PD-23	234.0	BRK	186.0	SIP	154.5	SE1	
	243.3	BRK	184.0	SE1	181.7	SE1	-
	235.5	BRK	194.9	SE1	166.8	SE1	
	237.2	BRK	189.7	SE1	201.8	SE1	
	236.5	BRK	189.4	SE1	161.5	SE1	
PD-24	243.1	BRK	177.6	SE1	162.9	SE1	
	242.1	BRK	177.5	SE1	163.2	SE1	-
	246.2	BRK	164.1	SE1	162.4	SE1	
	243.8	BRK	168.8	SE1	165.0	SE1	
	244.0	BRK	165.6	SE1	156.0	SE1	
PD-25	241.7	BRK	161.2	SE1	171.0	SE1	-
	239.1	BRK	171.1	SE1	178.8	SE1	
	242.4	BRK	166.3	SE1	183.1	SE1	
	240.5	BRK	161.3	SE1	181.4	SE1	
	234.9	BRK	154.9	SE1	164.6	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-26	237.4	BRK	159.4	SE1	183.3	SE1	-
	236.4	BRK	157.1	SE1	115.4	AD BRK(16%)	
	235.4	BRK	164.2	SE1	169.1	SE1	
	237.0	BRK	158.6	SE1	156.2	SE1	
	235.2	BRK	155.0	SE1	161.0	SE1	
PD-26A	238.1	BRK	175.8	SE1	161.3	SE1	
	238.8	BRK	163.3	SE1	165.6	SE1	-
	235.7	BRK	165.1	SE1	162.8	AD	
	235.2	BRK	152.5	SE1	139.7	AD BRK(24%)	
	236.6	BRK	147.1	SE1	139.1	SE1	
PD-26A2	236.0	BRK	185.5	SE1	161.0	SE1	
	235.7	BRK	166.5	SE1	153.2	SE1	-
	232.5	BRK	161.2	SE1	157.5	SE1	
	232.6	BRK	181.8	SE1	157.0	SE1	
	234.6	BRK	155.3	SE1	157.6	SE1	
PD-26B	238.1	BRK	143.4	SE1	151.9	SE1	
	236.1	BRK	145.0	SE1	152.2	SE1	-
	235.8	BRK	154.0	SE1	156.6	SE1	
	234.2	BRK	144.3	SE1	150.8	SE1	
	234.5	BRK	156.8	SE1	154.1	SE1	
PD-27	238.4	BRK	192.0	SE1	165.9	SE1	
	231.7	BRK	186.6	SE1	176.9	SE1	-
	222.8	BRK	183.3	SE1	181.0	SE1	
	224.7	BRK	174.1	SE1	168.4	SE1	
	227.8	BRK	175.8	SE1	144.7	SE1	
PD-29	234.0	BRK	172.0	SE1	168.4	SE1	
	233.2	BRK	173.4	SE1	160.9	SE1	-
	232.9	BRK	191.5	SE1	169.3	SE1	
	236.4	BRK	185.0	SE1	163.5	SE1	
	235.4	BRK	167.6	SE1	172.4	SE1	
PD-30	239.6	BRK	171.5	SE1	179.6	SE1	-
	240.1	BRK	167.4	SE1	175.5	SE1	
	241.1	BRK	170.4	SE1	176.8	SE1	
	241.1	BRK	161.5	SE1	187.3	SE1	
	240.1	BRK	184.6	SE1	178.0	SE1	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
PD-31	239.7	BRK	177.9	SE1	147.4	SE1	-
	236.5	BRK	181.9	SE1	141.9	SE1	
	237.2	BRK	189.0	SE1	153.3	SE1	
	235.0	BRK	168.1	SE1	147.8	SE1	
	234.0	BRK	160.5	SE1	125.5	SE1	
PD-32	234.2	BRK	198.6	SE1	160.6	SE1	
	234.4	BRK	197.4	SE1	153.5	SE1	-
	233.0	BRK	202.0	SE1	151.5	SE1	
	233.2	BRK	200.7	SE1	158.9	SE1	
	234.2	BRK	199.7	SE1	154.5	SE1	
PD-33	230.6	BRK	172.3	SE1	169.7	SE1	
	229.0	BRK	182.4	SE1	182.2	SE1	-
	224.0	BRK	177.7	SE1	187.9	SE1	
	229.0	BRK	180.8	SE1	182.1	SE1	
	233.4	BRK	180.1	SE1	168.8	SE1	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	
	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
-	-	-	-	-	-	-	-
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	
	-	-	-	-	-	-	

(1) PEEL (1) represents outer track or top flap.
(2) PEEL (2) represents inner track or bottom flap.
(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

000182

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS EXTRUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
PD-12	238.3	BRK 1	186.8	SE 3	-
	239.2	SE 1	166.1	SE 3	
	234.8	SE 1	158.3	SE 3	
	239.6	BRK 1	137.5	SE 3	
	244.0	BRK 1	171.3	SE 3	
PD-28A2	230.3	SE 1	114.5	SE 3	-
	218.9	BRK 1	75.1	SE 3	
	214.3	SE 1	83.3	SE 3	
	221.4	BRK 1	88.3	SE 3	
	221.3	SE 1	113.2	SE 3	
PD-28A3	191.7	SE 2	121.7	AD 1	-
	222.4	BRK 2	151.0	SE 3	
	223.4	BRK 2	154.6	AD 1	
	223.6	BRK 2	155.5	SE 3	
	224.7	BRK 2	140.9	AD 1	
PD-28B2	209.9	BRK 1	91.3	SE 3	-
	209.5	BRK 1	97.4	SE 3	
	205.8	SE 1	106.1	SE 3	
	211.8	BRK 1	82.0	SE 3	
	195.4	SE 1	129.9	SE 3	
PD-28B3	228.0	BRK 2	103.1	AD 1	-
	224.9	BRK 2	99.3	AD 1	
	226.9	BRK 2	85.4	AD 1	
	227.2	BRK 2	124.9	AD 1	
	229.6	BRK 2	167.4	AD 1	
PD-28B4	231.5	BRK 2	154.9	AD BRK	-
	232.3	BRK 2	95.7	AD 1	
	234.1	BRK 2	100.3	AD 1	
	231.0	BRK 2	93.5	AD 1	
	228.8	BRK 2	93.6	AD 1	
PD-34	248.9	BRK1	131.1	SE3	-
	239.3	BRK2	162.3	AD WLD	
	244.4	BRK2	143.6	AD WLD	
	234.5	BRK2	137.7	AD WLD	
	169.7	SE2	142.4	SE3	

BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DESUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS EXTRUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
PD-34A2	235.2	BRK 2	119.8	SE 3	-
	242.8	BRK 1	127.6	SE 3	
	246.2	BRK 1	146.6	SE 3	
	210.6	BRK 2	115.5	SE 3	
	242.3	BRK 1	120.4	SE 3	
PD-34B2	238.3	BRK 2	149.2	SE 3	-
	241.4	BRK 2	123.8	SE 3	
	254.3	BRK 2	136.1	SE 3	
	239.0	BRK 2	127.3	SE 3	
	238.9	BRK 2	124.5	SE 3	
PD-35	244.5	BRK 2	111.3	AD 1	-
	245.6	BRK 2	123.3	AD 1	
	243.1	BRK 2	139.7	AD BRK	
	240.9	BRK 2	93.8	AD 1	
	224.1	BRK 2	132.1	AD BRK	
PD-35A	248.7	BRK2	159.9	SE3	-
	246.0	SE1	130.6	SE3	
	248.9	SE1	170.0	AD BRK	
	241.5	BRK1	183.7	AD BRK	
	241.5	BRK1	169.4	SE3	
PD-35A5	236.0	SE2	139.3	SE3	-
	238.8	BRK2	145.5	SE3	
	224.6	SE2	144.3	SE3	
	234.9	BRK2	156.9	SE3	
	235.8	SE2	161.4	SE3	
PD-35B	238.4	BRK2	152.4	SE3	-
	239.2	BRK2	146.3	SE3	
	238.1	BRK2	150.0	SE3	
	240.4	BRK2	144.8	SE3	
	220.4	SE2	138.2	SE3	
PD-36	214.2	BRK 1	129.9	SE 3	-
	213.9	BRK 2	114.6	SE 3	
	225.6	BRK 1	138.8	SE 3	
	216.8	BRK 1	152.5	SE 3	
	219.0	BRK 1	146.5	SE 3	

BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE. DESUM

5371

SUMMARY OF DESTRUCTIVE TEST RESULTS EXTRUSION METHOD
GEOSYNTEC FLUOR FERNALD GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
PD-37	248.6	BRK1	141.5	SE3	-
	245.2	BRK1	134.7	AD 1	
	250.2	BRK1	121.9	AD 1	
	226.7	SE2	136.4	AD BRK	
	240.8	BRK2	164.2	SE3	
PD-37A2	241.1	BRK1	175.9	SE3	-
	221.7	SE2	160.8	SE3	
	231.5	BRK2	160.1	SE3	
	229.9	SE2	159.6	SE3	
	228.7	SE2	129.4	SE3	
PD-37B2	233.3	BRK1	142.0	SE3	-
	232.3	BRK1	127.7	AD BRK	
	231.7	BRK2	135.3	AD BRK	
	230.1	SE1	138.8	SE3	
	227.5	SE2	121.8	AD BRK	
PD-37B3	234.4	BRK1	116.3	SE3	-
	236.0	BRK1	139.3	SE3	
	237.4	BRK1	168.7	AD BRK	
	236.5	BRK1	149.1	AD BRK	
	227.1	SE2	149.8	SE3	
PD-37B4	232.2	BRK2	165.1	SE3	-
	234.8	BRK2	151.0	SE3	
	229.5	BRK2	152.4	SE3	
	231.5	BRK2	168.5	SE3	
	234.5	BRK2	152.3	SE3	
PD-38	236.1	SE2	130.0	SE3	-
	237.2	SE2	149.8	SE3	
	220.7	SE2	124.6	SE3	
	233.2	SE2	140.6	SE3	
	229.7	SE2	123.9	SE3	
PD-39	237.3	BRK1	150.3	SE3	-
	233.8	BRK1	185.6	SE3	
	233.7	BRK1	172.8	SE3	
	234.0	BRK1	112.4	SE3	
	231.5	BRK2	161.3	SE3	

BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DESUM

SUMMARY OF DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD

GEOSYNTEC
FLUOR FERNALD
GEORGIA

SAMPLE NUMBER	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
PD-40	226.4	BRK 1	159.2	SE 3	-
	230.2	SE 1	163.4	SE 3	
	232.5	BRK 1	150.2	SE 3	
	228.3	SE 1	154.9	SE 3	
	226.8	SE 1	135.5	SE 3	
PD-42	234.7	BRK 2	146.7	SE 3	-
	228.7	BRK 1	153.1	SE 3	
	218.9	BRK 1	176.1	SE 3	
	227.4	BRK 1	159.3	SE 3	
	223.4	BRK 1	176.3	SE 3	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
-	-	-	-	-	-
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	

(1) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DESUM

APPENDIX N

GEOMEMBRANE REPAIR SUMMARY LOGS

CELL 2 CAP

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: G03211 TASK NO.: 3.3

DESCRIPTION: Cap #2 / PHASE II

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap #2

CONTRACTOR: FLUOR FERNALD / Istre Co.

REPAIR NO. AND CODE (1)	DATE (day/mo)	LOCATION			REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
		PANEL OR SEAM NO.	DIST. (ft)	OFFSET (ft)		LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
R-1/P	6/23/03	P2/P34 C-1	33'		E	2	2		03	DL	RH	6/27/03	MT	P	VT	W
R-2/DS2	6/23/03	P2/P34 C-1	291'		E	4	2		03	DL	RH	6/27/03	MT	P	VT	W
R-3/P	6/23/03	P2/P34 C-1	301'		E	2	2		03	DL	RH	6/27/03	MT	P	VT	W
R-4/P	6/23/03	P2/P31/P32/P34	349'		E	8	2		07	DL	RH	6/27/03	MT	P	VT	W
R-5/P	6/25/03	P2/P14/P31	363'		E	3	2		08	TB	RH	7/18/03		P	ELT	W
R-6/P	6/26/03	P14/P31/P1-C1	380'		E	2	2		03	DL	RH	7/18/03		P	ELT	W
R-7/DS11	6/26/03	P14/P1 C-1	381'		E	4	3		06	TB	RH	6/27/03	HW	P	VT	W
R-8/P	6/25/03	P13/P14/P1 C-1	387'		E	2	2		03	DL	RH	6/27/03	HW	P	VT	W
R-9/P	6/25/03	P13/P1 C-1	402'		E	2	2		03	DL	RH	7/18/03		P	ELT	W
R-10/DS3	6/24/03	P2/P4	135'		E	4	2		03	DL	RH	6/27/03	MT	P	VT	W
R-11/P	6/24/03	P2/P4	139'		E	2	2		03	DL	RH	~~6/27/03~~	MT	P	VT	W
R-12/P	6/25/03	P2/P4/P14	377'		E	2	2		06	TB	RH	6/27/03	MT	P	VT	W
R-13/P	6/25/03	P4/P6/P14	379'		E	2	2		06	TB	RH	6/27/03	MT	P	VT	W
R-14/DS5	6/24/03	P6/P8	358'		E	5	2		06	TB	RH	~~6/27/03~~	MT	P	VT	W
(15)												~~7/3/03~~				

0' from East Toe

NOTES: (1) REPAIR NO.: REPAIRS CAN BE NUMBERED SEQUENTIALLY, IF NECESSARY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION ELT - Electrically Leak Tested

GEOSYNTEC CONSULTANTS FILE NO. 3-09-RSL REVIEWED BY: W

SHEET NO. 1 OF 11

62000

537.1

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: #3 ~~04.1~~

DESCRIPTION: Phase IV CELL #2 CAP

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CELL #2 CAP

CONTRACTOR: Fluor / Istre Co.

REPAIR NO. AND CODE (1)	DATE (day/mo)	LOCATION			REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
		PANEL OR SEAM NO.	DIST. (ft)	OFFSET (ft)		LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
R15/P	6/25/03	P6/P8/P14	381		E	1'	1'		06	TB	RH	7/3/03	MT	P	VT	W
R16/DS-7	6/24/03	P8/P9	150		E	4	2'		06	TB	RH	7/3/03	MT	P	VT	W
R17/P	6/25/03	P8/P9/P14	378		E	1'	1'		06	TB	RH	7/3/03	MT	P	VT	W
R18/P	6/24/03	P9	360	11'	E	1'	1'		06	TB	RH	7/1/03	MT	P	VT	W
R19/P	6/24/03	P9	368	11'	E	1'	1'		06	TB	RH	6/28/03	HW	P	VT	W
R20/P	6/24/03	P9	376	11'	E	1'	1'		06	TB	RH	6/28/03	HW	P	VT	W
R21/DS-8	6/24/03	P9/P10	250		E	5	2		06	TB	RH	7/3/03	MT	P	VT	W
R22/P		P9/P10/P14	378		E	2	2		06	TB	RH	7/3/03	MT	P	VT	W
R23/P		P10/P14	378	7'	E	4	2		06	TB	RH	7/3/03	MT	P	VT	W
R24/P	6/26/03	P13/P14	110'		E	2	2		06	TB	RH	7/3/03	M	P	VT	W
R-25/DS-13	6/26/03	P10/P15	297		E	5	2		06	TB	RH	7/1/03	MT	P	VT	W
R-26/P	6/26/03	P15	319	15'	E	1'	1'		06	TB	RH	7/1/03	MT	P	VT	W
R-27/P		P10/P15/P14	376		E	2'	2'		06	TB	RH	7/1/03	MT	P	VT	W
R-28/DS-1	6/25/03	P1/P1 C-1	361'		E	5	2'		03	DL	RH	7/1/03	MT	P	VT	W
(15)																

NOTES: (1) REPAIR NO.: REPAIRS CAN BE NUMBERED SEQUENTIALLY, IF NECESSARY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEOSYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: PW

SHEET NO. 2 OF 11

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV CAP Cell #2 PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP, CELL #2 CAP YEAR: 2003

INSTALLER: Fluor/Istre

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
~~6-25-03~~	P1/P13/P1 C-1		397'		R29	P	E	4	3		03	DL	RH	7/17/03		P	ELT	RH
6-25-03	P1/P3/P13		379'		R30	P	E	1	1		06	TB	RH	7/8/03	MT	P	VT	W
6-25-03	P3	P3	144'	2'	R31	P	E	2	2		03	DL	RH	6/28/03	DL/HW	P	VT	W
6-24-03	P3/P5		38'		R-32	P	E	5	2		06	TB	RH	6/28/03	DL/HW	P	VT	W
6-24-03	P3	P3	42'	2'	R-33	P	E	3	2		06	TB	RH	6/24/03	MT	P	VT	W
6-24-03	P3/P5		223'		R-34	P	E	3	2		06	TB	RH	6/24/03	MT	P	VT	W
6-23-03	P3/P5		332'		R-35	DS-4	E	6	2		06	TB	RH	6/28/03	HW	P	VT	W
6/24/03	P5/P7		98'		R-36	DS6	E	5	2		06	TB	RH	6/28/03	HW	P	VT	W
6/24/03	P3/P5		357'		R-37	P	E	5	2		06	TB	RH	7/1/03	MT	P	VT	W
6/24/03	P7	P7	372'	1'	R-38	B	G			1'	06	TB	RH	7/24/03	MT	P	VT	W
6/26/03	P3/P5/P13		382'		R-39	P	E	1	1		06	TB	RH	7/8/03	MT	P	VT	W
6/25/03	P7/P11		250'		R-41	DS9	E	5	2		03	DL	RH	6/28/03	HW	P	VT	W
6/26/03	P5/P7/P13		382'		R-40	P	E	2	2		06	TB	RH	7/1/03	MT	P	VT	W
6/25/03	P7/P11		322'		R-42	P	E	12	2		03	DL	RH	6/28/03	HW	P	VT	W
6/25/03	P7	P7	324'	3'	R-43	P	E	8	3		03	DL	RH	6/28/03	HW	P	VT	W

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©Geosyntec

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV — PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP/Cell #2 — YEAR: 2003

INSTALLER: Fluor/Istre co.

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
6/25/03	7/11/13		382'		R-44	P	E	1	1		06	TB	RH	7/1/03	MT	P	VT	W
	11/13		382'	19'	R-45	P	E	2	2		06	TB	RH	7/1/03	MT	P	VT	W
6/26/03	11/12/13		382'		R-46	P	E	2	2		06	TB	RH	7/1/03	MT	P	VT	W
6/25/03	11/12		300'		R-47	DS-10	E	5	2		03	DL	RH	7/1/03	MT	P	VT	W
6/26/03	12/16		353		R-48	DS-12	E	5	2		06	TB	RH	7/1/03	MT	P	VT	W
6/26/03	12/16/13		382'		R-49	P	E	2	2		06	TB	RH	7/1/03	MT	P	VT	W
6/26/03		12	380'	2'N	R-50	G	E	1	1		06	TB	RH	7/1/03	MT	P	VT	W
6/26/03		12	379'	2'N	R-51	G	E	1	1		06	TB	RH	7/1/03	MT	P	VT	W
6/28/03	10/14		8'		R-52	P	E	3'	2"		06	DL	W	7/1/03	MT	P	VT	W
6/28/03	19/20		178'W		R-53	P	E	5	2		06	DL	W	7-1-03	MT	P	VT	W
6/28/03	19/20		97'	W of R53	R-54	P	E	4'	2'		06	DL	W	7/1/03	MT	P	VT	W
6/30/03	C1 P1/C-1 Ext		393'		R-55	DS14 C	E	6	2		06	DL	RH	7/1/03	MT	P	VT	W
6/30/03		21	208'	DS-5	R-56	G	E	4"	2"		03	DL	W	7/1/03	MT	P	ELT	W
6/30/03	19/20	DS15	23[illegible]	Fo[illegible]	R-57	P	E	5'	2'		06	DL	W	7/1/03	MT	P	VT	W
6/30/03	19/20		26[illegible]	Fo[illegible] Toe	R-58	G	E	1.5'	3"		06	DL	W	7/1/03	MT	P	VT	W

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM.
R = RECONSTRUCTION

00001P1

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV PROJECT NO.: 603211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP / CELL #2 YEAR: 2003

INSTALLER: Istre Co. / Fluor

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
6/30/03	P15/17/DS18		170'		DS18 ~~R59~~	P	E	5	2		Q6	DL	W	7/3/03	MT	P	VT	RH
6/30/03	P18/17/DS17		270'		DS17 ~~R60~~	P	E	5	2		Q6	DL	W	7/1/03	MT	P	VT	W
6/30/03		P17	367	2'	R61	G	E	6" in	2" in		Q6	DL	W	7/1/03	MT	P	VT	W
6/30/03		P17	335'	8'	R62	G	E	6" in	2" in		Q6	DL	W	7/1/03	MT	P	VT	W
6/30/03		P17	380	13'	R63	G	E	3"	3" in		Q6	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	336'	13'	R64	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	343'	13'	R65	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	351'	13'	R66	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	358	13'	R67	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	366	13'	R68	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03		P22	374	13'	R69	P	E	1	1		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03	P20/21 DS19	DS19	187'		R70	P	E	4'	2'		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03	P1/Tie-in		0		R71	P	E	1.5'	1.2'		Q3	DL	W	7/1/03	MT	P	VT	W
6/30/03	P Tie-in	P0	50	6"	R72	G	E	6"	2"		Q3	DL	W	6/28/03	HW	P	VT	W
6/30/03	Tie-in	P0	62'	1'	R73	G	E	4"	2"		Q3	DL	W	6/28/03	HW	P	VT	W

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION F = FUSION

0001192

R-86 on P-23 250 N

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV / CAP Closure Cell #2 PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☐ CELL #2 CAP YEAR: 2003

INSTALLER: Fluor / Istre Co.

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
6/30/03	Tie-in	PQ	71'	1'	R74	G	E	6"	2"	03	DL	W	6/28/03	HW	P	VT	W
6/30/03	PQ/P1 Tie in		92'		R75	G	E	1'	3"	03	DL	W	6/28/03	HW	P	VT	W
6/30/03	P16/19		20'		R76	P	E	2.3'	1'	06	DL	W	7/1/03	MT	P	VT	W
6/30/03	P16/19	DS-16	35'		R77	P	E	5'	2'	06	DL	W	7/1/03	MT	P	VT	W
6/30/03		P19	268'	2'	R78	G	E	6"	2"	06	DL	W	7/1/03	MT	P	VT	W
6/30/03		P21	259	6'	R79	G	E	4"	3"	03	DL	W	7/1/03	MT	P	VT	W
7/1/03	P21/23		241'		R80	P	E	3'	2'	06	DL	W	7/1/03	MT	P	VT	W
7/1/03	P	P22	376'	9'	R81	P	E	1'	1'	03	DL	W	7/1/03	MT	P	VT	W
7/1/03	P22/24		50'		R82	P	E	4'	2'	03	DL	W	7/1/03	MT	P	VT	W
6/23/03		P1	371'	8'	R83	G	E	1	2"	03	DL	W	7/1/03	MT	P	VT	W
6/25/03		P11	317		R84	P	E	3'	2'	06	TB	W	7/1/03	MT	P	VT	W
6/25/03	P8/P9/P14		379'		R85	P	E	1'	1'	06	TB	W	7/3/03	MT	P	VT	W
6/25/03	P6/P8/P14		379'		R86	P	E	1	1'	06	TB	W	7/3/03	MT	P	VT	W
6/25/03	P6/P4/P14		378'		R87	P	E	1	1'	06	TB	W	7/3/03	MT	P	VT	W
6/25/03	P2/P4/P17		377'		R89	P	E	1'	1'	06	TB	W	7/3/03	MT	P	VT	W

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM.
R = RECONSTRUCTION

000193

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV — PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CELL #2 CAP — YEAR: 2003

INSTALLER: Istre Co. / Fluor

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
6/30		P14	145'	8'	R90	P	E	1'	2"		06	DL	W	7/3/03	MT	P	VT	W
7/3/03		P13	404'	12'	R91	G	E	6"	2"		06	DL	W	7/3/03	MT	P	VT	W
7/3/03	P27/28	DS-23	154'		R92	P	E	4'	2'		06	DL	W	7/3/03	MT	P	VT	RH
7/3/03	P27/24		156'		R93	P	E	3'	2'		03	DL	W	7/3/03	MT	P	VT	RH
7/3/03	P24/27	DS 22	168'		R94	P	E	5'	2'		06	DL	W	7/3/03	MT	P	VT	RH
7/12/03	P26/30	~~DS 25~~ DS-25	272'		R95	P	E	4'	2'		03	TB	RH	7/15/03	MT	P	VT	SS
7/12/03	P30/31	DS-26	242'		R96	P	E	4'	2'		03	TB	RH	7/15/03	MT	P	VT	SS
7/12/03		P31	158'	1'	R97	P	E	4'	2'		03	TB	RH	7/15/03	MT	P	VT	SS
7/11/03	P30/P31/P36		371'		R98	P	E	2	2		03	TB	RH	7/14/03	MT	P	VT	W
7/11/03	P31/P36/P43		371'	5'	R99	P	E	3	6		03	TB	RH	7/14/03	MT	P	VT	W
7/14/03	P31/P38/P43		369'		R100	P	E	2	2		03	TB	RH	7/14/03	MT	P	VT	SS
7/14/03	P38/P43	P38	370'	8'	R101	P	E	2	2		03	TB	RH	7/14/03	MT	P	VT	SS
7/14/03	P38/P39/P43		373		R102	P	E	2	2		03	TB	RH	7/14/03	MT	P	VT	SS
7/14/03	P39/P43 (DS-33)		372	8'	R103	P	E	3	6		03	TB	RH	7/14/03	MT	P	VT	SS

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

0001194

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV PROJECT NO.: GQ3211 TASK NO.: 03

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CELL #2 CAP YEAR: 2003

INSTALLER: Istre / Fluor

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
7/14/03	39/43	39/40	873	8	R-104	B/G	7	1		03	DL	RH	7/14/03	MT	P	VT	RH
7/14/03	39	39	369	11	R-105	G/B	1	1		03	DL	RH	7/14/03	MT	P	VT	SS
+ 7/13/03	P38/39/DS30	DS30	315'		R106	P	E	5'	2'	Q3	TB	W	7/15/03	MT	P	VT	SS
7/13/03		P38	312'	5'	R107	P	E	1'	1'	Q3	TB	W	7/15/03	MT	P	VT	SS
+ 7/13/03	P31 / 38/DS29	DS29	150'		R108	P	E	4.5'	1.5'	Q3	TB	W	7/15/03	MT	P	VT	SS
7/13/03	P43/44		83'		R109	P	E	2'	2'	Q3	TB	W	7/14/03	MT	P	VT	RH
7/13/03	P26/30/36		140'		R110	P	E	1'	1	Q3	TB	W	7/14/03	MT	P	VT	W
7/13/03	P25/26/36		117'		R111	P	E	1'	1'	Q3	TB	W	7/14/03	MT	P	VT	W
7/13/03	P28/29/37		137'		R112	P	E	1'	1'	Q3	TB	W	7/14/03	MT	P	VT	W
7/13/03	P27/28/37		115'		R113	P	E	3'	1.5'	Q3	TB	W	7/14/03	MT	P	VT	W
7/13/03		P44	15'	9'	R114	G	E	6"	2"	Q3	DL	W	7/14/03	MT	P	VT	SS
7/13/03	P42/41/44		18'		R115	P	E	1'	1'	Q3	DL	SS	7/14/03	MT	P	VT	SS
7/13/03	P44/41/33		383'		R116	P	E	1'	1'	Q3	DL	SS	7/14/03	MT	P	VT	SS
7/14/03	P/32/33/44		383'	69'	R117	P	E	1'	1'	Q3	DL	SS	7/14/03	MT	P	VT	SS
7/14/03	P/32/44/37		383'	87	R118	P	E	6'	3'	Q3	TB	RH	7/14/03	MT	P	VT	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM,
R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION F = FUSION

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV — PROJECT NO.: GQ3211 TASK NO.: 03

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ CAP Cell #2 — YEAR: 2003

INSTALLER: Istre / Fluor

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
7/14/03	P29/32/37		384'	10'	R119	P	E	1'	1'		Q3	TB	RH	7/14/03	MT	P	VT	RH
	~~P37/29/28~~			~~15~~														
7/14/03	P29/32	DS-27	245'		R120	P	E	3.5'	1.5'		Q3	TB	RH	7/14/03	MT	P	VT	SS
7/14/03	P28/P29	DS-24	351		R121	P	E	4'	1.5'		06	DL	RH	7/14/03	MT	P	VT	SS
7/14/03	P37/24/27		380'	78'	R122	P	E	1'	1'		Q3	TB	RH	7/14/03	MT	P	VT	W
7/14/03	P37/24	DS-31	83'		R123	P	E	5'	2'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P37/22/24		104		R124	P	E	1.5'	1.5'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P37/18/22		125'		R125	P	E	1.5	1.5'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P36/23/25		378'		R126	P	E	1'	1'		03	TB	W	7/14/03	MT	P	VT	W
7/14/03	P23/25	DS-21	363'		R127	P	E	4'	2'		Q3	OL	W	7/14/03	MT	P	VT	W
7/14/03	P36/23/21		379'		R128	P	E	2.5'	1.5'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P36/20/21		392'		R129	P	E	1'	1'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P36/19/20		380'		R130	P	E	1'	1'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P36/19/16/13				R131	P	E	22'	3'		Q3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P13/36	DS 34	0'	4' W	R132	P	E	4.5'	1.5'		Q3	TB	W	7/14/03	MT	P	VT	W

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM
R = RECONSTRUCTION

0000196

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV PROJECT NO.: 00321 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap Cell #2 YEAR: 2003

INSTALLER: Istre / Fluor

DATE (day/mo)	LOCATION: SEAM	LOCATION: PANEL	LOCATION: DIST. (ft)	LOCATION: OFFSET (ft)	REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE: LENGTH (ft)	SIZE: WIDTH (ft)	SIZE: DIA (ft)	WELDER ID: MACH NO.	WELDER ID: OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	NDT: OPER ID	NDT: PASS/ FAIL	NDT: ACTION	NDT: QA ID
7/14/03	P41/33	DS-32	322'		R133 P	E	5'	2'		Ø3	TB	W	7/14/03	MT	P	VT	SS
7/14/03	P13/14/37/36				R134 P	E	1.5'	1.5'		Ø3	TB	W	7/14/03	MT	P	VT	W
7/14/03	P14/15/17/37				R135 P	E	27'	3'		Ø3	TB	W	7/15/03	MT	P	VT	SS
7/14/03		P15			R136 P	E	9'	2.5'		Ø3	TB	W	7/15/03	MT	P	VT	SS
7/14/03	P39/40/43				R137 P	E	1'	1'		Ø3	DL	W	7/14/03	MT	P	VT	SS
7/15/03		P28	DS-24	5' N	R138 P	E	3'	1.5'		Ø3	DL	SS	7/14/03	MT	P	VT	SS
7/15/03	~~P37/18/17~~	P36	~~P34~~	1' N	R139 P	E	2.5'	2'		Ø3	TB	SS	7/15/03	MT	P	VT	SS
7/15/03	P37/18/17	P37	162'	N	R140 P	E	1'	1'		Ø3	TB	TW	7/15/03	MT	P	VT	SS
	P-1/C				R141												
7/15/03		P-13	10'	N	R142 G	E	.5'	2"		Ø3	TB	SS	7/15/03	MT	P	VT	SS
7/15/03	P13/P-46		169'	N	R143 P		2'	1'		Ø3	TB	SS	7/15/03	MT	P	VT	SS
7/15/03	Tie-in/P1/P13	P13	169'	N	R144 P		6'	15'		Ø3	TB	SS	7/15/03	MT	P	VT	SS
7/15		P-31	383'	N	R145 G	E	.5'	.2'		Ø3	TB ~~GTB~~	SS	7/15/03	MT	P	VT	SS
7/15/03					R146												
7/15/03	P46/13/14				R147		3'	1'		Ø3	TB	SS	7/15/03	MT	P	VT	SS

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM,
R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION

000197

537 1 5271

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase IV — PROJECT NO.: 603211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ Cap/Cell # 2 — YEAR: 2003

INSTALLER: Istre Co./Fluor

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
7/15/03	cell 1/46/45				R148	P	E	1'	1'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	cell 1/45				R149	P	E	1'	1'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	cell 1/45	~~KP2~~ P46	~~365'~~ 4'	N	R150	P	E	2'	1'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	P45/14/R152				R151	P	E	2'	1'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	P.2/45/cell 1				R152	P	E	4'	.5'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	cell 1	cell 1	2'	N	R153	G	E	.6'	.3'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	cell 1/45	D-158	2'	N	R154	G	E	4'	2'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/15/03	45/14	D-35			R155	P	E	5'	3'		Ø3	TB	RH	7/15/03	MT	P	VT	SS
7/16/03	21/23	P-23	1'	1' N	R157	P	E	1'	1'		03	TB	RH	7/15/03	HW	P	VT	RH
7/16/03	13/32				R156	P	E	6'	2'		03	TB	RH	7/15/03	HW	P	VT	RH
7/17/03	N-10 & DS21	P-23	365'		R158	P	E	1'	1		03	TB	RH	7/17/03		P	ELT	RH
7/17/03		P-34	320	N	R159	G	E	6"	2"		03	TB	RH	7/17/03		P	ELT	RH
7/17/03		P-34	5'	S R160	R160	G	E	6"	3"		03	TB	RH	7/17/03		P	ELT	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION

5371

000498

CELL 6 SECONDARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE I

PROJECT NO.: GQ3211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
7/22/03	S7/S1	—	18' FSL	—	RS-1	DS-1 P	E	5	2	—	Ø3	DL	RH	7/25/03	DC	P —	VTOK	CHW
7/22/03	S7/S6/S1	—	22' FSL	—	RS-2	P	E	2	2	—	Ø3	DL	RH	7/25/03	DC	P —	VTOK	CHW
7/22/03	S1/S2/S6	—	INT	—	RS-3	P	E	—	—	3	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S2/S5/S6	—	INT	—	RS-4	P	E	2	1	—	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S2/S3/S5	—	INT	—	RS-5	P	E	—	—	2	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S3/S4/S5	—	INT	—	RS-6	P	E	—	—	1	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S3/S4	—	~29' NE of RS6		RS-7	P	E	2	1	—	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S3/S4/S8	—	INT	—	RS8	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD 7/22/03	———	S9	26'	~5' W of S1/S9	RS9	P	E	—	—	1	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	CHW
7/22/03	S2/S3/S8	—	INT	—	RS10	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P —	VTOK	CHW
7/22/03	S9/S10	—	99	—	RS11	DS3 P	E	5	2	—	Ø3	DL	CHW	7/29/03	DC	P —	VTOK	CHW
7/23/03	S13/S14	—	65	—	RS12	DS2 P	E	6	2	—	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	SS
MD 7/23/03	S14	—	71	5' E of S14/S15	RS13	G	E	1.5	—	—	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	SS
MD 7/23/03	~~S16~~ S15	—	15	~ on E S15/S16	RS14	P	E	—	—	1	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	SS
7/23/03	S17/S18	—	45	—	RS15	DS4 P	E	5	2	—	Ø3	DL	CHW	7/25/03	DC	P —	VTOK	SS

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

* RS 14 includes small G ~ 2' SE of Patch.
MD = Manufacturer's Defect

©GEO SYNTEC CONSULTANTS FILE NO. J-09-RSL

REVIEWED BY: (W)

SHEET NO. 1 OF 15

000200

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 Phase II

PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

YEAR: 2003

INSTALLER: ISTRE COMPANY

	DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING					QA ID
		SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL		ACTION	
MD	7/23/03	—	S16	79	2' E of S16/S17	RS 16	P	E	—	—	1	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
MD	7/23/03	—	S18	71	1' E of S18/S19	RS 17	G	E	.75	—	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
	7/23/03	S21/S22	—	86	—	RS 18	DS5 P	E	5	2	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
MD	7/23/03	—	S21	44	≈5' E of S21/S22	RS 19	G	E	.75	—	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
	7/23/03	—	S25	86'	≈4' E of S25/S26	RS 20	G	E	.75	—	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
	7/23/03	S25/S26	—	15'	—	RS 21	DS6 P	E	5	2	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
MD	7/23/03	—	S13	182'	1.5' E of S13/S14	RS 22	G	E	.75	—	—	Ø3	DL	CHW	7/25/03	DC	P	—	VTOK	CHW
	7/25/03	S2/S8/S30	—	51'	INT	RS 23	P	E	3	2	—	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S1/S2/S30	—	55'	INT	RS 24	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S1/S9/S30	—	77'	INT	RS 25	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S9/S10/S30	—	100'	INT	RS 26	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S10/S11/S30	—	122'	INT	RS 27	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S11/S12/S30	—	145'	INT	RS 28	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S12/S13/S30	—	167'	INT	RS 29	P	E	—	—	1	Ø3	DL	CHW	7/29/03	DC	P	—	VTOK	CHW
	7/25/03	S13/S14/S30	—	189'	INT	RS 30	P	E	—	—	1	Ø3	DL	CHW	7/30/03	DC	P	—	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

MD = Manufacturer's Defect

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: (W)

SHEET NO. 2 OF 14

0002201

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase I

PROJECT NO.: 6Q3211 TASK NO.: 3

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
7/25/03	514/530	—	206'	SD7	RS 31	P	E	5'	2	—	03	DL	CHW	CAPPED	BY C3	*	—	CHW
7/25/03	514/515/530	—	212'	INT	RS 32	P	E	—	—	1	03	DL	CHW	CAPPED	BY C3	*	—	CHW
7/25/03	515/516/530	—	234	INT	RS 33	P	E	—	—	1	03	DL	CHW	CAPPED	BY C3	*	—	CHW
7/25/03	516/517/530	—	257	INT	RS 34	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	517/518/530	—	280	INT	RS 35	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	518/519/530	—	302	INT	RS 36	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	519/520/530	—	324	INT	RS 37	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	520/521/530	—	348	INT	RS 38	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	521/522/530	—	370	INT	RS 39	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
MD 7/25/03	—	531	300	005' of 530/32	RS 40	P	E	—	—	2	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	530/531	—	273	—	RS 41	P	E	4'	2	—	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
MD 7/25/03	—	531	220	05' 5 of 531/532	RS 42	G	E	1.5	—	—	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
MD 7/25/03	—	531	162	6' 5 of 531/532	RS 43	G	E	1.5	—	—	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	530/531	—	175	SD8	RS 44	P	E	6	2	—	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW
7/25/03	—	530	146	7' 4" of 530/531	RS 45	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P	— VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION MD = Manufacturer's Defect * not vacume tested - capped by RS110/C3, C2, C1

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: (W)

SHEET NO. 4 OF 4

000202

537

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase I Cell #6

PROJECT NO.: GQ3211 TASK NO.: 3

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

INSTALLER: ISTRE COMPANY

	DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
		SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
MD	7/25/03	—	S30	141	8'N of S30/S30	RS46	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S31	81	6'S of S31/S32	RS47	G	E	.75	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S31	72'	6'S of S31/S32	RS48	G	E	.75	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S31	60'	7'S of S31/S32	RS49	G	E	.75	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S31	33	6'S of S31/S32	RS50	G	E	1	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
	7/25/03	S32/S33	—	56	nearly on seam	RS51	G	E	1.2	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
	7/25/03	S32/S33	—	225	—	RS52	P	E	—	—	2	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
	7/25/03	S32/S33	—	7	on seam	RS53	G	E	.75	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S34	189	Center of S34	RS54	P	E	—	—	1	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S35	186	22' N of S34/S35	RS55	G	E	.75	—	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/25/03	—	S35	226	22' N of S34/S35	RS56	P	E	—	—	2	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
	7/25/03	S34/S35	—	250	SD10	RS57	P	E	5	2	—	03	DL	CHW	7/29/03	DC	P —	VTOK	CHW
MD	7/29/03	—	S35	77	1'N of S34/S35	RS58	G	E	.75	—	—	06	TB	CHW	7/30/03	AC	P —	VTOK	RH
	7/29/03	—	S15	80	4'E of S15/S16	RS59	G	E	10"	—	—	06	TB	CHW	7/30/03	AC	P —	VTOK	CHW
	7/29/03	—	S24	10	6'N of S23/S24	RS60	P	E	—	—	1	06	TB	CHW	7/30/03	DC	P —	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

MD= Manufacturer's Defect

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: [illegible]

SHEET NO. 5 OF 14

537

0000203

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

5371

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRE Company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
7/29/03	S30/S14/S15/S16	—	190-249	INT	(RS110) C1	C	E	59	6	—	Ø6	TB	CHW	CAPPED BY C2		—	CHW
7/29/03	S30/S14/S15/S16	—	190-249	INT	(RS110) C2	C	E	59	6	—	Ø6	TB	CHW	CAPPED BY C3		—	CHW
* 7/29/03	S30/S14/S15/S16	—	190-249	INT	(RS110) C3	C	E	59	6	—	Ø6	TB	CHW	7/30/03	DC	P	—	VTOK	CHW
7/29/03	—	S13	3	1'E of S13/S14	RS 61	G	E	.75	—	—	06	TB	CHW	7/30/03	DC	P	—	VTOK	CHW
7/29/03	S33/S34 SD9	—	369	—	RS 62	P	E	5	2	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
MD 7/29/03	S34/S35	—	370	—	RS 63	G	E	1	—	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S37/S38 SD12	—	258	—	RS 64	P	E	5	2	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S36/S66	—	127	—	RS 65	P	E	5	3	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S36/S66 SD11	—	94	—	RS 66	P	E	5	2	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S36/S66	—	32	—	RS 67	P	E	4	2	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S36/S66	—	6-14	—	RS 68	P	E	8	2	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/29/03	S36/S66	—	0-5'	—	RS 69	*	E	5	—	—	Ø6	TB	CHW	8/1/03	AC	P	—	VTOK	RH
7/30/03	—	S36	34'	4'S of S36/S66	RS 70	P	E	—	—	1	Ø6	DL	CHW	8/1/03	AC	P	—	VTOK	RH
7/30/03	S38/S39 SD 14	—	121'	—	RS 71	P	E	5	2	—	Ø6	DL	CHW	8/1/03	AC	P	—	VTOK	RH
7/30/03	S39/S40 SD 15	—	226	—	RS 72	P	E	6	2	—	Ø6	DL	CHW	8/1/03	AC	P	—	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

* Seam was extrusion welded from 0'-5'

*SD13 is part of C3

CAP#1 AND CAP#2 WAS covered by CAP#3 due to failure (RS.110)

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: TW

SHEET NO. 6 OF 14

0002204

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase V

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION: SEAM	LOCATION: PANEL	LOCATION: DIST. (ft)	LOCATION: OFFSET (ft)	REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE: LENGTH (ft)	SIZE: WIDTH (ft)	SIZE: DIA (ft)	WELDER ID: MACH NO.	WELDER ID: OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	NDT: OPER ID	NDT: PASS/ FAIL	NDT: ACTION	NDT: QA ID
7/30/03	S40/S41 SD 16	—	27	—	RS 73 P	E	5	2	—	06	DL	CHW	8-1-03	DC	P —	VTOK	CHW
7/30/03	S41/S42	—	350	—	RS 74 P	E	3	3	—	06	DL	CHW	8-1-03	DC	P —	VTOK	CHW
7/30/03	S42/S35 SD 17	~~24~~	246	SD 17	RS 75 P	E	5	2	—	06	DL	CHW	8-1-03	DC	P —	VTOK	CHW
7/30/03	S36/S66	—	340	—	RS 76 P	E	5	2	—	06	DL	CHW	8-4-03	DC	P —	VTOK	CHW
MD 8/1/03	—	S-29	10	8' W of S28/S29	RS 77 P	E	—	—	2	06	DL	CHW	8-6-03	DC	P —	VTOK	CHW
8/1/03	S44/S45	—	43	SD 18	RS 78 P	E	5	2	—	06	DL	CHW	8-4-03	DC	P —	VTOK	CHW
8/4/03	S46/S47/S54	—	60	Int	RS 79 P	E	—	—	1	06	DL	CHW	8-6-03	AC	P —	VTOK	RW
8/4/03	S47/S54	—	60	SD 21	RS 80 P	E	5	2	—	06	DL	CHW	8-6-03	AC	P —	VTOK	RW
8/4/03	S47/S48/S54/S55	—	~~40~~	Int	RS 81 P	E	11	6	—	06	DL	CHW	8-6-03	AC	P —	VTOK	RW
8/4/03	S48/S49/S55	—	51	FWAT E	RS 82 P	E	5	-	2	06	TB	CHW	8-6-03	AC	P —	VTOK	RW
8/4/03	S49/S50/S55	—	43	FWAT — E	RS 83 P	E	2	-	2	06	TB	RW	8-6-03	AC	P —	VTOK	RW
8/1/03	S49/S50 SD 20	—	14	—	RS 84 P	E	5	2	—	06	DL	CHW	8-4-03	DC	P —	VTOK	CHW
8/1/03	S54/S55 SD 19	—	85	—	RS 85 P	E	5	2	—	06	DL	CHW	8-4-03	DC	P —	VTOK	CHW
MD 8/1/03	—	S51	25	1' N of S54/S51	RS 86 G	E	1.2	—	—	06	DL	CHW	8-4-03	DC	P —	VTOK	CHW
8/1/03	S50/S51/S55		44'	FNTS SCUBA	RS 87 P	E	2	-	2	06	TB	RW	8-6-03	AC	P —	VTOK	RW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM,
R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 2 OF 14

0000205

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: PROJECT NO.: GQ3211 TASK NO.: 3 3A 3B

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRE C.O.

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING					QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL		ACTION	
8/1/03	S54/S55/S51		15'		RS 88	P	E	5	8	3	06	TB	RH	8/6/03	AC	P	-	VTOK	RH
8-1-03	S51/S56	—	0-11	—	RS 89	P	E	11	2	—	06	DL	CHW	8-4-03	DC	P	—	VTOK	CHW
8/1/03	S51/S54/S56	-	55'	-	RS 90	P	E	3	-	2	06	TB	RH	8/6/03	AC	P		VTOK	RH
MD 8-1-03	—	S43	49	3' wof S42/S43	RS 91	G	E	.8	—	—	06	DL	CHW	8-4-03	DC	P	—	VTOK	CHW
8-5-03	S53/S54/S56	—	78	FWAT	RS 92	P	E	2	—	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S52/S53/S56	—	98'	FWAT	RS 93	P	E	2	-	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S45/S52/S56	—	120'	FWAT	RS 94	P	E	2	—	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S44/S45/S56	—	142	FWAT	RS 95	P	E	2	—	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S43/S44/S56	—	166	FWAT	RS 96	P	E	2	—	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S29/S43/S56	—	189	FWAT	RS 97	P	E	2	—	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S28/S29/S56	—	211	FWAT	RS 98	P	E	2	-	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S27/S28/S56	—	234	FWAT	RS 99	P	E	2	-	2	06	TB	RH	8-6-03	AC	P	-	VTOK	RH
8-5-03	S26/S27/S56	—	256	FWAT	RS 100	P	E	2	-	2	06	TB	RH	8/6/03	AC	P	-	VTOK	CW
8-5-03	S25/S26/S56	—	279	FWAT	RS 101	P	E	2	-	2	06	TB	RH	8/6/03	AC	P	-	VTOK	RH
8-5-03	S24/S25/S56	—	302	FWAT	RS 102	P	E	2	-	2	06	TB	RH	8/6/03	AC	P	-	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: W

SHEET NO. 8 OF 14

000296

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V PROJECT NO.: 693211 TASK NO.: 3.3

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRE COMPANY

	DATE (day/mo)	LOCATION: SEAM	PANEL	DIST. (ft)	OFFSET (ft)	REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE: LENGTH (ft)	WIDTH (ft)	DIA (ft)	WELDER ID: MACH NO.	OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
MD	8-5-03	S24/S56		313'		RS103	P	E	5	–	2	06	TB	RH	8/6/03	AC	P	UTOK	EW
N	8-5-03	S23/S24/S56		324'		RS104	DS23	E	6	-	2	06	TB	RH	8/6/03	AC	P	UTOK	CW
MD	8-5-03	S22/S23/S56		347'		RS105	P	E	2	–	2	06	TB	RH	8/6/03	AC	P	UTOK	CW
	8-5-03	S23/S30/S56		366'		RS106	P	E	3	-	2	06	TB	RH	8/6/03	AC	P	UTOK	CW
	8-5-03	S30/S31/S56/S57		366'		RS107	DS24	E	6	-	2	06	TB	RH	8/6/03	AC	P	UTOK	CW
	8-5-03	S56/S57		250'		RS108	DS22	E	6		2	06	TB	RH	8/6/03	AC	P	UTOK	RH
	8-5-03	~~S56~~ RH S/56		128'	2' South of S56	RS109	P MFD	E	2		2	06	TB	RH	8/6/03	AC	P	UTOK	RH
	8-6-03	12/14/15/16/30				110	CAP #3	E	59	6		06	TB	RH	7/30/03	DC	P	UTOK	CHW
	8-6-03	S1/S7/S58		13'	From South Limit	RS112	P	E	3	-	2	06	DL	RH	7/30/03	DC	P	UTOK	RH
MD	8-6-03	8 RH	S45	95'	1'	RS111	G&B	E	.06"	–	-	06	TB	RH	8-6-03	DC	P	UTOK	CHW
MD	8-6-03		S56	363'	4'	RS113	G&B	E	1'	-	-	06	DL	RH	8-6-03	DC	P	UTOK	CHW
	8-8-03	S59/S60	—	215'	SD 25	RS114	P	E	5	2	—	03	DL	CHW	8-8-03	DC	P	UTOK	CHW
MD	8-8-03	—	S64	238'	2' N of S60/S64	RS115	P	E	—	—	1	03	DL	CHW	8-8-03	DC	P	UTOK	CHW
MD	8-8-03	—	S64	250'	1' S of S60/S64	RS116	P	E	5	2	—	03	DL	CHW	8-8-03	DC	P	UTOK	CHW
	8-8-03	S31/S32/S59/S57	—	363'	Int	RS117	P	E	8	3	—	03	DL	CHW					

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

RS110 - was listed in Repair Log as Cap on 7/29/03

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: W

SHEET NO. 9 OF 14

31 0007

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V

PROJECT NO.: GQ3211 TASK NO.: 3 5 3 1

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

YEAR: 2003

INSTALLER: ISTRE Company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8-9-03	CHW ~~537/540/565~~ S32/S33/S59/S60	—	—	INT	RS 118	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S33/S34/S60/S64	—	—	INT	RS 119	P	E	—	—	4	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S34/S35/S64/S69/S68	—	—	INT	RS 120	P	E	9	5	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S64/S69	—	361	SD 29	RS 121	P	E	5'	2'	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S35/S42/S68	—	—	INT	RS 122	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S42/S67/S68	—	—	INT	RS 123	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S42/S41/S67	—	—	INT	RS 124	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S41/S66/S67	—	—	INT	RS 125	P	E	—	—	1.2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S40/S41/S66	—	—	INT	RS 126	P	E	—	—	1.2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S66/S67	—	357	—	RS 127	P	E	8	2	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S40/S65/S66	—	—	INT	RS 128	P	E	—	—	1	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S39/S40/S65	—	—	INT	RS 129	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	—	S65	362	8' S of S63/S65	RS 130	P	E	—	—	1.5	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	—	S65	281	5' N of S65/S66	RS 131	P	E	—	—	1.0	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
8-9-03	S65/S66	—	250'	SD28	RS 132	P	E	5	2	—	03	DL	CHW	8-12-03 ~~8-11-03~~ CHW	DC	P —	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: CW

SHEET NO. 10 OF 19

MD 000208

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: Phase V YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ INSTALLER: ISTRE Company

	DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
		SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	8-9-03	—	S39	368 FEM	10' E of S39/S65	RS 133	P	E	—	—	2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	S67/S68	—	100	SD 30	RS 134	P	E	5	2	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-8-03	—	S57	9'	Center 7' N of S60/S64	RS 135	P	E	—	—	1	03	DL	CHW	8-8-03	DC	P —	VTOK	CHW
MD	8-8-03	—	S64	125'		RS 136	P	E	—	—	1	03	DL	CHW	8-8-03	DC	P —	VTOK	CHW
	8-8-03	S37/S38/S39 S62/S63/S65	—	208'-237'	Tie in Seam	RS 137	C	E	29	5	—	03	DL	CHW	CAPPED BY RS 145		—		CHW
	8-9-03	—	S65	336	15' S of S63/S65	RS 138	G	E	0.7	—	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
MD	8-9-03	—	S63	325	5' S of S62/S63	RS 139	P	E	—	—	2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	S62/S63	—	316	—	RS 140	P	E	5	2	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	S62/S63	—	297	—	RS 141	P	E	—	—	2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	S62/S63	—	225	SD 27	RS 142	P	E	5	2	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	—	S62	228	3' N of S62/S63	RS 143	P	E	—	—	2	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-9-03	P111/S61	—	76	SD 26	RS 144	P	E	5	2	—	03	DL	CHW	8-12-03	DC	P —	VTOK	CHW
	8-11-03	S37/S38/S39 S62/S63/S65	—	207'-239'	Tie in Seam	RS 145	C	E	32	10	—	03	DL	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	—	S61	352	9' N of S61/S62	RS 146	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	—	S61	355	14' N of S61/S62	RS 147	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: (W)

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: 3 5 6 7 8

DESCRIPTION: Phase V

YEAR: 2003

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

INSTALLER: Istre Company

	DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
		SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	8-11-03	—	S61	361	14' N of S61/S62	RS 148	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	—	S61	358	9' N of S61/S62	RS 149	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	—	S61	367	9' W of S61/S62	RS 150	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	P111/S61	—	330-362	—	RS 151	C	E	32	5	—	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	P111/S61	—	322	—	RS 152	P	E	—	—	3	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	P111/S61	—	283	—	RS 153	P	E	5	3	—	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
ND	8-11-03	—	S62	260	0.5' S of S61/S62	RS 154	P	E	—	—	2	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
ND	8-11-03	—	S62	220	0.5' S of S61/S62	RS 155	P	E	—	—	1	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
	8-11-03	—	S61	362	Center	RS 156	G	E	—	—	0.5	03	TB	CHW	8-11-03	DC	P —	VTOK	CHW
ND	8-12-03	—	S66	175	7' S of S65/S66	RS 157	P	E	—	—	1	06	TB	RH	8-12-03	AC	P —	VTOK	RH
	8-12-03	—	S65	130'	1' S of S63/S65	RS 158	P	E	—	—	1	06	TB	RH	8-12-03	AC	P —	VTOK	RH
	8-12-03	S66/S67	—	0-50	—	RS 159	C	E				06	TB	RH	8-12-03	AC	P —	VTOK	RH
	8-13-03	S64/S68		56'	From West Anchor	RS160	P	E	12	4	2	06	TB	RH	8-13-03	AC	P —	VTOK	RH
	8-13-03	S66/S67		62'	"	RS161	P	E	2	—	2	06	TB	RH	8-13-03	AC	P —	VTOK	RH
	8-13-03	S64/S68		153'	"	RS162	P	E	2	—	2	06	TB	RH	8-13-03	AC	P —	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: TW

SHEET NO. 12 OF 12

000209

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO. GQ3211 TASK NO.: 3.3

DESCRIPTION: 80 Mil HDT Secondary Cell #6 - PHASE I

YEAR: 2003

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐

INSTALLER: Istre Company

	DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
		SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	8-13-03	S66/S67	-	150'	-	RS163	P	E	2	-	2	06	TB	RH	8/13/03	AC	P -	VTOK	RH
MFD:	8-13-03	S62/S63	P62		4	RS164	P	E	1	-	1	06	TB	RH	8/13/03	AC	P -	VTOK	CH
MFD	8-13-03	S61/S62		141'	3'	RS165	P	E	2	-	2	06	TB	RH	8/13/03	AC	P -	VTOK	RH
MFD	8-13-03	P111/S61		181'		RS166	P	E	5'	-	2'	06	TB	RH	8/13/03	AC	P —	VTOK	RH
MFD	8-13-03	" —	P62	18'	5'S of S61/S62	RS167	P	E	2	-	2	06	TB	RH	8/14/03	AC	P -	VTOK	RH
	8-13-03	P111/S61		At [illegible] 0-15'		RS168	P	E	4	4	-	06	TB	RH	8/14/03	AC	P -	VTOK	RH
	8-13-03	S[illegible]/S67		[illegible] ANCHOR 0-		RS169	P	E	2	-	2	06	TB	RH	8/14/03	AC	P -	VTOK	RH
	8-13-03	S64/S68/S69				RS170	C4	E Cap 4	140	5	5	06	TB	RH	8-13-03	AC	P -	VTOK	RH
	8-13-03	C4/S64		FWAT 318'		RS171	DS33	E	5'	2	-	06	TB	RH	8-13-03	AC	P -	VTOK	RH
	8-13-03	S66/S67		FWAT 0-50'		RS172	C7	E Cap 7	50'	4'	2	06	TB	RH	8/14/03	AC	P -	VTOK	RH
	8-13-03	S30/S56/S31/S57		FNTS-IL 23-50		RS173	C8	E Cap 8	27'	4'		06	TB	RH	8/13/03	AC	P -	VTOK	RH
	8-13-03	P111/S61		FWAT 80'		RS174	DS26A	E	5'	2'		06	TB	RH	8/13/03	AC	P -	VTOK	RH
	8-13-03	P111/S61		FWAT 42'		RS175	DS26B	E	5'	2'		06	TB	RH	8/13/03	AC	P -	VTOK	RH
	8-13-03	P111/S61		40-85' FNTS 42		RS176	C9	E	45	4'		06	TB	RH	8/13/03	AC	P —	VTOK	RH
	8-13-03	S38/C5				RS177	DS31A	E	5	2		06	TB	RH	8-13-03	AC	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: W

SHEET NO. 13 OF 14

000210

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GQ3211 TASK NO.: 3.3

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐

YEAR: 2003

INSTALLER: ISTTE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/13/03	S63/C-5		50' FWAT	FS 66/67	RS178	P	DS31B	5	2	—	06	TB	RH	8/13/03	AC	P —	VTOK	RH
8/13/03	PB1	S66	84' FWAT	5-5"	RS179	PB1	PB-1	5	5	—	06	TB	RH	8/14/03	AC	P -	VTOK	RH
8/13/03	PB2	S67	40' FWAT	1' S of S66/67	RS180	PB2	PB2	5	5	—	06	TB	RH	8/14/03	AC	P -	VTOK	RH
8/13/03	PB3	S67	52' FWAT	10' S of S66/S67	RS181	PB3	PB3	5	5	—	06	TB	RH	8/14/03	AC	P -	VTOK	RH
8/13/03	S36/S37/S61/S62		22' FNTS		RS182		P	2	—	2	06	TB	RH	8/13/03	AC	P —	VTOK	RH
8/13/03	S31/S57	—	38' FSTS	—	RS183	SD24A	P	5	—	2	06	TB	RH	8/13/03	AC	P -	VTOK	RH
8/13/03	S30/S56	—	18' FSTS	—	RS184	SD24B	P	5	—	2	06	TB	RH	8/13/03	AC	P -	VTOK	RH
8/15/03	~~S59~~/S61/S111	—	360'-365' FWAT	SD26A2	RS185	P ~~SD26A2~~	E	5	2	—	06	TB	CHW	8/15/03	AC	P -	VTOK	RH
8/15/03	S63/C6	—	362' FWAT	4' N of 64/65	RS186	SD31	P	5	2		06	TB	RH	8/15/03	AC	P -	VTOK	RH
8/15/03	S61/S111	—	22'	SD26A1	RS187	SD26A1	P	5	2	—	06	TB	RH	8/15/03	AC	P -	VTOK	RH
8/15/03	C6/S61	—	342'	SD32	RS188	P	E	5	2	—	06	TB	RH	8/15/03	AC	P -	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM,
R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: W

SHEET NO. 14 OF 14

000211

53711

CELL 6 PRIMARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE II

PROJECT NO.: G03211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
8/14/03	P1/P4/P5		22'	Fence Line From	RP1	P	E	2	2	2	06	TB	RH	8/20/03	BW	P	VTOK	RH
8/14/03	P3/P12		25'	SL	RP2	PD2	E	5	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
8/14/03	P6/P6		12'	FEAT	RP3	PD4	E	5	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
8/14/03	P5/ /P10/P1		39'	From SL	RP4	P	E	2	2	2	06	TB	RH	CAPPED BY CP1			—	CHW
8/14/03	P5/P10		41'	2' From RP4	RP5	P	E	2	2	2	06	TB	RH	CAPPED BY CP1			—	CHW
8/14/03	P5/P10		44'	5' NE of RP5	RP6	P	E	2	2	2	06	TB	RH	CAPPED BY CP1			—	CHW
8/15/03	P5/P6/P10		51'	From SL NE	RP7 ✓	P	E	2	2	2	06	TB	RH	CAPPED BY CP1			—	CHW
8/15/03	P6/P10/P11		69'	"	RP8 ✓	P	E	2	2	2	06	TB	RH	CAPPED BY CP1			—	CHW
8/15/03	P6/P7/P11		87'	"	PR9 ✓	P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
8/15/03	P7/P8/P11		107'	Top of ECBerm	PR10 ✓	P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
8/15/03	P8/P10/P11		122'	From SL NW	PR11 ✓	P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
8/15/03	P1/P8/P9/P10		149'	From SL NW	PR12 ✓	P	E	2	2	2	06	TB	RH	under Cap #2		P	—	RH
8/15/03	P1/P9		155'	"	PR13 ✓	PD4	E	5	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
8/15/03	P1/P9/P18		136'	"	PR14 ✓	P	E	2	2	2	06	TB	RH	under Cap 2			—	RH
8/15/03	P1/P2/P18		137'	"	PR15 ✓	P	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEOSYNTEC CONSULTANTS FILE NO. 3-09-RSL

* FSL - From South Limits
* FEAT - From East Anchor Trench

REVIEWED BY: RH

SHEET NO. 1 OF 24

000213

3371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE I

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

	DATE (day/mo)	LOCATION: SEAM	PANEL	DIST. (ft)	OFFSET (ft)	REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE: LENGTH (ft)	WIDTH (ft)	DIA (ft)	WELDER ID: MACH NO.	OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	8/15/03	P2/P3/P18		136'	From SL	RP16 P	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
	8/15/03	P3/P12/P19		136'	"	RP17 P2	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
	8/15/03	P12/P13/P18		137'	"	RP18 P	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
MFD	8/15/03		P12	47'	2' E of 12/13	RP19 P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
MFD	8/15/03		P13	5'	2' E of 13/14	RP20 P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
	8/15/03		P13	131'	1' W of 13/14	RP21 G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P	VTOK	RH
	8/15/03	P13/P14/P18		136'		RP22 P	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
MFD	8/15/03		P12	122'	1' W of 3/12	RP23 G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P	VTOK	RH
MFD	8/15/03		P12	110'	1' W of 3/12	RP24 G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P	VTOK	RH
MFD	8/15/03		P12	133'	1' W of 3/12	RP25 P	E	2	2	2	06	TB	RH	8/22/03	BW	P	VTOK	RH
	8/15/03	P14/P15/P18		137'		RP26 P	E	2	2	2	06	TB	RH	8-21-03	BW	P	VTOK	CAW
*	8/15/03	P15/P16/P18		136'		RP27 P	E	2	2	2	06	TB	RH	8-21-03	BW	F	Leak-Reweldea VTOK	CAW
MFD	8/15/03		P14	84'	FSL	RP28 P	E	2	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
	8/15/03	P16/P17		80'	FSL	RP29 PD3	E	5	2	2	06	TB	RH	8/21/03	BW	P	VTOK	RH
	8/15/03		P16	110'	FSL 5'	RP30 G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM,
R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

* RP27 - was reground and rewelded at the leak. - VTOK

©GEO SYNTEC CONSULTANTS FILE NO. J-09-RSL

* FSL - From South Limits REVIEWED BY: RH

SHEET NO. 22 OF 24

000214

5341

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL 4 - PHASE II

PROJECT NO.: ~~G03211~~ TASK NO.: 3.3

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION: SEAM	LOCATION: PANEL	LOCATION: DIST. (ft)	LOCATION: OFFSET (ft)	REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE: LENGTH (ft)	SIZE: WIDTH (ft)	SIZE: DIA (ft)	WELDER ID: MACH NO.	WELDER ID: OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	NON-DESTRUCTIVE TESTING: OPER ID	NON-DESTRUCTIVE TESTING: PASS/ FAIL	NON-DESTRUCTIVE TESTING: ACTION	NON-DESTRUCTIVE TESTING: QA ID
8/15/03	P16/P17/P18		137'		RP31	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P17	110'	3'E of 17/18	RP32	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	P17/P19/P18		137'		RP33	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	P19/P20/P18		136'		RP34	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	RH
8/15/03	P20/P21/P18		137'		RP35	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	F	~~Leak~~ CHW ~~Rewelded~~	CHW
8/15/03	P21/P22/P18		137'		RP36	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	P22/P23/P18		137'		RP37	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	P23/P24/P18		137		RP38	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	RH
8/15/03	(MFD)	P24	130'	1'E P24/P25	RP39	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P18	355'	15'N. of tie in	RP40	G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P18	355'	17'N of tie in	RP41	G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P18	340'	2'S of P18/P24	RP42	G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P24	120'	2'E of 24/25	RP43	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P18	298'	9'S of 18/26	RP44	G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW
8/15/03	(MFD)	P18	296'	8'S of 18/26	RP45	G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P	—	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

NOT DONE AS OF 8/15/03

~~* RP35 - Rewelded by TB MOB VTOK P~~ CHW

REVIEWED BY: RH

00025

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 - Phase II

PROJECT NO.: 805241 TASK NO.: 33

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/19/03	(MFD)	P18	290'	8'S of 18/26	RP46 / G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/19/03	(MFD)	P18	286'	10'N of 18/20	RP47 / G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/19/03	(MFD)	P18	244'	8'S of 18/26	RP48 / G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/19/03	(MFD)	P18	232'	9'S of 18/26	RP49 / G&B	E	1	1	1	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/19/03	P16/P18		232'		RP50 / PD6	E	5	2	2	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/19/03	(MFD)	P18	137'	9'S of 18/26	RP51 / P	E	2	2	2	06	TB	RH	8-22-03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P18	135'	2'N of 17/18	RP52 / P	E	2	2	2	06	TB	RH	8-22-03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P18	124'	3'S of 18/26	RP53 / G&B	E	1	1	1	06	TB	RH	8-22-03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P18	120'	6'S of 18/26	RP54 / P	E	2	2	2	06	TB	RH	8-22-03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P26	38'	8'S of 26/27	RP55 / G&B	E	1	1	1	06	TB	RH	8-22-03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P26	94'	7'N of 18/26	RP56 / P	E	2	2	2	06	TB	RH	8/22/03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P26	170'	11'S of 26/27	RP57 / G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P26	173'	10'S of 26/27	RP58 / P	E	2	2	2	06	TB	RH	8/22/03	BW	P / –	VTOK	RH
8/20/03	(MFD)	P26	235'	1'S of 26/27	RP59 / P	E	2	2	2	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW
8/20/03	(MFD)	P26	252'	5'N of 18/26	RP60 / P	E	2	2	2	06	TB	RH	8-21-03	BW	P / –	VTOK	CHW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RH

SHEET NO. 4 of 24

000216

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 · PHASE I

PROJECT NO.: GQ3211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

5371

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/15/03	(MFD)	P26	262'	125 of 18/26	RP61 ✓	P	E	2	2	2	06	TB	RH	8-21-03	BW	P	–	VTOK	CHW
8/18/03	(MFD)	P10	66'	1' East of P1/P10	RP62 ✓	G&B	E	1	1	1	06	TB	RH	8/21/03	BW	P	–	VTOK	RH
8/18/03	P23/P24		63'		RP63 ✓	P	PD5 E	5	2	2	06	TB	RH	8-21-03	BW	P	–	VTOK	CHW
8/18/03	(MFD)	P23	13'	10' East of 23/24	RP64 ✓	P	E	2	2	2	06	TB	RH	8-25-03	BW	P	–	VTOK	RH
8/18/03	(MFD)	P23	13'	8' East of 23/24	RP65 ✓	G&B	E	1	1	1	06	TB	RH	8-25-03	BW	P	–	VTOK	RH
8/18/03	P18/P26		174'	FEAT	RP66 ✓	PD7	E	5	2	2	06	TB	RH	Repair under CAP #4 18/26					RH
8/18/03	P27/P28		125'	"	RP67 ✓	PD8	E	5	2	2	06	TB	RH	8/22/03	BW	P	–	VTOK	RH
8/18/03	(MFD)	P29	35'	9' S of 29/30	RP68 ✓	G&B	E	1	1	1	03	JI	RW	8/22/03	BW	P	–	VTOK	RW
8/18/03	P26/P18		5'	FEAT	RP69 ✓	P	E	2	2	2	03	JI	RW	Repair under CAP #4 18/26					RH
8/18/03	P18/P9		3'	FEAT	RP70 ✓	P	E	2	2	2	03	JI	RW	covered by CAP 3					RH
8/18/03	P18/P9		16'	FEAT	RP71 ✓	P	E	2	2	2	03	JI	RW						RH
8/18/03	P18/P9		50'	FEAT	RP72 ✓	P	E	2	2	2	03	JI	RW						RH
8/18/03	P18/P9		54'	FEAT	RP73 ✓	P	E	1	1	1	03	JI	RW						RH
8/18/03	P1/P10		147	FEAT	RP74 ✓	PD1B	E	5	3	2	03	JI	RW	covered by CAP #2					RH
8/18/03	P1/P18		63'	FEAT	RP75 ✓	PD7B ✓	E	5	3	2	03	JI	RW	8/22/03	BW	P	–	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

0002217

37

©GEOSYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY RH

SHEET NO. 5 OF 24

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL 6 · PHASE V

PROJECT NO.: 603211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE company

5371

DATE (day/mo)	LOCATION: SEAM	LOCATION: PANEL	LOCATION: DIST. (ft)	LOCATION: OFFSET (ft)	REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE: LENGTH (ft)	SIZE: WIDTH (ft)	SIZE: DIA (ft)	WELDER ID: MACH NO.	WELDER ID: OPER ID	QA ID	NON-DESTRUCTIVE TESTING: DATE (day/mo)	NON-DESTRUCTIVE TESTING: OPER ID	NON-DESTRUCTIVE TESTING: PASS/FAIL	NON-DESTRUCTIVE TESTING: ACTION	NON-DESTRUCTIVE TESTING: QA ID
8/18/03	(MFO)	P18	71'	3' South of 18/26	[redacted] G&B	E	1	1	1	03	J1	RH	Repair under Cap #4				RH
8/18/03	(MFO)	P12	85'	6' East of 12/13	RP77 P ✓	E	2	2	2	03	J1	RH	8-21-03	BW	P -	VTOK	CW
8/18/03	P17/P19		0-4'	FSL	RP78 PD1A ✓	E	5	3	2	03	J1	RH	8/21/03	BW	P -	VTOK	RH
8/18/03	P18/P26		225'	FEAT	RP79 P	E	2	2	2	03	J1	RH	Repair under Cap #4				RH
8/18/03	P26/P27		375'	FEAT	RP80 PD7A ✓	E	5	3	2	03	J1	RH	8/25/03	BW	P -	VTOK	RH
8/18/03	(MFO)	P31	155'	6' S of P31/P32	RP81 G&B ✓	E	1	1	1	03	J1	RH	8/22/03	BW	P -	VTOK	RH
8/18/03	(MFO)	P31	90'	6' S of P31/P32	RP82 G&B ✓	E	1	1	1	03	J1	RH	8/22/03	BW	P -	VTOK	RH
8/18/03	(MFO)	P29	170'	15' S of P29/P30	RP83 P ✓	E	2	2	2	06	TB	RH	8/22/03	BW	P -	VTOK	RH
8/18/03	P28/P29		10'	FEAT	RP84 PD9 ✓	E	5	3	2	06	TB	RH	8/22/03	BW	P -	VTOK	RH
8/18/03	(MFO)	P31	5'	FEAT 15' S of 31/32	RP85 G&B ✓	E	1	1	1	06	TB	RH	8/25/03	BW	P -	VTOK	RH
8/18/03	P31/P32		375'	FEAT	RP86 PD11 ✓	E	5	3	2	03	TB	RH	8/25/03	BW	P -	VTOK	RH
8/18/03	P30/P31		100'	FEAT	RP87 PD10 ✓	E	5	3	2	06	TB	RH	8/22/03	BW	P -	VTOK	RH
8/18/03	(MFO)	P9	37'	FEAT 5' S of 9/18	[redacted]	E	1	1	1	06	TB	RH	8/22/03	BW	P -	VTOK	RH
8/19/03	P5/P6/P10		39'-69'		RP89 CP1 ✓	E	30'	3'	-	06	TB	RH	8/21/03	BW	P -	VTOK	RH
8/19/03	P1/P9/C2		145-169		RP90 CR2 ✓	E	24'	3'		06	TB	RH	8/22/03	BW	P -	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

RP88 Cut out Cap 3 (under)

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 6 OF 24

00248

230 - 230 - 295 -

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 · PHASE IV — PROJECT NO.: GP3211 — TASK NO.: 3.3

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ — YEAR: 2003

INSTALLER: FISHER COMPANY

5371

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/20/03	(MFD)	P33	52'	5' N of 32/33	RP91 / G&B	E	1	1	1	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	(MFD)	P33	98'	2' S of 33/34	RP92 / P	E	2	2	–	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	(MFD)	P34	95'	3' N of 33/34	RP93 / G&B	E	1	1	–	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	(MFD)	P33	130'	5' N of 32/33	RP94 / G&B	E	1	1	–	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	(MFD)	P34	212'	13' N of 33/34	RP95 / G&B	E	1	1	–	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	(MFD)	P33	310'	2' S of 33/34	RP96 / G&B	E	1	1	1	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	(MFD)	P33	345'	2' S of 33/34	RP97 / P	E	2	2	2	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	(MFD)	P34	31'	On Seam	RP98 / G&B	E	1	1	1	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	(MFD)	P34	24	2' S of 34/35	RP99 / G&B	E	1	1	1	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/19/03	CZ/P9		10'	S of P18	RP100 / PD12	E	5	3	–	06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	P34/P35		250'		RP101 / PD14	E	5	3	–	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	P35/P36		360'		RP102 / PD15	E	5	3		06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	P33/P34		122'		RP103 / PD13	E	5	3		06	TB	RH	8/22/03	BW	P	UTOK	RH
8/20/03	P36/P50-C5		92'	FEAT	RP104 / P	E	2	2	2	06	TB	RH	8/25/03	BW	P	UTOK	RH
8/20/03	P36/P50/P33-C5		171'	"	RP105 / P	E	2	2	2	06	TB	RH	8/25/03	BW	P	UTOK	RH

000219

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RH

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GQ3211 TASK NO.: 5.3

YEAR: 2003

PRIMARY: ▩ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

5371

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/20/03	P36/P33/P34 C5	-	92	-	RP106 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P34/P35 C5	-	110	-	RP107 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/35/P36 C5	-	132	-	RP108 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P36/P37 C5	-	158	-	RP109 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P37/P38 C5	-	180	-	RP111 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/38/P39 C5	-	204	-	RP112 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P39/P40 C5	-	226	-	RP113 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P40/P41 C5	-	248	-	RP114 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P41/P42 C5	-	270	-	RP115 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P42/P43 C5	-	292	-	RP116 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P43/P44 C5	-	314	-	RP117 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P44/P45 C5	-	336	-	RP118 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P37 C5	-	180	-	RP110 DP16	E	5	3	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P36/P45/P46	-	358	-	RP119 P	E	2	2	-	06	TB	RH	8/25/03	BW	P	VTOK	RH
8-21-03	P18/P26	—	0-375	CP4	RP120 C	F	375	4	—	09	SSC	CHW	AIR	TESTED	-	SEE AT LOG	

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

REVIEWED BY: RH

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Phase V PROJECT NO.: GQ3211 TASK NO.: 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRE Company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8-21-03	P18/RP120	—	339'	—	RP124 P	E	4	2	—	06	TB	CHW	8/25/03	BW	P	VTOK	RH
8-21-03	P26/RP120	—	185'	PD17	RP122 P	E	5	2	—	06	TB	CHW	8/22/03	BW	P	VTOK	RH
8/25/03	P36/P38C-5	—	190'	capped over	RP123 PD16B	E	5	3	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	P36/P37C-5	—	190'	capped over	RP124 PD16A	E	5	3	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/20/03	P27/P28		200'		RP125 P	E	10	4	—	06	TB	RH	8/22/03	BW	P	VTOK	RH
8/25/03	P36/P38C5	—	202'	capped over PD16A	RP126 P DS1A2	E	5	3	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03		P50	22'	FEAT	RP127 P	E	3	2	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	P50/P36		0-13'	FEAT	RP128 P	E	13'	4	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	C3/P18/P9		0-63	FEAT	RP129 P	E	63'	4	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	P19/P26		0-7'	FEAT	RP130 P	E	7'	4'	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	(mfg) ~~P37/P46/P47~~ C-5	P22	8'	C-F S22/S23	RP131 P	E	2	2	—	06	TB	RH	8/25/03	BW	P	VTOK	RH
8/25/03	P37/P46/P47 C-4 & 6		368'	FWAT	RP132 P	E	2	2	—	06	TB	RH	8/26/03	R	P	VTOK	RH
8/26/03	P37/P47/P78		346'	FWAT	RP133 P	E	2	2	—	06	TB	W	8/26/03	RW	P	VTOK	W
8/26/03	P37/P78/P79		324'	FWAT	RP134 P	E	2	2	—	06	TB	W	8/26/03	RW	P	VTOK	W
8/26/03	P37/P79/P81		302'	FWAT	RP135 P	E	2	2	—	06	TB	W	8/26/03	RW	P	VTOK	W

00002211

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 9 OF 24

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL#6 - PHASE V

PROJECT NO.: 3211 TASK NO.: 3.3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

INSTALLER: ISTEC COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/26/03	P37/P81/P82		281'	FWAT	RP136	P	E	2	2	2	06	TB	RH	8/26/03	RW	P	VTOK	RW
8/26/03	P82/P37		265'	FWAT	RP137	P	E	6	3	–	06	TB	RH	8/26/03	RW	P	VTOK	RW
8/26/03	P82/P83/P37		259'	FWAT	RP138	P	E	2	2	2	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	(MFD)	P37	3' South of 82/37	26' 3'	RP139	P	E	2	2	2	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	(MFD)	P38	South 2½' of P37/P38	1'	RP140	G&B	E	1	1	1	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	(MFD)	P38	220' 2' South P37/P38	2'	RP141	P	E	4	2	–	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P83/P85/P37		238'	FWAT	RP142	P	E	2	2	2	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P85/P86/P37		215'	FWAT	RP143	P	E	2	2	2	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P86/P87/P37		193'	FWAT	RP144	P	E	5	3	–	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P87/P37		185'	FWAT	RP145	PD19	E	6	3	–	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P87/P89/P37		172'	FWAT	RP146	P	E	2	2	–	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	(MFD)	P38	120'	5'S of P37/P38	RP147	G&B	E	1	1	1	06	TB	RH	8/26/03	RW	P	VTOK	RW
8/26/03	(MFD)	P38	160'	5' N of P38/P39	RP148	G&B	E	1	1	1	06	TB	RH	8/26/03	RW	P	VTOK	RW
8/26/03	P89/P90/P37		149'		RP149	P	E	2	2	2	06	TB	RH	8/29/03	RW	P	VTOK	RH
8/26/03	P90/P91/P37		128'		RP150	R	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	RW

000222

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 10 OF 24

F 5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: 603011 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: Istre company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/26/03	(MFO)	P90	123'	1' N. of P90/P37	RP151	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P91/P93/P37		106'	FWAT	RP152	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P37/P38	0	85'	FWAT	RP153	P	E	6	3	-	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P93/P94/P37		85'	FWAT	RP154	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P37/P94		70'	FWAT	RP155	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P94/P97/P37	000223	64'	FWAT	RP156	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P37/P38		32'	FWAT	RP157	P	E	4	3	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	P37/P38		14'	FWAT	RP158	PDIR	E	6	3	2	06	TB	RH	8/26/03	RW	P	VTOK	TW
8/26/03	P97/P37		0-12'	FWAT	RP159	P	E	12'	4'	2'	06	TB	RH	8/29/03	RW	P	VTOK	RW
8/26/03	P45/P46/P37/P36		368-381	FWAT	RP160	P	E	13'	4'	4'	06	TB	RH	8/29/03	RW	P	VTOK	RW
8/26/03	(MFO)	P39	359	1' S of P38/P39	RP161	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	(MFO)	P39	368	16' S of 38/39	RP162	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW
8/26/03	(MFO)	P39	90'	1' S of 38/39	RP163	P	E	2	2	2	06	TB	RH	8-26-03	RW	P	VTOK	TW

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 11 OF 24

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GQ3211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9-3-03	(MFD) 278	P42	70'	6' EAST of P42/P43	RP164	G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P43/P44		90'	FSL	RP165	PD20 P	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P46/P47		73'	FSL	RP166	PD21	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RW
9-3-03	(MFD) 219	P49	28'	FSL, 2' E of 49/50	RP167	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	(MFD)	P49	52'	FSL 2' E of 49/50	RP168	G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	(MFD)	P49	55'	FSL 2' E of 49/50	RP169	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P51/P52		76'	FSL	RP170	PD22	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P51/P53/P54		23'	FSL	RP171	P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03		P55	50'	FWAT	RP172	P	E	2	2	2	03	J1	RH	NO REPAIR				RH
9-3-03	P54/P52/P54/P55		49'	FSL	RP173	P	E	4	5	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P52/P55/P56		81'	FSL	[illegible]	P	E	6	6	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03		P54	52'	5' North of 53/54	RP175	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P56/P57/P52		103'	FSL	RP176	P	E	8	6	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P57/P58/P52/P51 P57/P52		130'	FSL	RP177	PD23	E	10	5	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	(MFD)	P58	FWAT 54'	12' S of S7/S8	RP178	P	E	4	4	-	03	J1	RH	9-4-03	RW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

*173, #174, #176, #177, #178 Re-welded on 9/18/03, and Re-Vac Tested

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 12 OF 24

00224

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE II

PROJECT NO.: G03211 TASK NO.: 3.3

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9-3-03	P58/P59/P51		160'	FSL	RP179 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P59/P60/P51		59'	FWAT	RP180 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-3-03	P50/P51/P60		79'	FWAT	RP181 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P49/P50/P60		101'	FWAT	RP182 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P48/P49/P60		124'	FWAT	RP183 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P47/P48/P60		147'	FWAT	RP184 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P46/P47/P60		169'	FWAT	RP185 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P45/P46/P60		192'	FWAT	RP186 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P46/P60		187'	FWAT	RP187 PD25	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P44/P45/P60		214'	FWAT	RP188 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P43/P44/P60		237'	FWAT	RP189 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P43/P44		105'	~~FSL~~	RP190 PD	E	6	3	-				SEAM CAPPED BY J1 03 525 550 9-4-03				RH
9-4-03	P43/P44		77'	FSL	RP191 PD208	E	6	3	-				SEAM CAPPED BY J1 03 525 550 9-4-03				RH
9-4-03	P42/P43/P60		260'	FWAT	RP192 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P41/P42/P60		283'	FWAT	RP193 P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH

0002225

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE II

PROJECT NO.: 003211 TASK NO.: 3.3

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

INSTALLER: ISTEC COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9-4-03	P40/P41/P60		305'	FWAT	RP194 / P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P25/P40/P60		328'	FWAT	RP195 / P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P24/P25/P60		351'	FWAT	RP196 / P	E	2	2	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P60/P61		330'	FWAT	RP197 / PD24	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P62/P63		59'	FWAT	RP198 / PD18	E	6	3	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P86/P37		197'	FWAT	RP199 / PD19B	E	6	8	.	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P89/P37		177'	FWAT	RP200 / PD19A	E	6	3	.	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P28/P29/P63/P64	000226	375'	FWAT	RP201 /	E	4	3	.	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P27/P28/P62/P63		375'	FWAT	RP202 /	E	4	3	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P27/P62		53'	FSTS	RP203 / PD27	E	6	3	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P26/P27/P61/P62		375'	FEAT	RP204 /	E	4	4		03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	C4/P26/P27/P18/P60/P61		375'	FEAT	RP205 /	E	4	4	.	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P18/P26/P60		375'	FEAT	RP206 /	E	4	3	.	03	J1	RH	9-4-03	RW	P	VTOK	RH
9/3/03	(MFD) 215-	P62	340'	15'S of 62/63 FWAT	RP207 / C&B	E	1	1	1	03	J1	RH	9-4-03	RW	P	VTOK	RH
9/3/03	(MFD) 215-	P62	326'	12'S of 62/63 FWAT	RP208 / C&B	E	1	1	1	03	J1	RH	9-4-03	RW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RTB

SHEET NO. 14 OF 24

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE 8 PROJECT NO. 6G3211 TASK NO.: 3

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRE

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/29/03	P61/P62		59'	FWAT	RP209	P ✓	E	3	3	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
8/29/03	P89 C-5/P37		153'	FWAT	RP210	PD19B2 ✓	E	6	3	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
8/29/03	P86 C-5/P37		210'	FWAT	RP211	PD19B6 ✓	E	6	3	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
9/4/03	P43/P44		117'		RP212	PD20A2 ✓	E	6	3	-			RH	SEAM	CAPPED	BY	J1 9-4-03	RW
9/4/03	P43/P44		71'	FSL	RP213	PD20B ✓	E	6	3	-			RH	SEAM	CAPPED	BY	J1 9-4-03	RW
8/29/03	(mPD) -289-	P57	5'	3' South P57/P58	RP214	G&B ✓	E	1	1	1	03	J1	RH	9-4-03	RW	P	- VTOK	RH
8/29/03	(mPD) -216-	P58	54'	15' North P57/P58	RP215	P ✓	E	2	2	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
8/29/03	(mPD)	P63	356'	15' North of P62/P63	RP216	P ✓	E	2	2		03	J1	RH	9-4-03	RW	P	- VTOK	RH
9-5-03	CAP5/P36/P37/P38		154'-194'-	Cap 5	[illegible]	P-C	E	40'	4'	-	03	J1	RH				RECAPPED 9-5-03	RH
9/5/03	C5/P37-C5	(CELL 5)	160'	FSAT	[illegible]	PD28	E	6	3	-	03	J1	RH				Re-Capped 9-5-03	RW
9/4/03	P44/P45	0002227	7'	FSL	RP219	PD20A3 ✓	E	6	3	-	03	J1	RH	SEAM	CAPPED	BY	J1 9-4-03	RH
9/4/03	P33/P34/P39		61'	FNTS	RP220	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
9/4/03	P38/P35/P36		38'	FNTS	RP221	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
9/4/03	P36/P37/P35/P38		15'	FNTS	RP222	P	E	2	2	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH
9/4/03	P36/P37/P46/P47 C5		375'	FEAT	RP223	P	E	4	8	-	03	J1	RH	9-4-03	RW	P	- VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 15 OF 24

7-5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 · PHASE II

PROJECT NO. 9211 TASK NO.: 3.B

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTC company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/27/03	P37-C5/P36/P38C-5	CAP 5A	154' 194'	FEAT	RP224 CAP5A	E	40'	5'		06	TB	RH	RE-CAPPED 9-5-03				RH
8/29/03	P43/P44		49'	FSL	RP225 PD28B3	E	6	3					SEAM CAPPED BY JI 9-4-03				
8/29/03	P38C-5/CAP5A		190'	FEAT	[illegible]	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP3/P9		5'	FEAT	[illegible]	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP5A/P38C-5		202'	FEAT	RP226 PD28A2	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP5A/P38C-5	0002228	177'	FEAT	RP229 PD28B2	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP3/P-9		10'	FEAT	RP230 PD28A3	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP3/P-18		15'	FEAT	RP231 PD28B3	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
8/29/03	CAP3/P-18		30'	FEAT	RP232 PD28B4	E	6	3		06	TB	RH	SEAM RE CAPPED	by JI	9-5-03		RH
9/4/03	P36/P37/P46/P47		375	FEAT 10'S of P46/P47	RP233 P	E	6	2	2	03	JI	RH	9-4-03	RW	P	VTOK	RH
8/29/03		P65	365'	FWAT	RP234 P	E	2	2	2	03	JI	RH	9-4-03	RW	P	VTOK	RH
8/29/03	(MFD) 331 225	P67	372'	10'N of P67/P68	RP235 G&B	E	1	1	1	03	JI	RH	9-4-03	RW	P	VTOK	RH
8/29/03	(MFD) 331 225	P67	372'	13'N of P67/P68	RP236 G&B	E	1	1	1	03	JI	RH	9-4-03	RW	P	VTOK	RH
8/29/03	(MFD) 225	P68	370'	10'S of P67/P68	RP237 G&B	E	1	1	1	03	JI	RH	9-4-03	RW	P	VTOK	RH
8/29/03	(MFD) 225	P68	320'	10'S of P67/P68	RP238 G&B	E	1	1	1	03	JI	RH	9-4-03	RW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RH

SHEET NO. 16 OF 24

4-5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell #6 - Phase II

PROJECT NO.: GQ3211 TASK NO.: 33

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRC Company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9-4-03	(MFO) 355	P23	28	3' E of 23/24	RP238	GeB ✓	E	1	1	1	03	J1	RH	9-4-03	RW	P	VTOK	RH
~~9-4-03~~							~~E~~	~~1~~	~~1~~	~~1~~	~~03~~	~~J1~~	~~RH~~	~~9-4-03~~	~~RW~~	~~P~~	~~VTOK~~	~~RH~~
9-4-03	Cap6/P43/P44		140'		RP240	Cap6 ✓	E	140	4	2	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	Cap6/P44		123'		[redacted]		E	6	3	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	(MFO) 210	P44	110'	13' East of 44/45	[redacted]		E	1	1	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P23/P40		40'	FSL	RP243	P ✓	E	3	3	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	Top of W I.C. Berm		8-210'	FWAT	[redacted]		E	210	4	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
8-29-03	P62/P63		50'	FWAT	RP245	P0268	E	6	3	-	03	J1	RH	under	Cap #7	RP246		RH
9-4-03	P62/P63		50-100'	FWAT	RP246	Cap7 ✓	E	50	3	-	03	J1	RH	9-8-03	RW	P	VTOK	RH
9-4-03	(4x6)	P66	65'	6' Not 66/67	[redacted]		E	6	4	-	03	J1	RH	9-8-03	RW	P	VTOK	RH
9-4-03	(4x6)	P66	74'	11' N of 66/67	[redacted]		E	6	4	-	03	J1	RH	9-8-03	HW	P	VTOK	RH
8-29-03	P33/P64		375'	6' S of 34/33	RP249	P0333 ✓	E	6	3	-	03	J1	RH	9-4-03	RW	P	VTOK	RH
9-4-03	P30/P31/P46/P47		375'	FEAT	RP250	P ✓	E	4	4	-	03	J1	RH	9-5-03	RW	P	VTOK	RH
9-4-03	P32/P33/P65/P66		24'	6' Not 33/32 18' S of 65/66	RP251	Cap8 ✓	E	24	4	-	03	J1	RH	9-5-03	RW	P	VTOK	RH
8-29-03	P32/P33/P65/P66		375'	FEAT	RP252	P ✓	E	2	2	-	03	J1	RH	9-5-03	RW	P	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 17 OF 24

000229

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE 5C

PROJECT NO. 5Q3211 TASK NO.: 33

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTRE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
8/29/03	P28/P29/P63/P68		375'	FEAT	RP253 / P	E	4	4	-	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	P30/P29/P67/P68		375'	FEAT	RP254 / P	E	4	4	-	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	(MFO)	P68	230'	2' South of P67/P68	RP255 / G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	(MFO)	P68	205'	2' South of 67/68	RP256 / G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	P67/P68		198'	FWAT	RP257 / P	E	2	2		03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	(MFO)	P68	190'	2' South of 67/68	RP258 / G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	(MFO)	P68	150'	8' South of 67/68	RP259 / G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P -	VTOK	RH
8/29/03	(MFO)	P68	137'	[illegible]	RP260 / G&B	E	1	1	1	03	J1	RH	9-4-03	RW	P -	VTOK	RH
9/04/03	(MFO)	P68	5'	FWAT 3' S of P66/67	RP261 / P	E	2	2	-	03	J1	RH	9-4-03	RW	P -	VTOK	RH
9/04/03	P66/P67		15'		RP262 / PD31	E	6	3	-	03	J1	RH	9-5-03	RW	P -	VTOK	RH
8/29/03	P65/P66		153'	FWAT	RP263 / PD30	E	6	3	-	03	J1	RH	9-5-03	RW	P -	VTOK	RH
8/29/03	P63/P68		174'	FWAT	RP264 / PD32	E	6	3	-	03	J1	RH	9-5-03	RW	P -	VTOK	RH
8/29/03	P64/P65		315'	FWAT	RP265 / PD29	E	6	3	-	03	J1	RH	9-5-03	RW	P -	VTOK	RH
8/25/03	(MFO)	P63	90'	4' South of 63/68	RP266 / G&B	E	1	1	1	03	J1	RH	9-5-03	RW	P -	VTOK	RH
8/25/03	(MFO)	P63	98'	10' North of 62/63	RP267 / G&B	E	1	1	1	03	J1	RH	9-5-03	RW	P -	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RH

SHEET NO. 18 OF 24

000230

7-5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 · PHASE V

PROJECT NO.: G03211 TASK NO.: 3.3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

INSTALLER: ISTYE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
9-4-03	(MFD) C-5	P68	40'	4' North of G3/66	RP268	G&B	1	1	1	03	JI	RH	9-5-03	RW	P	VTOK	RH
9-5-03	P90/P37 C-5		146'	FWAT	[redacted]	E	6	3	–	03	JI	RH	SEAM WAS CAPPED by J.I. 09-05-03			—	RH
9-5-03	P90/P37		134'	FWAT	RP270	PD90A4	6	3	–	03	JI	RH	SEAM WAS CAPPED BY J.I. 09-05-03			—	RH
9-5-03	P9/P18/C3B		0-70'	FEAT	[redacted]	E	70	5	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-5-03	CAP3B/P9		5'	FEAT	[redacted]	E	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-5-03	CAP6/P44		102'	FSL	[redacted]	E	6	3	–	03	JI	RH	9-5-03	RW	P	VTOK	RW
9-8-03	~~CAP6/P43~~ P9/P37		118'	~~FSLT~~	RP273	PD91A5	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-5-03	CAP5C/P38 C-5		210'	FEAT	RP275	PD36	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-5-03	CAP5C/P37/P38/P36		160'-210'	FEAT	RP276	CAP5C	50'	5	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
8-25-05	CAP5B/P37/P38/P36		154-194	FEAT	[redacted]	E	40	4	–	06	TB	RH	9-9-03	RW	P	VTOK	RH
9-5-03	CAP6/P43		132'	FSL	[redacted]	E	6	3	–	03	JI	RH	9-5-03	RW	P	VTOK	RW
9-8-03	CAP6/P43		5'	FSL	RP279	PD35C	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-8-03	CAP3B/P9		20'	FEAT	[redacted]	E	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9-8-03	CAP9/P37		133'	FWAT	[redacted]	E	6	3	–	03	JI	RH	9-8-03	RW	P	VTOK	RH
9/8-03	CAP9/P91/90/89/87/86		105'	FWAT	[redacted]	E	105'	5'	–	03	JI	RH	9-8-03	RW	P	VTOK	RH

0000231

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

T-5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE I

PROJECT NO. 603211 TASK NO.: 33

YEAR: 2003

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ESTER COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9-8-03	Cap10/P37/P38		20-50	FLAT	RP283	Cap10 ✓	E	30	4	-	03	J1	RH	9-8-03	RW	P -	VTOK	RH
9-8-03	(MFD)	P67	160'	13' South of 66/67	RP284	P ✓	E	2	2	2	03	J1	RH	9-8-03	RW	P -	VTOK	RH
9-8-03	(MFD)	P68	140'	11' South of 67/68	RP285	G&B ✓	E	1	1	1	03	J1	RH	9-8-03	RW	P -	VTOK	RH
9-9-03	P50/P36		36-50'	FEAT	RP286	P ✓	E	14	5	-	03	J1	RH	9-9-03	RW	P -	VTOK	RH
9-9-03	P50/P36	(P50)	3' N into C-5	FEAT	RP287	P ✓	E	4	2	-	03	J1	RH	9-9-03	RW	P	VTOK	RH
9-9-03	P33/P36		15' North into C-5	FEAT	RP288	P ✓	E	14	4	-	03	J1	RH	9-9-03	RW	P -	VTOK	RH
9-9-03	P34/P36		113'	FEAT	RP289	P	E	5	3	-	03	J1	RH	9-9-03	RW	P -	VTOK	RH
9-10-03	C9/P37		125'	FLAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-10-03	RW	P -	VTOK	RH
9-10-03	C9/P37		145'	FLAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-10-03	RW	P -	VTOK	RH
9-10-03	C38/P9		30'	FEAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-10-03	RW	P -	VTOK	RH
9-10-03	C9/P37		115'	FLAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-10-03	RW	P -	VTOK	RH
9-11-03	C38/C38		150'	2' North of C38/P9	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-11-03	RW	P -	VTOK	RH
9-11-03	P18/C38		35'	FEAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-11-03	RW	P -	VTOK	RH
9-11-03	P18/C38		25'	FEAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-11-03	RW	P -	VTOK	RH
9-11-03	P18/C38		15'	FEAT	[illegible]	[illegible]	E	6	3	-	03	J1	RH	9-11-03	RW	P -	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 20 OF 24

0002232

F 5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: Cell 6 - Phase 5

PROJECT NO.: GQ3211 TASK NO.: 3

YEAR: 2005

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

INSTALLER: ISTK Company

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)	REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)			LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
9/12/03	P37/C-9		165'	FWAT	[redacted]	E	6	3	-	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	P37/C-9		170'	FWAT	[redacted]	E	6	3	-	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	P18	366'	2' North of 23/18	[redacted]	E	1	1	1	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	P18	368'	2' South of C4/P18	[redacted]	E	1	1	1	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	C-4	368'	1' South of 26/C4	[redacted]	E	1	1	1	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	P-66	371'	FWAT	[redacted]	E	1	1	1	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	P-31	118'	3' South of 31/32	[redacted]	E	2	2	-	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/12/03	Leak Detector (MFD)	P-26	359'	8' South of 26/27	[redacted]	E	1	1	1	03	J1	RH	9/12/03	RW	P -	VTOK	RH
9/13/03	Cap3R/P18/P24/P9		0-70'	FEAT	[redacted]	E	70	22	-	03	J1	RH	9/13/03	RW	P -	VTOK	RH
9/14/03	Cap6R/P43/P44		0-140'	FSL	[redacted]	E	140'	7'	-	03	J1	RH	9/15/03	RW	P -	VTOK	RH
9/14/03	Cap8R/P32/P33/P34/P45		0-38'	FNTS	[redacted]	E	38'	6'	-	03	J1	RH	9/15/03	RW	P -	VTOK	RH
9/16/03	Cap5R/P36/P36/P37/P38		154-210	FEAT	[redacted]	E	56'	10'	-	03	J1	RH	9/16/03	RW	P -	VTOK	RH
9/16/03	Cap7R/P62/P63		43-83'	FWAT	[redacted]	E	40'	6'	-	03	J1	RH	9/16/03	RW	P -	VTOK	RH
9/16/03	Cap9R/P86/P87/P88/P90		120-213	FWAT	[redacted]	E	93'	8'	-	03	J1	RH	9/17/03	RW	P -	VTOK	RH
9/19/03	Cap11R/P67		64-75	FWAT	[redacted]	E	11'	3'	-	03	J1	RW	9/19/03	RW	P -	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

000233

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V PROJECT NO.: 603211 TASK NO.: 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ YEAR: 2003

INSTALLER: ISTRC COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				QA ID
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	
9/18/03	Cap12R/P67		56.64'	FWAT	RRP7	Cap12R	E	8'	3'	–	03	J1	RH	9/19/03	RW	P –	VTOK	RH
9/18/03	Cap13R/P66		53.56'	FWAT	RRP8	Cap12R	E	3'	3'	–	03	J1	RH	9/19/03	RW	P –	VTOK	RH
9/19/03	RE-CAPPED PB#1		86.63'	FWAT	RRP9	PB1	E	4	8'	–	03	J1	RH	9/19/03	RW	P –	VTOK	RH
9/19/03	PB8/CR9		183'	FWAT	RRP10	PB42	E	6	3'	–	03	J1	RH	9/19/03	RW	P –	VTOK	RH
9/17/03	Cap10R/P67/P38		30.86	FWAT	RRP11	Cap10R	E	56	5'	–	03	J1	RH	9/18/03	RW	P –	VTOK	RH
9/13/03	Cap3R/P9		20'	FEAT	RRP12	PD38	E	6	3	.	03	J1	RH	9/14/03	RW	P –	VTOK	RH
9/14/03	Cap 6R/P47		48'	FSL	RRP13	PD39	E	6	3	-	03	J1	RH	9/16/03	RW	P –	VTOK	RH
9/15/03	Cap 5R/P36		172'	FEAT	RRP14	PD40	E	6	3	-	03	J1	RH	9/16/03	RW	P –	VTOK	RH
9/16/03	Cap9R'/P37		153'	FWAT	RRP15	PD41	E	6	3	-	03	J1	RH	9/18/03	RW	P –	VTOK	RH
9/17/03	Cap9R'/P86		183'	FWAT	RRP16	PD42	E	6	3	–	03	J1	RH	SEAM WAS CUT OUT & REPLACED				
10/6/03				FEAT	R306		E			–	03	J1	RH	9/18/03	RW	P –	VTOK	RH
10/6/03				FEAT	R307		E			–	03	J1	RH	10/6/03	RW	P –	VTOK	RH
10/6/03				FEAT	R308		E			–	03	J1	RH	10/6/03	RW	P –	VTOK	RH
10/6/03				FEAT	R309		E			–	03	J1	RH	10/6/03	RW	P –	VTOK	RH
10/6/03				FEAT	R310		E			–	03	J1	RH	10/6/03	RW	P –	VTOK	RH

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S = ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 24 OF 34

0002234

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 · PHASE J

PROJECT NO.: GQ3211 TASK NO.: 3 5341

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

INSTALLER: ISTYE COMPANY

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
10/06/03		P50	4'	3'	RP306	G&B	E	1	1	1	03	J1	RH	10/6/03	RW	- P	VTOK	RH
10/6/03		P50	23'	2'	RP307	P	E	3	3	-	03	J1	RH	10/6/03	RW	- P	VTOK	RH
10/6/03		P50	44'	4'	RP308	P	E	3	3	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P33	81'	1'	RP309	G&B	E	1	1	1	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P33	82'	1'	RP310	G&B	E	3	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P34	97'	1'	RP311	G&B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P34	106'	2'	RP312	G&B	E	2	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P35	120'	1'	RP313	G&B	E	9	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P35	131'	1'	RP314	G&B	E	2	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P35	135	1'	RP315	G&B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P36	141'	1'	RP316	G&B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P36	144'	1'	RP317	G&B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P36	145'	1'	RP318	G&B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P36	156'	1'	RP319	G&B	E	2	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P39	212'	1'	RP320	G&B	E	1	1	-			RH	10/6/03	RW	P	VTOK	RH

000235

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

REPAIR SUMMARY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

DESCRIPTION: CELL #6 - PHASE V

PROJECT NO.: GO3211 TASK NO.: 3

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐

YEAR: 2003

INSTALLER: ISTTE co.

DATE (day/mo)	LOCATION				REPAIR NO./ CODE (1)		REPAIR TYPE (2)	SIZE			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM	PANEL	DIST. (ft)	OFFSET (ft)				LENGTH (ft)	WIDTH (ft)	DIA (ft)	MACH NO.	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
10/6/03		P39	222	1'	RP321	G+B	E	2	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03	P50/P36		60'		RP322	P	E	3	3	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
10/6/03		P40	231'	1'	RP323	G+B	E	1	1	-	03	J1	RH	10/6/03	RW	P	VTOK	RH
* 10/16/03		P34	287'	[illegible]	RP324	P	E	2	2	-	03	J1	RH	10/16/03	SS	P	VTOK	RH
8/29/03	P62/P63		[illegible]	FWAY	[illegible]	[illegible]	E	3	3	-	03	J1	RH	under	Cap #7		—	RH
10/17/03		P68	192'	S of 327	326	G+B	E	2	1	-	03	JI	TW	10/17/03	JI	P	VTOK	TW
10/17/03		P37	192'	N of 326	327	G+B	E	3	1		03	JI	TW	10/17/03	JI	P	VTOK	TW
10/22/03		P38	5'	37' FNTS	RP328	P	E	3	3		03	TB	RH	10/22/03	TB	P	VTOK	RH

000236

NOTES: (1) REPAIR NO.: REPAIRS SHOULD BE NUMBERED SEQUENTIALLY.
(1) REPAIR CODES: P = PATCH, C = CAP, S= ANCHOR TRENCH EXTENSION (SKIRT), DS = DESTRUCTIVE SAMPLE, G = GRIND & WELD, T = TOPPING ALONG FUSION SEAM, R = RECONSTRUCTION
(2) REPAIR TYPES: E = EXTRUSION, F = FUSION

* KNIFE CUT IN MEMBRANE - DETECTED BY LEAK CREW. 10/15/03

©GEO SYNTEC CONSULTANTS FILE NO. 3-09-RSL

REVIEWED BY: RW

SHEET NO. 24 OF 24

APPENDIX O

GEOMEMBRANE SEAM AND REPAIR LOCATION LOGS

CELL 2 CAP

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: Cap #2 - Cell #2 - PHASE I DATE: ____ day JULY month 2003 year

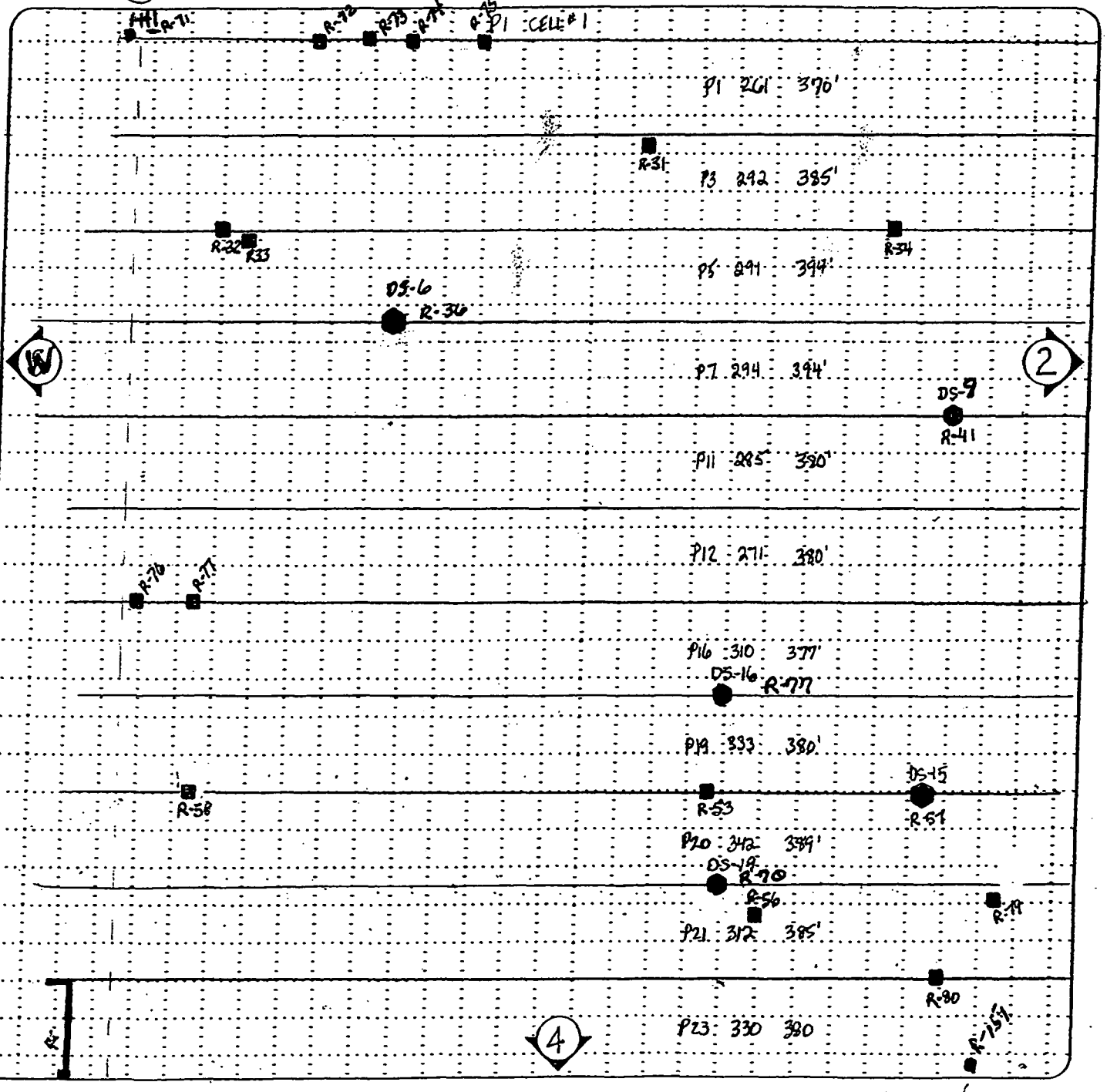
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 8 MIL HDT - CAP #2

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: BH



238A

REVISED 7-15-03

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3.3

DESCRIPTION: Cap #2 | Cell #2 - PHASE V DATE: 01 day July month 2003 year

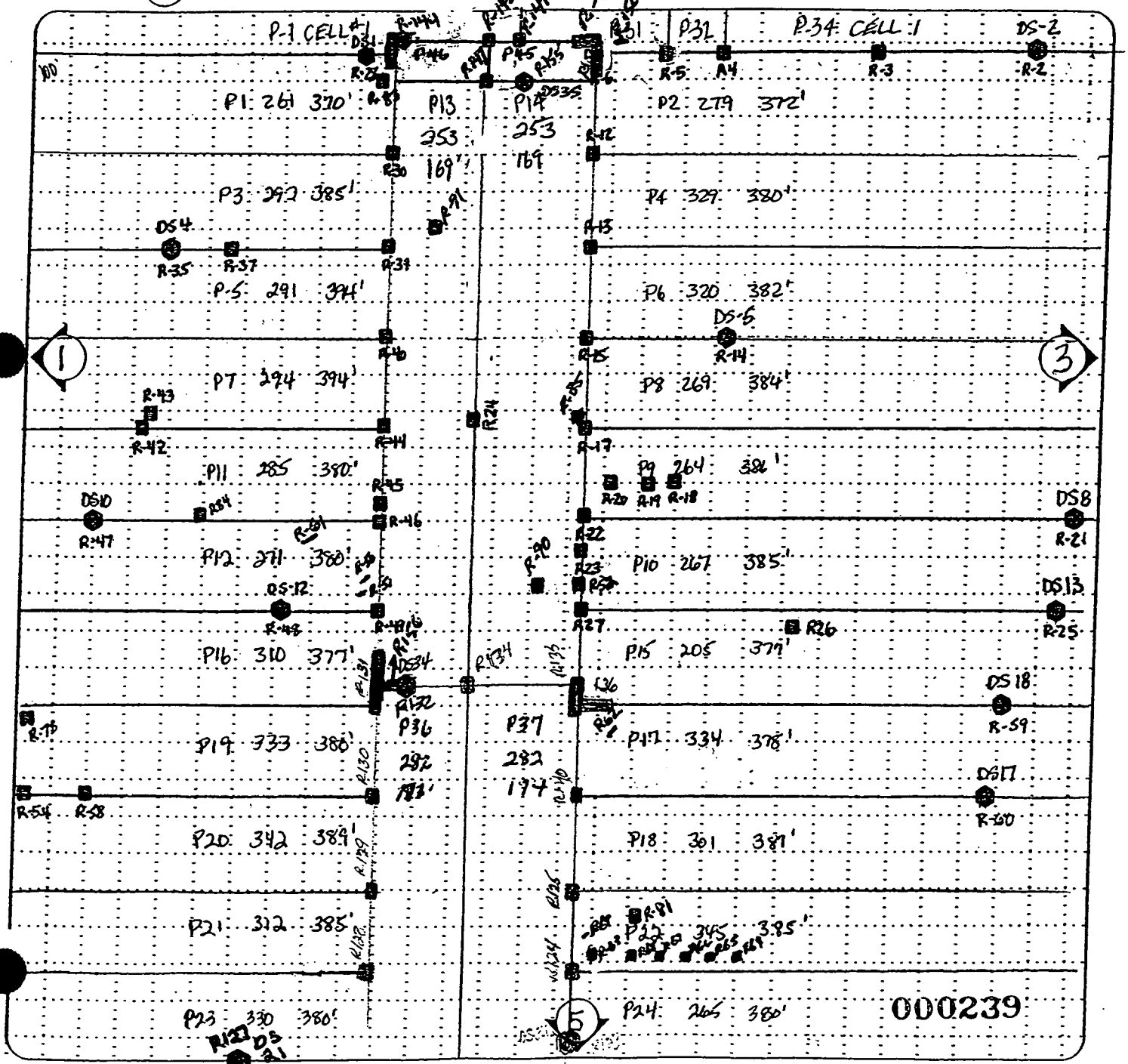
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 Mil HDT - Cap #2 | PHASE V

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: GH



000239

© GEOSYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 2 OF 6

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: Cap #2 | Cell #2 - PHASE I DATE: 01 day July month 2003 year

CONTRACTOR: FLUOR FERNALD

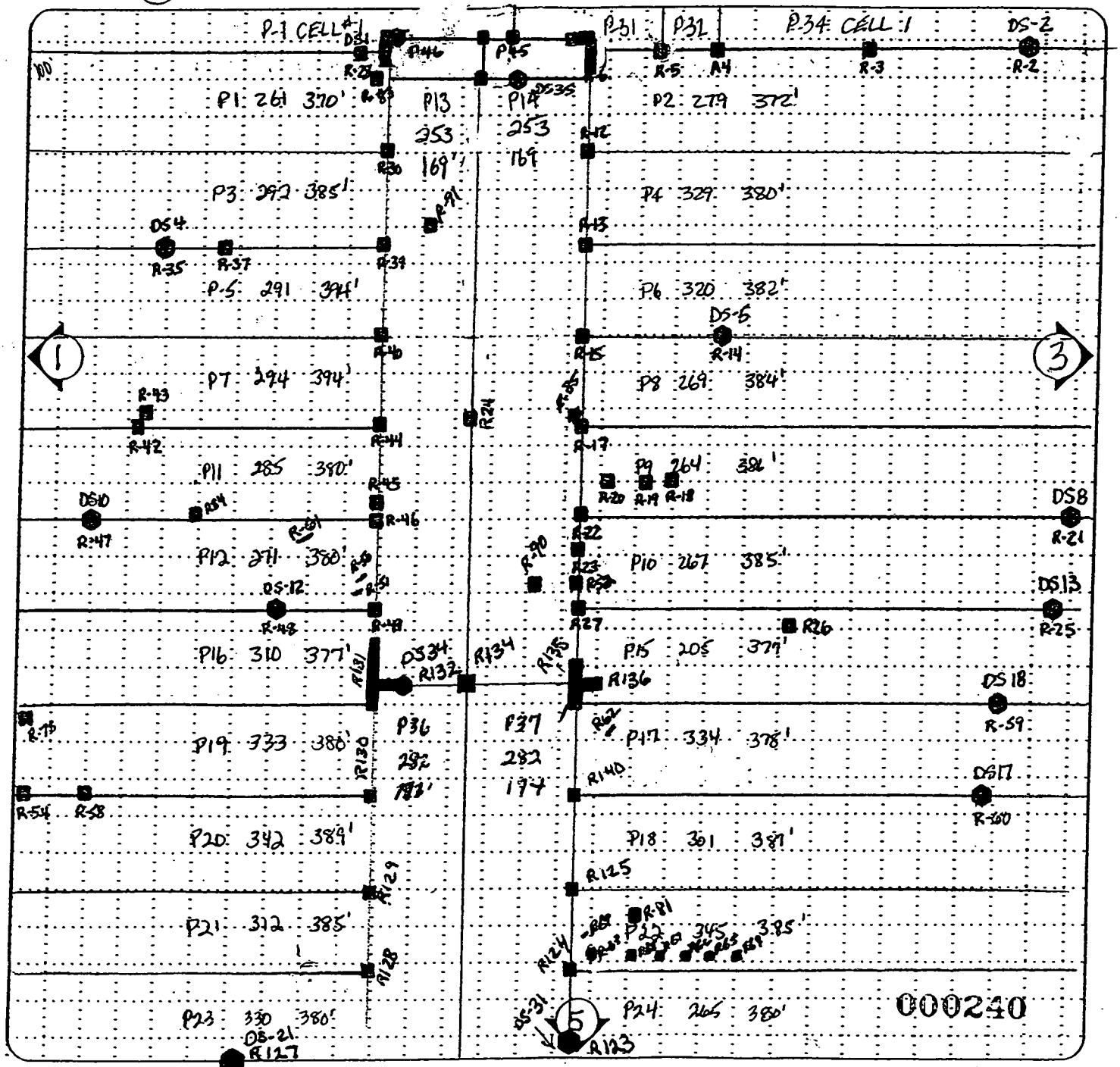
PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 Mil HDT - Cap #2 | PHASE I

NORTH (4)

NOTE:
SEE OTHER SIDE FOR SYMBOLS

(N)

QA ID: GH



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: Cap #2 | Cell #2 - PHASE II DATE: 01 day July month 2003 year

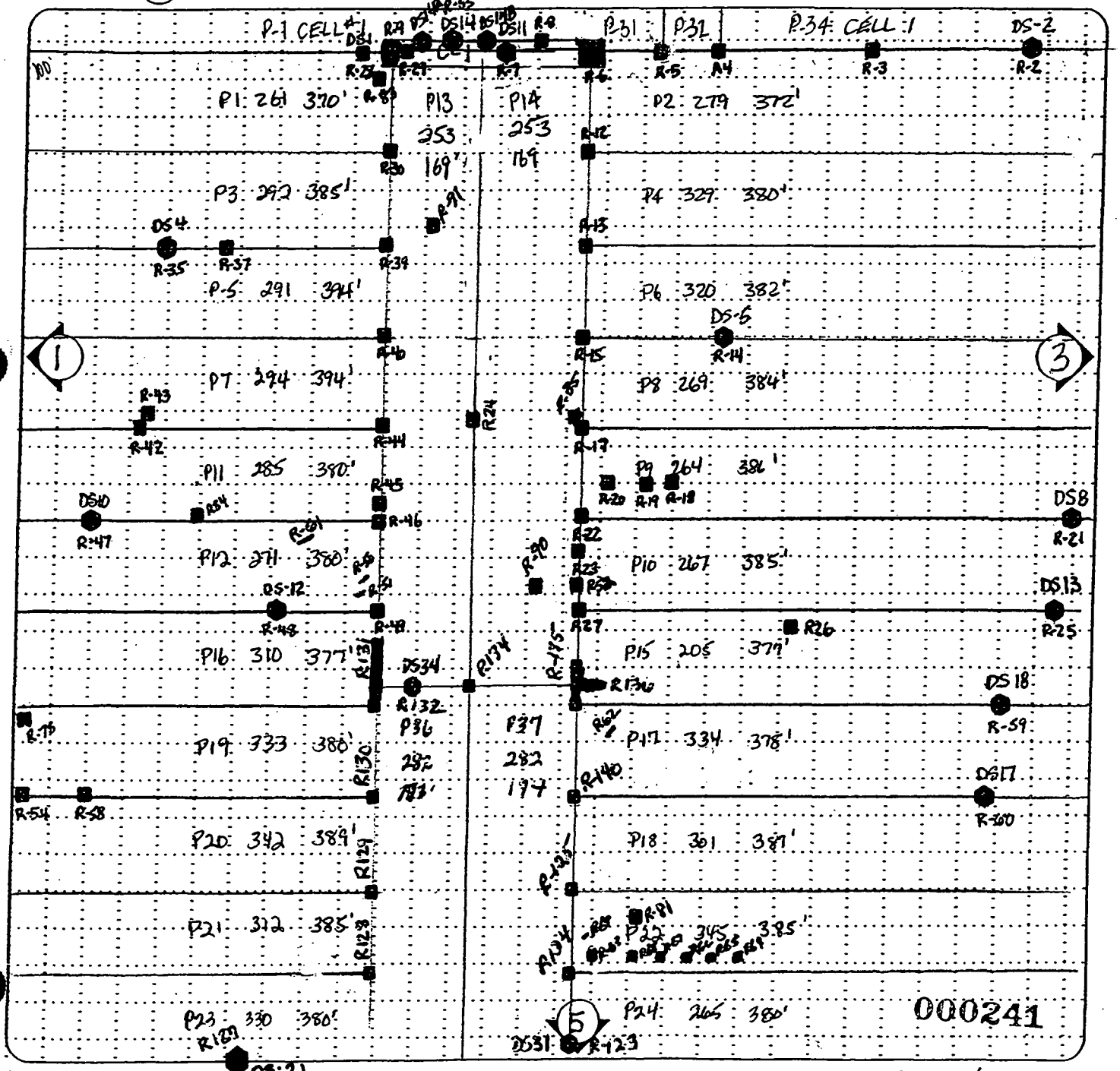
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 Mil HDT - Cap #2 | PHASE II

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID:



000241

GEO SYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 2 OF 6

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

P-5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 33

DESCRIPTION: Cap #2 - Cell #2 - PHASE V DATE: ____ day July month 2003 year

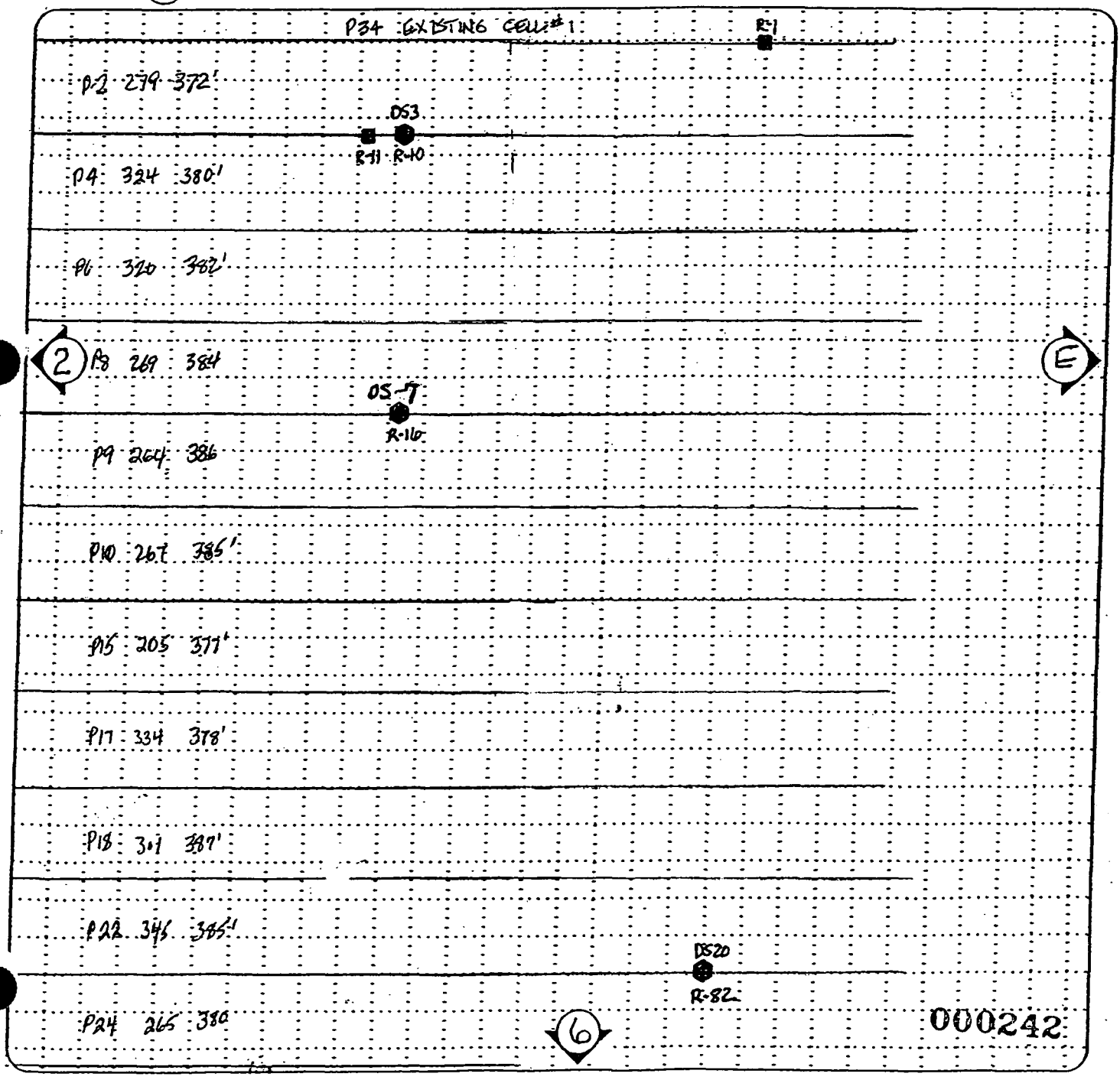
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 Mil HDT / CAP #2

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: RH



000242

GEO SYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 3 OF 6

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: Cap #2 - CELL #2 - PHASE 7 DATE: ____ day July month 2003 year

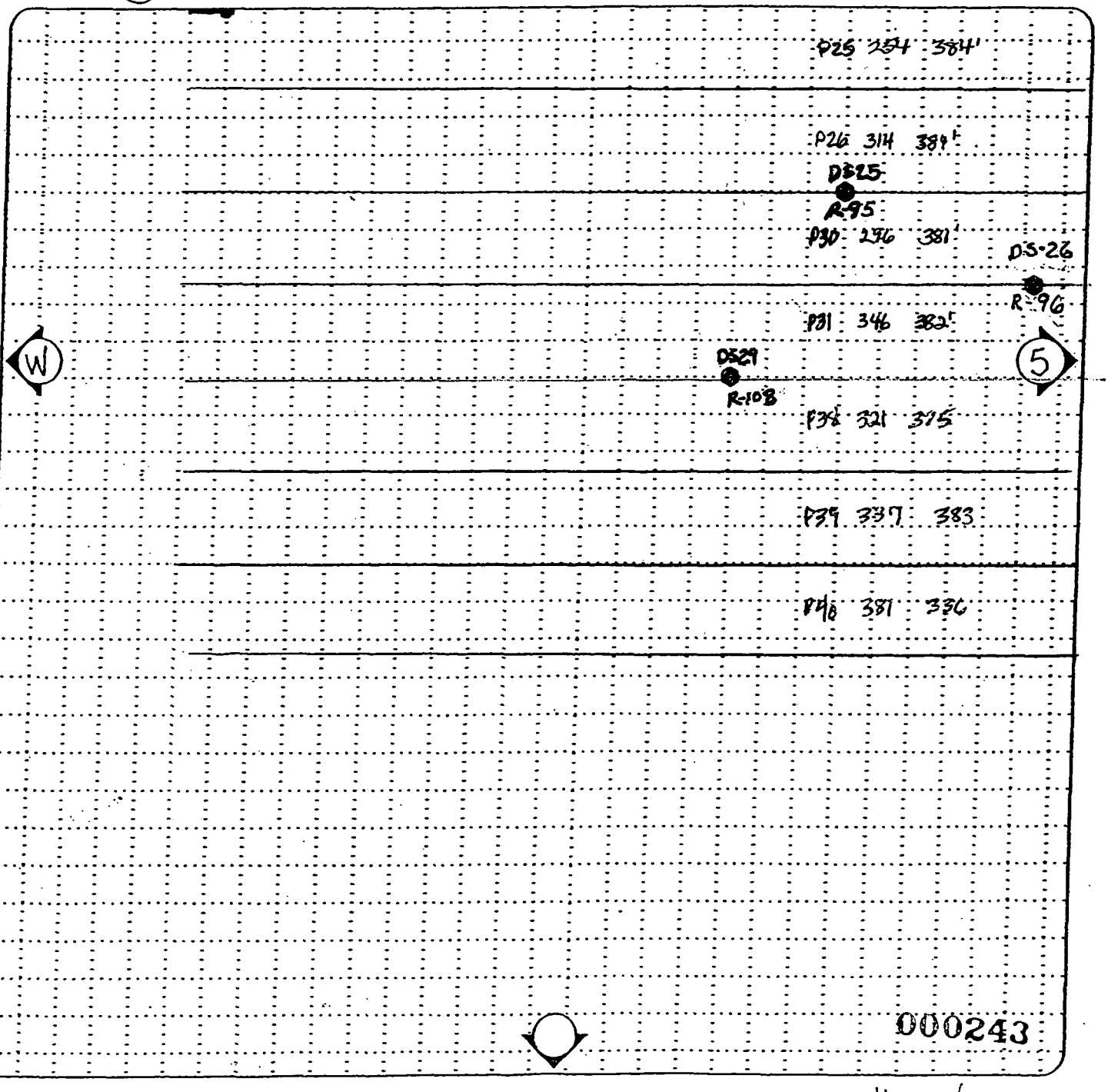
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: Cap #2 - CELL #2 80 MIL HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: ____



GEOSYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 4 OF 6

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3.3

DESCRIPTION: Cap #2 - Cell #2 - PHASE I DATE: ____ day July month 2003 year

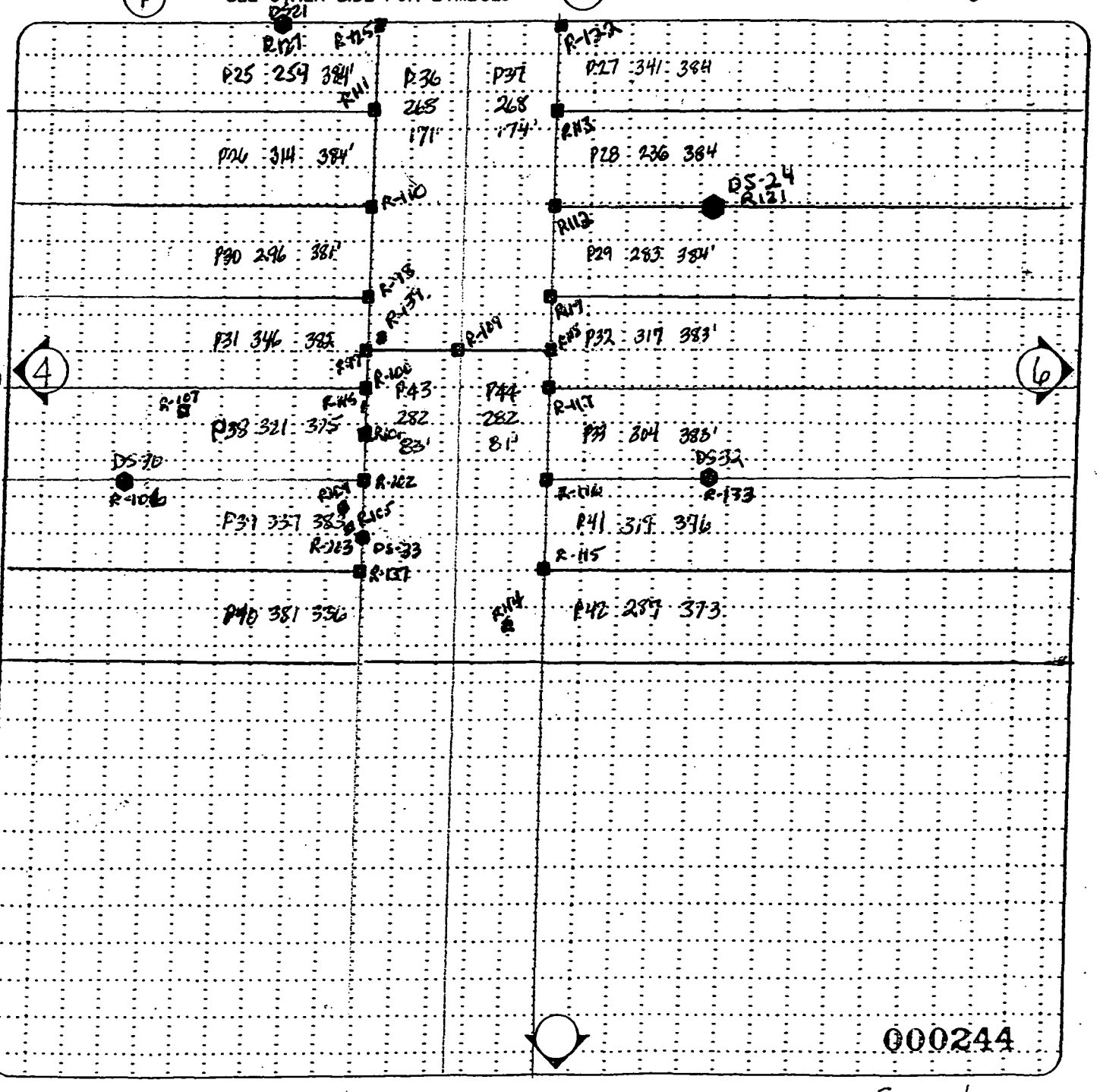
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 Mil HDT - CAP #2

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: [illegible]



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3.3

DESCRIPTION: Cap #2 - CELL #2 PHASE I DATE: ____ day July month 2003 year

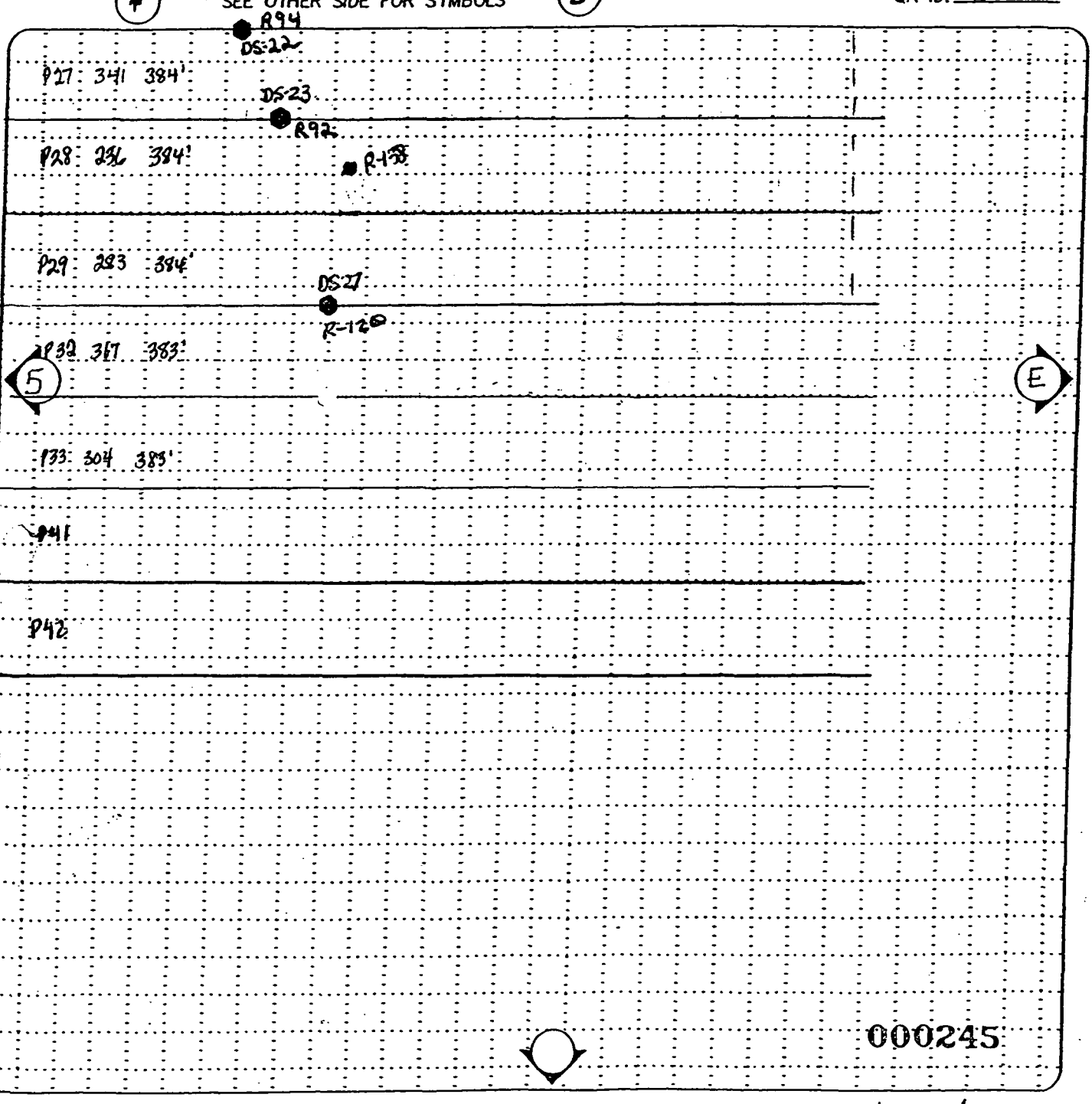
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☒ PRODUCT TYPE: 80 MIL HDT - CAP #2 - PHASE I

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: QA



CELL 6 SECONDARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC. 5371

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3.3

DESCRIPTION: CELL #6 · PHASE V - SECONDARY DATE: 14 day AUG month 2003 year

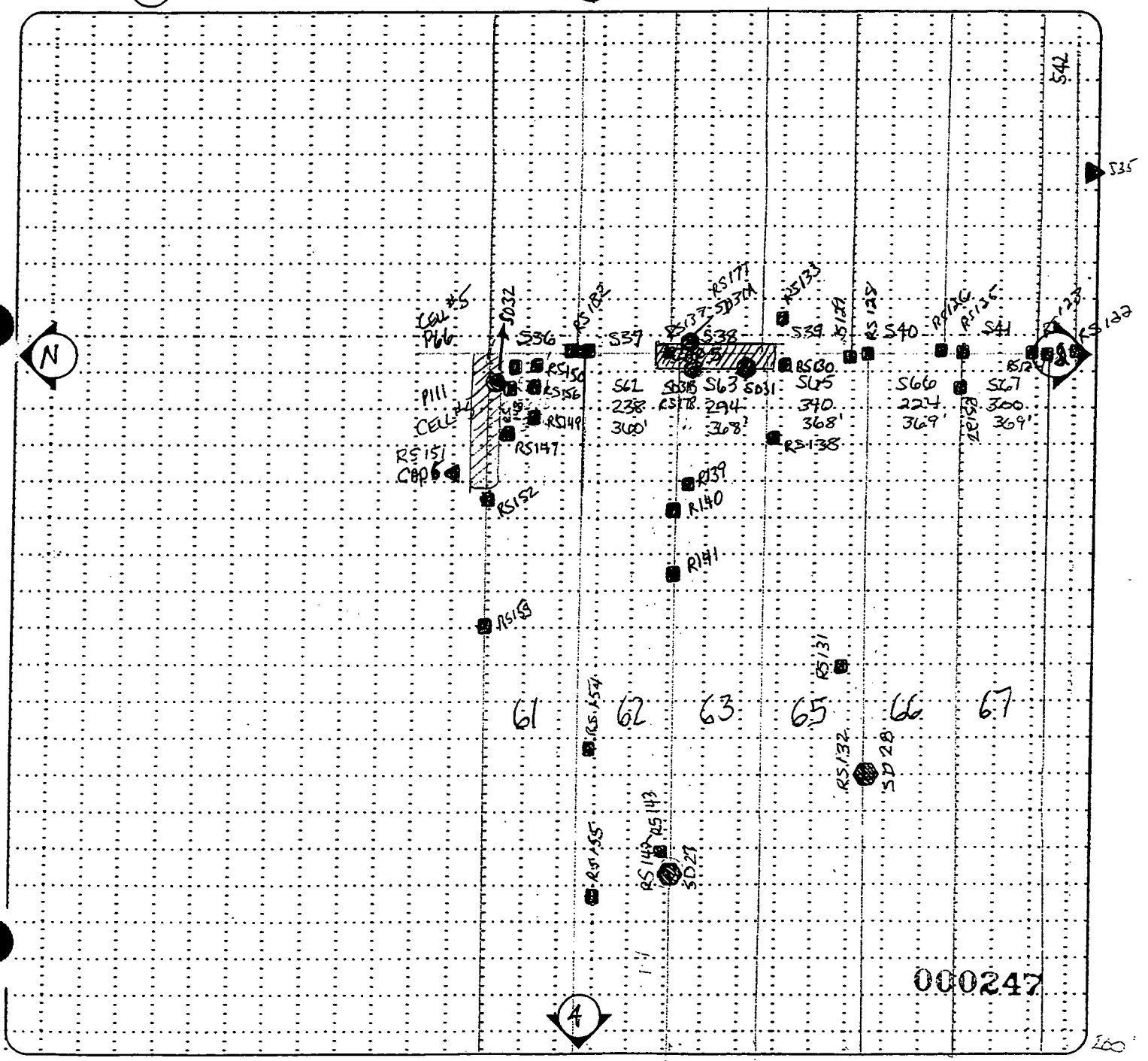
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ PRODUCT TYPE: _____

NORTH

NOTE: SEE OTHER SIDE FOR SYMBOLS

QA ID: _____



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 33

DESCRIPTION: PHASE DATE: 23 day July month 2003 year

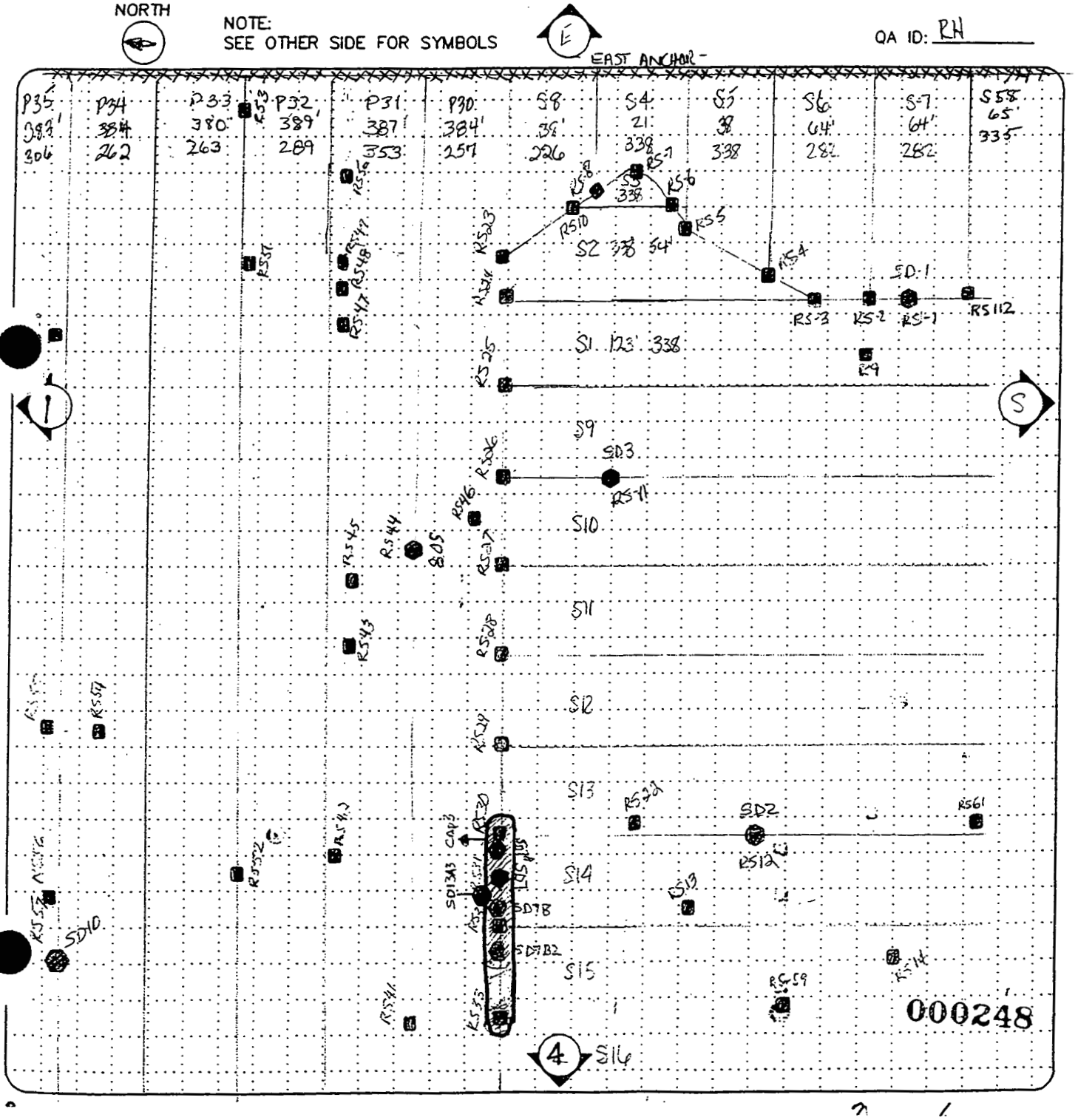
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐ PRODUCT TYPE: 80 Mil HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: RH



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. GQ3211 TASK NO.: 33

DESCRIPTION: PHASE V CELL #6 DATE: 14 day Aug month 2003 year

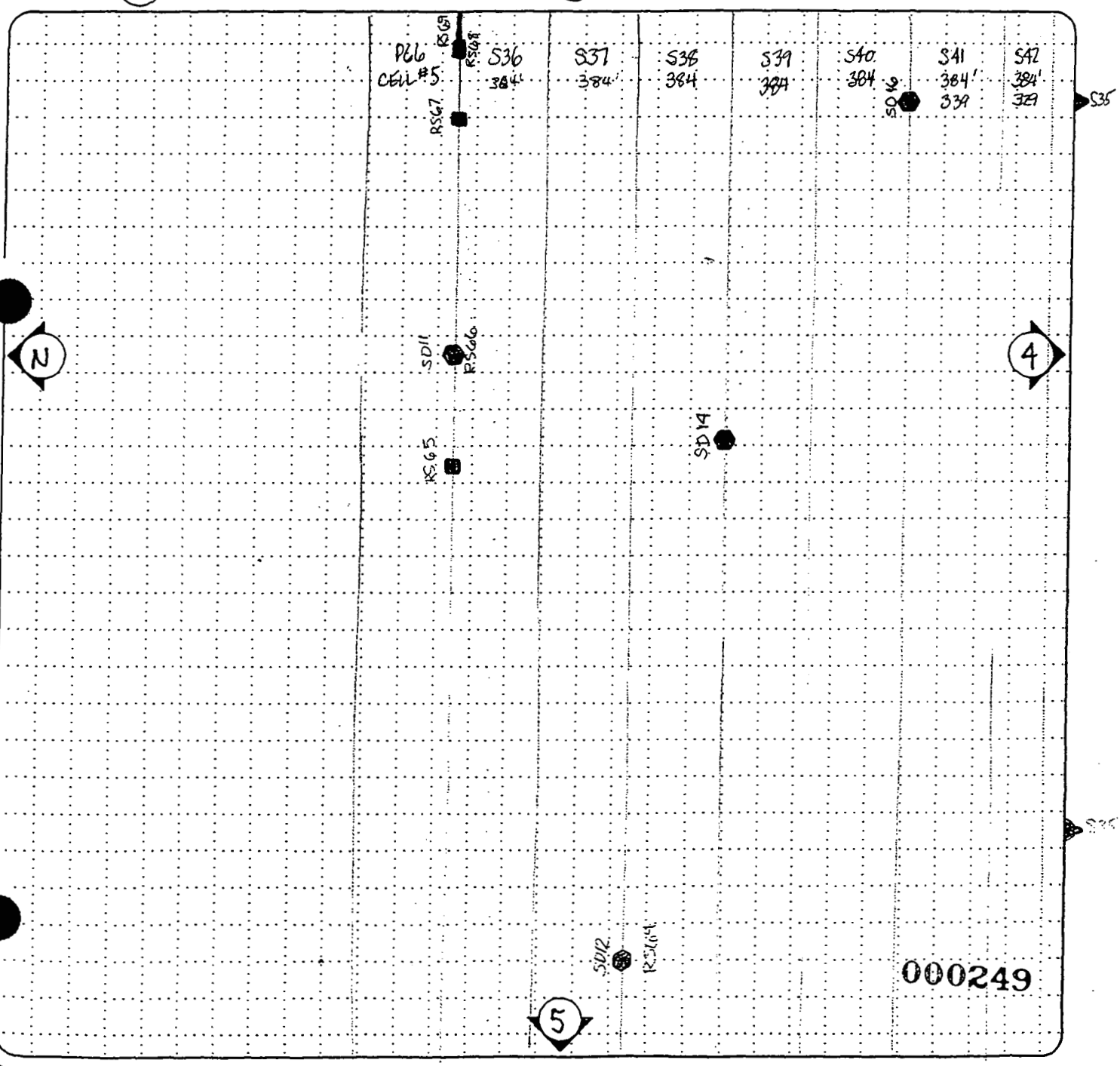
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ PRODUCT TYPE: 80 mil HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: RH



000249

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ3211 TASK NO.: 33

DESCRIPTION: PHASE DATE: 24 day July month 2003 year

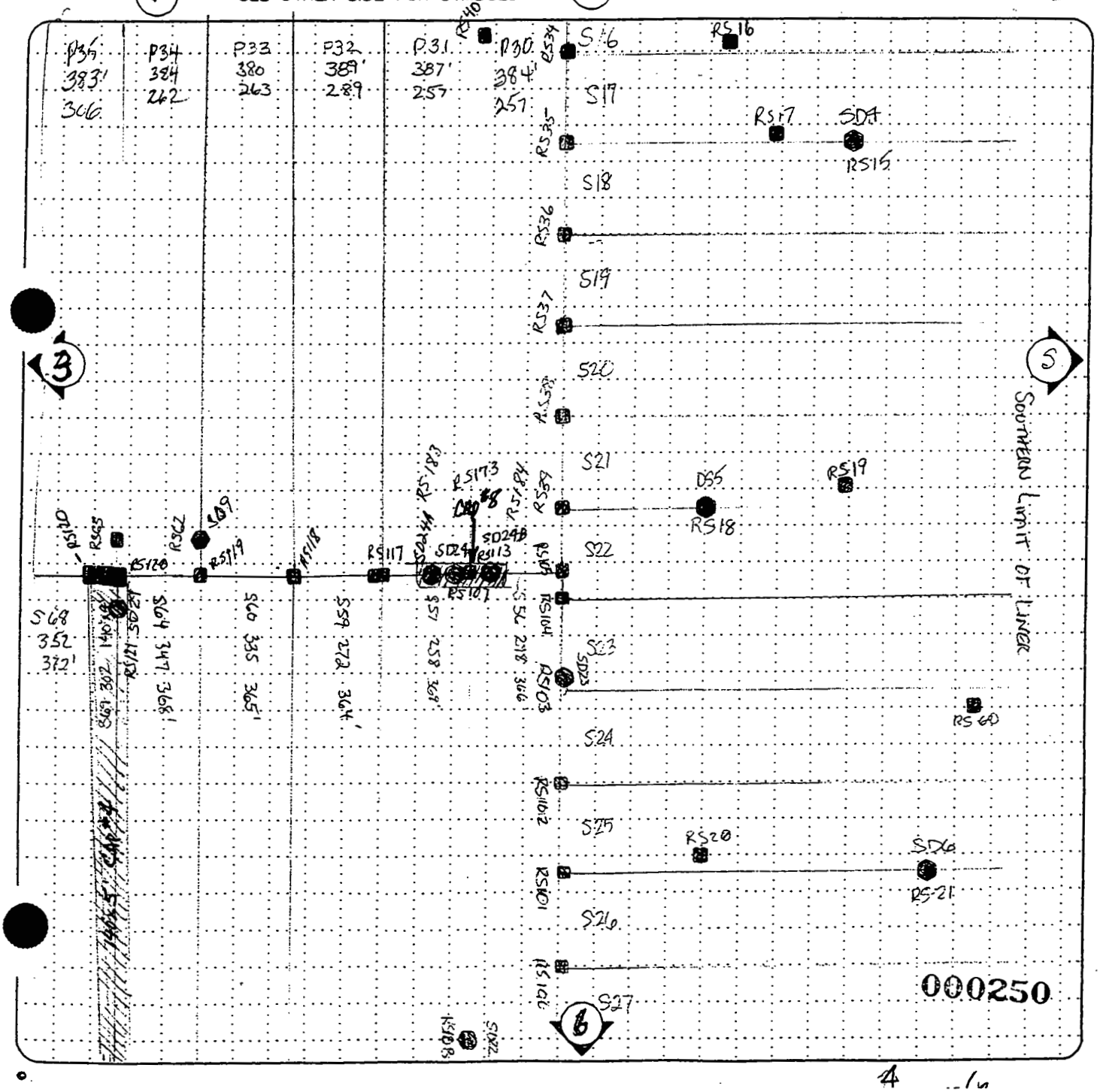
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ PRODUCT TYPE: 80 Mil HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: BH



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GP3211 TASK NO.: 3.3

DESCRIPTION: CELL #4 - PHASE II DATE: 12 day AUG month 2003 year

CONTRACTOR: FLUOR FERNALD

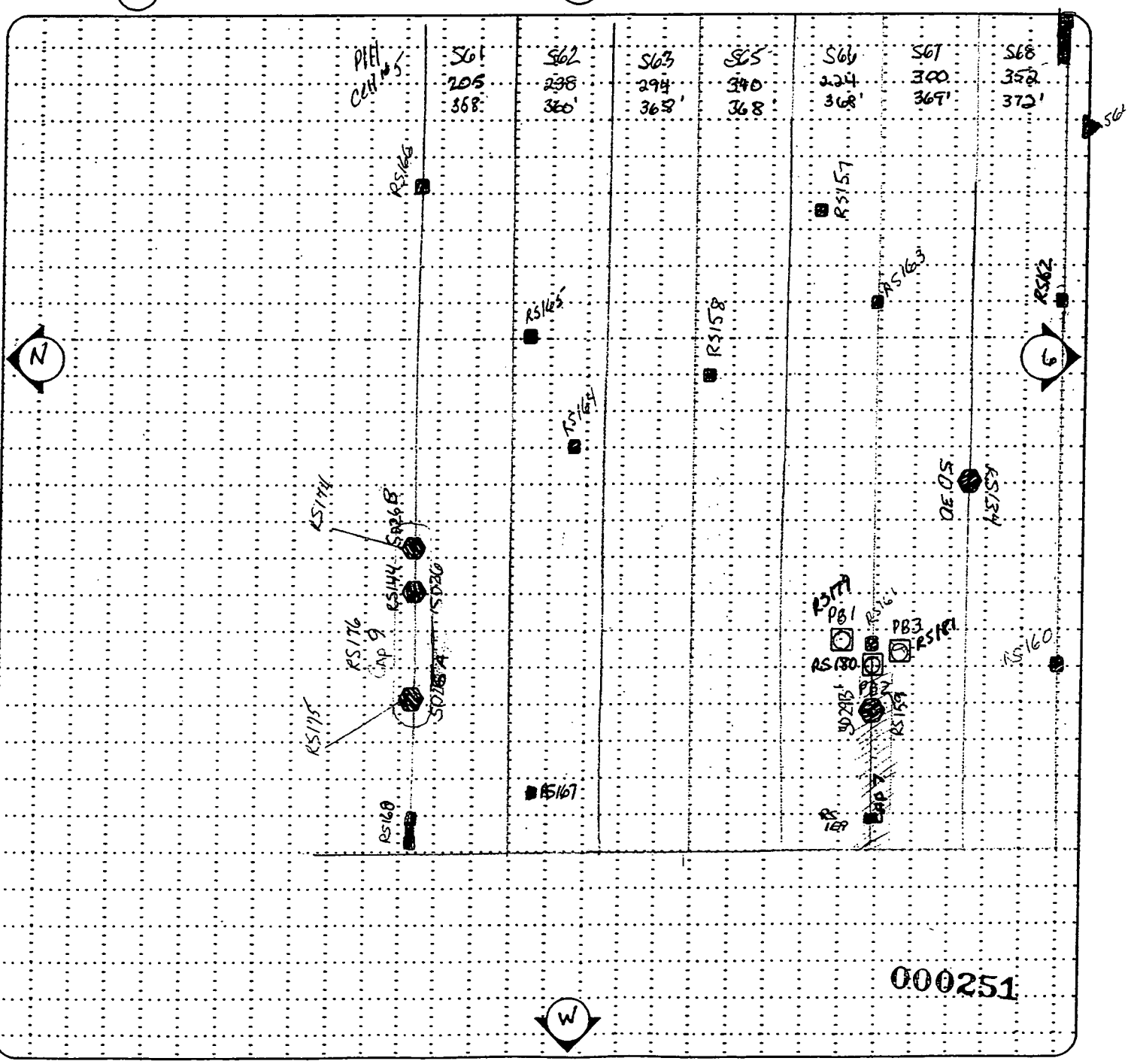
PRIMARY: ☐ SECONDARY: ☒ OTHER: ☐ PRODUCT TYPE: 60 MIL HDT

NORTH

NOTE: SEE OTHER SIDE FOR SYMBOLS

3

QA ID:



000251

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GP3211 TASK NO.: 3.3

DESCRIPTION: CELL #6 - PHASE I DATE: 23 day JULY month 2003 year

CONTRACTOR: FLUOR FERNALD

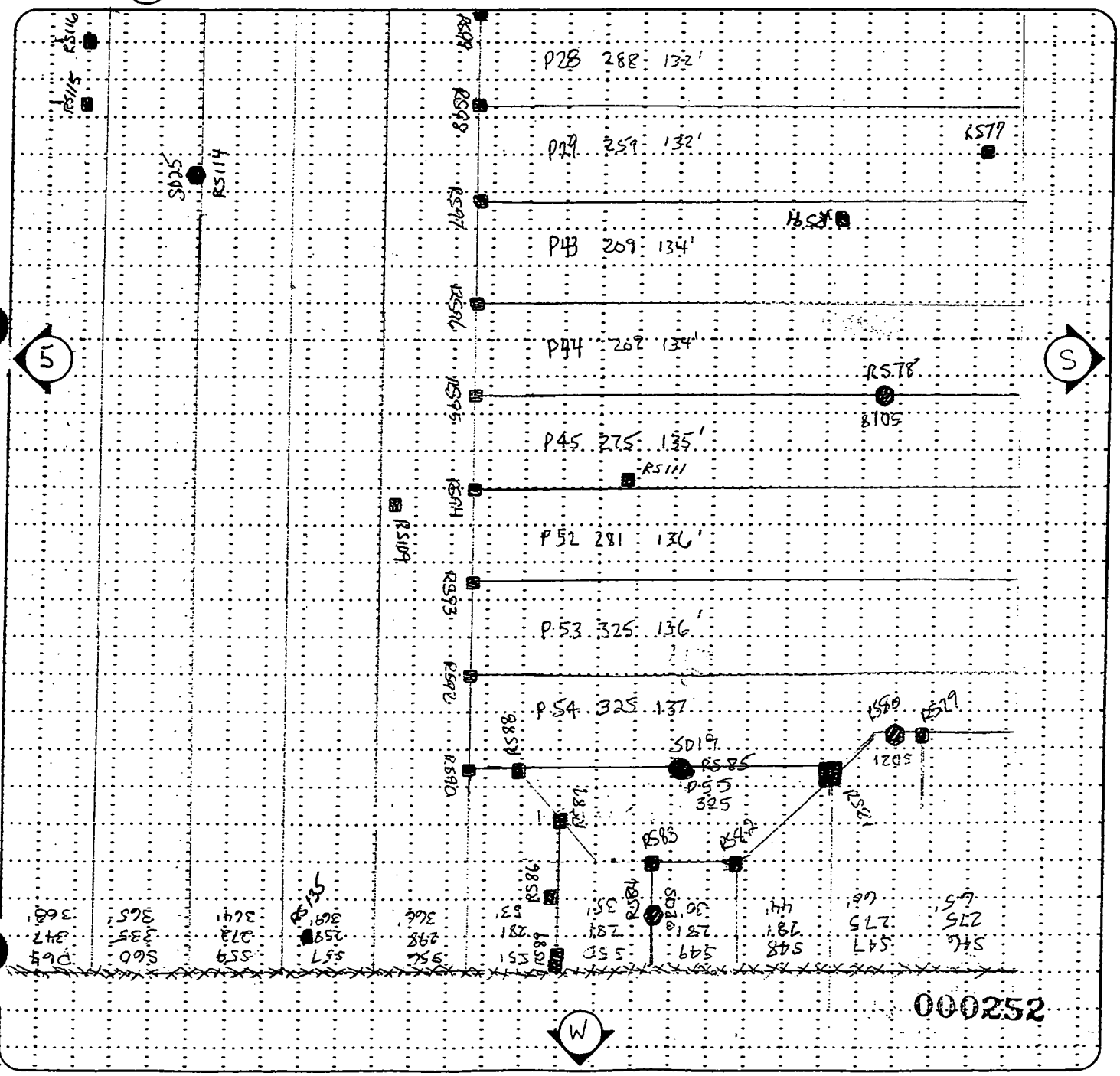
PRIMARY: ☐ SECONDARY: ■ OTHER: ☐ PRODUCT TYPE: 80 MIL HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

4/4

QA ID: RTI.1



000252

CELL 6 PRIMARY

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

5371

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 03

DESCRIPTION: Cell #6 Phase V DATE: 12 day Sept month 2003 year

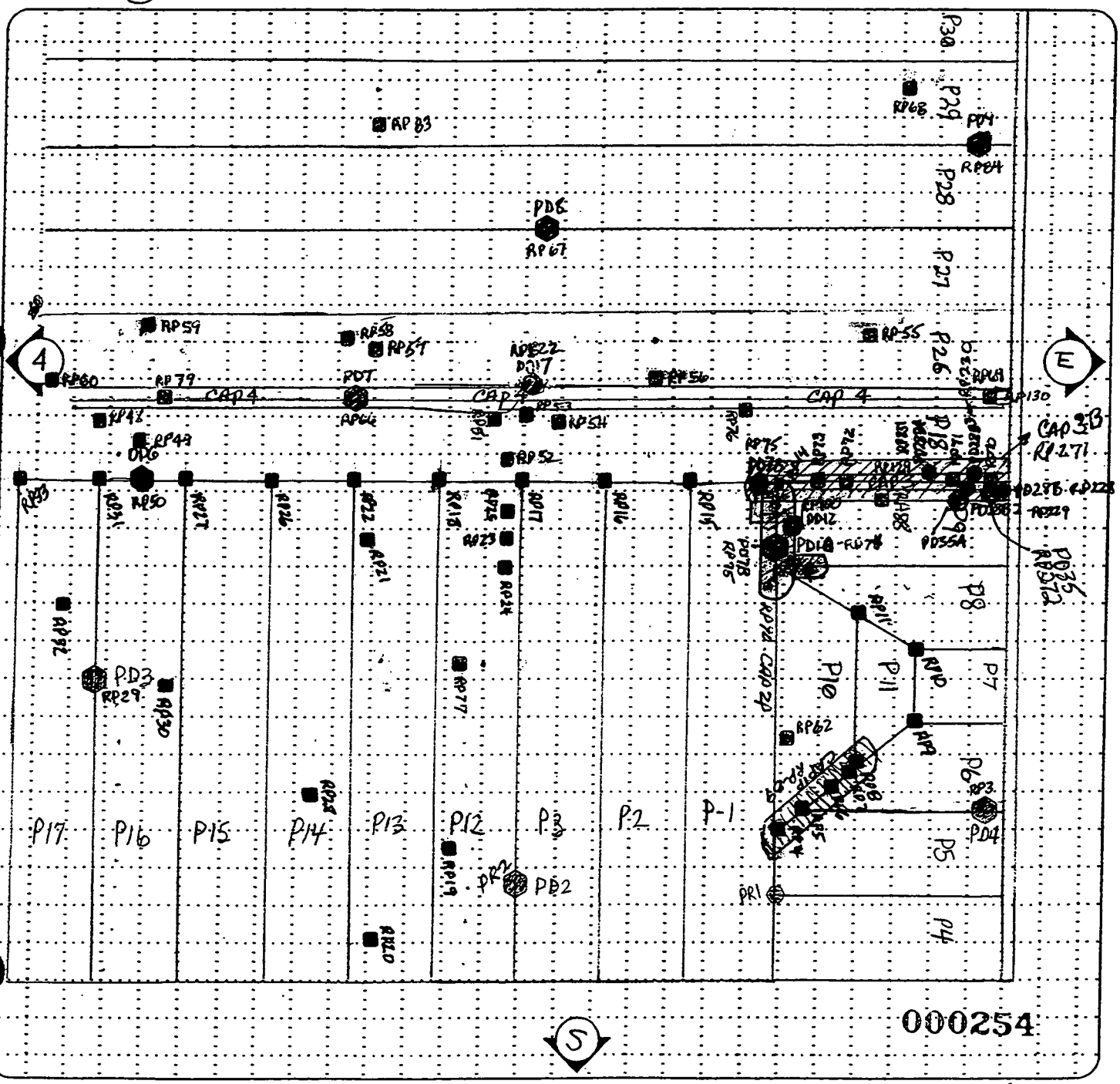
CONTRACTOR: Fluor / Istre

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE:

NORTH

NOTE: SEE OTHER SIDE FOR SYMBOLS

QA ID:



GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

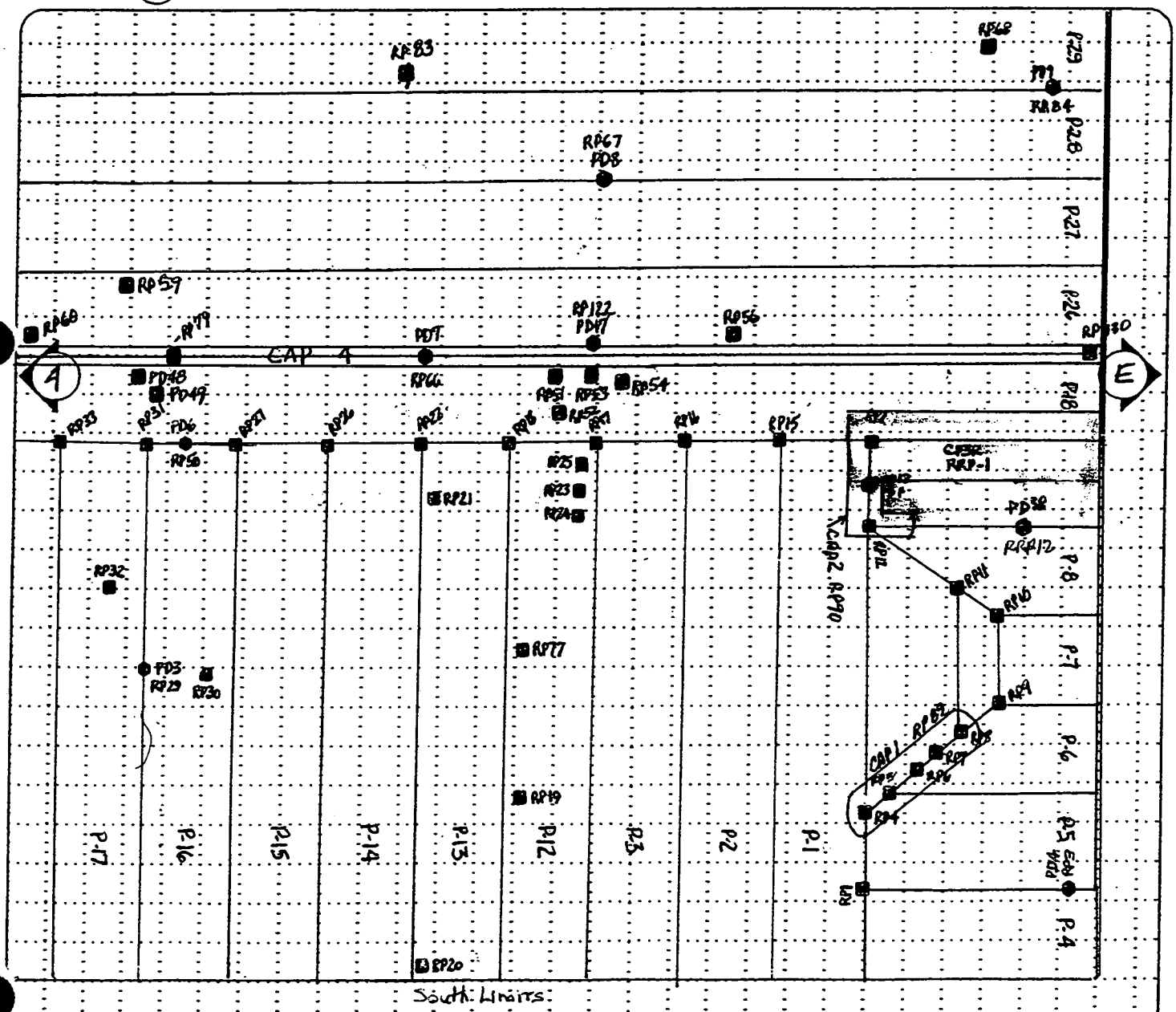
LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: CELL #16 · PHASE V DATE: 12 day SEPT month 2003 year

CONTRACTOR: FLUOR FERNALD / DOE

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: REVISED (9-13-03)

NORTH ↑ – NOTE: SEE OTHER SIDE FOR SYMBOLS (2) QA ID: RN



*Note- Cap3B was cut out replaced by J.J. on 9/12/03 by CAP3R(RRP-1)

(5)

L 000255

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

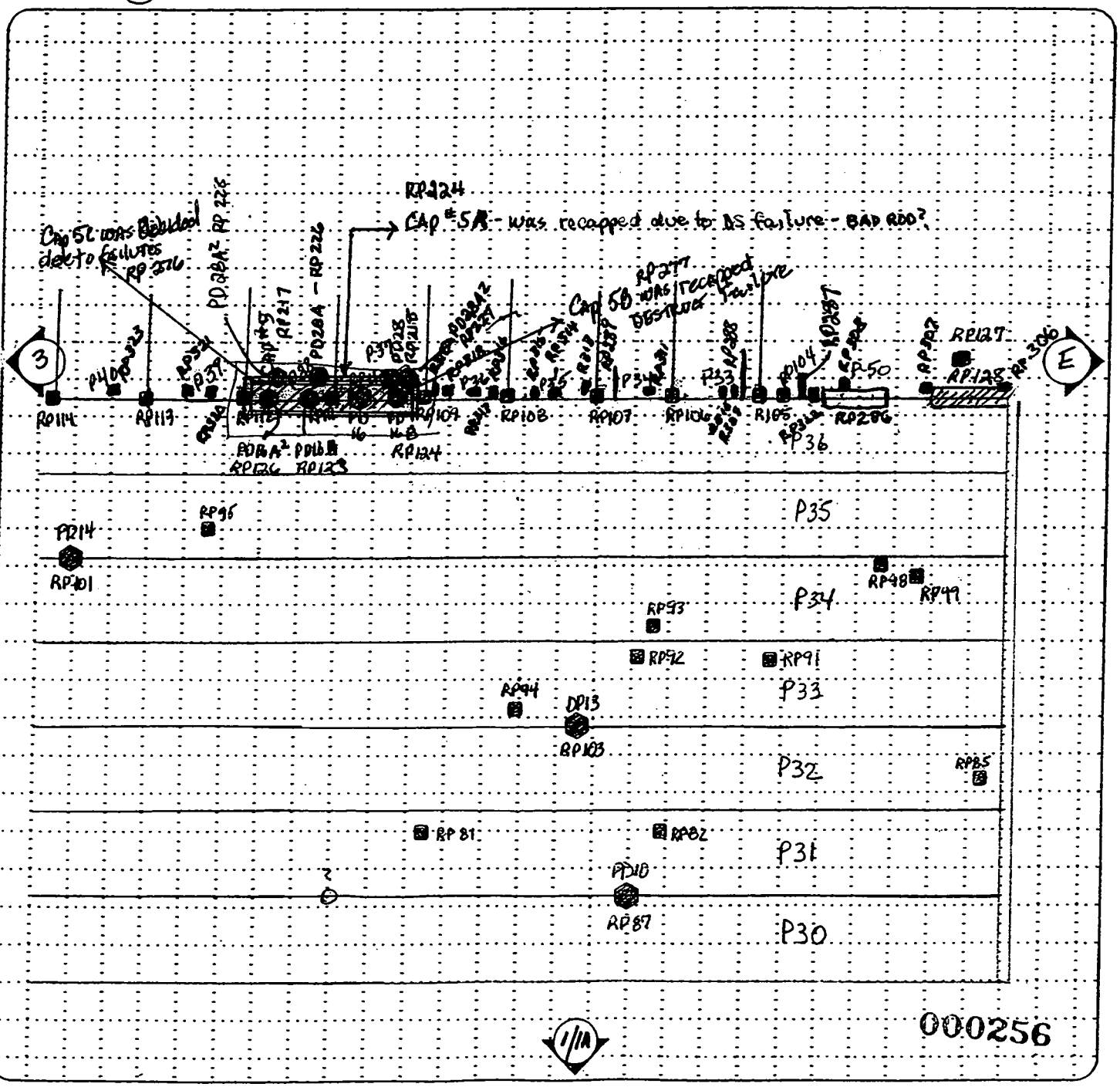
LOCATION: FERNALD, OHIO PROJECT NO. G03211 TASK NO.: 3

DESCRIPTION: CELL #6 · PHASE II DATE: ____ day OCT month 2003 year

CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: ____

NORTH ↑ NOTE: SEE OTHER SIDE FOR SYMBOLS N QA ID: ____



GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

5371

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 03

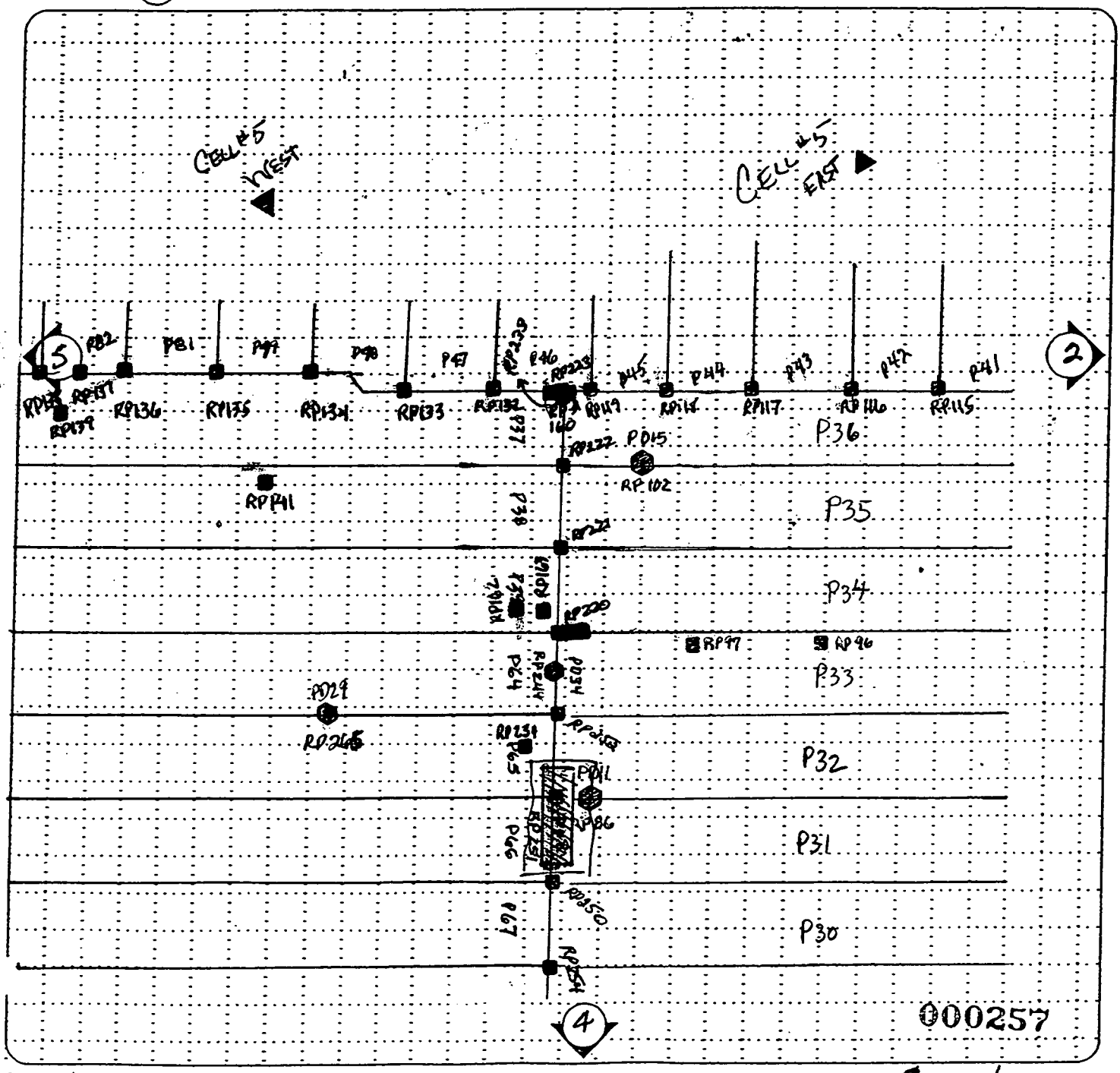
DESCRIPTION: Cell #6 Phase V DATE: ____ day Sept month 2003 year

CONTRACTOR: Fluor / Istre

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: ____

NORTH ▲ NOTE: SEE OTHER SIDE FOR SYMBOLS N

QA ID: ____



GEO SYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 3 OF 6

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: CELL #6 - PHASE I (REVISED - 9/13/03) DATE: 13 day SEPT month 2003 year

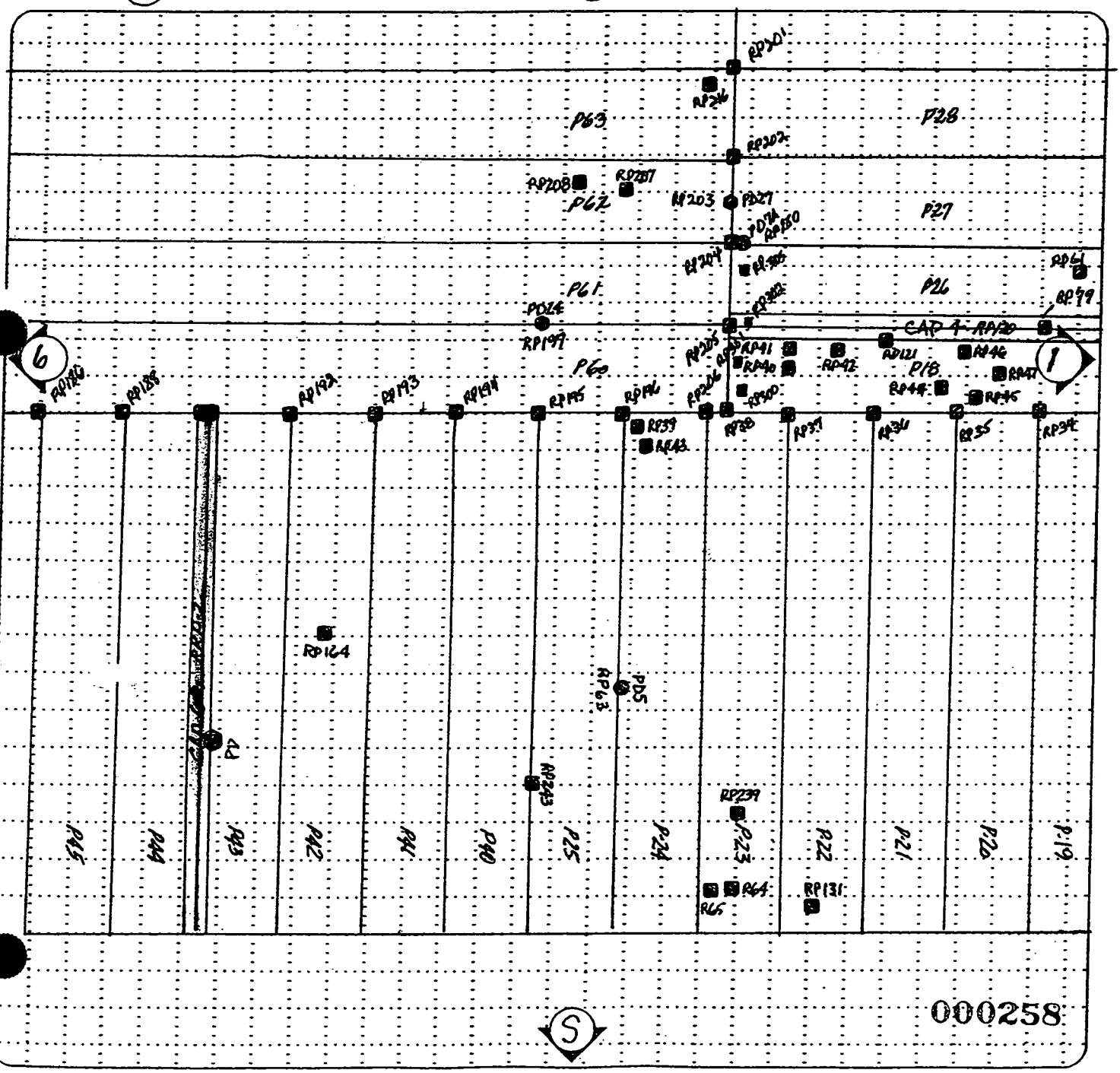
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☒ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: 80 MIL HDT

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: BJH



GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: 603211 TASK NO.: 3

DESCRIPTION: CELL #6 - PHASE II DATE: ____ day OCT month 2003 year

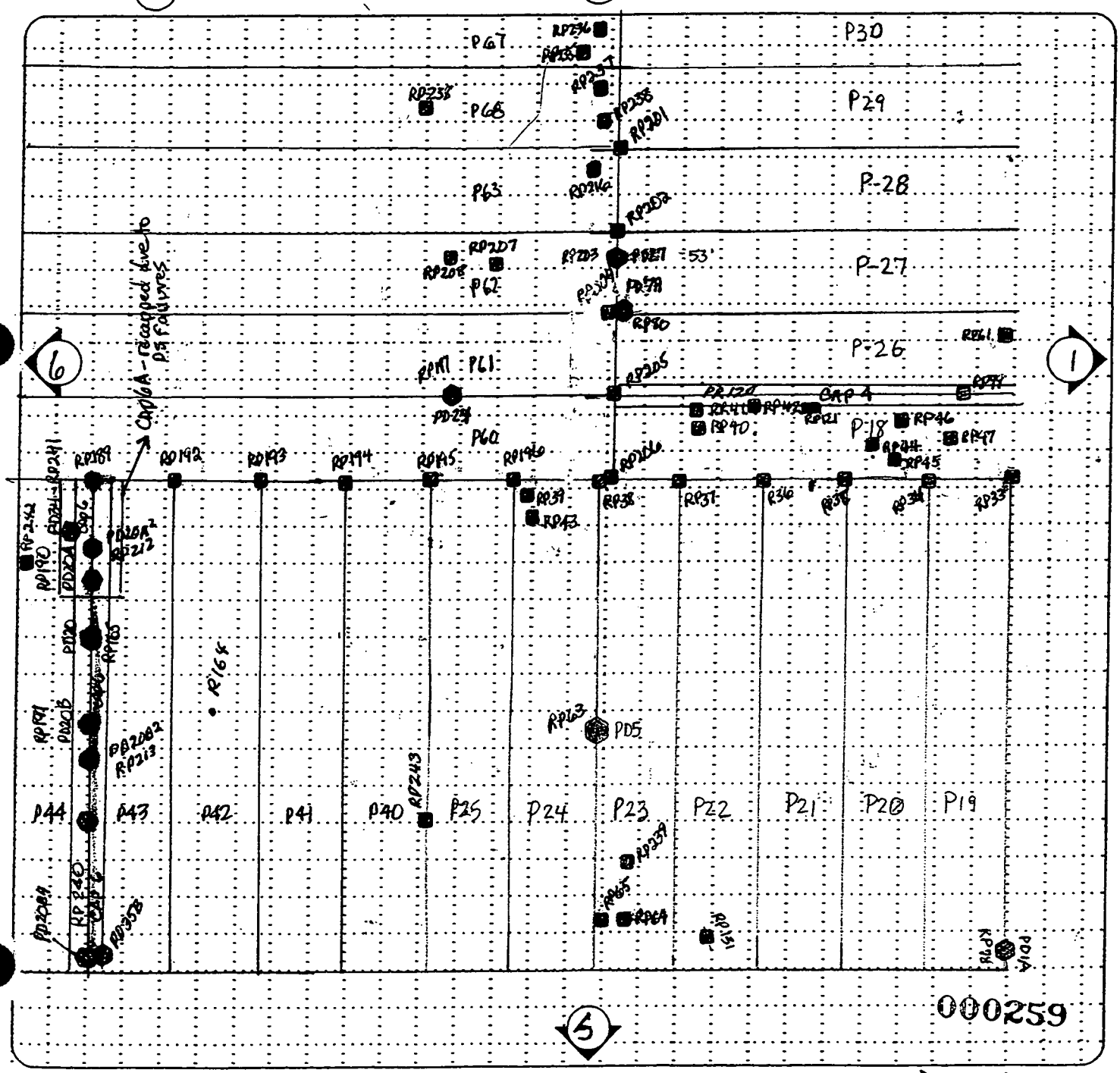
CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: ____

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: ____



GEOSYNTEC CONSULTANTS FILE NO. 3-08A-SPR

SHEET NO. 4 OF 6

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 603211 TASK NO.: 3

DESCRIPTION: CELL #6 - PHASE 1 DATE: ____ day SEPT month 2003 year

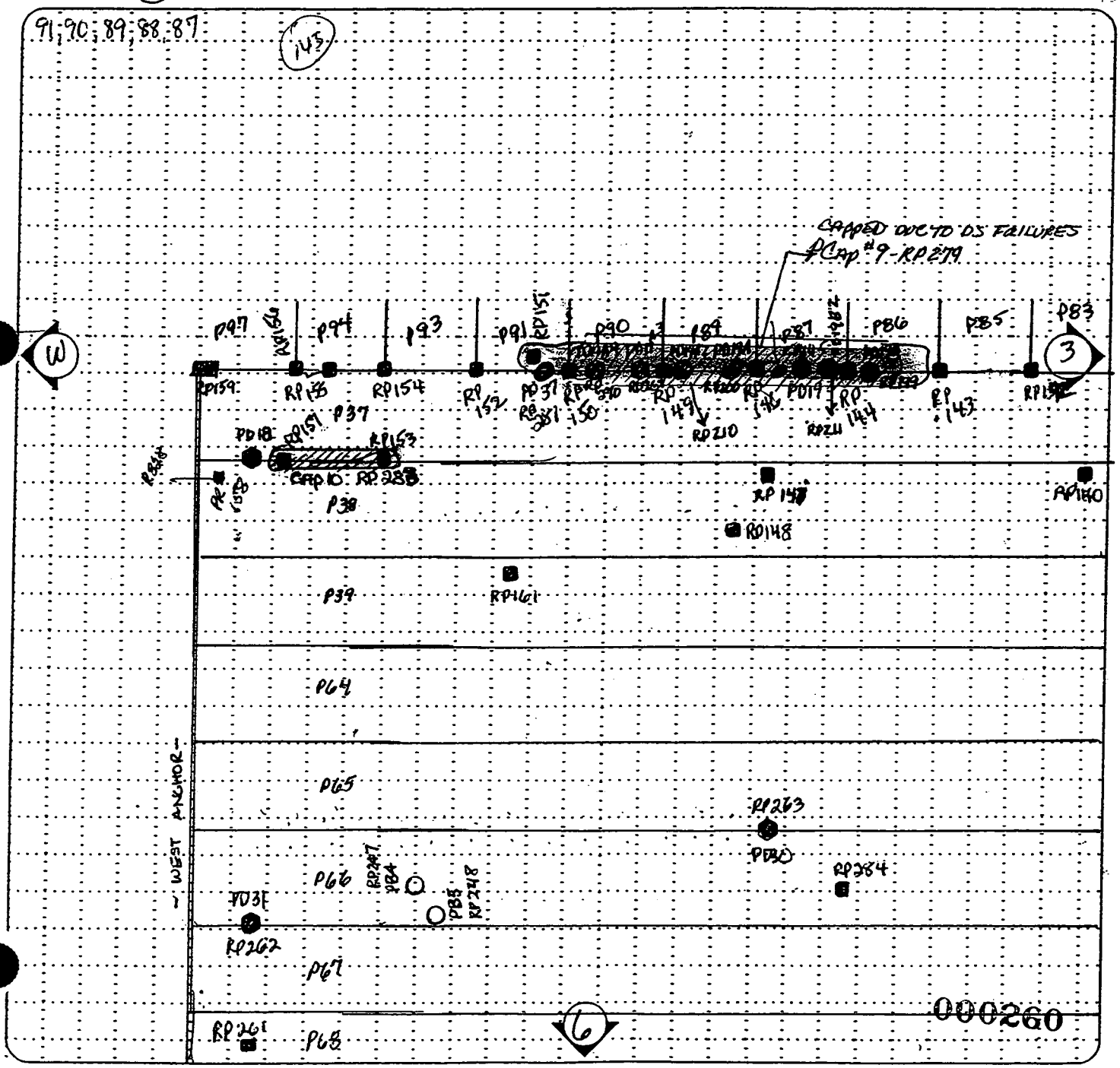
CONTRACTOR: FLUOR FERNALD

PRIMARY: ☐ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: ____

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: ____



GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

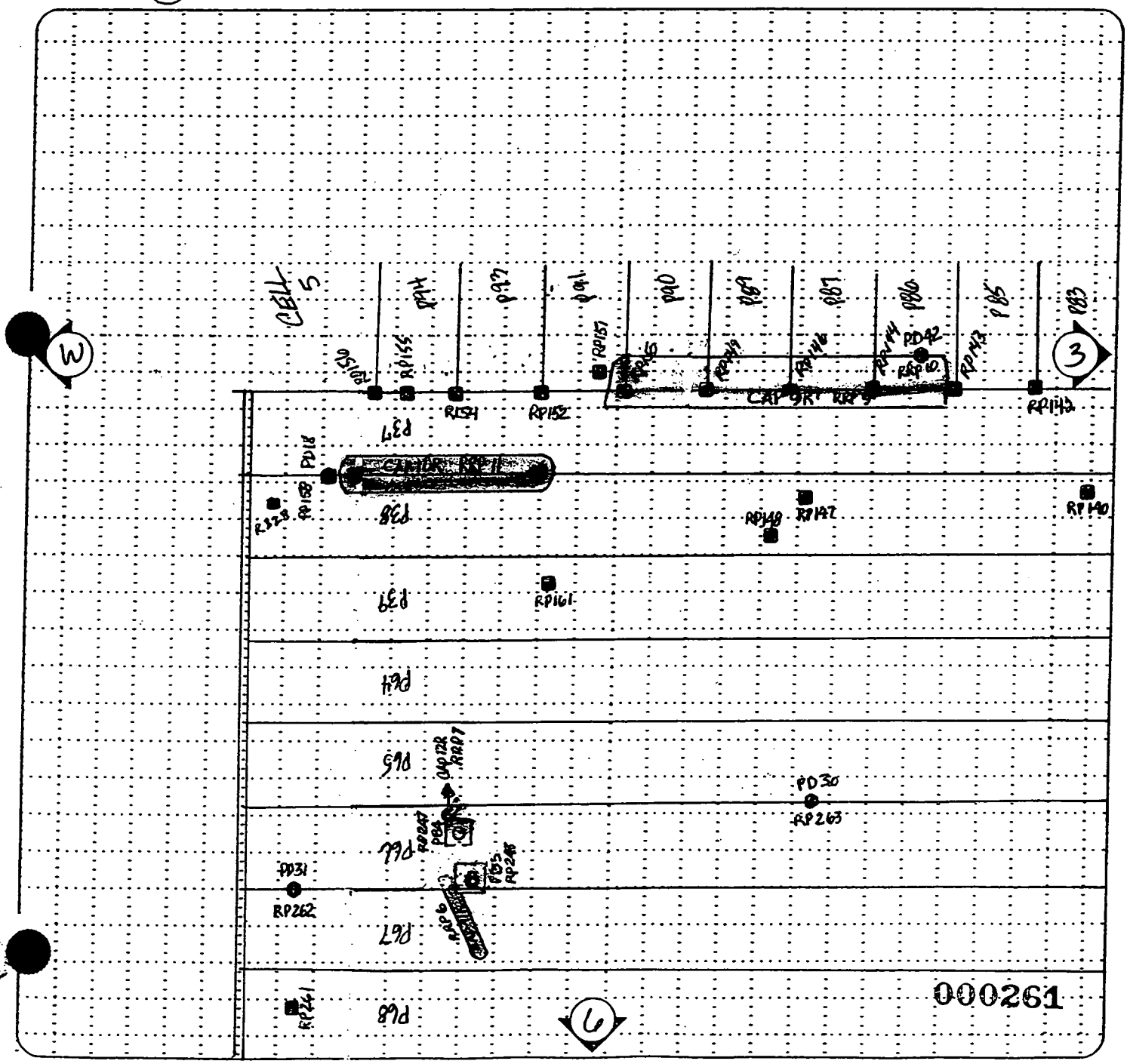
LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: CELL #6 - PHASE I DATE: 19 day SEPT month 2003 year

CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: (REVISED - 9/19/03)

NORTH ○ NOTE: SEE OTHER SIDE FOR SYMBOLS (N) QA ID: RN



GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: 6Q5211 TASK NO.: 3

DESCRIPTION: CELL #6 · PHASE V DATE: ____ day SEPT month 2003 year

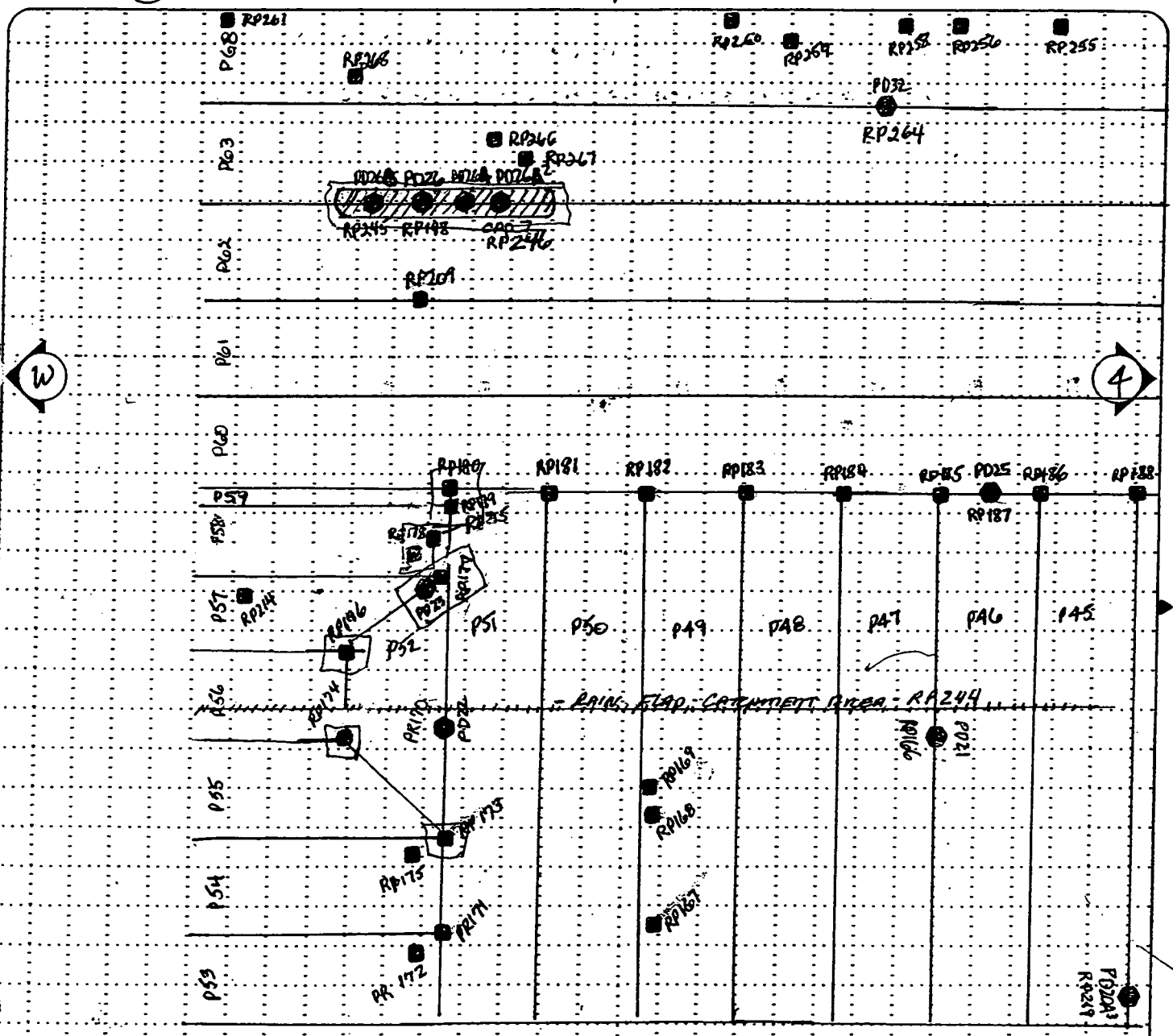
CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: ____

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: ____



000262

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: CELL #6 - PHASE V DATE: 19 day SEPT month 2003 year

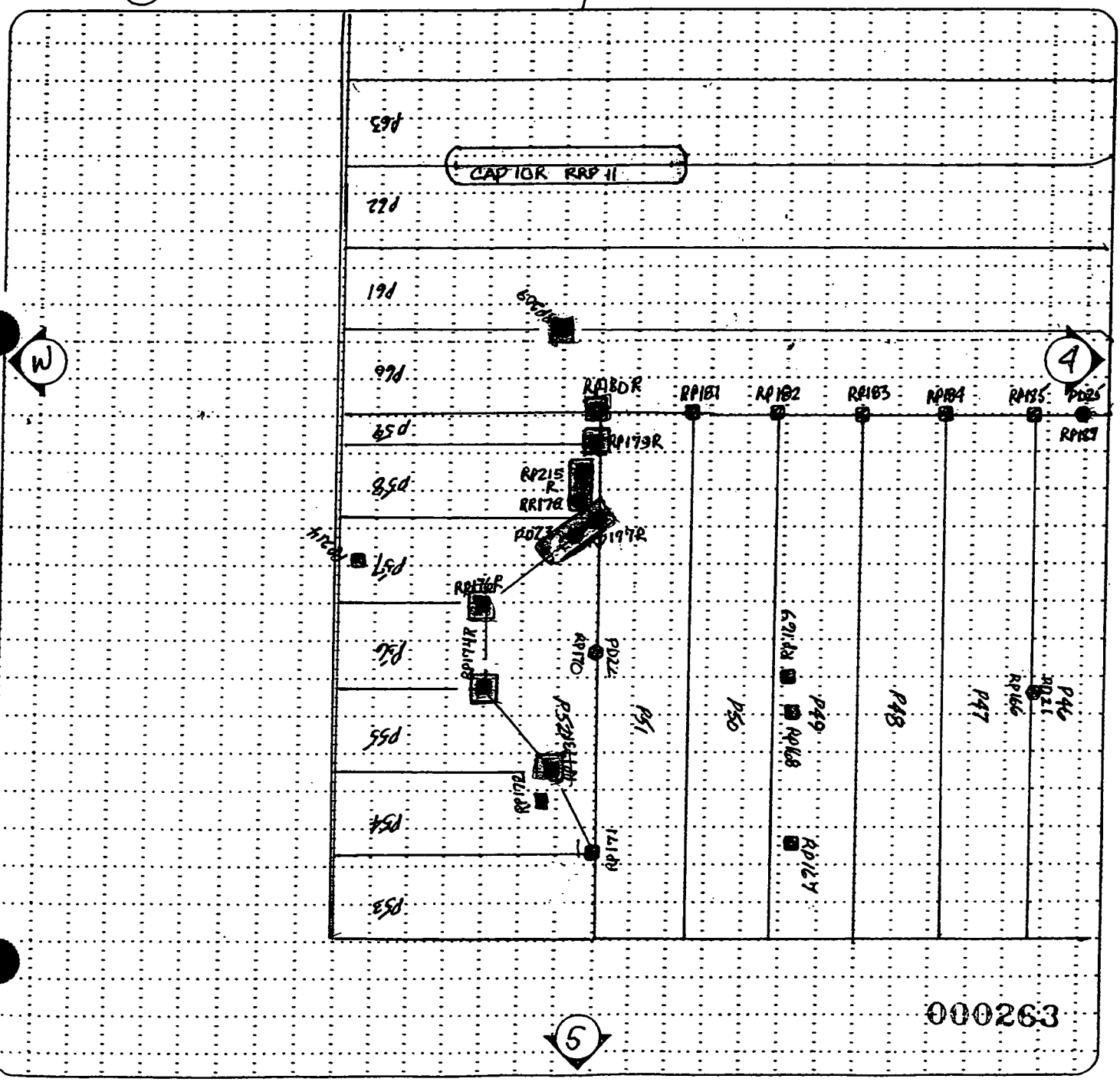
CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: (REVISED -9/19/03)

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: RH



000263

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC. 5371

SEAM AND PANEL REPAIR LOCATION LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: G03211 TASK NO.: 3

DESCRIPTION: CELL # 6 · PHASE V DATE: 19 day SEPT month 2003 year

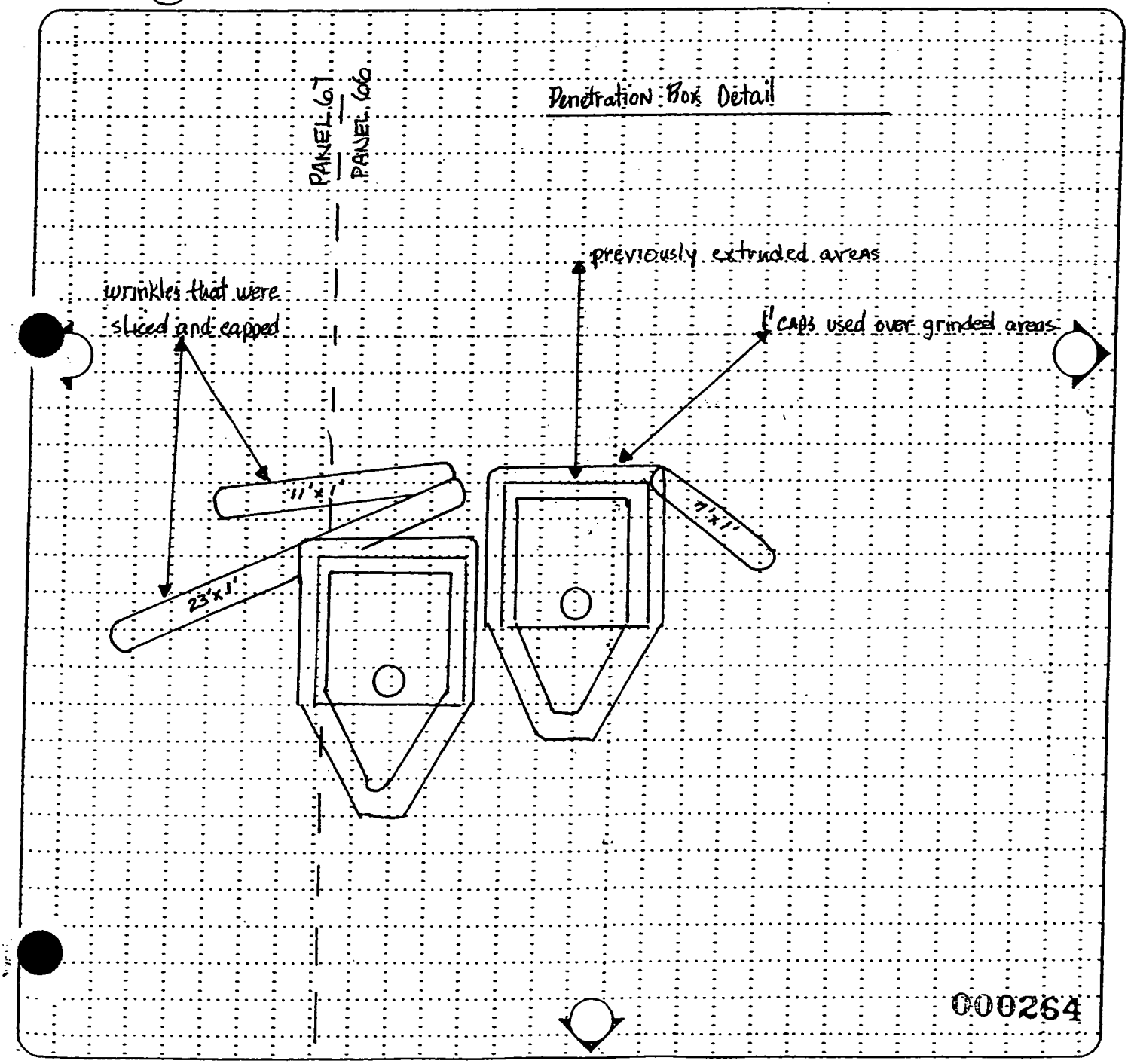
CONTRACTOR: FLUOR FERNALD

PRIMARY: ■ SECONDARY: ☐ OTHER: ☐ PRODUCT TYPE: PENETRATION BOXES

NORTH

NOTE:
SEE OTHER SIDE FOR SYMBOLS

QA ID: DT4



000264

APPENDIX P

ELECTRICAL LEAK DETECTION TEST REPORTS

CELL 2 CAP

SUPPLIER DOCUMENT SUBMITTAL

FDF PROJECT NO.: [illegible]04	CONTRACT NO: PHIV2	SUBMITTAL NO. 20104-PHIV-02770-012	REV: 1	Date: 08/6/03	Page 1 of 5

FROM:
Leak Location Services, Inc.
16124 University Oak
San Antonio, Texas 78249

SIGNATURE: Daren Laine

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

RECEIVED BY: [illegible] DATE: 8/7/03

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY: PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	TITLE/DESCRIPTION	SUBMITTAL TYPE: DRFT	CFC	INF	ASSOCIATED SPECIFICATION	SUBMITTAL ACTION: A	B	C
7	PHIV-02770-012	1						X			Electrical Leak Detection Testing Report		X		02770-1.04G	X		

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7				
Chuck Van Arsdale (Approver)	64				
Gregg Johnson	60				
Bill Zebick	60				
Reinard Friske	52-1				
Kwasi Badu-Tweneboah - Geosyntec	38				
Don Pfister (DOE)	45				

NO COMMENTS: ✓ COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

RECEIVED BY: [signature] DATE: 8/18/03

(SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)

SUBMITTAL TYPE: (BY SUPPLIER)
CFC - CERTIFIED FOR CONSTRUCTION
INF - INFORMATION/RECORD
DRFT - DRAFT/PRELIMINARY

SUBMITTAL ACTION CODE: (BY FDF)
A - Conforms to the Subcontract Requirements
B - Minor Comments - Incorporate and Resubmit
C - Revise and Resubmit (SEE COMMENTS)

ORIGINAL

0002267

5371

FS-F-4955
Rev. 3: 05/14/1999, CT-2.4.2

INSTRUCTIONS FOR COMPLETING THE SUPPLIER DOCUMENT SUBMITTAL:

LEAK LOCATION SERVICES, INC.

16124 UNIVERSITY OAK • SAN ANTONIO, TEXAS 78249 • (210) 408-1241 / FAX (210) 408-1242

5371

August 6, 2003

Mr. Chuck Van Arsdale
Fluor Fernald, Inc.
P. O. Box 538704
Cincinnati, OH 45253-8704

Fax: (513) 648-4528

Subject: Final Report for "Leak Location Survey of the DOE On-Site Disposal Facility Landfill Cell 2 Cap HDPE Liner Located Near Hamilton, Ohio"; LLSI Project 381 Revision 1

Dear Mr. Van Arsdale:

Leak Location Services, Inc. conducted an electrical leak location survey of the On-Site Disposal Facility (OSDF) landfill cell 2 cap HDPE liner located at the DOE facility near Hamilton, Ohio. The newly constructed landfill cap was approximately 7 acres and is single lined with an 80-mil textured HDPE geomembrane liner under laid by a geosynthetic clay liner (GCL). The electrical leak detection testing was performed on the bare cap geomembrane prior to placement of the geotextile cushion and subsequent upper protective soil layers. This report describes the results of the final leak location survey conducted on approximately 250,000 sq. ft of the bare HDPE landfill cap.

I. SURVEY RESULTS

On July 14, 2003 through July 17, 2003 Martin Morales and Edgar Barraza of Leak Location Services, Inc. conducted an electrical leak location survey of the On-Site Disposal Facility (OSDF) landfill cell 2 cap bare HDPE geomembrane. The water puddle squeegee method was used to test the bare geomembrane.

Five leaks were located on the cell 2 cap bare HDPE geomembrane. Figure 1 shows the area that was surveyed by the LLSI field crew and the location of the leaks. Table 1 lists the locations and descriptions of the leaks. The LLSI personnel retested the leaks that were repaired to verify that there were no additional leaks present near the repairs.

76896

II. CALIBRATION OF EQUIPMENT

The leak location survey equipment was tested for proper operation and functionality at the beginning and end of each day and routinely tested the equipment operation during the course of the

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 8/18/03

work day. This test consisted of passing the squeegee sensor over a known hole in the primary liner to test operation and functionality of the equipment. In addition, a second test was performed to check the calibration of the equipment by placing a 0.0625 inch-diameter hole on a test pad placed on earth ground outside the testing area. These tests were documented and witnessed by a representative of the CQA engineer. The testing was performed in accordance with Fluor Fernald's Technical Specifications, Construction Quality Assurance Plan, Construction Drawings, and approved Electrical Leak Detection testing work plan, revision 1, dated July 1, 2003.

TABLE 1. LOCATIONS AND DESCRIPTIONS OF THE LEAKS

Leak Number	Leak Location	Leak Description
1	Located on panel 1 near repair 71	Crack in liner
2	Located on panel 1 at repair near repair 8	Pin hole on repair
3	Located on panel 21 near repair # 156	0.5 inch knife cut
4	Located on panel 14 near tie-in with cell 1	Pin hole on repair
5	Located on panel 24 near tie-in with panels 27 and 37	0.5 inch cut

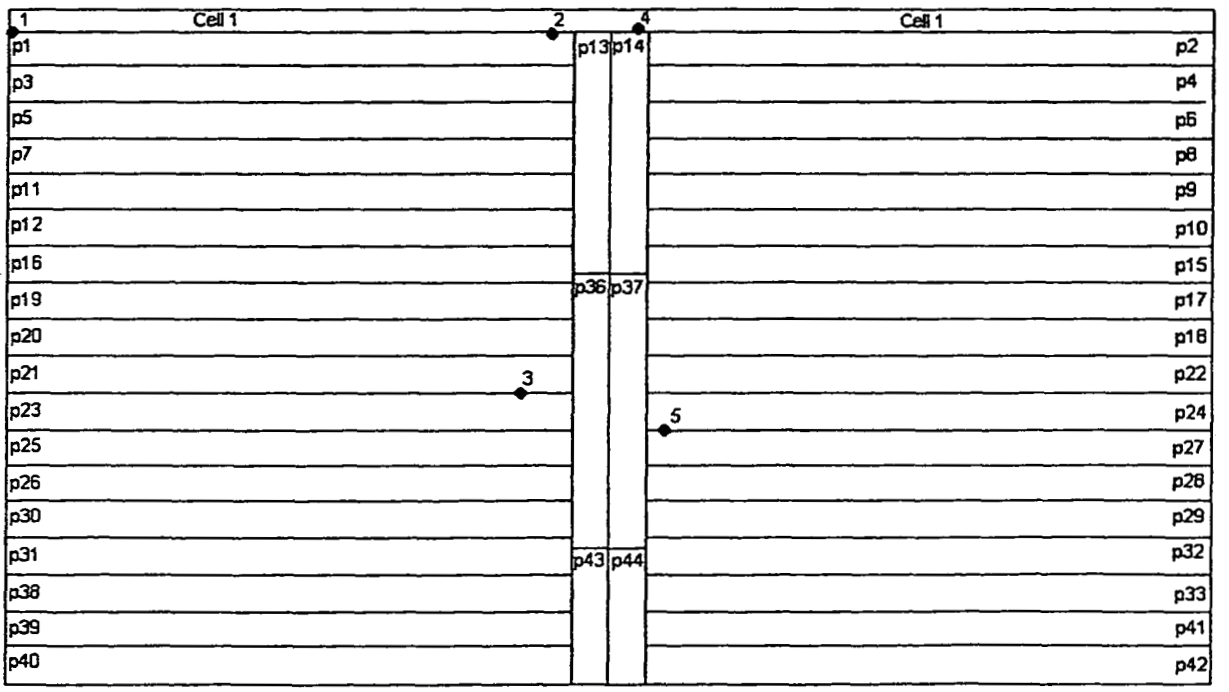


FIGURE 1. APPROXIMATE LOCATION OF LEAKS LOCATED IN CELL 2 CAP

III. LEAK LOCATION PROCEDURES

A. General

The water puddle test for bare liners was used to test the On-Site Disposal Facility landfill Cell 2 Cap. This method detects electrical current flowing through holes in the geomembrane liner that are filled with water or other earth materials. A water puddle test sensor was used to systematically spread the water over the top surface of the liner and a low voltage leak power supply was used to energize the water with electrical current. The low voltage leak power supply is connected to an electrode placed in leak detection soil drainage layer located below the primary liner and the water puddle sensor head. When a hole in the liner is encountered water will fill the hole or contact the soils in the hole and electrical current will flow between the electrode located above and below the primary liner. The change in electrical current is monitored using an LLSI leak that converts the increase in the current to an audible tone indication.

B. Water Puddle Leak Detection Sensitivity

The LLSI leak detection electronics features a high leak detection sensitivity while utilizing a lower excitation voltage. The self-contained excitation power supply is incorporated within the hand-held leak detection electronics. This modification eliminated the requirements of using a gasoline-powered portable motor generator to supply 120 volt A.C. power to an external stand-alone leak location power supply.

When conducting an electrical leak location survey the measured electrical signal of a leak located in the geomembrane is directly proportional to the excitation voltage and the sensitivity of the detector electronics. Therefore, the excitation voltage can be decreased if the sensitivity of the detector electronics is increased. This can be achieved without lowering leak detection performance.

The redesigned leak location system electronics has an increased sensitivity range that is 1.3 to 13.3 greater than the original system electronics. The leak location survey of the cell 2 landfill cap used system electronics that has a leak detection sensitivity of 6 microamperes full scale (3,000,000 volts per ampere). This sensitivity is adjusted to five times the sensitivity of the system electronics used to survey the cell 1 landfill cap.

C. Liner Wrinkles

The electrical leak location method detects electrical paths through the geomembrane material. This electrical conduction path is provided by soil, water or other electrical conductors bridging the geomembrane material and contacting the earth materials placed above and below the geomembrane. If the geomembrane is not in complete contact with the supporting earth materials then an electrical conduction path may not exist and leaks may not be detected.

Typically geomembranes are covered with earth materials such as water or soil. The weight of these materials helps to hold the geomembrane against the supporting sub-grade. In

addition, the cover material keeps the geomembrane from exposure to the sun which helps to limit excessive wrinkling of the geomembrane material due to thermal expansion. However, a bare geomembrane does not have the advantage of the cover materials to help limit the wrinkling due to thermal expansion of the geomembrane material.

Therefore, bare liner surveys are conducted during the cooler hours of the day or very early morning hours when the liner material is tight and in complete contact with the supporting sub-grade. In the areas where there were wrinkles in the liner of cell 2 cap, Fluor Fernald provided additional personnel to walk in front of and along the side of the squeegee to insure the liner was in complete contact with underlying geosynthetic clay liner (gcl).

If there are any questions regarding the leak location survey or this report, please contact us at (210) 408-1241. We appreciate the opportunity to have been of service once again to the Fluor Fernald, Inc on this project.

Very truly yours,

FOR

Lance Simmons
Project Manager

Approved:

Daren L. Laine
President

CELL 6 PRIMARY ON EXPOSED GEOMEMBRANE

SUPPLIER DOCUMENT SUBMITTAL

FDF PROJECT NO.: 15	CONTRACT NO: ~~PHIV2~~ PHV	SUBMITTAL NO. 20105-PHV-02770-012	REV: 0	Date: 09/29/03	Page 1 of 6

FROM:
Leak Location Services, Inc.
16124 University Oak
San Antonio, Texas 78249

SIGNATURE: Daren L. Laine

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

RECEIVED BY: DATE: 9/30/03

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY: PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	TITLE/DESCRIPTION	SUBMITTAL TYPE: DRFT	CFC	INF	ASSOCIATED SPECIFICATION	SUBMITTAL ACTION: A	B	C
7	PHV-~~PHIV~~-02770-012	0						X			Cell 6 Leak Detection Testing Report		X		02770-1.04G	X		

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7				
Chuck Van Arsdale (Approver)	64				
Gregg Johnson	60				
Bill Zebick	60				
Reinard Friske	52-1				
Kwasi Badu-Tweneboah - Geosyntec	38				
Don Pfister (DOE)	45				

NO COMMENTS: ✓ COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

RECEIVED BY: DATE: 10/7/03

(SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)

SUBMITTAL TYPE: (BY SUPPLIER)
CFC - CERTIFIED FOR CONSTRUCTION
INF - INFORMATION/RECORD
DRFT - DRAFT/PRELIMINARY

SUBMITTAL ACTION CODE: (BY FDF)
A - Conforms to the Subcontract Requirements
B - Minor Comments - Incorporate and Resubmit
C - Revise and Resubmit (SEE COMMENTS)

ORIGINAL

000273

5371

FS-F-4955
Rev. 3: 05/14/1999, CT-2.4.2

LEAK LOCATION SERVICES, INC.

16124 UNIVERSITY OAK • SAN ANTONIO, TEXAS 78249 • (210) 408-1241 / FAX (210) 408-1242

September 26, 2003

Mr. Chuck Van Arsdale
Fluor Fernald, Inc.
P. O. Box 538704
Cincinnati, OH 45253-8704

Fax: (513) 648-4528

Subject: Report for "Leak Location Survey of the DOE On-Site Disposal Facility Landfill Cell 6 Primary HDPE Liner Located Near Hamilton, Ohio"; Contract No. PHIV3 Revision 0

Dear Mr. Van Arsdale:

Leak Location Services, Inc. conducted an electrical leak location survey of the On-Site Disposal Facility (OSDF) landfill cell 6 Primary HDPE liner located at the DOE facility near Hamilton, Ohio. The newly constructed landfill cell 6 is approximately 7 acres and is double-composite lined with an 80-mil textured HDPE geomembrane liner and a geosynthetic clay liner (GCL). The electrical leak detection testing was performed on the bare cell geomembrane prior to placement of the geotextile cushion and subsequent upper protective soil layers. This report describes the results of the final leak location survey conducted on approximately 304,920 sq. ft of the bare HDPE landfill cell 6.

I. SURVEY RESULTS

A. Survey of Primary Geomembrane

On September10, 2003 through September 12, 2003 Martin Morales and Bryan Bergemann of Leak Location Services, Inc. conducted an electrical leak location survey of the On-Site Disposal Facility (OSDF) landfill cell 6 bare Primary HDPE liner. Six leaks were located on the landfill cell 6 bare Primary HDPE Liner. Figure 1 shows the area that was surveyed by the LLSI field crew and the location of the leaks. Table 1 lists the locations and descriptions of the leaks. The LLSI personnel retested the leaks that were repaired to verify that there were no additional leaks present near the repairs. The water puddle squeegee method was used to test the bare Primary HDPE liner.

[ ] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: _____ Date: 10/7/03

INFORMATION ONLY

B. Survey of Cap Strips

On September 24, 2003 Martin Morales of Leak Location Services, Inc. retested nine Cap Strips of the On-Site Disposal Facility (OSDF) landfill cell 6 bare Primary HDPE. The shaded areas on figure 1 represent the nine Cap Strips that were retested by the LLSI personnel. No leaks were found on the areas that were retested. The water puddle squeegee method was used to retest the shaded areas of the landfill cell 6 bare Primary HDPE.

II. CALIBRATION OF EQUIPMENT

The leak location survey equipment was tested for proper operation and functionality at the beginning and end of each day and routinely tested the equipment operation during the course of the work day. This test consisted of passing the squeegee sensor over a known hole in the primary liner to test operation and functionality of the equipment. In addition, a second test was performed to check the calibration of the equipment by placing a 0.0625 inch-diameter hole on a test pad placed on earth ground outside the testing area. These tests were documented and witnessed by a representative of the CQA engineer. The testing was performed in accordance with Fluor Fernald's Technical Specifications, Construction Quality Assurance Plan, Construction Drawings, and approved Electrical Leak Detection testing work plan.

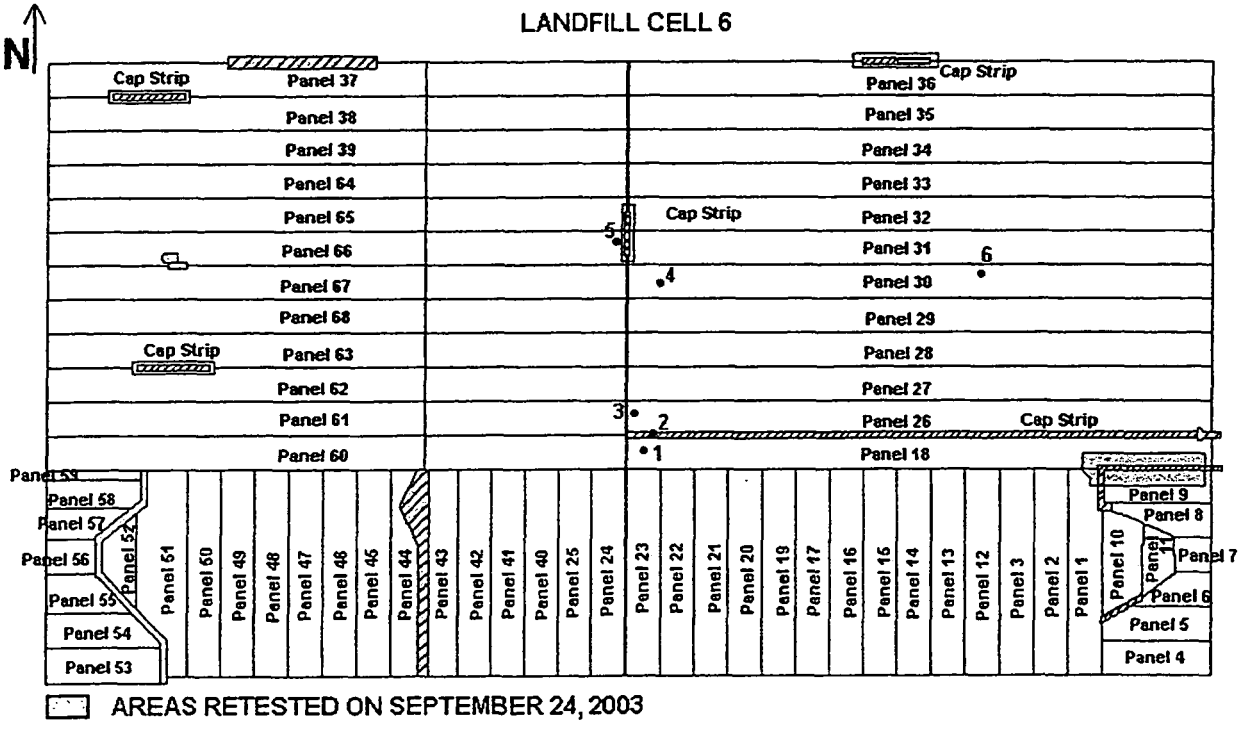


FIGURE 1. APPROXIMATE LOCATION OF LEAKS LOCATED IN LANDFILL CELL 6

TABLE 1. LOCATIONS AND DESCRIPTIONS OF THE LEAKS

Leak Number	Location	Description
1	Located on panel 18 near RP40	Pin Hole
2	Located on center of cap between panels 26 and 18	Pin Hole
3	Located on panel 26 near R204	Pin Hole
4	Located on panel 30 near RP235 and RP236	Pin Hole
5	Located between panels 65 and 66 near the center weld	Pin Hole
6	Located on panel 30 near RP87	½" long cut

III. LEAK LOCATION PROCEDURES

A. General

The water puddle test for bare liners was used to test the On-Site Disposal Facility landfill Cell 6. This method detects electrical current flowing through holes in the geomembrane liner that are filled with water or other earth materials. A water puddle test sensor was used to systematically spread the water over the top surface of the liner and a low voltage leak power supply was used to energize the water with electrical current. The low voltage leak power supply is connected to an electrode placed in leak detection soil drainage layer located below the primary liner and the water puddle sensor head. When a hole in the liner is encountered water will fill the hole or contact the soils in the hole and electrical current will flow between the electrode located above and below the primary liner. The change in electrical current is monitored using an LLSI leak that converts the increase in the current to an audible tone indication.

B. Water Puddle Leak Detection Sensitivity

LLSI has redesigned the leak detection electronics to obtain a higher leak detection sensitivity while utilizing a lower excitation voltage. In addition, we have incorporated the self-contained excitation power supply within the hand-held leak detection electronics. This modification eliminated the requirements of using a gasoline-powered portable motor generator to supply 120 volt A.C. power to an external stand-alone leak location power supply.

When conducting an electrical leak location survey the measured electrical signal of a leak located in the geomembrane is directly proportional to the excitation voltage and the sensitivity of the detector electronics. Therefore, the excitation voltage can be decreased if the sensitivity of the detector electronics is increased. This can be achieved without lowering leak detection performance.

The previous excitation voltage that was used at the Fluor Fernald site was 30 volts D.C. with a leak detector sensitivity of 50 microamperes or greater for a full scale reading (600,000 volts per ampere or less). The system was redesigned to operate using a self-contained power supply producing an excitation voltage of 18 volts with the a full scale detector sensitivity range of 23 to 2.25 microamperes (780,000 to 8,000,000 volts per ampere). The detector setting for the leak detection survey at the Fluor Fernald site was adjusted to 6 microamperes for full scale (3,000,000 volts per ampere).

The redesigned leak location system electronics has an increased sensitivity range that is 1.3 to 13.3 greater than the previous system electronics. However, the leak location survey that was currently being conducted of the landfill cell 6 located at the Fluor Fernald site were using a detection sensitivity that is adjusted to five times the sensitivity of the previous surveys conducted by LLSI at the same site. This sensitivity may have to be occasionally readjusted to reduce nuisance background noise, but in no case will the detection sensitivity be less than the detection sensitivity used on previous surveys.

C. Liner Wrinkles

The electrical leak location method detects electrical paths through the geomembrane material. This electrical conduction path is provided by soil, water or other electrical conductors bridging the geomembrane material and contacting the earth materials placed above and below the geomembrane. If the geomembrane is not in complete contact with the supporting earth materials then an electrical conduction path may not exist and leaks may not be detected.

Typically geomembranes are covered with earth materials such as water or soil. The weight of these materials helps to hold the geomembrane against the supporting sub-grade. In addition, the cover material keeps the geomembrane from exposure to the sun which helps to limit excessive wrinkling of the geomembrane material due to thermal expansion. However, a bare geomembrane does not have the advantage of the cover materials to help limit the wrinkling due to thermal expansion of the geomembrane material.

Bare liner water puddle surveys are conducted when the liner material is completely contacting the underlying geosynthetic clay liner (gcl). When wrinkles were, encountered measures are taken to ensure the liner is laying flat against the supporting material. These measures include:

- Using additional personnel to walk in front of the squeegee; and
- Surveying during the cooler time of the day.

Therefore, bare liner surveys are conducted during the cooler hours of the day or very early morning hours when the liner material is tight and in complete contact with the supporting sub-grade. In the areas where there were wrinkles in the liner of landfill cell 6, Fluor Fernald provided additional personnel to walk in front of and along the side of the squeegee to insure the liner was in complete contact with underlying geosynthetic clay liner (gcl).

If there are any questions regarding the leak location survey or this report, please contact us at (210) 408-1241. We appreciate the opportunity to have been of service once again to the Fluor Fernald, Inc on this project.

Very truly yours,

Herman Flores
Project Manager

Approved:

Daren L. Laine
President

CELL 6 PRIMARY ON COVERED GEOMEMBRANE

SUPPLIER DOCUMENT SUBMITTAL

FDF PROJECT [redacted] 105	CONTRACT NO: PHV [redacted]	SUBMITTAL NO. 20105-PHV-02770-012	REV: 1	Date: 10/28/03 [redacted]	Page 1 of 5

FROM:
Leak Location Services, Inc.
16124 University Oak
San Antonio, Texas 78249

SIGNATURE: Daren L. Laine

TO: FDF ENGINEERING/CONSTRUCTION DOCUMENT CONTROL (ECDC), MS 52-7

RECEIVED BY: Teresa Schwab DATE: 11/4/03

QTY	DOCUMENT NUMBER	REV	DOCUMENT FAMILY: PRO	H&S	MED	TRG	CON	ENG	QAC	OPER	TITLE/DESCRIPTION	SUBMITTAL TYPE: DRFT	CFC	INF	ASSOCIATED SPECIFICATION	SUBMITTAL ACTION: A	B	C
7	PHV-02770-012A	0						X			Report for ELD Testing		X		02770-1.04H	X		
											of Cell 6 Primary Geomembrane							
											After Placement of LCS Gravel							

REVIEW DISTRIBUTION

NAME	MS	NAME	MS	NAME	MS
ECDC	52-7				
Chuck Van Arsdale (Approver)	64				
Gregg Johnson	60				
Bill Zebick	60				
Reinard Friske	52-1				
Kwasi Badu-Tweneboah - Geosyntec	38				
Don Pfister (DOE)	45				

NO COMMENTS: ✓ COMMENTS: (PLEASE USE SPACE BELOW FOR COMMENTS OR INDICATE IF ATTACHMENTS)

RECEIVED BY: Chuck C. VanArsdale DATE: 11/20/03

(SIGN/DATE AND RETURN A COPY TO ECDC, MS 52-7)

SUBMITTAL TYPE: (BY SUPPLIER)
CFC - CERTIFIED FOR CONSTRUCTION
INF - INFORMATION/RECORD
DRFT - DRAFT/PRELIMINARY

SUBMITTAL ACTION CODE: (BY FDF)
A - Conforms to the Subcontract Requirements
B - Minor Comments - Incorporate and Resubmit
C - Revise and Resubmit (SEE COMMENTS)

000280

ORIGINAL

53771

FS-F-4955
Rev. 3: 05/14/1999, CT-2.4.2

LEAK LOCATION SERVICES, INC.

16124 UNIVERSITY OAK • SAN ANTONIO, TEXAS 78249 • (210) 408-1241 / FAX (210) 408-1242

5371

October 28, 2003

Fluor Fernald, Inc.
P.O. Box 538704
Cincinnati, OH 45253-8704

Attention: Chuck Van Arsdale

Fax: (513) 648-4528

Subject: Final Report for "Leak Location Survey of the DOE On-Site Disposal Facility Landfill Cell 6 Primary HDPE Liner Located Near Hamilton, Ohio"; LLSI Project 381A

Dear Mr. Van Arsdale:

On October 14-17, 2003, Martin Morales and Edgar Barraza of Leak Location Services, Inc. conducted an electrical leak location survey of the On-Site Disposal Facility (OSDF) landfill Cell 6 Primary HDPE geomembrane liner located at the DOE facility near Hamilton, Ohio. The newly constructed landfill Cell 6 is approximately 7 acres and is double-composite lined with an 80-mil textured HDPE geomembrane liner and a geosynthetic clay liner (GCL). The electrical leak location testing was performed after placement of the geotextile cushion and 1-foot thick granular drainage layer. The bare geomembrane was previously surveyed for leaks on September 10-12, 2003, and nine cap strips were retested on September 24, 2003. A separate report was issued for this work. This report describes the results of the final leak location survey for Cell 6 primary liner after placement of the geotextile cushion and granular drainage layer.

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [illegible] Date: 11/20/03

I. CALIBRATION OF EQUIPMENT

A performance test was used to determine the survey line spacing, evaluate leak location sensitivity for the survey, and verify proper equipment operation. A 0.25-inch artificial test leak was used. An artificial leak is an electrical simulation of an actual leak through the geomembrane. The artificial leak consists of a metal electrode with the same surface area as the leak that is required to be located. The artificial leak was connected to an insulated wire and placed on top of the geotextile cushion located above the geomembrane. The area surrounding the artificial leak was wetted with water and then covered with 12 inches of LCS granular drainage material. The opposite end of the insulated wire connected to the artificial leak was placed in contact with the primary GCL.

A line of data was recorded directly over the artificial test leak with the artificial leak disconnected and the power supply turned on to measure and quantify the background noise level (BN). This data was plotted on the computer to determine the background noise, which is defined

INFORMATION ONLY

as the difference between the maximum and minimum measured voltage with the artificial leak disconnected.

The artificial leak was then connected and leak location measurements were made and recorded along closely-spaced parallel lines in the vicinity of the artificial leak and centered over the artificial leak. This data is the leak signal plus noise (S + N).

The recorded leak location data was examined to determine the peak-to-peak leak signal plus noise to background noise ratio R = (S +N)/BN. for each of the recorded data lines. The two farthest lateral lines of data with an R value greater than 3.0 were noted. The distance between these lines is the survey line spacing needed to detect the 0.25 inch diameter artificial leak. The leak location survey was performed so that the survey line spacing does not exceed the survey line spacing needed to detect the 0.25 inch diameter artificial leak.

II. LEAK LOCATION PROCEDURES

A high voltage isolated DC power supply was used to impress a voltage across the liner using one electrode placed in the cover material located on top of the primary liner and a second ground electrode placed in contact with the geosynthetic clay liner underneath the primary HDPE geomembrane. The geomembrane liner provides an electrical barrier between the electrodes except where there are holes in the geomembrane liner. Electrical current flowing through water, sand, or soil in the holes in the geomembrane liner produces localized anomalous areas of high current density near the holes. The electrical leak location method is to measure electrical potentials on the surface of the soil to locate these areas of high current density.

The leak location survey was conducted by making point-by-point potential measurements on the moist surface of the earth materials with half-cell electrodes. The measurements were collected and stored in a portable digital data acquisition system. A dipole electrode handle was used to space the half-cell electrodes 2.5 feet apart and allow an easy means to move the electrodes. The dipole measurements were made approximately every 2.5 feet along numbered survey lines that were spaced approximately 5 feet apart. Strings were laid 10 feet apart on the soil and the survey technician alternated taking data along the string and midway between the strings.

The data was collected using a portable digital data acquisition system using software for leak location data acquisition. The system recorded the data as well as the line number and position of each measurement. The data from the data acquisition system was downloaded in the field to a notebook computer for storage, display, plotting, and analysis.

A computer program was used to display the lines of adjacent data in a raster plot. This data was inspected for characteristic bipolar leak signals. When a leak signal was observed, its line number and position were noted. Manual measurements were made at the corresponding position on the LCS granular drainage material to further localize the position of the leak.

The leaks were excavated and repaired by the geosynthetic installer contractor. The leak location survey was repeated on the two closest survey lines for a distance extending 20 feet before and after the leak to determine if additional leaks were present.

III. SURVEY RESULTS

Three leaks were located in the Cell 6 primary geomembrane liner. Figure 1 shows the area that was surveyed by the LLSI field crew and the location of the leaks. Table 1 lists the locations and descriptions of the leaks. The LLSI personnel retested the leaks after they were repaired to verify that there were no additional leaks present near the repairs.

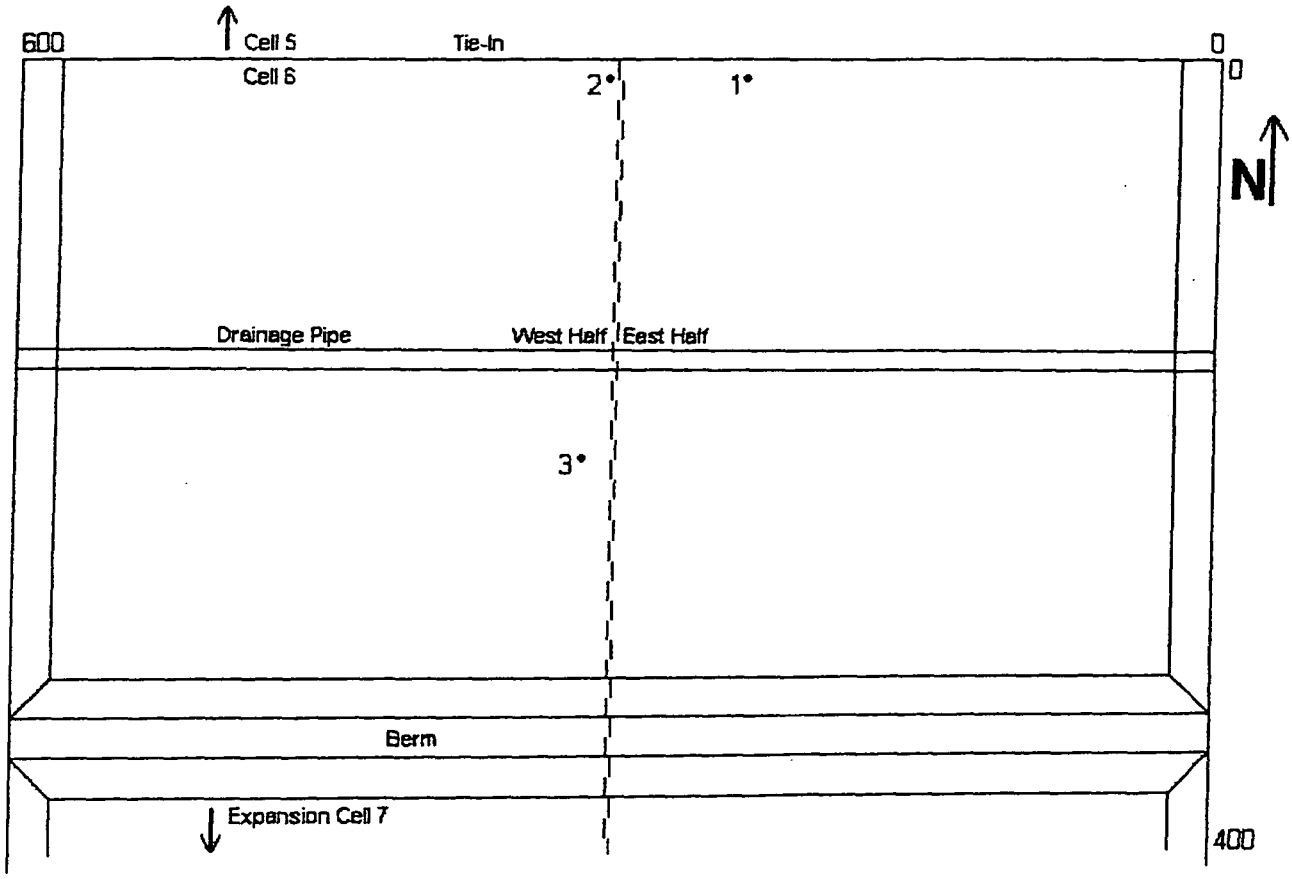


FIGURE 1. APPROXIMATE LOCATIONS OF LEAKS IN CELL 6

Table 1. Locations and Descriptions of Leaks in Cell 6

Leak	Location	Description
1	Line 10 @ 236 feet (10 feet south, 236 feet west of northeast corner)	1 1/2" Cut
2	Line 10 @ 305 feet (10 feet south, 305 feet west of northeast corner)	1/4" Cut on scuff mark
3	Line 200 @ 315 feet (200 feet south, 315 feet west of northeast corner)	Hole less than 1/16" diameter

If there are any questions regarding the leak location survey or this report, please contact us at (210) 408-1241. We appreciate the opportunity to have been of service once again to Fluor Fernald, Inc. on this project.

Very truly yours,

Robert M. Stephens III
Project Manager

Approved by:

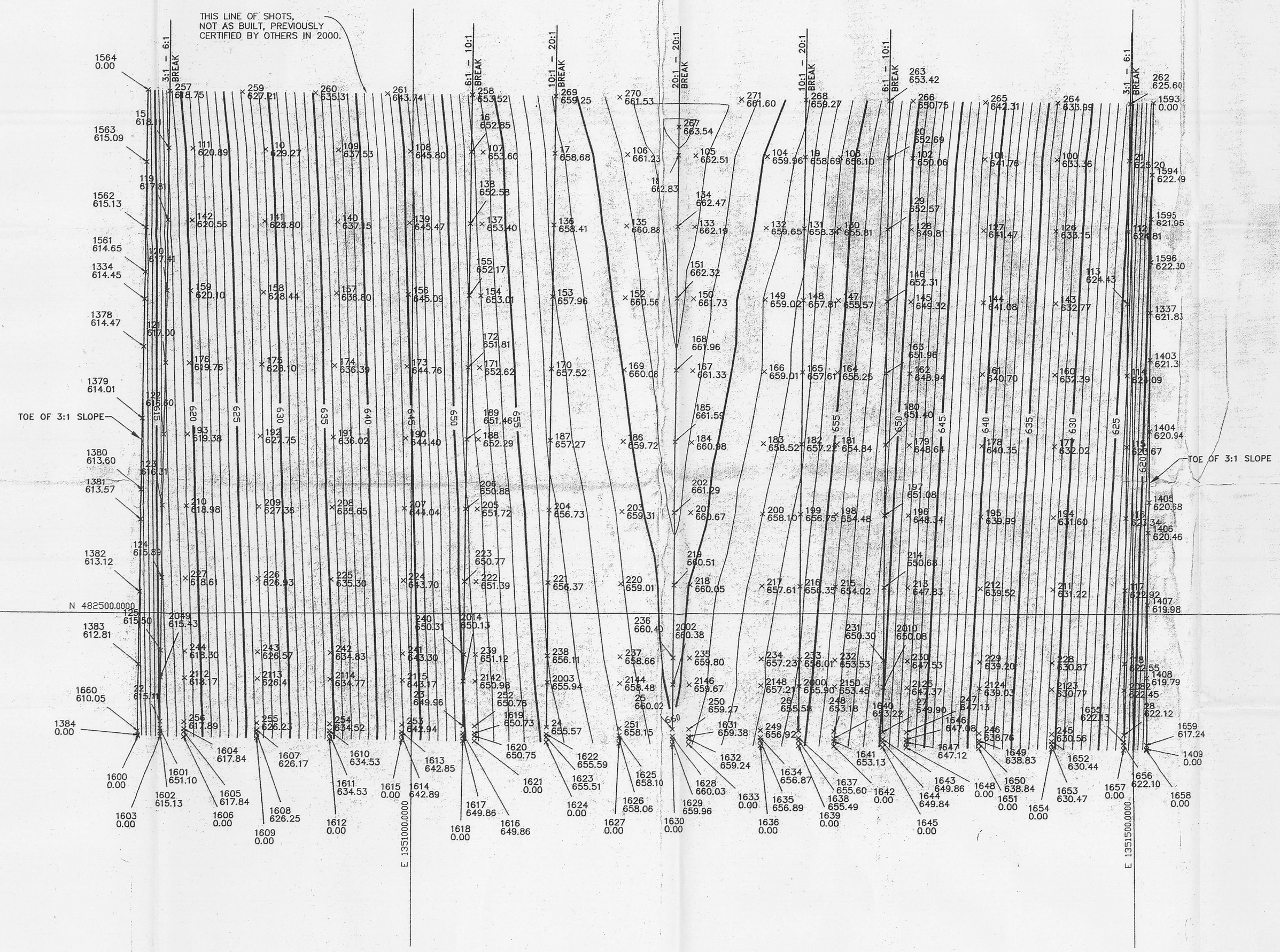
Glenn T. Darilek
Principal Engineer

APPENDIX Q

AS-BUILT AND GEOMEMBRANE RECORD DRAWINGS

CELL 2 FINAL COVER

CONTOURING LAYER



LEGEND:

× 2100 619.21 = ELEVATION AND POINT NUMBER

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

- - - - - = TOE OF SLOPES

NOTE:

POINTS WITH AN ELEVATION OF 0.00 HAVE NOT BEEN CERTIFIED.

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 6/27/03

Doc#PHW2-02100-0058 Sht 1of3

000238

5371

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:	
Drawn By:	M.C.K.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
6-6-2003

Date:	5-14-2003
Scale:	1" = 40'
Project No.	

AS-BUILT CONTOUR LAYER CELL 2

Sheet No. 1 OF 3

Y:\FERNALD-2003\TASK 1\DWG\5-14-03 tec asbilt cont.DWG

Y:\FERNALD-2003\TASK 1\DWG\5-14-03 tec asblt cont.DWG

PNT NO	NORTH	EAST	ASBUILT TOP SELECT LAYER ELEV	PROP ELEV	DESCRIPTION	ASBUILT ELEV	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
15	482824.21	1350831.83	617.08	618.10	CP5015	618.11	1.03	5/12/03	1.02 - 1.12
16	482821.66	1351040.33	651.80	652.81	CP5016	652.85	1.05	4/30/03	1.01 - 1.11
17	482820.95	1351098.16	657.66	658.67	CP5017	658.68	1.02	5/1/03	1.01 - 1.11
18	482819.88	1351186.13	661.82	662.83	CP5018	662.83	1.01	5/1/03	1.01 - 1.11
19	482818.80	1351274.09	657.68	658.69	CP5019	658.69	1.01	5/1/03	1.01 - 1.11
20	482818.10	1351331.92	651.64	652.65	CP5020	652.69	1.05	5/2/03	1.01 - 1.11
21	482816.06	1351498.27	624.11	625.13	CP5021	625.20	1.09	5/12/03	1.02 - 1.12
22	482424.24	1350826.94	614.08	615.10	CP5022	615.11	1.03	5/1/03	1.02 - 1.12
23	482421.69	1351035.44	648.85	649.86	CP5023	649.96	1.11	4/29/03	1.01 - 1.11
24	482420.98	1351093.27	654.46	655.47	CP5024	655.57	1.11	5/1/03	1.01 - 1.11
25	482419.91	1351181.24	658.91	659.92	CP5025	660.02	1.11	5/1/03	1.01 - 1.11
26	482418.83	1351269.21	654.53	655.54	CP5026	655.58	1.05	5/1/03	1.01 - 1.11
27	482418.13	1351327.04	648.80	649.81	CP5027	649.90	1.10	5/2/03	1.01 - 1.11
28	482416.09	1351493.38	621.10	622.12	CP5028	622.12	1.02	5/2/03	1.02 - 1.12
100	482816.67	1351448.27	632.24	633.26	GRID	633.36	1.12	5/2/03	1.02 - 1.12
101	482817.28	1351398.28	640.67	641.69	GRID	641.76	1.09	5/2/03	1.02 - 1.12
102	482817.89	1351348.28	649.00	650.02	GRID	650.06	1.06	5/2/03	1.02 - 1.12
103	482818.51	1351298.28	655.04	656.05	GRID	656.10	1.06	5/2/03	1.01 - 1.11
104	482819.12	1351248.29	658.85	659.86	GRID	659.96	1.11	5/1/03	1.01 - 1.11
105	482819.73	1351198.29	661.42	662.43	GRID	662.51	1.09	5/1/03	1.01 - 1.11
106	482820.34	1351148.30	660.20	661.21	GRID	661.23	1.03	5/1/03	1.01 - 1.11
107	482821.56	1351048.30	652.53	653.54	GRID	653.60	1.07	5/1/03	1.01 - 1.11
108	482822.17	1350998.31	644.70	645.72	GRID	645.80	1.10	4/30/03	1.02 - 1.12
109	482822.79	1350948.31	636.50	637.52	GRID	637.53	1.03	4/30/03	1.02 - 1.12
110	482823.40	1350898.31	628.15	629.17	GRID	629.27	1.12	4/29/03	1.02 - 1.12
111	482824.01	1350848.32	619.80	620.82	GRID	620.89	1.09	4/29/03	1.02 - 1.12
112	482766.06	1351497.66	623.75	624.77	TOE6:1	624.81	1.06	5/12/03	1.02 - 1.12
113	482716.07	1351497.05	623.40	624.42	TOE6:1	624.43	1.03	5/12/03	1.02 - 1.12
114	482666.07	1351496.44	623.03	624.05	TOE6:1	624.09	1.06	5/12/03	1.02 - 1.12
115	482616.07	1351495.83	622.60	623.62	TOE6:1	623.67	1.07	5/12/03	1.02 - 1.12
116	482566.08	1351495.21	622.26	623.28	TOE6:1	623.34	1.08	5/12/03	1.02 - 1.12
117	482516.08	1351494.60	621.90	622.92	TOE6:1	622.92	1.02	5/12/03	1.02 - 1.12
118	482466.09	1351493.99	621.48	622.50	TOE6:1	622.55	1.07	5/12/03	1.02 - 1.12
119	482774.21	1350831.22	616.69	617.71	TOE6:1	617.81	1.12	5/12/03	1.02 - 1.12
120	482724.22	1350830.61	616.37	617.39	TOE6:1	617.41	1.04	5/12/03	1.02 - 1.12
121	482674.22	1350830.00	615.98	617.00	TOE6:1	617.00	1.02	5/12/03	1.02 - 1.12
122	482624.22	1350829.39	615.58	616.60	TOE6:1	616.60	1.02	5/12/03	1.02 - 1.12
123	482574.23	1350828.77	615.21	616.23	TOE6:1	616.31	1.10	5/12/03	1.02 - 1.12
124	482524.23	1350828.16	614.87	615.89	TOE6:1	615.89	1.02	5/12/03	1.02 - 1.12
125	482474.24	1350827.55	614.48	615.50	TOE6:1	615.50	1.02	5/12/03	1.02 - 1.12
126	482766.68	1351447.66	632.06	633.08	GRID	633.15	1.09	5/2/03	1.02 - 1.12
127	482767.29	1351397.67	640.40	641.42	GRID	641.47	1.07	5/2/03	1.02 - 1.12
128	482767.90	1351347.67	648.72	649.74	GRID	649.81	1.09	5/2/03	1.02 - 1.12
129	482768.10	1351331.31	651.48	652.49	TOE10:1	652.57	1.09	5/2/03	1.01 - 1.11
130	482768.51	1351297.67	654.70	655.71	GRID	655.81	1.11	5/2/03	1.01 - 1.11
131	482768.81	1351273.48	657.32	658.33	TOE20:1	658.34	1.02	5/1/03	1.01 - 1.11
132	482769.12	1351247.68	658.55	659.56	GRID	659.65	1.10	5/1/03	1.01 - 1.11
133	482769.73	1351197.68	661.11	662.12	GRID	662.19	1.08	5/1/03	1.01 - 1.11
134	482769.88	1351185.52	661.45	662.46	TOP20:1	662.47	1.02	5/1/03	1.01 - 1.11
135	482770.34	1351147.68	659.79	660.80	GRID	660.88	1.09	5/1/03	1.01 - 1.11
136	482770.96	1351097.55	657.39	658.40	TOE20:1	658.41	1.02	5/1/03	1.01 - 1.11
137	482771.57	1351047.69	652.37	653.38	GRID	653.40	1.03	5/1/03	1.01 - 1.11
138	482771.66	1351039.72	651.56	652.57	TOE10:1	652.58	1.02	4/29/03	1.01 - 1.11
139	482772.18	1350997.70	644.45	645.47	GRID	645.47	1.02	4/29/03	1.02 - 1.12
140	482772.79	1350947.70	636.11	637.13	GRID	637.15	1.04	4/29/03	1.02 - 1.12
141	482773.40	1350897.70	627.77	628.79	GRID	628.80	1.03	4/29/03	1.02 - 1.12
142	482774.01	1350847.71	619.51	620.53	GRID	620.56	1.05	4/30/03	1.02 - 1.12
143	482716.68	1351447.05	631.70	632.72	GRID	632.77	1.07	5/2/03	1.02 - 1.12
144	482717.29	1351397.05	639.98	641.00	GRID	641.08	1.10	5/2/03	1.02 - 1.12
145	482717.90	1351347.06	648.28	649.30	GRID	649.32	1.04	5/2/03	1.02 - 1.12
146	482718.10	1351330.70	651.22	652.23	TOE 10:1	652.31	1.09	5/2/03	1.01 - 1.11
147	482718.51	1351297.06	654.50	655.51	GRID	655.57	1.07	5/2/03	1.01 - 1.11
148	482718.81	1351272.86	656.80	657.81	TOE20:1	657.81	1.01	5/1/03	1.01 - 1.11
149	482719.12	1351247.07	657.91	658.92	GRID	659.02	1.11	5/1/03	1.01 - 1.11
150	482719.74	1351197.07	660.68	661.69	GRID	661.73	1.05	5/1/03	1.01 - 1.11
151	482719.88	1351184.91	661.27	662.28	TOP20:1	662.32	1.05	5/1/03	1.01 - 1.11
152	482720.35	1351147.07	659.45	660.46	GRID	660.56	1.11	5/1/03	1.01 - 1.11
153	482720.96	1351096.94	656.90	657.91	TOE20:1	657.96	1.06	5/1/03	1.01 - 1.11
154	482721.57	1351047.08	651.97	652.98	GRID	653.01	1.04	5/1/03	1.01 - 1.11
155	482721.67	1351039.11	651.08	652.09	TOE10:1	652.17	1.09	4/29/03	1.01 - 1.11
156	482722.18	1350997.08	644.06	645.08	GRID	645.09	1.03	4/29/03	1.02 - 1.12
157	482722.79	1350947.09	635.70	636.72	GRID	636.80	1.10	4/29/03	1.02 - 1.12
158	482723.40	1350897.09	627.40	628.42	GRID	628.44	1.04	4/29/03	1.02 - 1.12
159	482724.02	1350847.10	619.08	620.10	GRID	620.10	1.02	4/29/03	1.02 - 1.12
160	482666.68	1351446.44	631.29	632.31	GRID	632.39	1.10	5/2/03	1.02 - 1.12
161	482667.29	1351396.44	639.68	640.70	GRID	640.70	1.02	5/2/03	1.02 - 1.12
162	482667.91	1351346.45	647.91	648.93	GRID	648.94	1.03	5/2/03	1.02 - 1.12
163	482668.11	1351330.09	650.87	651.88	TOE10:1	651.96	1.09	5/2/03	1.01 - 1.11
164	482668.52	1351296.45	654.15	655.16	GRID	655.25	1.10	5/2/03	1.01 - 1.11
165	482668.81	1351272.25	656.60	657.61	TOE20:1	657.61	1.01	5/1/03	1.01 - 1.11
166	482669.13	1351246.45	657.90	658.91	GRID	659.01	1.11	5/1/03	1.01 - 1.11
167	482669.74	1351196.46	660.30	661.31	GRID	661.33	1.03	5/1/03	1.01 - 1.11
168	482669.89	1351184.30	660.87	661.88	TOP20:1	661.96	1.09	5/1/03	1.01 - 1.11
169	482670.35	1351146.46	659.04	660.05	GRID	660.08	1.04	5/1/03	1.01 - 1.11
170	482670.96	1351096.33	656.48	657.49	TOE20:1	657.52	1.04	5/1/03	1.01 - 1.11
171	482671.57	1351046.47	651.60	652.61	GRID	652.62	1.02	5/1/03	1.01 - 1.11
172	482671.67	1351038.50	650.70	651.71	TOE10:1	651.81	1.11	4/29/03	1.01 - 1.11
173	482672.19	1350996.47	643.70	644.72	GRID	644.76	1.06	4/29/03	1.02 - 1.12
174	482672.80	1350946.48	635.27	636.29	GRID	636.39	1.12	4/29/03	1.02 - 1.12
175	482673.41	1350896.48	626.98	628.00	GRID	628.10	1.12	4/29/03	1.02 - 1.12
176	482674.02	1350846.48	618.65	619.67	GRID	619.76	1.11	4/29/03	1.02 - 1.12
177	482616.69	1351445.83	630.90	631.92	GRID	632.02	1.12	5/2/03	1.02 - 1.12
178	482617.30	1351395.83	639.29	640.31	GRID	640.35	1.06	5/2/03	1.02 - 1.12
179	482617.91	1351345.84	647.59	648.61	GRID	648.64	1.05	5/2/03	1.02 - 1.12
180	482618.11	1351329.48	650.39	651.40	TOE10:1	651.40	1.01	5/2/03	1.01 - 1.11
181	482618.52	1351295.84	653.83	654.84	GRID	654.84	1.01	5/2/03	1.01 - 1.11
182	482618.82	1351271.64	656.21	657.22	TOE20:1	657.22	1.01	5/1/03	1.01 - 1.11
183	482619.13	1351245.84	657.50	658.51	GRID	658.52	1.02	5/1/03	1.01 - 1.11
184	482619.74	1351195.85	659.87	660.88	GRID	660.98	1.11	5/1/03	1.01 - 1.11
185	482619.89	1351183.69	660.58	661.59	TOP20:1	661.59	1.01	5/1/03	1.01 - 1.11
186	482620.35	1351145.85	658.70	659.71	GRID	659.72	1.02	5/1/03	1.01 - 1.11
187	482620.97	1351095.71	656.25	657.26	TOE20:1	657.27	1.02	5/1/03	1.01 - 1.11
188	482621.58	1351045.86	651.20	652.21	GRID	652.29	1.09	5/1/03	1.01 - 1.11
189	482621.68	1351037.89	650.45	651.46	TOE10:1	651.46	1.01	4/29/03	1.01 - 1.11
190	482622.19	1350995.86	643.28	644.30	GRID	644.40	1.12	4/29/03	1.02 - 1.12
191	482622.80	1350945.87	634.92	635.94	GRID	636.02	1.10	4/29/03	1.02 - 1.12
192	482623.41	1350895.87	626.71	627.73	GRID	627.75	1.04	4/29/03	1.02 - 1.12
193	482624.02	1350845.87	618.26	619.28	GRID	619.38	1.12	4/29/03	1.02 - 1.12
194	482566.69	1351445.22	630.55	631.57	GRID	631.60	1.05	5/2/03	1.02 - 1.12
195	482567.30	1351395.22	638.88	639.90	GRID	639.99	1.11	5/2/03	1.02 - 1.12
196	482567.91	1351345.22	647.23	648.25	GRID	648.34	1.11	5/2/03	1.02 - 1.12
197	482568.11	1351328.87	650.04	651.05	TOE10:1	651.08	1.04	5/2/03	1.01 - 1.11
198	482568.52	1351295.23	653.42	654.43	GRID	654.48	1.06	5/2/03	1.01 - 1.11
199	482568.82	1351271.03	655.73	656.74	TOE20:1	656.75	1.02	5/1/03	1.01 - 1.11
200	482569.14	1351245.23	656.99	658.00	GRID	658.10	1.11	5/1/03	1.01 - 1.11
201	482569.75	1351195.24	659.65	660.66	GRID	660.67	1.02	5/1/03	1.01 - 1.11
202	482569.90	1351183.08	660.21	661.22	TOP20:1	661.29	1.08	5/1/03	1.01 - 1.11
203	482570.36	1351145.24	658.20	659.21	GRID	659.31	1.11	5/1/03	1.01 - 1.11
204	482570.97	1351095.10	655.69	656.70	TOE20:1	656.73	1.04	5/1/03	1.01 - 1.11
205	482571.58	1351045.25	650.61	651.62	GRID	651.72	1.11	5/1/03	1.01 - 1.11
206	482571.68	1351037.28	649.80	650.81	TOE10:1	650.88	1.08	4/29/03	1.01 - 1.11
207	482572.19	1350995.25	642.95	643.97	GRID	644.04	1.09	4/29/03	1.02 - 1.12
208	482572.80	1350945.25	634.63	635.65	GRID	635.65	1.02	4/29/03	1.02 - 1.12
209	482573.42	1350895.26	626.30	627.32	GRID	627.36	1.06	4/29/03	1.02 - 1.12
210	482574.03	1350845.26	617.96	618.98	GRID	618.98	1.02	4/29/03	1.02 - 1.12
211	482516.69	1351444.61	630.16	631.18	GRID	631.22	1.06	5/2/03	1.02 - 1.12
212	482517.31	1351394.61	638.50	639.52	GRID	639.52	1.02	5/2/03	1.02 - 1.12
213	482517.92	1351344.61	646.80	647.82	GRID	647.83	1.03	5/2/03	1.02 - 1.12
214	482518.12	1351328.25	649.57	650.58	TOE10:1	650.68	1.11	5/2/03	1.01 - 1.11
215	482518.53	1351294.62	653.00	654.01	GRID	654.02	1.02	5/2/03	1.01 - 1.11
216	482518.82	1351270.42	655.33	656.34	TOE20:1	656.35	1.02	5/1/03	1.01 - 1.11
217	482519.14	1351244.62	656.50	657.51	GRID	657.61	1.11	5/1/03	1.01 - 1.11
218	482519.75	1351194.62	658.94	659.95	GRID	660.05	1.11	5/1/03	1.01 - 1.11
219	482519.90	1351182.47	659.50	660.51	TOP20:1	660.51	1.01	5/1/03	1.01 - 1.11
220	482520.36	1351144.63	657.90	658.91	GRID	659.01	1.11	5/1/03	1.01 - 1.11
221	482520.98	1351094.49	655.33	656.34	TOE20:1	656.37	1.04	5/1/03	1.01 - 1.11
222	482521.59	1351044.64	650.37	651.38	GRID	651.39	1.02	5/1/03	1.01 - 1.11
223	482521.68	1351036.67	649.70	650.71	TOE10:1	650.77	1.07	4/29/03	1.01 - 1.11
224	482522.20	1350994.64	642.60	643.62	GRID	643.70	1.10	4/29/03	1.02 - 1.12
225	482522.81	1350944.64	634.18	635.20	GRID	635.30	1.12	4/29/03	1.02 - 1.12
226	482523.42	1350894.65	625.87	626.89	GRID	626.93	1.06	4/29/03	1.02 - 1.12
227	482524.03	1350844.65	617.49	618.51	GRID	618.61	1.12	4/29/03	1.02 - 1.12
228	482466.70	1351443.99	629.80	630.82	GRID	630.87	1.07	5/2/03	1.02 - 1.12
229	482467.31	1351394.00	638.15	639.17	GRID	639.20	1.05	5/2/03	1.02 - 1.12
230	482467.92	1351344.00	646.44	647.46	GRID	647.53	1.09	5/2/03	1.02 - 1.12
231	482468.12	1351327.64	649.23	650.24	TOE 10:1	650.30	1.07	5/2/03	1.01 - 1.11
232	482468.53	1351294.01	652.50	653.51	GRID	653.53	1.03	5/2/03	1.01 - 1.11
233	482468.83	1351269.81	654.99	656.00	TOE 20:1	656.01	1.02	5/1/03	1.01 - 1.11
234	482469.14	1351244.01	656.12	657.13	GRID	657.23	1.11	5/1/03	1.01 - 1.11
235	482469.75	1351194.01	658.70	659.71	GRID	659.80	1.10	5/1/03	1.01 - 1.11
236	482469.90	1351181.85	659.38	660.39	TOP 20:1	660.40	1.02	5/1/03	1.01 - 1.11
237	482470.37	1351144.02	657.58	658.59	GRID	658.66	1.08	5/1/03	1.01 - 1.11
238	482470.98	1351093.88	655.00	656.01	TOE 20:1	656.11	1.11	5/1/03	1.01 - 1.11
239	482471.59	1351044.02	650.01	651.02	GRID	651.12	1.11	5/1/03	1.01 - 1.11
240	482471.69	1351036.06	649.19	650.20	TOE 10:1	650.31	1.12	4/29/03	1.01 - 1.11
241	482472.20	1350994.03	642.18	643.20	GRID	643.30	1.12	4/29/03	1.02 - 1.12
242	482472.81	1350944.03	633.71	634.73	GRID	634.83	1.12	4/29/03	1.02 - 1.12
243	482473.42	1350894.04	625.55	626.57	GRID	626.57	1.02	4/29/03	1.02 - 1.12
244	482474.03	1350844.04	617.18	618.20	GRID	618.30	1.12	4/29/03	1.02 - 1.12
245	482416.70	1351443.38	629.47	630.49	GRID	630.56	1.09	5/2/03	1.02 - 1.12
246	482417.31	1351393.39	637.67	638.69	GRID	638.76	1.09	5/2/03	1.02 - 1.12
247	482417.92	1351343.39	646.09	647.11	GRID	647.13	1.04	5/2/03	1.02 - 1.12
248	482418.54	1351293.39	652.07	653.08	GRID	653.18	1.11	5/2/03	1.01 - 1.11
249	482419.15	1351243.40	655.84	656.85	GRID	656.92	1.08	5/1/03	1.01 - 1.11
250	482419.76	1351193.40	658.25	659.26	GRID	659.27	1.02	5/1/03	1.01 - 1.11
251	482420.37	1351143.41	657.04	658.05	GRID	658.15	1.11	5/1/03	1.02 - 1.12
252	482421.59	1351043.41	649.74	650.76	GRID	650.76	1.02	5/1/03	1.02 - 1.12
253	482422.20	1350993.42	641.86	642.88	GRID	642.94	1.08	4/29/03	1.02 - 1.12
254	482422.82	1350943.42	633.42	634.44	GRID	634.52	1.10	4/29/03	1.02 - 1.12
255	482423.43	1350893.42	625.18	626.20	GRID	626.23	1.05	4/29/03	1.02 - 1.12
256	482424.04	1350843.43	616.80	617.82	GRID	617.89	1.09	4/29/03	1.02 - 1.12
257	482863.73	1350832.31	617.28	618.75	PANE114	618.75	1.47	ASB2001	N/A
258	482861.15	1351040.81	652.15	653.52	PANE119	653.52	1.37	ASB2001	N/A
259	482863.11	1350882.30	625.85	627.21	PANE144	627.21	1.36	ASB2001	N/A
260	482862.49	1350932.30	633.80	635.31	PANE146	635.31	1.51	ASB2001	N/A
261	482861.87	1350982.30	642.36	643.74	PANE148	643.74	1.38	ASB2001	N/A
262	482855.48	1351498.76	624.08	625.60	PANE287	625.60	1.52	ASB2001	N/A
263	482857.50	1351332.41	651.92	653.42	PANE282	653.42	1.50	ASB2001	N/A
264	482856.09	1351448.76	632.41	633.99	PANE297	633.99	1.58	ASB2001	N/A
265	482856.69	1351398.76	640.80	642.31	PANE299	642.31	1.51	ASB2001	N/A
266	482857.30	1351348.77	649.33	650.75	PANE301	650.75	1.42	ASB2001	N/A
267	482839.38	1351186.37	662.15	663.54	PANE482/5025	663.54	1.39	ASB2001	N/A
268	482858.20	1351274.58	657.85	659.27	PANE1844	659.27	1.42	ASB2001	N/A
269	482860.43	1351098.64	658.08	659.25	PANE1853	659.25	1.17	ASB2001	N/A
270	482859.89	1351142.62	660.29	661.53	PANE1859	661.53	1.24	ASB2001	N/A
271	482858.73	1351230.59	660.24	661.60	PANE1866	661.60	1.36	ASB2001	N/A
1334	482718.54	1350814.80	N/A	612.32	TOE 3:1	612.32	N/A	5/12/03	N/A
1337	482710.01	1351512.71	N/A	619.27	TOE 3:1	619.27	N/A	5/12/03	N/A

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 6/7/03

Doc#DHW2-02100-0058 Sht 2 of 3

000289

NOTE:
POINTS WITH AN ELEVATION OF 0.00 HAVE NOT BEEN CERTIFIED.

5371

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:
Drawn By: M.C.K.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO — LYNN E. HIRSCH — S-5738 — SURVEYOR
[signature] 6-6-2003

Date: 5-14-2003
Scale:
Project No.
AS-BUILT CONTOUR LAYER CELL 2
Sheet No. 2 OF 3

PNT NO	NORTH	EAST	ASBUILT TOP SELECT LAYER ELEV	PROP ELEV	DESCRIPTION	ASBUILT ELEV	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
1378	482685.54	1350814.40	N/A	612.28	TOE 3:1	612.28	N/A	5/12/03	N/A
1379	482635.54	1350813.78	N/A	611.74	TOE 3:1	611.74	N/A	5/12/03	N/A
1380	482585.55	1350813.17	N/A	611.32	TOE 3:1	611.32	N/A	5/12/03	N/A
1381	482564.69	1350812.92	N/A	611.16	TOE 3:1	611.16	N/A	5/12/03	N/A
1382	482514.68	1350812.30	N/A	610.79	TOE 3:1	610.79	N/A	5/12/03	N/A
1383	482464.68	1350811.69	N/A	610.54	TOE 3:1	610.54	N/A	5/12/03	N/A
1384	482414.68	1350811.08	N/A	610.00	TOE 3:1	610.00	N/A		N/A
1403	482677.01	1351512.31	N/A	619.00	TOE 3:1	619.00	N/A	5/12/03	N/A
1404	482627.02	1351511.70	N/A	618.61	TOE 3:1	618.61	N/A	5/12/03	N/A
1405	482577.02	1351511.09	N/A	618.27	TOE 3:1	618.27	N/A	5/12/03	N/A
1406	482556.16	1351510.83	N/A	618.26	TOE 3:1	618.26	N/A	5/12/03	N/A
1407	482506.16	1351510.22	N/A	617.77	TOE 3:1	617.77	N/A	5/12/03	N/A
1408	482456.16	1351509.61	N/A	617.59	TOE 3:1	617.59	N/A	5/12/03	N/A
1409	482406.15	1351509.00	N/A	617.21	TOE 3:1	617.21	N/A		N/A
1561	482737.25	1350815.02	N/A	612.34	TOE 3:1	612.34	N/A	5/12/03	N/A
1562	482768.91	1350815.41	N/A	612.80	TOE 3:1	612.80	N/A	5/12/03	N/A
1563	482814.66	1350815.97	N/A	612.90	TOE 3:1	612.90	N/A	5/12/03	N/A
1564	482864.65	1350816.58	N/A	613.39	TOE 3:1	613.39	N/A		N/A
1593	482856.13	1351514.50	N/A	620.53	TOE 3:1	620.53	N/A		N/A
1594	482806.13	1351513.89	N/A	620.03	TOP SLP	620.03	N/A	5/12/03	N/A
1595	482775.59	1351513.52	N/A	619.73	TOE 3:1	619.73	N/A	5/12/03	N/A
1596	482745.04	1351513.14	N/A	619.54	TOE 3:1	619.54	N/A	5/12/03	N/A
1600	482413.93	1350811.07	N/A	610.04	TOE 3.5:1 END CONTOU		N/A		N/A
1601	482419.24	1350826.88	N/A	615.05	S/G TEMP A/RD	651.10	N/A	5/1/03	N/A
1602	482417.24	1350826.85	N/A	615.05	TOP 3.5:1	615.13	N/A	5/1/03	N/A
1603	482413.74	1350826.81	N/A	615.03	TOE 3.5:1 END CONTOU		N/A		N/A
1604	482419.04	1350843.37	N/A	617.84	S/G TEMP A/RD	617.84	N/A	5/1/03	N/A
1605	482417.04	1350843.34	N/A	617.84	TOP 3.5:1	617.84	N/A	5/1/03	N/A
1606	482413.54	1350843.30	N/A	617.82	TOE 3.5:1 END CONTOU		N/A		N/A
1607	482418.43	1350893.36	N/A	626.13	S/G TEMP A/RD	626.17	N/A	4/29/03	N/A
1608	482416.43	1350893.33	N/A	626.22	TOP 3.5:1	626.25	N/A	4/30/03	N/A
1609	482412.93	1350893.29	N/A	626.21	TOE 3.5:1 END CONTO		N/A		N/A
1610	482417.82	1350943.36	N/A	634.46	S/G TEMP A/RD	634.53	N/A	4/30/03	N/A
1611	482415.82	1350943.33	N/A	634.46	TOP 3.5:1	634.53	N/A	4/29/03	N/A
1612	482412.32	1350943.29	N/A	634.47	TOE 3.5:1 END CONTOU		N/A		N/A
1613	482417.20	1350993.36	N/A	642.80	S/G TEMP A/RD	642.85	N/A	4/29/03	N/A
1614	482415.20	1350993.33	N/A	642.86	TOP 3.5:1	642.89	N/A	4/29/03	N/A
1615	482411.70	1350993.29	N/A	642.87	TOE 3.5:1 END CONTOU		N/A		N/A
1616	482416.69	1351035.38	N/A	649.80	S/G TEMP A/RD	649.86	N/A	4/29/03	N/A
1617	482414.69	1351035.35	N/A	649.81	TOP 3.5:1	649.86	N/A	4/29/03	N/A
1618	482411.19	1351035.31	N/A	649.79	TOE 3.5:1 END CONTOU		N/A		N/A
1619	482416.59	1351043.35	N/A	650.63	S/G TEMP A/RD	650.73	N/A	5/1/03	N/A
1620	482414.59	1351043.32	N/A	650.73	TOP 3.5:1	650.75	N/A	5/1/03	N/A
1621	482411.09	1351043.28	N/A	650.70	TOE 3.5:1END CONTOUR		N/A		N/A
1622	482415.98	1351093.21	N/A	655.58	S/G TEMP A/RD	655.59	N/A	5/1/03	N/A
1623	482413.98	1351093.18	N/A	655.41	TOP 3.5:1	655.51	N/A	5/1/03	N/A
1624	482410.48	1351093.14	N/A	655.36	TOE 3.5:1END CONTOU		N/A		N/A

PNT NO	NORTH	EAST	ASBUILT TOP SELECT LAYER ELEV	PROP ELEV	DESCRIPTION	ASBUILT ELEV	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
1625	482415.37	1351143.35	N/A	658.09	S/G TEMP A/RD	658.10	N/A	5/1/03	N/A
1626	482413.37	1351143.32	N/A	657.99	TOP 3.5:1	658.06	N/A	5/1/03	N/A
1627	482409.87	1351143.28	N/A	657.96	TOE 3.5:1END CONTOUR		N/A		N/A
1628	482414.91	1351181.18	N/A	659.98	S/G TEMP A/RD	660.03	N/A	5/1/03	N/A
1629	482412.91	1351181.15	N/A	659.86	TOP 3.5:1	659.96	N/A	5/1/03	N/A
1630	482409.41	1351181.11	N/A	659.83	TOE3.5:1END CONTOUR		N/A		N/A
1631	482414.76	1351193.34	N/A	659.37	S/G TEMP A/RD	659.38	N/A	5/1/03	N/A
1632	482412.76	1351193.31	N/A	659.20	TOP 3.5:1	659.24	N/A	5/1/03	N/A
1633	482409.26	1351193.27	N/A	659.17	TOE 3.5:1END CONTOUR		N/A		N/A
1634	482414.15	1351243.34	N/A	656.87	S/G TEMP A/RD	656.87	N/A	5/1/03	N/A
1635	482412.15	1351243.31	N/A	656.79	TOP 3.5:1	656.89	N/A	5/1/03	N/A
1636	482408.65	1351243.27	N/A	656.76	TOE3.5:1END CONTOUR		N/A		N/A
1637	482413.83	1351269.15	N/A	655.58	S/G TEMP A/RD	655.60	N/A	5/1/03	N/A
1638	482411.83	1351269.13	N/A	655.48	TOP 3.5:1	655.49	N/A	5/1/03	N/A
1639	482408.33	1351269.08	N/A	655.45	TOE 3.5:1END CONTOUR		N/A		N/A
1640	482413.54	1351293.33	N/A	653.16	S/G TEMP A/RD	653.22	N/A	5/2/03	N/A
1641	482411.54	1351293.30	N/A	653.03	TOP 3.5:1	653.13	N/A	5/2/03	N/A
1642	482408.04	1351293.26	N/A	653.00	TOE3.5:1END CONTOUR		N/A		N/A
1643	482413.13	1351326.98	N/A	649.80	S/G TEMP A/RD	649.86	N/A	5/2/03	N/A
1644	482411.13	1351326.96	N/A	649.79	TOP 3.5:1	649.84	N/A	5/2/03	N/A
1645	482407.63	1351326.91	N/A	649.80	TOE 3.5:1END CONTOUR		N/A		N/A
1646	482412.92	1351343.33	N/A	647.08	S/G TEMP A/RD	647.08	N/A	5/2/03	N/A
1647	482410.92	1351343.30	N/A	647.10	TOP 3.5:1	647.12	N/A	5/2/03	N/A
1648	482407.42	1351343.26	N/A	647.05	TOE3.5:1END CONTOUR		N/A		N/A
1649	482412.31	1351393.33	N/A	638.74	S/G TEMP A/RD	638.83	N/A	5/2/03	N/A
1650	482410.31	1351393.30	N/A	638.77	TOP 3.5:1	638.84	N/A	5/2/03	N/A
1651	482406.81	1351393.26	N/A	638.72	TOE3.5:1END CONTOUR		N/A		N/A
1652	482411.70	1351443.32	N/A	630.41	S/G TEMP A/RD	630.44	N/A	5/2/03	N/A
1653	482409.70	1351443.29	N/A	630.41	TOP 3.5:1	630.47	N/A	5/2/03	N/A
1654	482406.20	1351443.25	N/A	630.42	TOE 3.5:1END CONTOUR		N/A		N/A
1655	482411.09	1351493.32	N/A	622.07	S/G TEMP A/RD	622.13	N/A	5/2/03	N/A
1656	482409.09	1351493.29	N/A	622.10	TOP3.5:1	622.10	N/A	5/2/03	N/A
1657	482405.59	1351493.25	N/A	622.06	TOE3.5:1END CONTOUR		N/A		N/A
1658	482405.40	1351508.99	N/A	617.29	TOE3.5:1END CONTOUR		N/A		N/A
1659	482408.90	1351509.03	N/A	617.24	TOE 3:1	617.24	N/A		N/A
1660	482417.43	1350811.11	N/A	610.05	TOE 3:1	610.05	N/A		N/A
2000	482450.33	1351269.41	N/A	655.88	top 10 1 (10000)*	655.90	N/A	5/2/03	N/A
2002	482451.41	1351181.62	N/A	660.28	top 20 1 (10002)*	660.38	N/A	5/2/03	N/A
2003	482452.48	1351093.84	N/A	655.88	top 10 1 (10003)*	655.94	N/A	5/2/03	N/A
2010	482449.62	1351327.64	N/A	650.06	top 6 1 (10010)*	650.08	N/A	5/2/03	N/A
2014	482453.19	1351035.61	N/A	650.05	top 6 1 (10014)*	650.13	N/A	5/2/03	N/A
2049	482455.74	1350827.33	N/A	615.34	toe 6 1*	615.43	N/A	5/2/03	N/A
2082	482447.59	1351493.77	N/A	622.36	toe 6 1*	622.45	N/A	5/12/03	N/A
2112	482455.54	1350843.81	N/A	618.07	grid pt top 6 1*	618.17	N/A	5/2/03	N/A
2113	482454.92	1350893.81	N/A	626.41	grid pt top 6 1*	626.41	N/A	5/2/03	N/A
2114	482454.31	1350943.81	N/A	634.75	grid pt top 6 1*	634.77	N/A	5/2/03	N/A
2115	482453.70	1350993.80	N/A	643.07	grid pt top 6 1*	643.17	N/A	5/2/03	N/A

PNT NO	NORTH	EAST	ASBUILT TOP SELECT LAYER ELEV	PROP ELEV	DESCRIPTION	ASBUILT ELEV	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2123	482448.20	1351443.77	N/A	630.69	grid pt top 6 1*	630.77	N/A	5/2/03	N/A
2124	482448.81	1351393.77	N/A	639.02	grid pt top 6 1*	639.03	N/A	5/2/03	N/A
2125	482449.42	1351343.78	N/A	647.36	grid pt top 6 1*	647.37	N/A	5/2/03	N/A
2142	482453.09	1351043.80	N/A	650.88	GRID PT TOP 6 1*	650.98	N/A	5/2/03	N/A
2144	482451.87	1351143.79	N/A	658.39	GRID PT TOP 6 1*	658.48	N/A	5/2/03	N/A
2146	482451.26	1351193.79	N/A	659.67	GRID PT TOP 6 1*	659.67	N/A	5/2/03	N/A
2148	482450.65	1351243.78	N/A	657.17	GRID PT TOP 6 1*	657.21	N/A	5/2/03	N/A
2150	482450.03	1351293.78	N/A	653.44	GRID PT TOE 6 1*	653.45	N/A	5/2/03	N/A

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 6/5/03

Doc# PHLV2-02100-005B

062000

5371

NOTE:

POINTS WITH AND "*" ARE MISS-NUMBERED AND SHOULD HAVE BEEN NUMBERED IN THE 1000 POINT RANGE TO SHOW THEY WERE CREATED IN CONTOUR LAYER FOR CLAY TERMINATION POINT.

POINTS WITH AN ELEVATION OF 0.00 HAVE NOT BEEN CERTIFIED.

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:
Drawn By: M.C.K.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
6-5-2003

Date: 5-14-2003
Scale:
Project No.

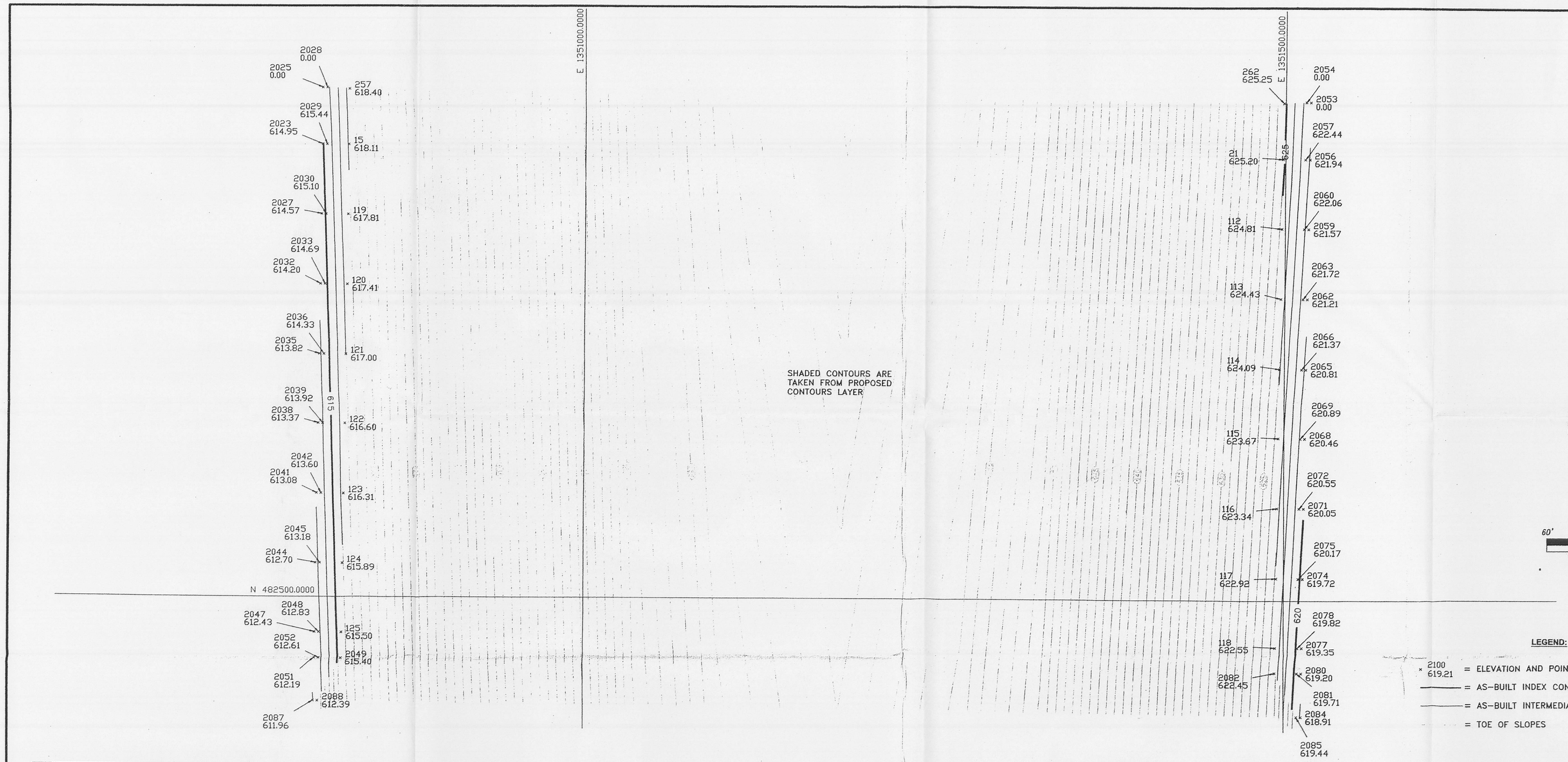
AS-BUILT
CONTOUR LAYER
CELL 2

Sheet No.
3 OF 3

Y:\FERNALD-2003\TASK 1\DWG\5-14-03 tec asblt cont.DWG

A-5371

AREA 4



NOTE:

POINTS WITH AN ELEVATION OF 0.00 HAVE NOT BEEN CERTIFIED.

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

LEGEND:

2100 619.21 = ELEVATION AND POINT NUMBER

= AS-BUILT INDEX CONTOUR

= AS-BUILT INTERMEDIATE CONTOUR

= TOE OF SLOPES

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV	LAYER THICKNESS	DATE	SHOT TOLERANCE
15	482824.21	1350831.83	618.09	CP5015 top 3 1	618.11	N/A	5/12/2003	0.00to+0.10
21	482816.06	1351498.27	625.11	CP5021	625.20	N/A	5/12/2003	0.00to+0.10
112	482766.06	1351497.66	624.74	TOE6:1	624.81	N/A	5/12/2003	0.00to+0.10
113	482716.07	1351497.05	624.36	TOE6:1	624.43	N/A	5/12/2003	0.00to+0.10
114	482666.07	1351496.44	623.99	TOE6:1	624.09	N/A	5/12/2003	0.00to+0.10
115	482616.07	1351495.83	623.61	TOE6:1	623.67	N/A	5/12/2003	0.00to+0.10
116	482566.08	1351495.21	623.24	TOE6:1	623.34	N/A	5/12/2003	0.00to+0.10
117	482516.08	1351494.60	622.86	TOE6:1	622.92	N/A	5/12/2003	0.00to+0.10
118	482466.09	1351493.99	622.49	400 0	622.55	N/A	5/12/2003	0.00to+0.10
119	482774.21	1350831.22	617.72	TOE6:1	617.81	N/A	5/12/2003	0.00to+0.10
120	482724.22	1350830.61	617.34	TOE6:1	617.41	N/A	5/12/2003	0.00to+0.10
121	482674.22	1350830.00	616.97	TOE6:1	617.00	N/A	5/12/2003	0.00to+0.10
122	482624.22	1350829.39	616.59	TOE6:1	616.60	N/A	5/12/2003	0.00to+0.10
123	482574.23	1350828.77	616.22	TOE6:1	616.31	N/A	5/12/2003	0.00to+0.10
124	482524.23	1350828.16	615.84	TOE6:1	615.89	N/A	5/12/2003	0.00to+0.10
125	482474.24	1350827.55	615.47	TOE6:1	615.50	N/A	5/12/2003	0.00to+0.10
257	482863.73	1350832.31	618.75	PANE114 top 3 1	618.75	N/A		0.00to+0.10
262	482855.48	1351498.76	625.60	PANE267	625.60	N/A		0.00to+0.10
1334	482718.54	1350814.80	612.32	TOE 3:1	614.45	2.13	5/12/2003	0.00to+0.10
1337	482710.01	1351512.71	619.27	TOE 3:1	621.83	2.56	5/12/2003	0.00to+0.10
1378	482685.54	1350814.40	612.28	TOE 3:1	614.47	2.19	5/12/2003	0.00to+0.10
1379	482635.54	1350813.78	611.74	TOE 3:1	614.01	2.27	5/12/2003	0.00to+0.10
1380	482585.55	1350813.17	611.32	TOE 3:1	613.60	2.28	5/12/2003	0.00to+0.10
1381	482564.69	1350812.92	611.16	TOE 3:1	613.57	2.41	5/12/2003	0.00to+0.10
1382	482514.68	1350812.30	610.79	TOE 3:1	613.12	2.33	5/12/2003	0.00to+0.10
1383	482464.68	1350811.69	610.54	TOE 3:1	612.81	2.27	5/12/2003	0.00to+0.10
1403	482677.01	1351512.31	619.00	TOE 3:1	621.31	2.31	5/12/2003	0.00to+0.10
1404	482627.02	1351511.70	618.61	TOE 3:1	620.94	2.33	5/12/2003	0.00to+0.10
1405	482577.02	1351511.09	618.27	TOE 3:1	620.68	2.41	5/12/2003	0.00to+0.10
1406	482556.16	1351510.83	618.26	TOE 3:1	620.46	2.20	5/12/2003	0.00to+0.10
1407	482506.16	1351510.22	617.77	TOE 3:1	619.98	2.21	5/12/2003	0.00to+0.10
1408	482456.16	1351509.61	617.59	TOE 3:1	619.79	2.20	5/12/2003	0.00to+0.10
1561	482737.25	1350815.02	612.34	TOE 3:1	614.65	2.31	5/12/2003	0.00to+0.10
1562	482768.91	1350815.41	612.80	TOE 3:1	615.13	2.33	5/12/2003	0.00to+0.10
1563	482814.66	1350815.97	612.90	TOE 3:1	615.09	2.19	5/12/2003	0.00to+0.10
1564	482864.65	1350816.58	613.39	TOE 3:1		N/A		0.00to+0.10
1593	482856.13	1351514.50	620.53	TOE 3:1		N/A		0.00to+0.10
1594	482806.13	1351513.89	620.03	TOP SLP	622.49	2.46	5/12/2003	0.00to+0.10
1595	482775.59	1351513.52	619.73	TOE 3:1	621.95	2.22	5/12/2003	0.00to+0.10
1596	482745.04	1351513.14	619.54	TOE 3:1	622.10	2.56	5/14/2003	0.00to+0.10
2023	482824.44	1350813.00	614.95	top area 4 wedge	614.95	N/A	5/12/2003	0.00to+0.10
2024	482824.40	1350816.09	613.08	toe 3 1	613.08	N/A		0.00to+0.10
2025	482864.69	1350813.49	615.26	top area 4 wedge		N/A		0.00to+0.10
2026	482774.41	1350815.48	612.81	toe 3 1	612.81	N/A		0.00to+0.10
2027	482774.44	1350812.39	614.58	top area 4 wedge	614.57	N/A	5/12/2003	0.00to+0.10
2028	482864.65	1350816.59	615.78	top area 4 wedge=Pt1564				0.00to+0.10
2029	482824.40	1350816.10	615.47	top area 4 wedge=Pt2024	615.44	2.36	5/12/2003	0.00to+0.10
2030	482774.41	1350815.49	615.10	top area 4 wedge=Pt2026	615.10	2.29	5/12/2003	0.00to+0.10
2031	482724.41	1350814.87	612.32	toe 3 1	612.32	N/A		0.00to+0.10

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV	LAYER THICKNESS	DATE	SHOT TOLERANCE
2032	482724.45	1350811.78	614.20	top area 4 wedge	614.20	N/A	5/12/2003	0.00to+0.10
2033	482724.41	1350814.88	614.72	top area 4 wedge=Pt.2031	614.69	2.37	5/12/2003	0.00to+0.10
2034	482674.41	1350814.26	612.16	toe 3 1	612.16	N/A		0.00to+0.10
2035	482674.45	1350811.17	613.83	top area 4 wedge	613.82	N/A	5/12/2003	0.00to+0.10
2036	482674.41	1350814.27	614.35	top area 4 wedge=Pt.2034	614.33	2.17	5/12/2003	0.00to+0.10
2037	482624.42	1350813.65	611.64	toe 3 1	611.64	N/A		0.00to+0.10
2038	482624.46	1350810.56	613.45	top area 4 wedge	613.37	N/A	5/12/2003	0.00to+0.10
2039	482624.42	1350813.66	613.97	top area 4 wedge=Pt.2037	613.92	2.28	5/12/2003	0.00to+0.10
2040	482574.42	1350813.04	611.23	toe 3 1	611.23	N/A		0.00to+0.10
2041	482574.46	1350809.95	613.08	top area 4 wedge	613.08	N/A	5/12/2003	0.00to+0.10
2042	482574.42	1350813.05	613.60	top area 4 wedge=Pt.2040	613.60	2.37	5/12/2003	0.00to+0.10
2043	482524.42	1350812.42	610.86	toe 3 1	610.86	N/A		0.00to+0.10
2044	482524.46	1350809.33	612.70	top area 4 wedge	612.70	N/A	5/12/2003	0.00to+0.10
2045	482524.42	1350812.43	613.22	top area 4 wedge=Pt.2043	613.18	2.32	5/12/2003	0.00to+0.10
2046	482474.43	1350811.81	610.59	toe 3 1	610.59	N/A		0.00to+0.10
2047	482474.47	1350808.72	612.33	top area 4 wedge	612.13	N/A	5/12/2003	0.00to+0.10
2048	482474.43	1350811.82	612.85	top area 4 wedge=Pt.2046	612.83	2.24	5/12/2003	0.00to+0.10
2049	482455.74	1350827.33	615.33	toe 6 1	615.40	N/A	5/12/2003	0.00to+0.10
2050	482455.93	1350811.58	610.45	toe 3 1	610.45	N/A		0.00to+0.10
2051	482455.97	1350808.49	612.19	top area 4 wedge	612.19	N/A	5/12/2003	0.00to+0.10
2052	482455.93	1350811.59	612.71	top area 4 wedge=Pt.2050	612.61	2.16	5/12/2003	0.00to+0.10
2053	482856.09	1351517.59	622.11	top area 4 wedge		N/A		0.00to+0.10
2054	482856.13	1351514.49	622.63	top area 4 wedge=Pt.1593		N/A		0.00to+0.10
2055	482815.87	1351514.01	620.13	toe 3 1	620.13	N/A		0.00to+0.10
2056	482815.83	1351517.10	621.97	top area 4 wedge	621.94	N/A	5/12/2003	0.00to+0.10
2057	482815.87	1351514.00	622.49	top area 4 wedge=Pt.2055	622.44	2.31	5/12/2003	0.00to+0.10
2058	482765.87	1351513.40	619.67	toe 3 1	619.57	N/A		0.00to+0.10
2059	482765.83	1351516.49	621.60	top area 4 wedge	621.57	N/A	5/12/2003	0.00to+0.10
2060	482765.87	1351513.39	622.12	top area 4 wedge	622.06	N/A	5/12/2003	0.00to+0.10
2061	482715.88	1351512.78	619.32	toe 3 1	619.32	N/A		0.00to+0.10
2062	482715.84	1351515.87	621.22	top area 4 wedge	621.21	N/A	5/12/2003	0.00to+0.10
2063	482715.88	1351512.77	621.74	top area 4 wedge=Pt.2061	621.72	2.40	5/12/2003	0.00to+0.10
2064	482665.88	1351512.17	618.91	toe 3 1	618.91	N/A		0.00to+0.10
2065	482665.84	1351515.26	620.85	top area 4 wedge	620.81	N/A	5/12/2003	0.00to+0.10
2066	482665.88	1351512.16	621.37	top area 4 wedge=Pt.2064	621.37	2.46	5/12/2003	0.00to+0.10
2067	482615.88	1351511.56	618.53	toe 3 1	618.53	N/A		0.00to+0.10
2068	482615.84	1351514.65	620.47	top area 4 wedge	620.46	N/A	5/12/2003	0.00to+0.10
2069	482615.88	1351511.55	620.99	top area 4 wedge=Pt 2067	620.89	2.36	5/12/2003	0.00to+0.10
2070	482565.89	1351510.95	618.26	toe 3 1	618.16	N/A		0.00to+0.10
2071	482565.85	1351514.04	620.10	top area 4 wedge	620.05	N/A	5/12/2003	0.00to+0.10
2072	482565.89	1351510.94	620.62	top area 4 wedge=Pt 2070	620.55	2.29	5/12/2003	0.00to+0.10
2073	482515.89	1351510.34	617.67	toe 3 1	617.17	N/A		0.00to+0.10
2074	482515.85	1351513.43	619.72	top area 4 wedge	619.72	N/A	5/12/2003	0.00to+0.10
2075	482515.89	1351510.33	620.24	top area 4 wedge=Pt.2073	620.17	3.20	5/12/2003	0.00to+0.10
2076	482465.89	1351509.73	617.63	toe 3 1	617.33	N/A		0.00to+0.10
2077	482465.86	1351512.82	619.35	top area 4 wedge	619.35	N/A	5/12/2003	0.00to+0.10
2078	482465.89	1351509.72	619.87	top area 4 wedge=Pt.2076	619.82	2.19	5/12/2003	0.00to+0.10
2079	482447.40	1351509.50	617.52	toe 3 1	617.12	N/A		0.00to+0.10
2080	482447.36	1351512.59	619.21	top area 4 wedge	619.10	N/A	5/12/2003	0.00to+0.10

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV	LAYER THICKNESS	DATE	SHOT TOLERANCE
2081	482447.40	1351509.49	619.73	top area 4 wedge=Pt.2079	619.71	2.19	5/12/2003	0.00to+0.10
2082	482447.59	1351493.77	622.35	toe 6 1	622.45	N/A	5/12/2003	0.00to+0.10
2083	482415.90	1351509.12	617.28	toe 3 1	617.28	N/A		0.00to+0.10
2084	482415.86	1351512.21	618.98	top area 4 wedge	618.91	N/A	5/12/2003	0.00to+0.10
2085	482415.90	1351509.11	619.49	top area 4 wedge=Pt.2083	619.44	2.16	5/12/2003	0.00to+0.10
2086	482424.43	1350811.20	610.11	toe 3 1	610.11	N/A		0.00to+0.10
2087	482424.47	1350808.11	611.96	top area 4 wedge	611.96	N/A	5/12/2003	0.00to+0.10
2088	482424.43	1350811.21	612.48	top area 4 wedge=Pt.2086	612.39	2.28	5/12/2003	0.00to+0.10

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:
REVISED: 5-14-2003

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
6-5-2003

5371

Date: 3-14-2003
Scale: 1" = 40'
Project No.

AS-BUILT
AREA 4
CELL 2

Sheet No.
1 OF 1

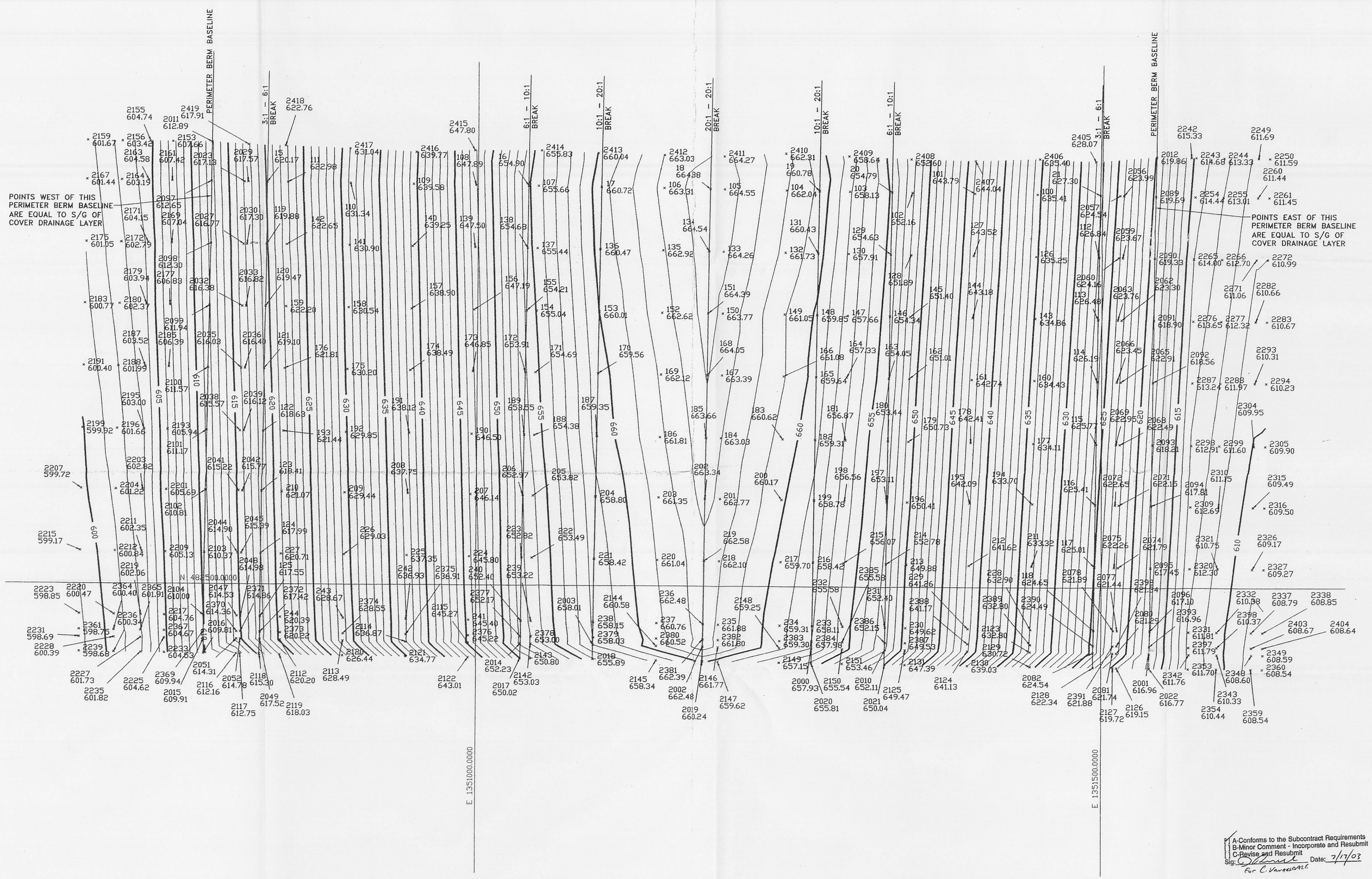
[X] A Conforms to the Subcontract Requirements
[ ] B Minor Comment - Incorporate and Resubmit
[ ] C Revise and Resubmit
Sig: [signature] Date: 6/27/03

Doc# PH02-02100-005D

000292

Y:\Fernald-2003\Task 1\Dwg\3-14-03 Area 4 Asblt.dwg

COMPACTED CLAY CAP



LEGEND:

× 2100 619.21 = ELEVATION AND POINT NUMBER

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

– – – – – = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: For C. Vanscoyoc Date: 7/17/03

Doc# PHU2-0210-005C Sht 1 of 3

5371

000294

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

REVISED : 7-9-2003

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
7-9-2003

Date: 6-25-2003
Scale: 1" = 40'
Project No.

AS-BUILT
COMPACTED CLAY
CELL 2

Sheet No.
1 OF 3

Y:\FERNALD-2003\TASK 3\DWG\6-25-03 C2 Asbilt CC.DWG

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
15	482824.21	1350831.83	618.11	620.14	CP5015 top 3 1	620.17	2.06	6/6/2003	2.03to2.33
16	482821.66	1351040.33	652.85	654.87	CP5016	654.90	2.05	6/5/2003	2.02to2.32
17	482820.95	1351098.16	658.68	660.69	CP5017	660.72	2.04	6/5/2003	2.01to2.31
18	482819.88	1351186.13	662.83	664.84	CP5018	664.88	2.05	6/5/2003	2.01to2.31
19	482818.80	1351274.09	658.69	660.70	CP5019	660.78	2.09	6/6/2003	2.01to2.31
20	482818.10	1351331.92	652.69	654.71	CP5020	654.79	2.10	6/9/2003	2.02to2.32
21	482816.06	1351498.27	625.20	627.23	CP5021	627.30	2.10	6/9/2003	2.03to2.33
100	482816.67	1351448.27	633.36	635.39	GRID	635.41	2.05	6/9/2003	2.03to2.33
101	482817.28	1351398.28	641.76	643.79	GRID	643.79	2.03	6/9/2003	2.03to2.33
102	482817.89	1351348.28	650.06	652.09	GRID	652.16	2.10	6/9/2003	2.03to2.33
103	482818.51	1351298.28	656.10	658.12	GRID	658.13	2.03	6/9/2003	2.02to2.32
104	482819.12	1351248.29	659.96	661.97	GRID	662.04	2.08	6/6/2003	2.01to2.31
105	482819.73	1351198.29	662.51	664.52	GRID	664.55	2.04	6/6/2003	2.01to2.31
106	482820.34	1351148.30	661.23	663.24	GRID	663.31	2.08	6/5/2003	2.01to2.31
107	482821.56	1351048.30	653.60	655.62	GRID	655.66	2.06	6/5/2003	2.02to2.32
108	482822.17	1350998.31	645.80	647.83	GRID	647.89	2.09	6/5/2003	2.03to2.33
109	482822.79	1350948.31	637.53	639.56	GRID	639.58	2.05	6/6/2003	2.03to2.33
110	482823.40	1350898.31	629.27	631.30	GRID	631.34	2.07	6/6/2003	2.03to2.33
111	482824.01	1350848.32	620.89	622.92	GRID	622.98	2.09	6/6/2003	2.03to2.33
112	482766.06	1351497.66	624.81	626.84	TOE6:1	626.84	2.03	6/9/2003	2.03to2.33
113	482716.07	1351497.05	624.43	626.46	TOE6:1	626.48	2.05	6/9/2003	2.03to2.33
114	482666.07	1351496.44	624.09	626.12	TOE6:1	626.19	2.10	6/9/2003	2.03to2.33
115	482616.07	1351495.83	623.67	625.70	TOE6:1	625.77	2.10	6/9/2003	2.03to2.33
116	482566.08	1351495.21	623.34	625.37	TOE6:1	625.41	2.07	6/9/2003	2.03to2.33
117	482516.08	1351494.60	622.92	624.95	TOE6:1	625.01	2.09	6/9/2003	2.03to2.33
118	482466.09	1351493.99	622.55	624.58	TOE 6 1	624.65	2.10	6/9/2003	2.03to2.33
119	482774.21	1350831.22	617.81	619.84	TOE6:1	619.88	2.07	6/6/2003	2.03to2.33
120	482724.22	1350830.61	617.41	619.44	TOE6:1	619.47	2.06	6/6/2003	2.03to2.33
121	482674.22	1350830.00	617.00	619.03	TOE6:1	619.10	2.10	6/6/2003	2.03to2.33
122	482624.22	1350829.39	616.60	618.63	TOE6:1	618.63	2.03	6/6/2003	2.03to2.33
123	482574.23	1350828.77	616.31	618.34	TOE6:1	618.41	2.10	6/6/2003	2.03to2.33
124	482524.23	1350828.16	615.89	617.92	TOE6:1	617.99	2.10	6/6/2003	2.03to2.33
125	482474.24	1350827.55	615.50	617.53	TOE6:1	617.55	2.05	6/6/2003	2.03to2.33
126	482766.68	1351447.66	633.15	635.18	GRID	635.25	2.10	6/9/2003	2.03to2.33
127	482767.29	1351397.67	641.47	643.50	GRID	643.52	2.05	6/9/2003	2.03to2.33
128	482767.90	1351347.67	649.81	651.84	GRID	651.89	2.08	6/9/2003	2.03to2.33
129	482768.10	1351331.31	652.57	654.59	TOE10:1	654.63	2.06	6/9/2003	2.02to2.32
130	482768.51	1351297.67	655.81	657.83	GRID	657.91	2.10	6/9/2003	2.02to2.32
131	482768.81	1351273.48	658.34	660.35	TOE20:1	660.43	2.09	6/6/2003	2.01to2.31
132	482769.12	1351247.68	659.65	661.66	GRID	661.73	2.08	6/6/2003	2.01to2.31
133	482769.73	1351197.68	662.19	664.20	GRID	664.26	2.07	6/6/2003	2.01to2.31
134	482769.88	1351185.52	662.47	664.48	TOP20:1	664.54	2.07	6/5/2003	2.01to2.31
135	482770.34	1351147.68	660.88	662.89	GRID	662.92	2.04	6/5/2003	2.01to2.31
136	482770.96	1351097.55	658.41	660.42	TOE20:1	660.47	2.06	6/5/2003	2.01to2.31
137	482771.57	1351047.69	653.40	655.42	GRID	655.44	2.04	6/5/2003	2.02to2.32
138	482771.66	1351039.72	652.58	654.60	TOE10:1	654.68	2.10	6/5/2003	2.02to2.32
139	482772.18	1350997.70	645.47	647.50	GRID	647.50	2.03	6/5/2003	2.03to2.33

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
140	482772.79	1350947.70	637.15	639.18	GRID	639.25	2.10	6/6/2003	2.03to2.33
141	482773.40	1350897.70	628.80	630.83	GRID	630.90	2.10	6/6/2003	2.03to2.33
142	482774.01	1350847.71	620.56	622.59	GRID	622.65	2.09	6/6/2003	2.03to2.33
143	482716.68	1351447.05	632.77	634.80	GRID	634.86	2.09	6/9/2003	2.03to2.33
144	482717.29	1351397.05	641.08	643.11	GRID	643.18	2.10	6/9/2003	2.03to2.33
145	482717.90	1351347.06	649.32	651.35	GRID	651.40	2.08	6/9/2003	2.03to2.33
146	482718.10	1351330.70	652.31	654.33	TOE 10:1	654.34	2.03	6/9/2003	2.02to2.32
147	482718.51	1351297.06	655.57	657.59	GRID	657.66	2.09	6/9/2003	2.02to2.32
148	482718.81	1351272.86	657.81	659.82	TOE20:1	659.85	2.04	6/6/2003	2.01to2.31
149	482719.12	1351247.07	659.02	661.03	GRID	661.05	2.03	6/6/2003	2.01to2.31
150	482719.74	1351197.07	661.73	663.74	GRID	663.77	2.04	6/6/2003	2.01to2.31
151	482719.88	1351184.91	662.32	664.33	TOP20:1	664.39	2.07	6/5/2003	2.01to2.31
152	482720.35	1351147.07	660.56	662.57	GRID	662.62	2.06	6/5/2003	2.01to2.31
153	482720.96	1351096.94	657.96	659.97	TOE20:1	660.01	2.05	6/5/2003	2.01to2.31
154	482721.57	1351047.08	653.01	655.03	GRID	655.04	2.03	6/5/2003	2.02to2.32
155	482721.67	1351039.11	652.17	654.19	TOE10:1	654.21	2.04	6/5/2003	2.02to2.32
156	482722.18	1350997.08	645.09	647.12	GRID	647.19	2.10	6/5/2003	2.03to2.33
157	482722.79	1350947.09	636.80	638.83	GRID	638.90	2.10	6/6/2003	2.03to2.33
158	482723.40	1350897.09	628.44	630.47	GRID	630.54	2.10	6/6/2003	2.03to2.33
159	482724.02	1350847.10	620.10	622.13	GRID	622.20	2.10	6/6/2003	2.03to2.33
160	482666.68	1351446.44	632.39	634.42	GRID	634.43	2.04	6/9/2003	2.03to2.33
161	482667.29	1351396.44	640.70	642.73	GRID	642.74	2.04	6/9/2003	2.03to2.33
162	482667.91	1351346.45	648.94	650.97	GRID	651.01	2.07	6/9/2003	2.03to2.33
163	482668.11	1351330.09	651.96	653.98	TOE10:1	654.05	2.09	6/9/2003	2.02to2.32
164	482668.52	1351296.45	655.25	657.27	GRID	657.33	2.08	6/9/2003	2.02to2.32
165	482668.81	1351272.25	657.61	659.62	TOE20:1	659.64	2.03	6/6/2003	2.01to2.31
166	482669.13	1351246.45	659.01	661.02	GRID	661.08	2.07	6/6/2003	2.01to2.31
167	482669.74	1351196.46	661.33	663.34	GRID	663.39	2.06	6/6/2003	2.01to2.31
168	482669.89	1351184.30	661.96	663.97	TOP20:1	664.05	2.09	6/5/2003	2.01to2.31
169	482670.35	1351146.46	660.08	662.09	GRID	662.12	2.04	6/5/2003	2.01to2.31
170	482670.96	1351096.33	657.52	659.53	TOE20:1	659.56	2.04	6/5/2003	2.01to2.31
171	482671.57	1351046.47	652.62	654.64	GRID	654.69	2.07	6/5/2003	2.02to2.32
172	482671.67	1351038.50	651.81	653.83	TOE10:1	653.91	2.10	6/5/2003	2.02to2.32
173	482672.19	1350996.47	644.76	646.79	GRID	646.85	2.09	6/5/2003	2.03to2.33
174	482672.80	1350946.48	636.39	638.42	GRID	638.49	2.10	6/6/2003	2.03to2.33
175	482673.41	1350896.48	628.10	630.13	GRID	630.20	2.10	6/6/2003	2.03to2.33
176	482674.02	1350846.48	619.76	621.79	GRID	621.81	2.05	6/6/2003	2.03to2.33
177	482616.69	1351445.83	632.02	634.05	GRID	634.11	2.09	6/9/2003	2.03to2.33
178	482617.30	1351395.83	640.35	642.38	GRID	642.41	2.06	6/9/2003	2.03to2.33
179	482617.91	1351345.84	648.64	650.67	GRID	650.73	2.09	6/9/2003	2.03to2.33
180	482618.11	1351329.48	651.40	653.42	TOE10:1	653.44	2.04	6/9/2003	2.02to2.32
181	482618.52	1351295.84	654.84	656.86	GRID	656.87	2.03	6/9/2003	2.02to2.32
182	482618.82	1351271.64	657.22	659.23	TOE20:1	659.31	2.09	6/6/2003	2.01to2.31
183	482619.13	1351245.84	658.52	660.53	GRID	660.62	2.10	6/6/2003	2.01to2.31
184	482619.74	1351195.85	660.98	662.99	GRID	663.03	2.05	6/6/2003	2.01to2.31
185	482619.89	1351183.69	661.59	663.60	TOP20:1	663.66	2.07	6/5/2003	2.01to2.31
186	482620.35	1351145.85	659.72	661.73	GRID	661.81	2.09	6/5/2003	2.01to2.31

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
187	482620.97	1351095.71	657.27	659.28	TOE20:1	659.35	2.08	6/5/2003	2.01to2.31
188	482621.58	1351045.86	652.29	654.31	GRID	654.38	2.09	6/5/2003	2.02to2.32
189	482621.68	1351037.89	651.46	653.48	TOE10:1	653.55	2.09	6/5/2003	2.02to2.32
190	482622.19	1350995.86	644.40	646.43	GRID	646.50	2.10	6/5/2003	2.03to2.33
191	482622.80	1350945.87	636.02	638.05	GRID	638.12	2.10	6/6/2003	2.03to2.33
192	482623.41	1350895.87	627.75	629.78	GRID	629.85	2.10	6/6/2003	2.03to2.33
193	482624.02	1350845.87	619.38	621.41	GRID	621.44	2.06	6/6/2003	2.03to2.33
194	482566.69	1351445.22	631.60	633.63	GRID	633.70	2.10	6/6/2003	2.03to2.33
195	482567.30	1351395.22	639.99	642.02	GRID	642.09	2.10	6/9/2003	2.03to2.33
196	482567.91	1351345.22	648.34	650.37	GRID	650.41	2.07	6/9/2003	2.03to2.33
197	482568.11	1351328.87	651.08	653.10	TOE10:1	653.11	2.03	6/9/2003	2.02to2.32
198	482568.52	1351295.23	654.48	656.50	GRID	656.56	2.08	6/9/2003	2.02to2.32
199	482568.82	1351271.03	656.75	658.76	TOE20:1	658.78	2.03	6/6/2003	2.01to2.31
200	482569.14	1351245.23	658.10	660.11	GRID	660.17	2.07	6/6/2003	2.01to2.31
201	482569.75	1351195.24	660.67	662.68	GRID	662.77	2.10	6/6/2003	2.01to2.31
202	482569.90	1351183.08	661.29	663.30	TOP20:1	663.34	2.05	6/5/2003	2.01to2.31
203	482570.36	1351145.24	659.31	661.32	GRID	661.35	2.04	6/5/2003	2.01to2.31
204	482570.97	1351095.10	656.73	658.74	TOE20:1	658.80	2.07	6/5/2003	2.01to2.31
205	482571.58	1351045.25	651.72	653.74	GRID	653.82	2.10	6/5/2003	2.02to2.32
206	482571.68	1351037.28	650.88	652.90	TOE10:1	652.97	2.09	6/5/2003	2.02to2.32
207	482572.19	1350995.25	644.04	646.07	GRID	646.14	2.10	6/5/2003	2.03to2.33
208	482572.80	1350945.25	635.65	637.68	GRID	637.75	2.10	6/6/2003	2.03to2.33
209	482573.42	1350895.26	627.36	629.39	GRID	629.44	2.08	6/6/2003	2.03to2.33
210	482574.03	1350845.26	618.98	621.01	GRID	621.07	2.09	6/6/2003	2.03to2.33
211	482516.69	1351444.61	631.22	633.25	GRID	633.32	2.10	6/9/2003	2.03to2.33
212	482517.31	1351394.61	639.52	641.55	GRID	641.62	2.10	6/9/2003	2.03to2.33
213	482517.92	1351344.61	647.83	649.86	GRID	649.88	2.05	6/9/2003	2.03to2.33
214	482518.12	1351328.25	650.68	652.70	TOE10:1	652.78	2.10	6/9/2003	2.02to2.32
215	482518.53	1351294.62	654.02	656.04	GRID	656.07	2.05	6/9/2003	2.02to2.32
216	482518.82	1351270.42	656.35	658.36	TOE20:1	658.42	2.07	6/6/2003	2.01to2.31
217	482519.14	1351244.62	657.61	659.62	GRID	659.70	2.09	6/6/2003	2.01to2.31
218	482519.75	1351194.62	660.05	662.06	GRID	662.10	2.05	6/6/2003	2.01to2.31
219	482519.90	1351182.47	660.51	662.52	TOP20:1	662.58	2.07	6/5/2003	2.01to2.31
220	482520.36	1351144.63	659.01	661.02	GRID	661.04	2.03	6/5/2003	2.01to2.31
221	482520.98	1351094.49	656.37	658.38	TOE20:1	658.42	2.05	6/5/2003	2.01to2.31
222	482521.59	1351044.64	651.39	653.41	GRID	653.49	2.10	6/5/2003	2.02to2.32
223	482521.68	1351036.67	650.77	652.79	TOE10:1	652.82	2.05	6/5/2003	2.02to2.32
224	482522.20	1350994.64	643.70	645.73	GRID	645.80	2.10	6/5/2003	2.03to2.33
225	482522.81	1350944.64	635.30	637.33	GRID	637.35	2.05	6/6/2003	2.03to2.33
226	482523.42	1350894.65	626.93	628.96	GRID	629.03	2.10	6/6/2003	2.03to2.33
227	482524.03	1350844.65	618.61	620.64	GRID	620.71	2.10	6/6/2003	2.03to2.33
228	482466.70	1351443.99	630.87	632.90	GRID	632.90	2.03	6/9/2003	2.03to2.33
229	482467.31	1351394.00	639.20	641.23	GRID	641.26	2.06	6/9/2003	2.03to2.33
230	482467.92	1351344.00	647.53	649.56	GRID	649.62	2.09	6/9/2003	2.03to2.33
231	482468.12	1351327.64	650.30	652.32	TOE 10:1	652.40	2.10	6/9/2003	2.02to2.32
232	482468.53	1351294.01	653.53	655.55	GRID	655.58	2.05	6/9/2003	2.02to2.32
233	482468.83	1351269.81	656.01	658.02	TOE 20:1	658.11	2.10	6/6/2003	2.01to2.31

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
234	482469.14	1351244.01	657.23	659.24	GRID	659.31	2.08	6/6/2003	2.01to2.31
235	482469.75	1351194.01	659.80	661.81	GRID	661.88	2.08	6/6/2003	2.01to2.31
236	482469.90	1351181.85	660.40	662.41	TOP 20:1	662.48	2.08	6/5/2003	2.01to2.31
237	482470.37	1351144.02	658.66	660.67	GRID	660.76	2.10	6/5/2003	2.01to2.31
238	482470.98	1351093.88	656.11	658.12	TOE 20:1	658.15	2.04	6/5/2003	2.01to2.31
239	482471.59	1351044.02	651.12	653.14	GRID	653.22	2.10	6/5/2003	2.02to2.32
240	482471.69	1351036.06	650.31	652.33	TOE 10:1	652.40	2.09	6/5/2003	2.02to2.32
241	482472.20	1350994.03	643.30	645.33	GRID	645.40	2.10	6/5/2003	2.03to2.33
242	482472.81	1350944.03	634.83	636.86	GRID	636.93	2.10	6/6/2003	2.03to2.33
243	482473.42	1350894.04	626.57	628.60	GRID	628.67	2.10	6/6/2003	2.03to2.33
244	482474.03	1350844.04	618.30	620.33	GRID	620.39	2.09	6/6/2003	2.03to2.33
257	482863.73	1350832.31	NOT USED	620.78	PANE114 top 3 1	NOT USED	NOT USED	NOT USED	NOT USED
258	482861.15	1351040.81	NOT USED	655.54	PANE119	NOT USED	NOT USED	NOT USED	NOT USED
259	482863.11	1350882.30	NOT USED	629.24	PANE144	NOT USED	NOT USED	NOT USED	NOT USED
260	482862.49	1350932.30	NOT USED	637.34	PANE146	NOT USED	NOT USED	NOT USED	NOT USED
261	482861.87	1350982.30	NOT USED	645.77	PANE148	NOT USED	NOT USED	NOT USED	NOT USED
262	482855.48	1351498.76	NOT USED	627.63	PANE267	NOT USED	NOT USED	NOT USED	NOT USED
263	482857.50	1351332.41	NOT USED	655.44	PANE282	NOT USED	NOT USED	NOT USED	NOT USED
264	482856.09	1351448.76	NOT USED	636.02	PANE297	NOT USED	NOT USED	NOT USED	NOT USED
265	482856.69	1351398.76	NOT USED	644.34	PANE299	NOT USED	NOT USED	NOT USED	NOT USED
266	482857.30	1351348.77	NOT USED	652.78	PANE301	NOT USED	NOT USED	NOT USED	NOT USED
267	482839.38	1351186.37	NOT USED	665.55	PANE482/5025	NOT USED	NOT USED	NOT USED	NOT USED
268	482858.20	1351274.58	NOT USED	661.28	PANE1844	NOT USED	NOT USED	NOT USED	NOT USED
269	482860.43	1351098.64	NOT USED	661.26	PANE1853	NOT USED	NOT USED	NOT USED	NOT USED
270	482859.89	1351142.62	NOT USED	663.54	PANE1859	NOT USED	NOT USED	NOT USED	NOT USED
271	482858.73	1351230.59	NOT USED	663.61	PANE1866	NOT USED	NOT USED	NOT USED	NOT USED
2000	482450.33	1351269.41	655.90	657.91	top 10 1 (10000) *	657.93	2.03	6/6/2003	2.01to2.31
2001	482447.04	1351538.86	N/A	616.86	bl per (10001)	616.96	N/A	6/9/2003	N/A
2002	482451.41	1351181.62	660.38	662.39	top 20 1 (10002) *	662.48	2.10	6/5/2003	2.01to2.31
2003	482452.48	1351093.84	655.94	657.95	top 10 1 (10003) *	658.01	2.07	6/5/2003	2.01to2.31
2004	482853.16	1351040.49	NOT USED	655.07	top 6 1 (10004)	NOT USED	NOT USED	NOT USED	NOT USED
2005	482852.45	1351098.73	NOT USED	660.89	top 10 1 (10005)	NOT USED	NOT USED	NOT USED	NOT USED
2006	482851.26	1351196.45	NOT USED	664.79	20 1 (10006)	NOT USED	NOT USED	NOT USED	NOT USED
2007	482851.52	1351175.17	NOT USED	664.72	20 1 (10007)	NOT USED	NOT USED	NOT USED	NOT USED
2008	482850.30	1351274.29	N/A	660.89	top 10 1 (10008)				
2009	482849.59	1351332.53	N/A	655.07	top 6 1 (10009)				
2010	482449.62	1351327.64	650.08	652.11	top 6 1 (10010) *	652.11	2.03	6/9/2003	2.03to2.33
2011	482856.26	1350787.12	N/A	612.83	bl per (10011)	612.89	N/A	6/21/2003	N/A
2012	482847.01	1351543.74	N/A	619.86	bl per (10012)	619.86	N/A	6/9/2003	N/A
2013	482842.15	1351186.40	N/A	665.21	top 20 1 (10013)		N/A		N/A
2014	482453.19	1351035.61	650.13	652.16	top 6 1 (10014)*	652.23	2.10	6/5/2003	2.03to2.33
2015	482456.29	1350782.24	N/A	609.83	bl per (10015)	609.91	N/A	6/6/2003	N/A
2016	482444.29	1350782.09	N/A	609.74	bl per (10016) lim	609.81	N/A	6/6/2003	N/A
2017	482441.19	1351035.46	N/A	649.98	top 6 1 (10017) lim	650.02	N/A	6/5/2003	N/A
2018	482440.48	1351093.70	N/A	655.80	top 10 1 (10018) lim	655.89	N/A	6/5/2003	N/A
2019	482439.41	1351181.48	N/A	660.19	top 20 1 (10019) lim	660.24	N/A	6/5/2003	N/A
2020	482438.34	1351269.26	N/A	655.80	top 10 1 (10020) lim	655.81	N/A	6/6/2003	N/A

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2021	482437.62	1351327.50	N/A	649.98	top 6 1 (10021) lim	650.04	N/A	6/9/2003	N/A
2022	482435.04	1351538.71	N/A	616.77	bl per (10022) lim	616.77	N/A	6/9/2003	N/A
2023	482824.44	1350813.00	615.03	617.06	top area 4 wedge *	617.13	2.10	6/6/2003	2.03to2.33
2025	482864.69	1350813.49	NOT USED	617.29	top area 4 wedge *	NOT USED	NOT USED	NOT USED	NOT USED
2027	482774.44	1350812.39	614.67	616.70	top area 4 wedge *	616.77	2.10	6/6/2003	2.03to2.33
2028	482864.65	1350816.59	NOT USED	617.81	top area 4 wedge *	NOT USED	NOT USED	NOT USED	NOT USED
2029	482824.40	1350816.10	615.47	617.50	top area 4 wedge *	617.57	2.10	6/6/2003	2.03to2.33
2030	482774.41	1350815.49	615.20	617.23	top area 4 wedge *	617.30	2.10	6/6/2003	2.03to2.33
2032	482724.45	1350811.78	614.28	616.31	top area 4 wedge *	616.38	2.10	6/6/2003	2.03to2.33
2033	482724.41	1350814.88	614.72	616.75	top area 4 wedge *	616.82	2.10	6/6/2003	2.03to2.33
2035	482674.45	1350811.17	613.93	615.96	top area 4 wedge *	616.03	2.10	6/6/2003	2.03to2.33
2036	482674.41	1350814.27	614.35	616.38	top area 4 wedge *	616.40	2.05	6/6/2003	2.03to2.33
2038	482624.46	1350810.56	613.49	615.52	top area 4 wedge *	615.57	2.08	6/6/2003	2.03to2.33
2039	482624.42	1350813.66	614.03	616.06	top area 4 wedge *	616.12	2.09	6/6/2003	2.03to2.33
2041	482574.46	1350809.96	613.14	615.17	top area 4 wedge *	615.22	2.08	6/6/2003	2.03to2.33
2042	482574.42	1350813.05	613.67	615.70	top area 4 wedge *	615.77	2.10	6/6/2003	2.03to2.33
2044	482524.46	1350809.33	612.80	614.83	top area 4 wedge *	614.90	2.10	6/6/2003	2.03to2.33
2045	482524.42	1350812.43	613.32	615.35	top area 4 wedge *	615.39	2.07	6/6/2003	2.03to2.33
2047	482474.47	1350808.72	612.43	614.46	top area 4 wedge *	614.53	2.10	6/6/2003	2.03to2.33
2048	482474.43	1350811.82	612.89	614.92	top area 4 wedge *	614.98	2.09	6/6/2003	2.03to2.33
2049	482455.74	1350827.33	615.43	617.46	toe 6 1 *	617.52	2.09	6/6/2003	2.03to2.33
2051	482455.97	1350808.49	612.27	614.30	top area 4 wedge *	614.31	2.04	6/9/2003	2.03to2.33
2052	482455.93	1350811.59	612.73	614.76	top area 4 wedge *	614.78	2.05	6/6/2003	2.03to2.33
2053	482856.09	1351517.59	NOT USED	624.14	top area 4 wedge *	NOT USED	NOT USED	NOT USED	NOT USED
2054	482856.13	1351514.49	NOT USED	624.66	top area 4 wedge *	NOT USED	NOT USED	NOT USED	NOT USED
2056	482815.83	1351517.10	621.94	623.97	top area 4 wedge *	623.99	2.05	6/9/2003	2.03to2.33
2057	482815.87	1351514.00	622.44	624.47	top area 4 wedge *	624.54	2.10	6/9/2003	2.03to2.33
2059	482765.83	1351516.49	621.57	623.60	top area 4 wedge *	623.67	2.10	6/9/2003	2.03to2.33
2060	482765.87	1351513.39	622.06	624.09	top area 4 wedge *	624.16	2.10	6/9/2003	2.03to2.33
2062	482715.84	1351515.87	621.21	623.24	top area 4 wedge *	623.30	2.09	6/9/2003	2.03to2.33
2063	482715.88	1351512.77	621.72	623.75	top area 4 wedge *	623.76	2.04	6/9/2003	2.03to2.33
2065	482665.84	1351515.26	620.81	622.84	top area 4 wedge *	622.91	2.10	6/9/2003	2.03to2.33
2066	482665.88	1351512.16	621.37	623.40	top area 4 wedge *	623.45	2.08	6/9/2003	2.03to2.33
2068	482615.84	1351514.65	620.46	622.49	top area 4 wedge *	622.49	2.03	6/9/2003	2.03to2.33
2069	482615.88	1351511.55	620.89	622.92	top area 4 wedge *	622.95	2.06	6/9/2003	2.03to2.33
2071	482565.85	1351514.04	620.05	622.08	top area 4 wedge *	622.15	2.10	6/9/2003	2.03to2.33
2072	482565.89	1351510.94	620.55	622.58	top area 4 wedge *	622.65	2.10	6/9/2003	2.03to2.33
2074	482515.85	1351513.43	619.72	621.75	top area 4 wedge *	621.79	2.07	6/9/2003	2.03to2.33
2075	482515.89	1351510.33	620.17	622.20	top area 4 wedge *	622.26	2.09	6/9/2003	2.03to2.33
2077	482465.86	1351512.82	619.35	621.38	top area 4 wedge *	621.44	2.09	6/9/2003	2.03to2.33
2078	482465.89	1351509.72	619.82	621.85	top area 4 wedge *	621.89	2.07	6/9/2003	2.03to2.33
2080	482447.36	1351512.59	619.20	621.23	top area 4 wedge *	621.29	2.09	6/9/2003	2.03to2.33
2081	482447.40	1351509.49	619.71	621.74	top area 4 wedge *	621.74	2.03	6/9/2003	2.03to2.33
2082	482447.59	1351493.77	622.45	624.48	toe 6 1 *	624.54	2.09	6/9/2003	2.03to2.33
2089	482815.61	1351543.36	N/A	619.62	bl per berm	619.69	N/A	6/9/2003	N/A
2090	482765.51	1351542.75	N/A	619.24	bl per berm	619.33	N/A	6/9/2003	N/A
2091	482715.52	1351542.14	N/A	618.87	bl per berm	618.90	N/A	6/9/2003	N/A

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] for C. Vannes... Date: 7/17/03

Doc# RH102-0200-005C Sht 2 of 3

000295

5371

NOTE:
POINTS WITH AN "*" ARE MIS-NUMBERED AND SHOULD HAVE BEEN NUMBERED IN THE 1000 POINT RANGE TO SHOW THEY WERE CREATED IN CONTOUR LAYER FOR CLAY TERMINATION POINT AND AREA 4 WEDGE.

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:
REVISED : 7-9-2003

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO — LYNN E. HIRSCH — S-5738 — SURVEYOR
Lynn Edward Hirsch 7-9-2003

Date: 6-25-2003
Scale:
Project No.
AS-BUILT COMPACTED CLAY CELL 2
Sheet No. 2 OF 3

Y:\FERNALD-2003\TASK 3\DWG\6-25-03 C2 Asblt CC.DWG

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2092	482665.52	1351541.53	N/A	618.50	bl per berm	618.56	N/A	6/9/2003	N/A
2093	482615.52	1351540.92	N/A	618.12	bl per berm	618.21	N/A	6/9/2003	N/A
2094	482565.53	1351540.31	N/A	617.75	bl per berm	617.81	N/A	6/9/2003	N/A
2095	482515.53	1351539.70	N/A	617.37	bl per berm	617.45	N/A	6/9/2003	N/A
2096	482465.53	1351539.09	N/A	617.00	bl per berm	617.10	N/A	6/9/2003	N/A
2097	482824.76	1350786.74	N/A	612.59	bl per berm	612.65	N/A	6/6/2003	N/A
2098	482774.77	1350786.13	N/A	612.22	bl per berm	612.30	N/A	6/6/2003	N/A
2099	482724.77	1350785.52	N/A	611.84	bl per berm	611.94	N/A	6/6/2003	N/A
2100	482674.77	1350784.91	N/A	611.47	bl per berm	611.57	N/A	6/6/2003	N/A
2101	482624.78	1350784.30	N/A	611.09	bl per berm	611.17	N/A	6/6/2003	N/A
2102	482574.78	1350783.69	N/A	610.72	bl per berm	610.81	N/A	6/6/2003	N/A
2103	482524.78	1350783.08	N/A	610.34	bl per berm	610.37	N/A	6/6/2003	N/A
2104	482474.79	1350782.47	N/A	609.97	bl per berm	610.00	N/A	6/6/2003	N/A
2105	482855.94	1350813.38	NOT USED	617.21	top area 4 wedge	NOT USED	NOT USED	NOT USED	NOT USED
2106	482855.90	1350816.48	NOT USED	617.73	top area 4 wedge	NOT USED	NOT USED	NOT USED	NOT USED
2107	482855.71	1350832.21	NOT USED	620.35	toe 6 1	NOT USED	NOT USED	NOT USED	NOT USED
2108	482855.51	1350848.70	NOT USED	623.10	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2109	482854.89	1350898.70	NOT USED	631.43	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2110	482854.28	1350948.70	NOT USED	639.77	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2111	482853.67	1350998.69	NOT USED	648.10	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2112	482455.54	1350843.81	618.17	620.20	grid pt top 6 1 *	620.20	2.03	6/6/2003	2.03to2.33
2113	482454.92	1350893.81	626.41	628.44	grid pt top 6 1 *	628.49	2.08	6/6/2003	2.03to2.33
2114	482454.31	1350943.81	634.77	636.80	grid pt top 6 1 *	636.87	2.10	6/6/2003	2.03to2.33
2115	482453.70	1350993.80	643.17	645.20	grid pt top 6 1 *	645.27	2.10	6/5/2003	2.03to2.33
2116	482443.97	1350808.35	N/A	612.13	grid pt toe 6 1	612.16	N/A	6/6/2003	N/A
2117	482443.93	1350811.44	N/A	612.65	grid pt toe 6 1	612.75	N/A	6/6/2003	N/A
2118	482443.74	1350827.18	N/A	615.27	grid pt toe 6 1	615.30	N/A	6/6/2003	N/A
2119	482443.54	1350843.67	N/A	618.00	grid pt toe 6 1	618.03	N/A	6/6/2003	N/A
2120	482442.92	1350893.66	N/A	626.34	grid pt toe 6 1	626.44	N/A	6/6/2003	N/A
2121	482442.31	1350943.66	N/A	634.67	grid pt toe 6 1	634.77	N/A	6/6/2003	N/A
2122	482441.70	1350993.66	N/A	643.00	grid pt toe 6 1	643.01	N/A	6/5/2003	N/A
2123	482448.20	1351443.77	630.77	632.80	grid pt top 6 1 *	632.80	2.03	6/9/2003	2.03to2.33
2124	482448.81	1351393.77	639.03	641.06	grid pt top 6 1 *	641.13	2.10	6/9/2003	2.03to2.33
2125	482449.42	1351343.78	647.37	649.40	grid pt top 6 1 *	649.47	2.10	6/9/2003	2.03to2.33
2126	482435.36	1351512.45	N/A	619.15	grid pt toe 6 1	619.15	N/A	6/9/2003	N/A
2127	482435.40	1351509.35	N/A	619.67	grid pt toe 6 1	619.72	N/A	6/9/2003	N/A
2128	482435.59	1351493.62	N/A	622.29	grid pt toe 6 1	622.34	N/A	6/9/2003	N/A
2129	482436.20	1351443.62	N/A	630.62	grid pt toe 6 1	630.72	N/A	6/9/2003	N/A
2130	482436.81	1351393.63	N/A	638.95	grid pt toe 6 1	639.03	N/A	6/9/2003	N/A
2131	482437.42	1351343.63	N/A	647.29	grid pt toe 6 1	647.39	N/A	6/9/2003	N/A
2132	482847.33	1351517.48	NOT USED	624.24	top area 4 wedge	NOT USED	NOT USED	NOT USED	NOT USED
2133	482847.37	1351514.38	NOT USED	624.76	top area 4 wedge	NOT USED	NOT USED	NOT USED	NOT USED
2134	482847.56	1351498.66	NOT USED	627.38	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2135	482848.17	1351448.66	NOT USED	635.71	top area 4 wedge	NOT USED	NOT USED	NOT USED	NOT USED
2136	482848.78	1351398.67	NOT USED	644.04	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2137	482849.39	1351348.67	NOT USED	662.37	grid pt	NOT USED	NOT USED	NOT USED	NOT USED
2138	482853.06	1351048.69	NOT USED	655.89	GRID PT	NOT USED	NOT USED	NOT USED	NOT USED

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2139	482851.84	1351148.68	NOT USED	663.39	GRID PT	NOT USED	NOT USED	NOT USED	NOT USED
2140	482850.62	1351248.67	NOT USED	662.17	GRID PT	NOT USED	NOT USED	NOT USED	NOT USED
2141	482850.00	1351298.67	NOT USED	658.45	GRID PT	NOT USED	NOT USED	NOT USED	NOT USED
2142	482453.09	1351013.80	650.98	653.01	GRID PT TOP 6 1 *	653.03	2.05	6/5/2003	2.03to2.33
2143	482441.09	1351043.65	N/A	650.80	GRID PT TOE 6 1	650.80	N/A	6/5/2003	N/A
2144	482451.87	1351143.79	658.48	660.51	GRID PT TOP 6 1 *	660.58	2.10	6/5/2003	2.03to2.33
2145	482439.87	1351143.64	N/A	658.30	GRID PT TOE 6 1	658.34	N/A	6/5/2003	N/A
2146	482451.26	1351193.79	659.67	661.70	GRID PT TOP 6 1 *	661.77	2.10	6/6/2003	2.03to2.33
2147	482439.26	1351193.64	N/A	659.58	GRID PT TOE 6 1	659.62	N/A	6/6/2003	N/A
2148	482450.65	1351243.78	657.21	659.24	GRID PT TOP 6 1 *	659.25	2.04	6/6/2003	2.03to2.33
2149	482438.65	1351243.64	N/A	657.08	GRID PT TOE 6 1	657.15	N/A	6/6/2003	N/A
2150	482450.03	1351293.78	653.45	655.48	GRID PT TOP 6 1 *	655.54	2.09	6/9/2003	2.03to2.33
2151	482438.04	1351293.63	N/A	653.36	GRID PT TOE 6 1	653.46	N/A	6/9/2003	N/A
2153	482866.64	1350755.87	N/A	607.62	S/G@3 1 Toe BIO	607.66	N/A	6/24/2003	N/A
2155	482866.86	1350738.18	N/A	604.67	S/G@6 1 to 6% S/G	604.74	N/A	6/24/2003	N/A
2156	482867.13	1350715.80	N/A	603.33	S/G@ 6% to 1.5,1 Gra	603.42	N/A	6/28/2003	N/A
2159	482857.47	1350688.10	N/A	601.66	S/G@ end cap	601.67	N/A	6/28/2003	N/A
2161	482825.14	1350755.49	N/A	607.38	S/G@ 3:1Toe BIO	607.42	N/A	6/24/2003	N/A
2163	482825.37	1350736.80	N/A	604.48	S/G@ 6:1 To 6% S/G	604.58	N/A	6/24/2003	N/A
2164	482825.63	1350715.41	N/A	603.09	S/G@ 6% To 1.5:1 gr	603.19	N/A	6/28/2003	N/A
2167	482825.97	1350687.71	N/A	601.42	End cap	601.44	N/A	6/28/2003	N/A
2169	482775.15	1350754.88	N/A	607.01	S/G@3 1Toe BIO	607.04	N/A	6/24/2003	N/A
2171	482775.38	1350736.19	N/A	604.06	S/G @6 1 to 6% S/G	604.15	N/A	6/24/2003	N/A
2172	482775.64	1350714.80	N/A	602.72	S/G @ 6% to 1.5 1Gran	602.79	N/A	6/24/2003	N/A
2175	482775.98	1350687.10	N/A	601.05	S/G @ end cap	601.05	N/A	6/28/2003	N/A
2177	482725.15	1350754.27	N/A	606.63	S/G @ 3:1Toe BIO	606.83	N/A	6/24/2003	N/A
2179	482725.38	1350735.58	N/A	603.73	S/G @ 6:1To 6% S/G	603.94	N/A	6/24/2003	N/A
2180	482725.64	1350714.19	N/A	602.34	S/G @ 6% To 1.5:1 Gra	602.37	N/A	6/24/2003	N/A
2183	482725.98	1350686.49	N/A	600.67	S/G @End cap	600.77	N/A	6/28/2003	N/A
2185	482675.15	1350753.66	N/A	606.26	S/G @3 1Toe BIO	606.39	N/A	6/24/2003	N/A
2187	482675.38	1350734.97	N/A	603.31	S/G @6 1To 6% S/G	603.52	N/A	6/24/2003	N/A
2188	482675.64	1350713.58	N/A	601.97	S/G@1.5:1Gran	601.99	N/A	6/30/2003	N/A
2191	482675.98	1350685.88	N/A	600.30	S/G@End cap	600.40	N/A	6/30/2003	N/A
2193	482625.16	1350753.05	N/A	605.88	S/G@3 1toe Bio	605.94	N/A	6/24/2003	N/A
2195	482625.39	1350734.36	N/A	602.93	S/G@6 1 to 6% S/G	603.00	N/A	6/24/2003	N/A
2196	482625.65	1350712.97	N/A	601.59	S/G@6% to 1.5 1Gran	601.66	N/A	6/24/2003	N/A
2199	482625.99	1350685.27	N/A	599.92	S/G@End cap	599.92	N/A	6/28/2003	N/A
2201	482575.16	1350752.44	N/A	605.51	S/G@3 1toe Bio	605.69	N/A	6/24/2003	N/A
2203	482575.39	1350733.75	N/A	602.61	S/G@6 1to 6% S/G	602.82	N/A	6/24/2003	N/A
2204	482575.65	1350712.36	N/A	601.22	S/G@6 1to 1.5 1Gran	601.22	N/A	6/24/2003	N/A
2207	482575.99	1350684.66	N/A	599.55	S/G@end cap	599.72	N/A	6/28/2003	N/A
2209	482525.17	1350751.83	N/A	605.13	S/G@3 1toe Bio	605.13	N/A	6/24/2003	N/A
2211	482525.39	1350733.14	N/A	602.18	S/G@6 1to 6% S/G	602.35	N/A	6/24/2003	N/A
2212	482525.66	1350711.75	N/A	600.84	S/G@6 1to 1.5 1Gran	600.84	N/A	6/24/2003	N/A
2215	482525.99	1350684.05	N/A	599.17	S/G@End cap	599.17	N/A	6/28/2003	N/A
2217	482475.17	1350751.22	N/A	604.76	S/G@3 1toe Bio	604.76	N/A	6/24/2003	N/A
2219	482475.40	1350732.53	N/A	601.81	S/G@6 1to 6% S/G	602.06	N/A	6/24/2003	N/A

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2220	482475.66	1350711.14	N/A	600.47	S/G@6%to 1.5 1Gran	600.47	N/A	6/24/2003	N/A
2223	482476.00	1350683.44	N/A	598.80	S/G@End cap	598.85	N/A	6/28/2003	N/A
2225	482456.67	1350750.99	N/A	604.62	S/G@3 1 toe Bio	604.62	N/A	6/24/2003	N/A
2227	482456.90	1350732.30	N/A	601.67	S/G@6 1 to 6%&S/G	601.73	N/A	6/24/2003	N/A
2228	482457.16	1350710.92	N/A	600.33	S/G@6%to1.5 1Gran	600.39	N/A	6/28/2003	N/A
2231	482457.50	1350683.22	N/A	598.66	S/G@End cap	598.69	N/A	6/28/2003	N/A
2233	482444.67	1350750.84	N/A	604.53	S/G@3 1toe BIO	604.53	N/A	6/24/2003	N/A
2235	482444.90	1350732.15	N/A	601.58	S/G@6 1to 6% S/G	601.82	N/A	6/24/2003	N/A
2236	482445.16	1350710.77	N/A	600.24	S/G@6% to1.5 1 Gran	600.34	N/A	6/28/2003	N/A
2239	482445.50	1350683.07	N/A	598.57	S/G@ End cap	598.68	N/A	6/28/2003	N/A
2242	482846.67	1351571.52	N/A	615.23	S/G @3 1 toe BIO	615.33	N/A	6/10/2003	N/A
2243	482846.62	1351575.36	N/A	614.59	S/G @toe 6 1	614.68	N/A	6/10/2003	N/A
2244	482846.35	1351597.88	N/A	613.24	S/G @ toe 6%Drainage	613.33	N/A	6/10/2003	N/A
2249	482846.01	1351625.43	N/A	611.59	S/G @ toe 6%	611.69	N/A	6/10/2003	N/A
2250	482845.90	1351634.47	N/A	611.59	S/G @End cap	611.59	N/A	6/10/2003	N/A
2254	482815.12	1351574.97	N/A	614.35	S/G @6 1toe BIO	614.44	N/A	6/10/2003	N/A
2255	482814.85	1351597.49	N/A	613.00	S/G @toe 6% Drainage	613.01	N/A	6/10/2003	N/A
2260	482814.51	1351625.05	N/A	611.35	S/G @ toe 6%	611.44	N/A	6/10/2003	N/A
2261	482814.40	1351634.09	N/A	611.35	S/G @ End cap	611.45	N/A	6/10/2003	N/A
2265	482765.13	1351574.36	N/A	613.97	S/G @ 6 1 Toe	614.00	N/A	6/10/2003	N/A
2266	482764.85	1351596.88	N/A	612.62	S/G @toe 6%Drainage	612.70	N/A	6/10/2003	N/A
2271	482764.51	1351624.44	N/A	610.97	S/G @toe 6%	611.06	N/A	6/10/2003	N/A
2272	482764.40	1351633.48	N/A	610.97	S/G @End cap	610.99	N/A	6/10/2003	N/A
2276	482715.13	1351573.75	N/A	613.60	S/G @ toe 6 1	613.65	N/A	6/10/2003	N/A
2277	482714.85	1351596.27	N/A	612.25	S/G @toe 6 % Draina	612.32	N/A	6/10/2003	N/A
2282	482714.52	1351623.83	N/A	610.60	S/G @ Toe 6%	610.66	N/A	6/10/2003	N/A
2283	482714.41	1351632.87	N/A	610.60	S/G @ End cap	610.67	N/A	6/10/2003	N/A
2287	482665.13	1351573.14	N/A	613.23	S/G @ toe 6 1	613.24	N/A	6/10/2003	N/A
2288	482664.86	1351595.66	N/A	611.88	S/G @ toe 6%Drainage	611.97	N/A	6/10/2003	N/A
2293	482664.52	1351623.22	N/A	610.23	S/G @toe 6%	610.31	N/A	6/10/2003	N/A
2294	482664.41	1351632.26	N/A	610.23	S/G @End cap	610.23	N/A	6/10/2003	N/A
2298	482615.14	1351572.53	N/A	612.86	S/G @toe 6 1	612.91	N/A	6/10/2003	N/A
2299	482614.86	1351595.05	N/A	611.50	S/G @toe 6% Drainage	611.60	N/A	6/10/2003	N/A
2304	482614.52	1351622.61	N/A	609.85	S/G @ toe 6%	609.95	N/A	6/10/2003	N/A
2305	482614.41	1351631.65	N/A	609.85	S/G @End cap	609.90	N/A	6/10/2003	N/A
2309	482565.14	1351571.92	N/A	612.48	S/G @ toe 6 1	612.69	N/A	6/30/2003	N/A
2310	482564.87	1351594.44	N/A	611.13	S/G @ toe 6% drainag	611.15	N/A	6/30/2003	N/A
2315	482564.53	1351622.00	N/A	609.48	S/G @ toe 6%	609.49	N/A	6/30/2003	N/A
2316	482564.42	1351631.04	N/A	609.48	S/G @ End cap	609.50	N/A	7/3/2003	N/A
2320	482515.14	1351571.31	N/A	612.10	S/G @ toe 6 1	612.30	N/A	6/30/2003	N/A
2321	482514.87	1351593.83	N/A	610.75	S/G @ toe 6% Drainag	610.75	N/A	6/30/2003	N/A
2326	482514.53	1351621.39	N/A	609.10	S/G @Toe 6%	609.17	N/A	6/30/2003	N/A
2327	482514.42	1351630.43	N/A	609.10	S/G @End cap	609.27	N/A	7/3/2003	N/A
2331	482465.15	1351570.70	N/A	611.73	S/G @ toe 6 1	611.81	N/A	6/30/2003	N/A
2332	482464.87	1351593.22	N/A	610.38	S/G @ toe 6% Drainag	610.38	N/A	6/30/2003	N/A
2337	482464.54	1351620.78	N/A	608.73	S/G @ toe 6%	608.79	N/A	6/30/2003	N/A
2338	482464.43	1351629.82	N/A	608.73	S/G @ end cap	608.85	N/A	7/3/2003	N/A

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2342	482446.65	1351570.48	N/A	611.59	S/G @ toe 6:1	611.76	N/A	6/30/2003	N/A
2343	482446.38	1351593.00	N/A	610.24	S/G @ toe 6% Draina	610.33	N/A	6/30/2003	N/A
2348	482446.04	1351620.55	N/A	608.59	S/G @toe 6%	608.60	N/A	6/30/2003	N/A
2349	482445.93	1351629.59	N/A	608.59	S/G @End cap	608.59	N/A	6/30/2003	N/A
2353	482434.65	1351570.33	N/A	611.50	S/G @ toe 6:1	611.70	N/A	6/30/2003	N/A
2354	482434.38	1351592.85	N/A	610.15	S/G @ toe 6%Drainage	610.44	N/A	6/30/2003	N/A
2359	482434.04	1351620.41	N/A	608.50	S/G @toe 6%	608.54	N/A	6/30/2003	N/A
2360	482433.93	1351629.45	N/A	608.50	S/G @End cap	608.54	N/A	6/30/2003	N/A
2361	482463.50	1350683.29	N/A	598.71	DrainageLayerTerm.Pt.	598.75	N/A	6/28/2003	N/A
2364	482463.16	1350710.99	N/A	600.38	DrainageLayerTerm.Pt.	600.40	N/A	6/28/2003	N/A
2365	482462.90	1350732.38	N/A	601.72	DrainageLayerTerm.Pt.	601.91	N/A	6/24/2003	N/A
2367	482462.67	1350751.07	N/A	604.67	DrainageLayerTerm.Pt.	604.67	N/A	6/24/2003	N/A
2369	482462.29	1350782.31	N/A	609.88	DrainageLayerTerm.Pt.	609.94	N/A	6/6/2003	N/A
2370	482461.97	1350808.57	N/A	614.27	DrainageLayerTerm.Pt.	614.36	N/A	6/6/2003	N/A
2371	482461.93	1350811.67	N/A	614.79	DrainageLayerTerm.Pt.	614.86	N/A	6/6/2003	N/A
2372	482461.74	1350827.40	N/A	617.41	DrainageLayerTerm.Pt.	617.42	N/A	6/6/2003	N/A
2373	482461.54	1350843.89	N/A	620.14	DrainageLayerTerm.Pt.	620.22	N/A	6/6/2003	N/A
2374	482460.92	1350893.88	N/A	628.48	DrainageLayerTerm.Pt.	628.55	N/A	6/6/2003	N/A
2375	482460.31	1350943.88	N/A	636.81	DrainageLayerTerm.Pt.	636.91	N/A	6/6/2003	N/A
2376	482459.70	1350993.88	N/A	645.14	DrainageLayerTerm.Pt.	645.22	N/A	6/5/2003	N/A
2377	482459.19	1351035.68	N/A	652.12	DrainageLayerTerm.Pt.	652.17	N/A	6/5/2003	N/A
2378	482459.09	1351043.87	N/A	652.94	DrainageLayerTerm.Pt.	653.00	N/A	6/5/2003	N/A
2379	482458.48	1351093.91	N/A	657.94	DrainageLayerTerm.Pt.	658.03	N/A	6/5/2003	N/A
2380	482457.87	1351143.86	N/A	660.44	DrainageLayerTerm.Pt.	660.52	N/A	6/5/2003	N/A
2381	482457.41	1351181.69	N/A	662.33	DrainageLayerTerm.Pt.	662.39	N/A	6/5/2003	N/A
2382	482457.26	1351193.86	N/A	661.72	DrainageLayerTerm.Pt.	661.80	N/A	6/6/2003	N/A
2383	482456.64	1351243.86	N/A	659.22	DrainageLayerTerm.Pt.	659.30	N/A	6/6/2003	N/A
2384	482456.33	1351269.48	N/A	657.94	DrainageLayerTerm.Pt.	657.98	N/A	6/6/2003	N/A
2385	482456.03	1351293.85	N/A	655.50	DrainageLayerTerm.Pt.	655.58	N/A	6/9/2003	N/A
2386	482455.62	1351327.71	N/A	652.12	DrainageLayerTerm.Pt.	652.15	N/A	6/9/2003	N/A
2387	482455.42	1351343.85	N/A	649.43	DrainageLayerTerm.Pt.	649.53	N/A	6/9/2003	N/A
2388	482454.81	1351393.85	N/A	641.09	DrainageLayerTerm.Pt.	641.17	N/A	6/9/2003	N/A
2389	482454.20	1351443.84	N/A	632.76	DrainageLayerTerm.Pt.	632.80	N/A	6/9/2003	N/A
2390	482453.59	1351493.84	N/A	624.43	DrainageLayerTerm.Pt.	624.49	N/A	6/9/2003	N/A
2391	482453.40	1351509.57	N/A	621.81	DrainageLayerTerm.Pt.	621.88	N/A	6/9/2003	N/A
2392	482453.36	1351512.67	N/A	621.29	DrainageLayerTerm.Pt.	621.34	N/A	6/9/2003	N/A
2393	482453.04	1351538.93	N/A	616.91	DrainageLayerTerm.Pt.	616.96	N/A	6/9/2003	N/A
2397	482452.65	1351570.55	N/A	611.64	DrainageLayerTerm.Pt.	611.79	N/A	6/30/2003	N/A
2398	482452.38	1351593.07	N/A	610.29	DrainageLayerTerm.Pt.	610.37	N/A	6/30/2003	N/A
2403	482452.04	1351620.63	N/A	608.64	DrainageLayerTerm.Pt.	608.67	N/A	6/30/2003	N/A
2404	482451.93	1351629.67	N/A	608.64	DrainageLayerTerm.Pt.	608.64	N/A	6/30/2003	N/A
2405	482842.98	1351494.50	625.97	628.00	AS BUILT 2003(100)	628.07	2.10	6/18/2003	2.03to2.33
2406	482845.09	1351449.96	633.38	635.41	AS BUILT 2003(103)	635.40	2.02	6/18/2003	2.03to2.33
2407	482843.42	1351398.68	641.94	643.97	AS BUILT 2003(104)	644.04	2.10	6/18/2003	2.03to2.33
2408	482844.71	1351347.22	650.56	652.59	AS BUILT 2003(107)	652.60	2.04	6/18/2003	2.03to2.33
2409	482846.90	1351297.45	656.54	658.56	AS BUILT 2003(108)	658.64	2.10	6/18/2003	2.02to2.32
2410	482848.66	1351247.35	660.25	662.26	AS BUILT 2003(111)	662.31	2.06	6/18/2003	2.01to2.31

PNT NO.	NORTH	EAST	ASBUILT CONTOUR ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2411	482846.07	1351197.92	661.97	663.98	AS BUILT 2003(112)	664.27	2.30	6/18/2003	2.01to2.31
2412	482846.81	1351148.42	660.91	662.92	AS BUILT 2003(115)	663.03	2.12	6/18/2003	2.01to2.31
2413	482848.08	1351095.61	657.75	659.76	AS BUILT 2003(116)	660.04	2.29	6/18/2003	2.01to2.31
2414	482850.07	1351050.53	653.80	655.82	AS BUILT 2003(119)	655.83	2.03	6/18/2003	2.02to2.32
2415	482850.08	1350997.19	645.47	647.50	AS BUILT 2003(120)	647.80	2.33	6/18/2003	2.03to2.33
2416	482848.65	1350950.33	637.45	639.48	AS BUILT 2003(123)	639.77	2.32	6/18/2003	2.03to2.33
2417	482851.16	1350897.82	628.96	630.99	AS BUILT 2003(124)	631.04	2.08	6/18/2003	2.03to2.33
2418	482853.47	1350846.36	620.56	622.59	AS BUILT 2003(127)	622.76	2.20	6/18/2003	2.03to2.33
2419	482854.46	1350816.31	615.86	617.89	AS BUILT 2003(128)	617.91	2.05	6/18/2003	2.03to2.33

[✓] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] for E. Vamesaale Date: 7/17/03

Doc# AHU2-0200-005C sht 3 of 3

000296

NOTE:
POINTS WITH AN "*" ARE MIS-NUMBERED AND SHOULD HAVE BEEN NUMBERED IN THE 1000 POINT RANGE TO SHOW THEY WERE CREATED IN CONTOUR LAYER FOR CLAY TERMINATION POINT AND AREA 4 WEDGE.

5371

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch 7-9-2003

Date: 6-25-2003
Scale:
Project No.
AS-BUILT COMPACTED CLAY CELL 2
Sheet No. 3 OF 3

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

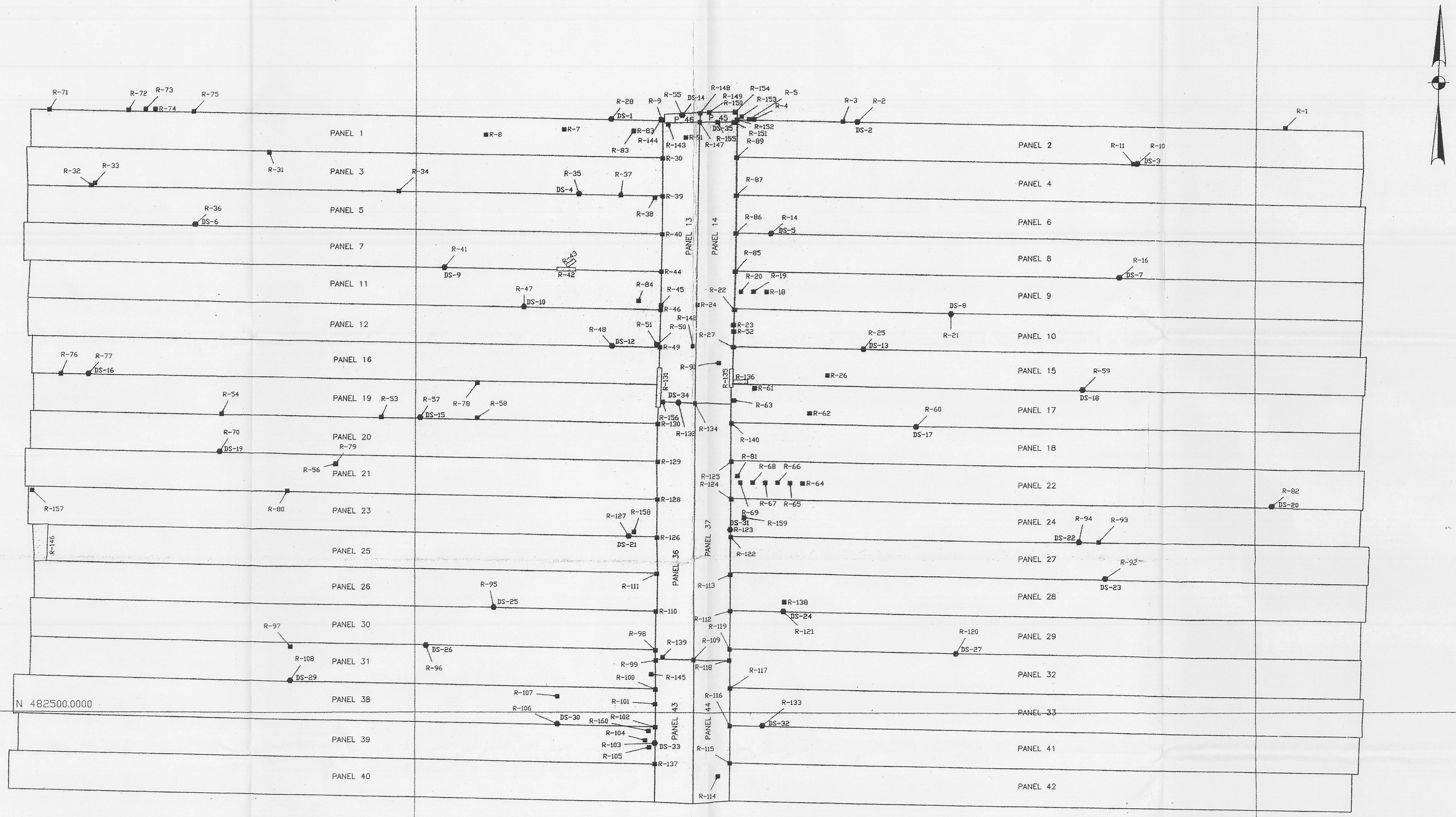
REVISIONS:
REVISED : 7-9-2003

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

5371

GEOMEMBRANE PANEL LAYOUT



LEGEND:

PANEL 42 = PANEL NUMBER

■ = PATCH REPAIR LOCATION

● = DESTRUCTIVE TEST-PASS

▭ = EXTRUSION WELD

☒ A-Conforms to the Subcontract Requirements
☐ B-Minor Comment - Incorporate and Resubmit
☐ C-Revise and Resubmit
Sig: [signature] Date: 8/19/03

SCALE: 1" = 30'

Doc# PH1V2-02100-00SE Rev 0

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:
REVISED: 8-12-03

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
8-12-2003

Date: 6-30-2003
Scale: 1" = 30'
Project No.

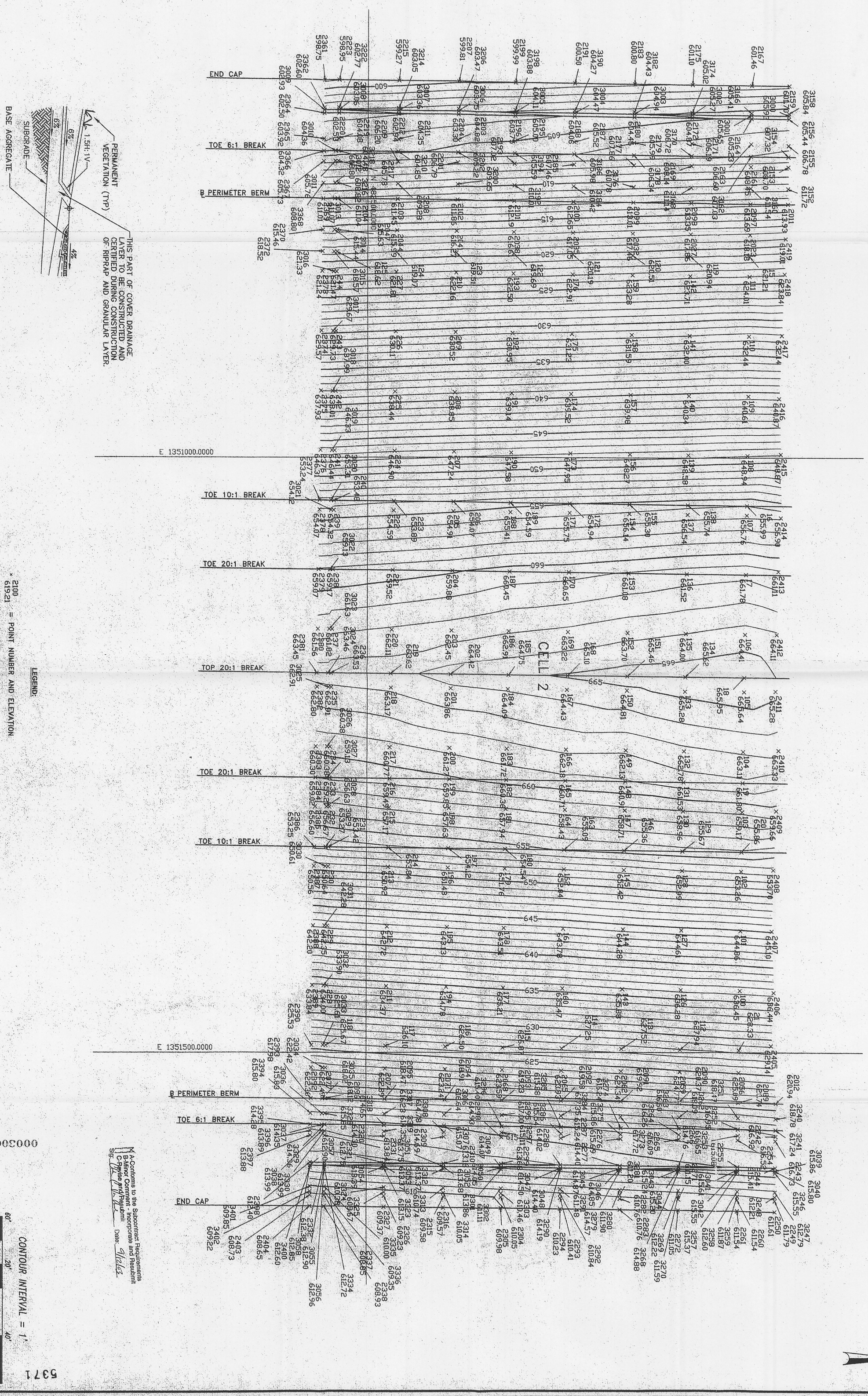
AS-BUILT
CELL 2
GEOMEMBRANE
CAP LAYOUT

Sheet No.
1 OF 1

Y:\Fernald-2003\Task 3\Dwg\6-30-03 C2 Liner.dwg

COVER DRAINAGE LAYER

Y:\FERNALD-2003\TASK 1\DWG\9-4-03 C2 Asblt Drainage.DWG



Designed By:

Drawn By: F.A.M.

Checked By: L.E.H.

Approved By: L.E.H.

REVISIONS:

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

STATE OF OHIO LYNN E. HIRSCH S-5738 SURVEYOR

Lynn Edward Hirsch 9-4-2003

Date: 9-4-2003

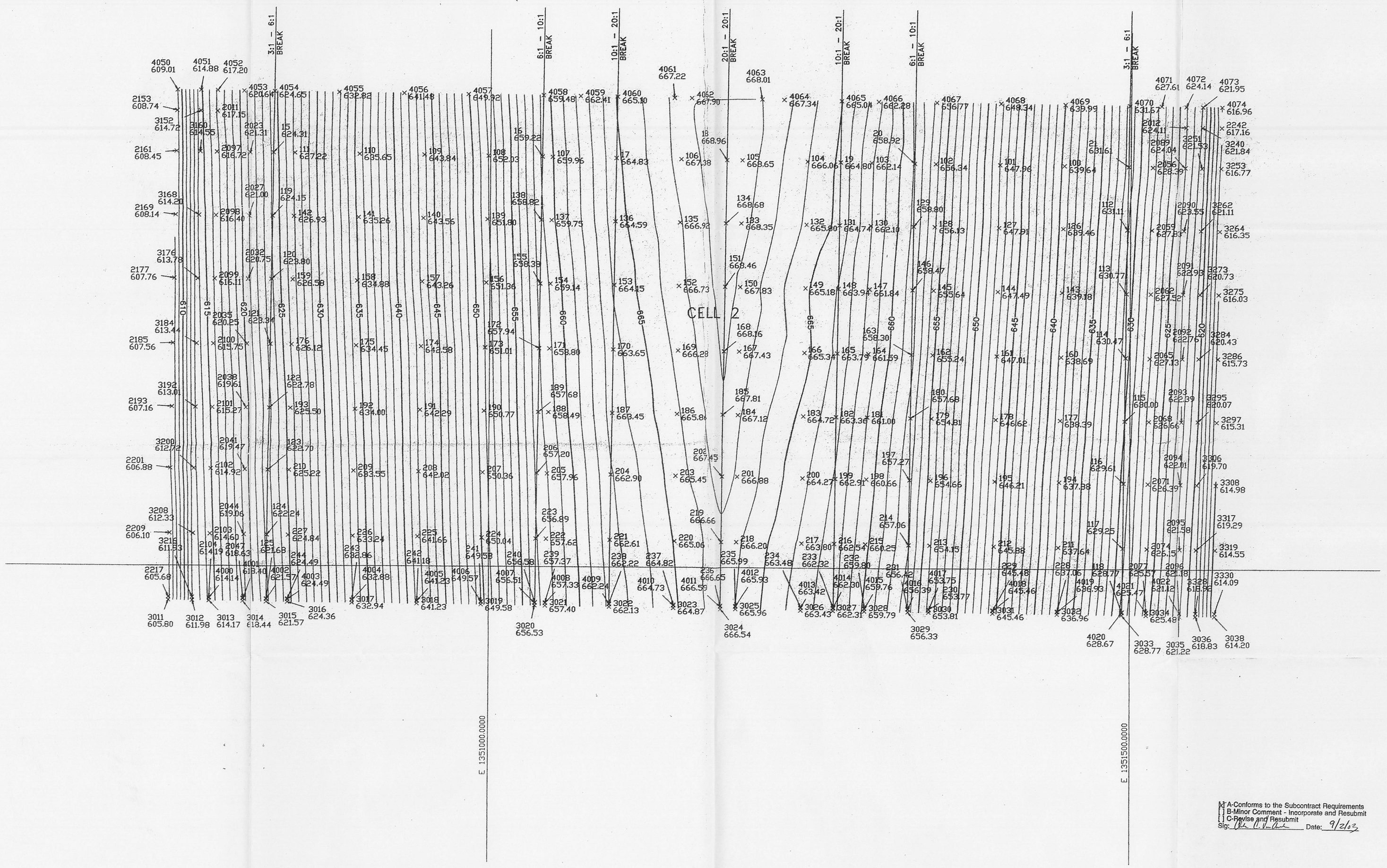
Scale: 1" = 40'

Project No.

AS-BUILT COVER DRAINAGE LAYER CELL 2

Sheet No. 1 OF 1

BIOINTRUSION BARRIER LAYER



LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

- - - - - = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

Doc# PHIV2-02100-005G Rev. 0

000302

5371

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: [signature] Date: 9/2/03

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO LYNN E. HIRSCH S-5738 SURVEYOR
Lynn Edward Hirsch 8-26-2003

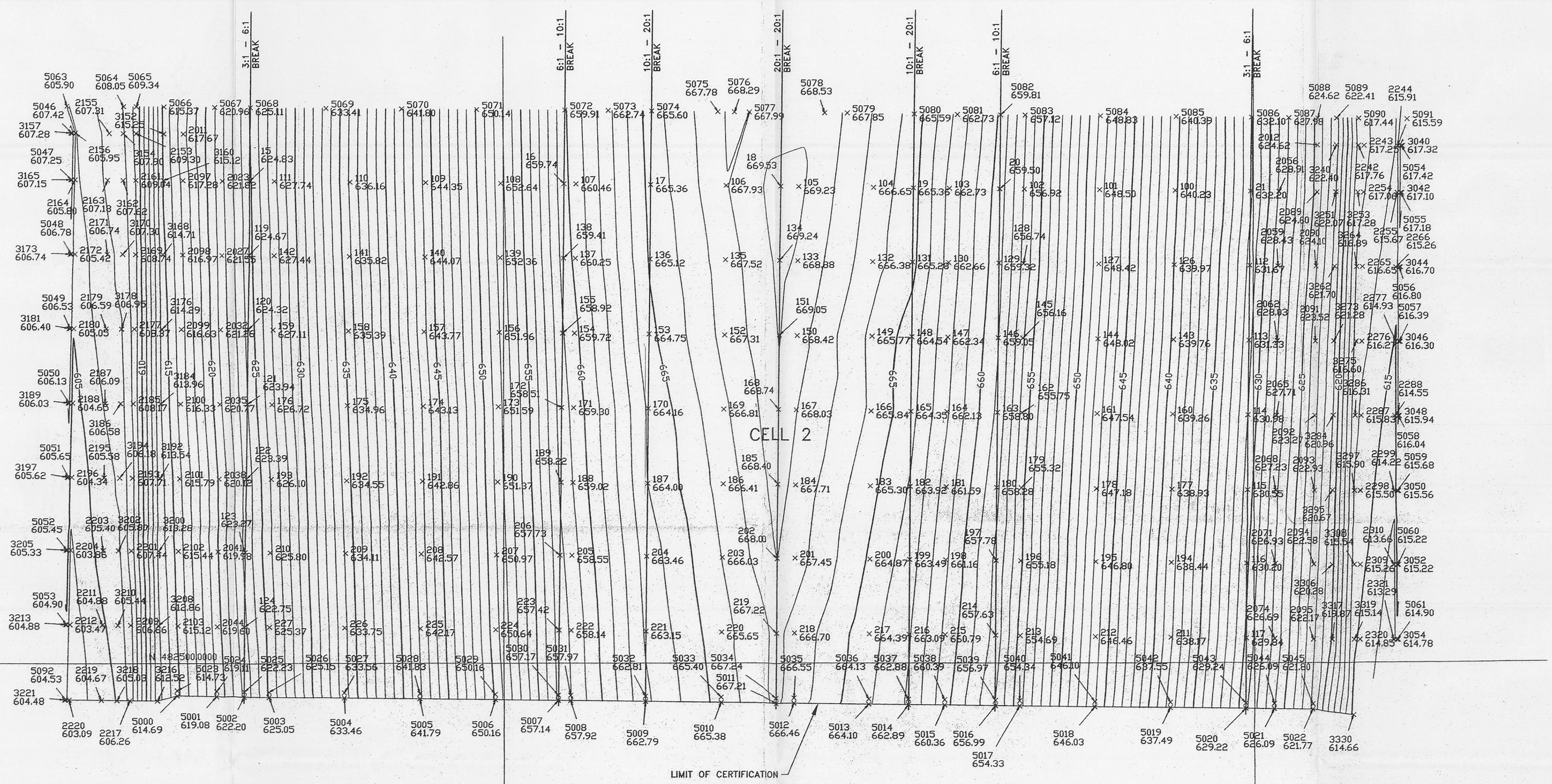
Date: 8-22-2003
Scale: 1" = 40'
Project No.

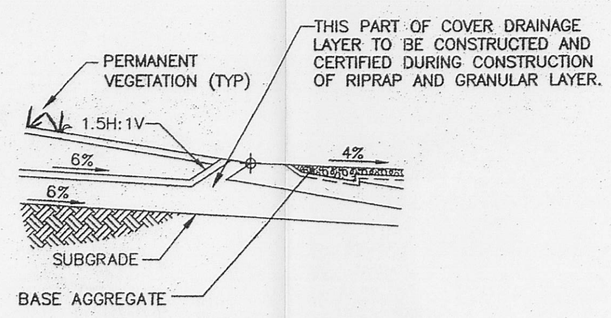
AS-BUILT
TOP OF BIO INTRUSION
CELL 2

Sheet No.
1 OF 1

Y:\Fernald-2003\Task 3\Dwg\8-22-03 C2 Asbilt Bio Intrusion.dwg

GRANULAR FILTER LAYER





LEGEND:

- 2100 / 619.21 = POINT NUMBER AND ELEVATION
- ——— = AS-BUILT INDEX CONTOUR
- ——— = AS-BUILT INTERMEDIATE CONTOUR
- - - - - = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

Doc # PHIV2-02100-005H Rev.0

000304

5371

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
10-13-2003

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: [signature] Date: 10/20/03

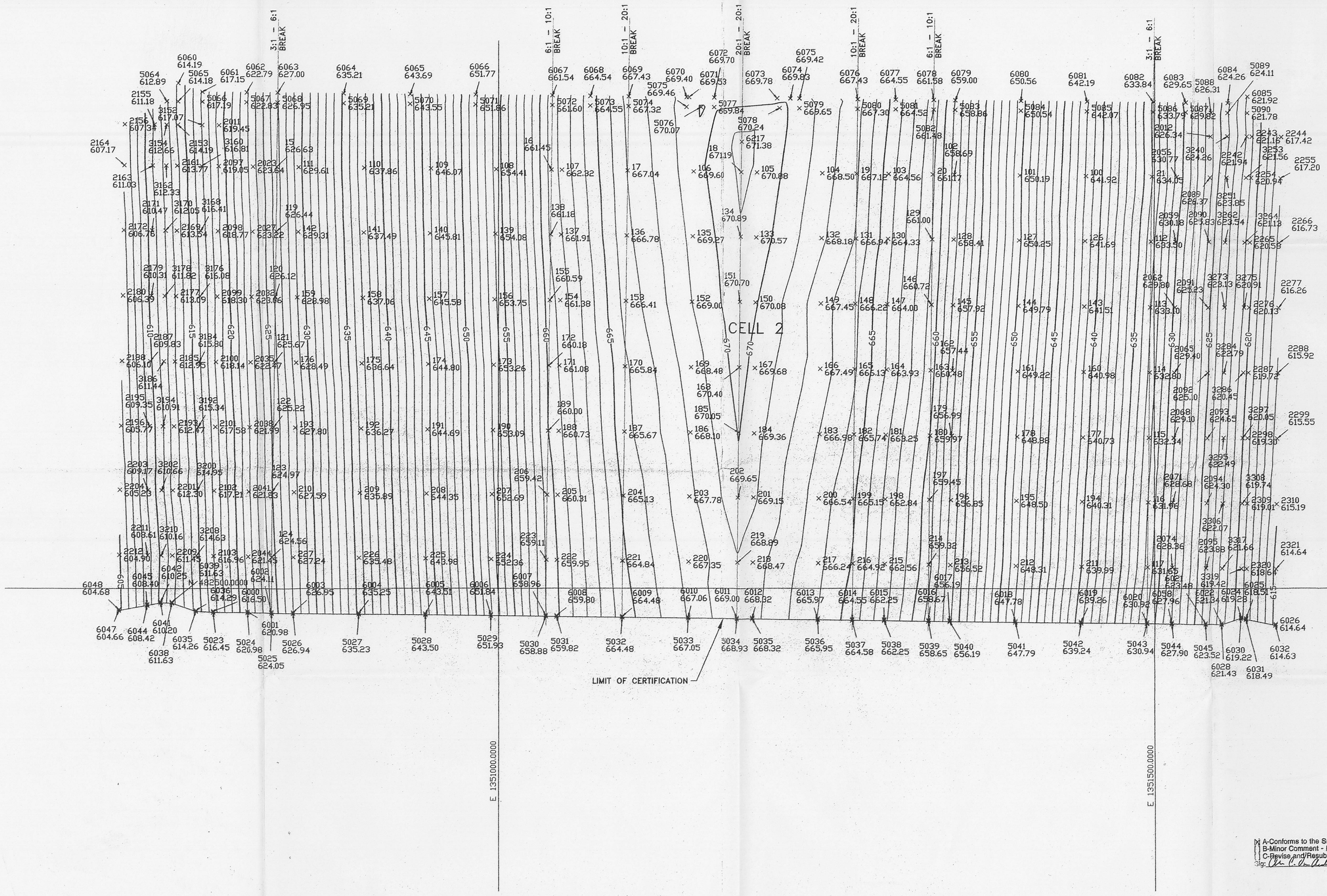
Date:	10-9-2003
Scale:	1" = 40'
Project No.	

AS-BUILT
TOP OF GRANULAR FILTER
CELL 2

Sheet No.
1 OF 1

Y:\Fernald-2003\Task 1\Dwg\10-9-03 C2 As-built Gran. Filter.dwg

VEGETATIVE SOIL LAYER



LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

= AS-BUILT INDEX CONTOUR

= AS-BUILT INTERMEDIATE CONTOUR

= TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

☒ A-Conforms to the Subcontract Requirements
☐ B-Minor Comment - Incorporate and Resubmit
☐ C-Revise and Resubmit

Sig: [signature] Date: 10/20/03

5371

902000

Doc # PHIV2-02100-005I Rev. 0

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR

Lynn Edward Hirsch
10-13-2003

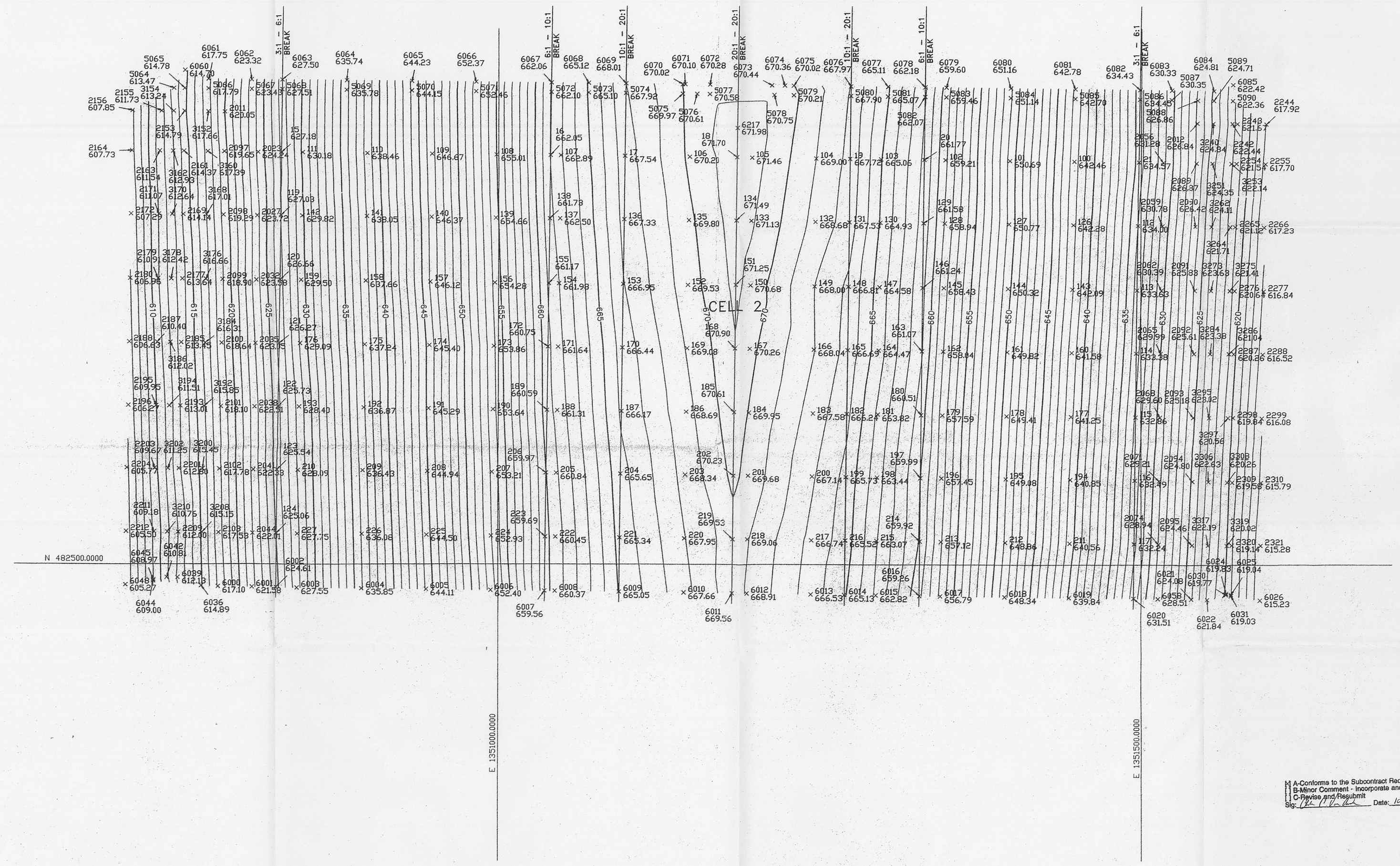
Date:	10-9-2003
Scale:	1" = 40'
Project No.	

AS-BUILT
TOP OF VEGETATIVE LAYER
CELL 2

Sheet No.
1 OF 1

Y:\Fernald-2003\Task 1\Dwg\10-9-03 C2 As-built Veg.dwg

TOPSOIL LAYER



LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

– – – – – = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

Doc# PH102-02100-0055

000308

5371

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: [signature] Date: 10/3/03

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:	Drawn By:	Checked By:	Approved By:
	F.A.M.	L.E.H.	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
9-30-2003

Date:	9-29-2003
Scale:	1" = 40'
Project No.	

AS-BUILT TOPSOIL LAYER CELL 2

Sheet No. 1 OF 1

Y:\Fernald-2003\Task 1\Dwg\9-29-03 C2 Asbilt Topsoil.dwg

RIPRAP LAYER

LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

- - - - - = TOE OF SLOPES

X A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit

Date: 11/13/03

000310

5371

CONTOUR INTERVAL = 1'

60' 20' 40'
40' 0 80'

SCALE: 1" = 40'

Doc # PHIV2-02100-00SK Rev. 0

Y:\Fernald-2003\Task 1\Dwg\10-13-03 Asbit Riprap.dwg

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 2

REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

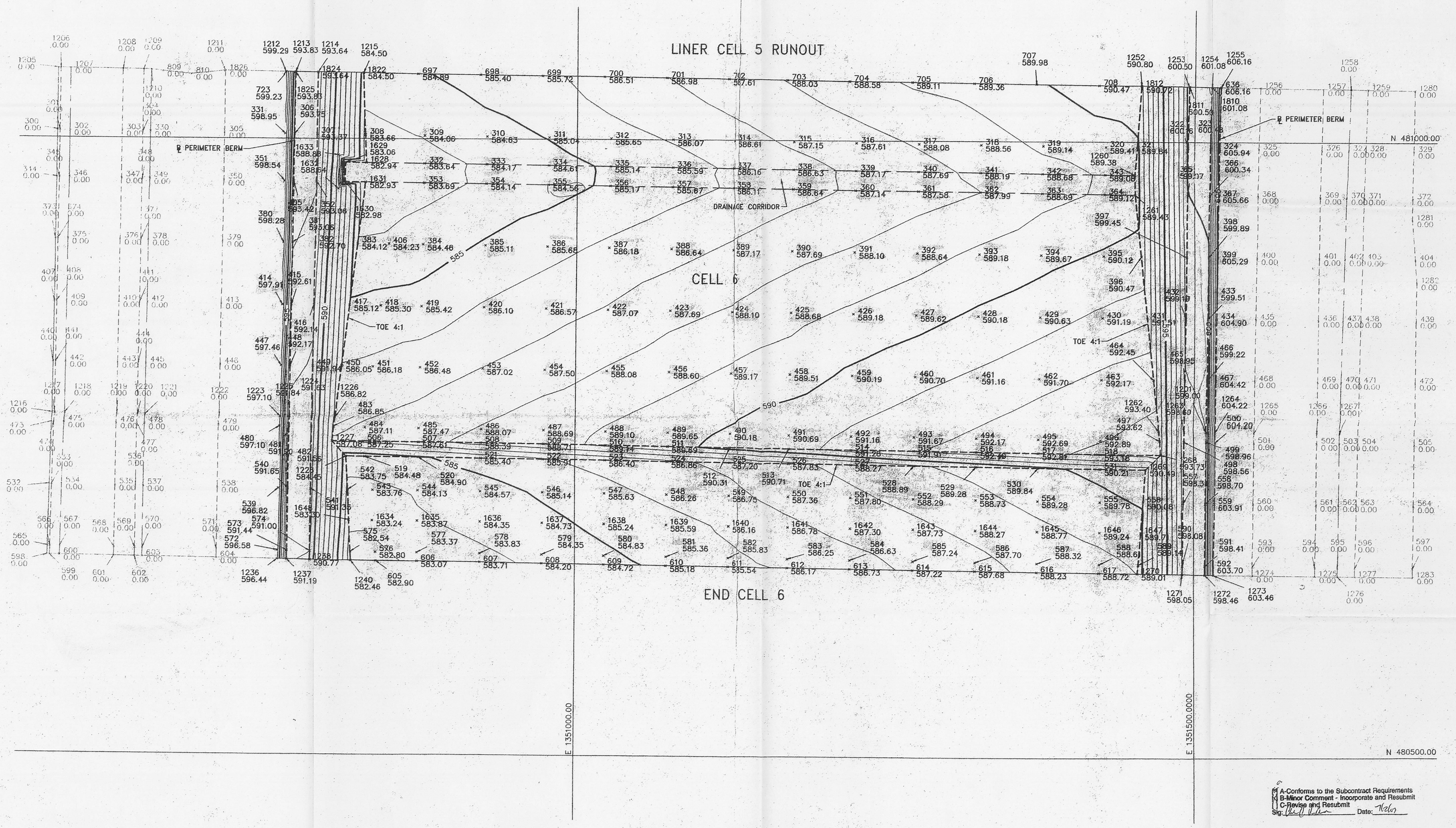
STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR

Lynn Edward Hirsch
10-22-2003

Date:	10-13-2003
Scale:	1" = 40'
Project No.	
	AS-BUILT RIPRAP CELL 2
Sheet No.	1 OF 1

CELL 6 LINER

SUBGRADE



LEGEND:

- 2100 619.21 = ELEVATION AND POINT NUMBER
- ——— = AS-BUILT INDEX CONTOUR
- ——— = AS-BUILT INTERMEDIATE CONTOUR
- – – – – = TOE OF SLOPES
- × 2100 = FUTURE CERTIFICATION POINTS

NOTE:

POINTS SHOWN EAST AND WEST OF BASELINE PERIMETER BERM ARE NOT CERTIFIED AT THIS TIME.

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: _____ Date: 7/2/03

Doc# AH0-02100-005A Sht 1 of 3

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513.738-2134
FAX: 513.738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO LYNN E. HIRSCH S-5738 SURVEYOR
Lynn Edward Hirsch 6-11-2003

Date: 6-9-2003
Scale: 1" = 40'
Project No.

AS-BUILT
SUB GRADE LAYER
CELL 6

Sheet No.
1 OF 3

5371

C-0313

Y:\Fernald\2003\Task 2\Dwg\6-9-03 C6 Asbilt SG.dwg

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
300	481006.34	1350581.71	586.23	END SG			
301	481006.31	1350583.71	586.23	TOP 2 1			
302	481006.21	1350591.71	582.23	CL DITCH			
303	481005.69	1350633.71	589.23	ACC CORRIDOR			
304	481005.48	1350650.20	589.23	ACC CORRIDOR			
305	481004.66	1350715.55	590.79	TOE 6 1			
306	481003.95	1350772.28	593.75	TOE 1.5 1	593.75	0.00	5/23/2003
307	481003.72	1350791.00	593.38	TOP 4 1	593.37	-0.01	5/23/2003
308	481003.23	1350829.80	583.67	TOE 4 1	583.66	-0.01	6/2/2003
309	481002.64	1350877.40	584.15	GRID PT	584.06	-0.09	5/27/2003
310	481002.01	1350927.39	584.65	GRID PT	584.63	-0.02	5/27/2003
311	481001.39	1350977.39	585.15	GRID PT	585.04	-0.11	5/27/2003
312	481000.76	1351027.39	585.65	GRID PT	585.65	0.00	5/27/2003
313	481000.14	1351077.38	586.15	GRID PT	586.07	-0.08	5/27/2003
314	480999.51	1351127.38	586.65	GRID PT	586.61	-0.04	5/27/2003
315	480998.89	1351177.37	587.15	GRID PT	587.15	0.00	5/27/2003
316	480998.26	1351227.37	587.65	GRID PT	587.61	-0.04	5/27/2003
317	480997.64	1351277.37	588.15	GRID PT	588.08	-0.07	5/27/2003
318	480997.01	1351327.36	588.65	GRID PT	588.56	-0.09	5/27/2003
319	480996.39	1351377.36	589.15	GRID PT	589.14	-0.01	5/27/2003
320	480995.76	1351427.35	589.65	GRID PT	589.41	-0.24	5/27/2003
321	480995.45	1351452.59	589.89	TOE 4 1	589.84	-0.05	5/27/2003
322	480994.92	1351494.59	600.40	TOP 4 1	600.16	-0.24	5/21/2003
323	480994.69	1351513.31	600.78	TOE 1.5 1	600.48	-0.30	5/21/2003
324	480994.59	1351521.10	605.97	TOP 6 1	605.94	-0.03	5/22/2003
325	480994.19	1351552.73	600.70	TOE 6 1			
326	480993.57	1351602.81	597.70	TOE 6PERCENT			
327	480993.30	1351624.27	594.11	CL DITCH			
328	480993.13	1351638.15	598.67	TOP 3 1			
329	480992.64	1351676.69	599.05	TOP 1PERCENT			
330	481005.40	1350658.20	587.23	CL DITCH			
331	481004.05	1350764.49	598.95	TOP 6 1	598.95	0.00	5/27/2003
332	480979.78	1350877.12	583.69	DRAIN CORR	583.64	-0.05	5/27/2003
333	480979.17	1350927.11	584.19	DRAIN CORR	584.17	-0.02	5/27/2003
334	480976.56	1350977.11	584.69	DRAIN CORR	584.61	-0.08	5/27/2003
335	480977.95	1351027.11	585.19	DRAIN CORR	585.14	-0.05	5/27/2003
336	480977.34	1351077.10	585.69	DRAIN CORR	585.59	-0.10	5/27/2003
337	480976.72	1351127.10	586.19	DRAIN CORR	586.16	-0.03	5/27/2003
338	480976.11	1351177.10	586.69	DRAIN CORR	586.63	-0.06	5/27/2003
339	480975.50	1351227.09	587.19	DRAIN CORR	587.17	-0.02	5/27/2003
340	480974.89	1351277.09	587.69	DRAIN CORR	587.69	0.00	5/27/2003
341	480974.28	1351327.08	588.19	DRAIN CORR	588.19	0.00	5/27/2003
342	480973.67	1351377.08	588.69	DRAIN CORR	588.68	-0.01	5/27/2003
343	480973.05	1351427.08	589.19	DRAIN CORR	589.08	-0.11	5/27/2003
344	480967.39	1350581.23	585.94	END SG			
345	480967.36	1350583.23	585.94	TOP 2 1			
346	480967.27	1350591.23	581.94	CL DITCH			
347	480966.75	1350633.23	588.94	ACC CORRIDOR			
348	480966.55	1350649.72	588.94	ACC CORRIDOR			
349	480966.48	1350655.72	586.94	CL DITCH			

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
350	480965.75	1350715.07	590.50	TOE 6 1			
351	480965.16	1350764.01	598.66	TOP 6 1	598.54	-0.12	5/27/2003
352	480964.83	1350790.52	593.09	TOP 4 1	593.06	-0.03	5/23/2003
353	480963.78	1350876.92	583.69	DRAIN CORR	583.69	0.00	5/27/2003
354	480963.17	1350926.92	584.19	DRAIN CORR	584.14	-0.05	5/27/2003
355	480962.56	1350976.92	584.69	DRAIN CORR	584.56	-0.13	5/27/2003
356	480961.94	1351026.91	585.19	DRAIN CORR	585.17	-0.02	5/27/2003
357	480961.33	1351076.91	585.69	DRAIN CORR	585.67	-0.02	5/27/2003
358	480960.72	1351126.90	586.19	DRAIN CORR	586.11	-0.08	5/27/2003
359	480960.11	1351176.90	586.69	DRAIN CORR	586.64	-0.05	5/27/2003
360	480959.50	1351226.90	587.19	DRAIN CORR	587.14	-0.05	5/27/2003
361	480958.89	1351276.89	587.69	DRAIN CORR	587.58	-0.11	5/27/2003
362	480958.28	1351326.89	588.19	DRAIN CORR	587.99	-0.20	5/27/2003
363	480957.67	1351376.89	588.69	DRAIN CORR	588.69	0.00	5/27/2003
364	480957.06	1351426.88	589.19	DRAIN CORR	589.12	-0.07	5/27/2003
365	480956.24	1351494.12	600.11	TOP 4 1	599.97	-0.14	5/21/2003
366	480956.01	1351512.84	600.49	TOE 1.5 1	600.34	-0.15	5/21/2003
367	480955.92	1351520.63	605.68	TOP 6 1	605.66	-0.02	5/22/2003
368	480955.53	1351552.26	600.41	TOE 6 1			
369	480954.92	1351602.34	597.41	TOE 6PERCENT			
370	480954.66	1351623.22	593.92	CL DITCH			
371	480954.49	1351637.27	598.48	TOP 3 1			
372	480954.01	1351676.26	598.86	TOP 1PERCENT			
373	480917.39	1350580.62	585.57	END SG			
374	480917.37	1350582.62	585.57	TOP 2 1			
375	480917.27	1350590.62	581.57	CL DITCH			
376	480916.76	1350632.62	588.57	ACC CORRIDOR			
377	480916.55	1350649.11	588.57	ACC CORRIDOR			
378	480916.48	1350655.11	586.57	CL DITCH			
379	480915.76	1350714.46	590.13	TOE 6 1			
380	480915.16	1350763.40	598.29	TOP 6 1	598.28	-0.01	5/27/2003
381	480915.06	1350771.19	593.09	TOE 1.5 1	593.06	-0.03	5/23/2003
382	480914.84	1350789.91	592.72	TOP 4 1	592.70	-0.02	5/23/2003
383	480914.42	1350824.06	584.17	TOE 4 1	584.12	-0.05	6/2/2003
384	480913.78	1350876.31	584.69	GRID PT	584.46	-0.23	5/28/2003
385	480913.17	1350926.31	585.19	GRID PT	585.11	-0.08	5/28/2003
386	480912.56	1350976.30	585.69	GRID PT	585.68	-0.01	5/28/2003
387	480911.95	1351026.30	586.19	GRID PT	586.18	-0.01	5/28/2003
388	480911.34	1351076.30	586.69	GRID PT	586.64	-0.05	5/28/2003
389	480910.73	1351126.29	587.19	GRID PT	587.17	-0.02	5/28/2003
390	480910.12	1351176.29	587.69	GRID PT	587.69	0.00	5/28/2003
391	480909.51	1351226.29	588.19	GRID PT	588.10	-0.09	5/27/2003
392	480908.90	1351276.28	588.69	GRID PT	588.64	-0.05	5/27/2003
393	480908.28	1351326.28	589.19	GRID PT	589.18	-0.01	5/27/2003
394	480907.67	1351376.27	589.69	GRID PT	589.67	-0.02	5/27/2003
395	480907.06	1351426.27	590.19	GRID PT	590.12	-0.07	5/27/2003
396	480906.69	1351456.56	590.49	TOE 4 1	590.47	-0.02	5/27/2003
397	480906.24	1351493.51	599.74	TOP 4 1	599.45	-0.29	5/21/2003
398	480906.01	1351512.23	600.12	TOE 1.5 1	599.89	-0.23	5/21/2003
399	480905.92	1351520.02	605.31	TOP 6 1	605.29	-0.02	5/22/2003

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
400	480905.53	1351551.65	600.04	TOE 6 1			
401	480904.92	1351601.73	597.04	TOE 6PERCENT			
402	480904.68	1351621.86	593.67	CL DITCH			
403	480904.50	1351636.12	598.23	TOP 3 1			
404	480903.98	1351678.43	598.65	TOP 1PERCENT			
405	480965.06	1350771.80	593.46	TOE 1.5 1	593.42	-0.04	5/23/2003
406	480914.11	1350849.06	584.42	GRID PT	584.23	-0.19	6/2/2003
407	480867.40	1350580.01	585.19	END SG			
408	480867.37	1350582.01	585.19	TOP 2 1			
409	480867.27	1350590.01	581.19	CL DITCH			
410	480866.76	1350632.01	588.19	ACC CORRIDOR			
411	480866.56	1350648.50	588.19	ACC CORRIDOR			
412	480866.49	1350654.50	586.19	CL DITCH			
413	480865.76	1350713.85	589.75	TOE 6 1			
414	480865.16	1350762.79	597.91	TOP 6 1	597.91	0.00	5/27/2003
415	480865.07	1350770.58	592.71	TOE 1.5 1	592.61	-0.10	5/23/2003
416	480864.84	1350789.30	592.34	TOP 4 1	592.14	-0.20	5/23/2003
417	480864.49	1350818.16	585.12	TOE 4 1	585.12	0.00	6/2/2003
418	480864.18	1350843.16	585.37	GRID PT	585.30	-0.07	6/2/2003
419	480863.78	1350875.70	585.70	GRID PT	585.42	-0.28	5/28/2003
420	480863.17	1350925.70	586.20	GRID PT	586.10	-0.10	5/28/2003
421	480862.56	1350975.69	586.70	GRID PT	586.57	-0.13	5/28/2003
422	480861.95	1351025.69	587.20	GRID PT	587.07	-0.13	5/28/2003
423	480861.34	1351075.69	587.70	GRID PT	587.69	-0.01	5/28/2003
424	480860.73	1351125.68	588.20	GRID PT	588.10	-0.10	5/28/2003
425	480860.12	1351175.68	588.70	GRID PT	588.68	-0.02	5/28/2003
426	480859.51	1351225.68	589.20	GRID PT	589.18	-0.02	5/27/2003
427	480858.90	1351275.67	589.70	GRID PT	589.62	-0.08	5/27/2003
428	480858.29	1351325.67	590.20	GRID PT	590.18	-0.02	5/27/2003
429	480857.68	1351375.66	590.70	GRID PT	590.63	-0.07	5/27/2003
430	480857.07	1351425.66	591.20	GRID PT	591.19	-0.01	5/27/2003
431	480856.63	1351461.67	591.54	TOE 4 1	591.51	-0.03	6/2/2003
432	480856.25	1351492.89	599.36	TOP 4 1	599.19	-0.17	5/21/2003
433	480856.02	1351511.61	599.74	TOE 1.5 1	599.51	-0.23	5/21/2003
434	480855.92	1351519.40	604.93	TOP 6 1	604.90	-0.03	5/22/2003
435	480855.54	1351551.03	599.65	TOE 6 1			
436	480854.92	1351601.11	596.66	TOE 6PERCENT			
437	480854.69	1351620.49	593.42	CL DITCH			
438	480854.51	1351634.98	597.98	TOP 3 1			
439	480853.97	1351679.34	598.42	TOP 1PERCENT			
440	480817.40	1350579.40	584.81	END SG			
441	480817.37	1350581.39	584.81	TOP 2 1			
442	480817.28	1350589.40	580.81	CL DITCH			
443	480816.76	1350631.39	587.81	ACC CORRIDOR			
444	480816.56	1350647.89	587.81	ACC CORRIDOR			
445	480816.49	1350653.89	585.81	CL DITCH			
446	480815.76	1350713.24	589.37	TOE 6 1			
447	480815.17	1350762.18	597.53	TOP 6 1	597.46	-0.07	5/27/2003
448	480815.07	1350769.97	592.33	TOE 1.5 1	592.17	-0.16	5/23/2003
449	480814.84	1350788.69	591.96	TOP 4 1	591.94	-0.02	5/23/2003

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
450	480814.55	1350812.26	586.07	TOE 4 1	586.05	-0.02	6/2/2003
451	480814.25	1350837.26	586.32	GRID PT	586.18	-0.14	6/2/2003
452	480813.79	1350875.09	586.70	GRID PT	586.48	-0.22	5/28/2003
453	480813.18	1350925.09	587.20	GRID PT	587.02	-0.18	5/28/2003
454	480812.57	1350975.08	587.70	GRID PT	587.50	-0.20	5/28/2003
455	480811.96	1351025.08	588.20	GRID PT	588.08	-0.12	5/28/2003
456	480811.35	1351075.08	588.70	GRID PT	588.60	-0.10	5/27/2003
457	480810.73	1351125.07	589.20	GRID PT	589.17	-0.03	5/27/2003
458	480810.12	1351175.07	589.70	GRID PT	589.51	-0.19	5/27/2003
459	480809.51	1351225.06	590.20	GRID PT	590.19	-0.01	5/27/2003
460	480808.90	1351275.06	590.70	GRID PT	590.70	0.00	5/27/2003
461	480808.29	1351325.06	591.20	GRID PT	591.16	-0.04	5/27/2003
462	480807.68	1351375.05	591.70	GRID PT	591.70	0.00	5/27/2003
463	480807.07	1351425.05	592.20	GRID PT	592.17	-0.03	5/27/2003
464	480806.56	1351466.79	592.59	TOE 4 1	592.45	-0.14	6/2/2003
465	480806.25	1351492.28	598.98	TOP 4 1	598.95	-0.03	5/21/2003
466	480806.02	1351511.00	599.36	TOE 1.5 1	599.22	-0.14	5/21/2003
467	480805.93	1351518.79	604.55	TOP 6 1	604.42	-0.13	5/22/2003
468	480805.54	1351550.42	599.26	TOE 6 1			
469	480804.93	1351600.50	596.26	TOE 6PERCENT			
470	480804.70	1351619.13	593.17	CL DITCH			
471	480804.52	1351633.84	597.73	TOP 3 1			
472	480803.97	1351678.73	598.17	TOP 1PERCENT			
473	480767.40	1350578.67	584.43	END SG			
474	480767.38	1350580.66	584.43	TOP 2 1			
475	480767.28	1350588.67	580.43	CL DITCH			
476	480766.77	1350630.78	587.45	ACC CORRIDOR			
477	480766.57	1350647.28	587.45	ACC CORRIDOR			
478	480766.49	1350653.28	585.45	CL DITCH			
479	480765.77	1350712.63	589.01	TOE 6 1			
480	480765.17	1350761.57	597.17	TOP 6 1	597.10	-0.07	5/27/2003
481	480765.08	1350769.36	591.97	TOE 1.5 1	591.90	-0.07	5/23/2003
482	480764.85	1350788.08	591.60	TOP 4 1	591.56	-0.04	5/23/2003
483	480764.62	1350806.44	587.01	TOE 4 1	586.85	-0.16	6/2/2003
484	480764.32	1350831.44	587.26	GRID PT	587.11	-0.15	6/2/2003
485	480763.79	1350874.48	587.69	GRID PT	587.47	-0.22	5/28/2003
486	480763.18	1350924.48	588.19	GRID PT	588.07	-0.12	5/28/2003
487	480762.57	1350974.47	588.69	GRID PT	588.69	0.00	5/28/2003
488	480761.96	1351024.47	589.19	GRID PT	589.10	-0.09	5/28/2003
489	480761.35	1351074.47	589.69	GRID PT	589.65	-0.04	5/28/2003
490	480760.74	1351124.46	590.19	GRID PT	590.18	-0.01	5/28/2003
491	480760.13	1351174.46	590.69	GRID PT	590.69	0.00	5/28/2003
492	480759.52	1351224.45	591.19	GRID PT	591.16	-0.03	5/27/2003
493	480758.91	1351274.45	591.69	GRID PT	591.67	-0.02	5/27/2003
494	480758.30	1351324.45	592.19	GRID PT	592.17	-0.02	5/27/2003
495	480757.69	1351374.44	592.69	GRID PT	592.69	0.00	5/27/2003
496	480757.07	1351424.44	593.19	GRID PT	592.89	-0.30	5/27/2003
497	480756.50	1351471.82	593.66	TOE 4 1	593.62	-0.04	6/2/2003
498	480756.25	1351491.67	598.63	TOP 4 1	598.56	-0.07	5/22/2003
499	480756.03	1351510.39	599.00	TOE 1.5 1	598.96	-0.04	5/21/2003

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
500	480755.93	1351518.18	604.20	TOP 6 1	604.20	0.00	5/22/2003
501	480755.54	1351549.81	598.93	TOE 6 1			
502	480754.93	1351599.89	595.92	TOE 6PERCENT			
503	480754.71	1351617.89	592.92	CL DITCH			
504	480754.53	1351632.70	597.48	TOP 3 1			
505	480753.98	1351678.11	597.94	TOP 1PERCENT			
506	480753.23	1350830.24	587.47	TOP 4 1	587.25	-0.22	5/29/2003
507	480752.70	1350874.34	587.91	TOP 4 1	587.61	-0.30	5/29/2003
508	480752.08	1350924.34	588.41	TOP 4 1	588.39	-0.02	5/28/2003
509	480751.47	1350974.34	588.91	TOP 4 1	588.71	-0.20	5/28/2003
510	480750.86	1351024.33	589.41	TOP 4 1	589.14	-0.27	5/28/2003
511	480750.25	1351074.33	589.91	TOP 4 1	589.69	-0.22	5/28/2003
512	480749.64	1351124.33	590.41	TOP 4 1	590.31	-0.10	5/28/2003
513	480749.03	1351174.32	590.91	TOP 4 1	590.71	-0.20	5/28/2003
514	480748.42	1351224.32	591.41	TOP 4 1	591.28	-0.13	5/27/2003
515	480747.81	1351274.31	591.91	TOP 4 1	591.91	0.00	5/27/2003
516	480747.20	1351324.31	592.41	TOP 4 1	592.40	-0.01	5/27/2003
517	480746.58	1351374.31	592.91	TOP 4 1	592.81	-0.10	5/27/2003
518	480745.97	1351424.30	593.41	TOP 4 1	593.18	-0.23	5/27/2003
519	480741.20	1350831.42	584.48	TOE 4 1	584.48	0.00	5/29/2003
520	480740.67	1350874.20	584.91	TOE 4 1	584.90	-0.01	5/29/2003
521	480740.06	1350924.19	585.41	TOE 4 1	585.40	-0.01	5/29/2003
522	480739.45	1350974.19	585.91	TOE 4 1	585.91	0.00	5/29/2003
523	480738.84	1351024.19	586.41	TOE 4 1	586.40	-0.01	5/29/2003
524	480738.23	1351074.18	586.91	TOE 4 1	586.86	-0.05	5/29/2003
525	480737.62	1351124.18	587.41	TOE 4 1	587.20	-0.21	5/29/2003
526	480737.01	1351174.18	587.91	TOE 4 1	587.83	-0.08	5/29/2003
527	480736.40	1351224.17	588.41	TOE 4 1	588.27	-0.14	5/29/2003
528	480735.79	1351274.17	588.91	TOE 4 1	588.89	-0.02	5/29/2003
529	480735.18	1351324.16	589.41	TOE 4 1	589.28	-0.13	5/29/2003
530	480734.56	1351374.16	589.91	TOE 4 1	589.84	-0.07	5/29/2003
531	480733.95	1351424.16	590.41	TOE 4 1	590.21	-0.20	5/29/2003
532	480717.42	1350577.31	584.05	END SG			
533	480717.39	1350579.30	584.05	TOP 2 1			
534	480717.29	1350587.31	580.05	CL DITCH			
535	480716.77	1350630.17	587.20	ACC CORRIDOR			
536	480716.57	1350646.67	587.20	ACC CORRIDOR			
537	480716.50	1350652.67	585.20	CL DITCH			
538	480715.77	1350712.02	588.76	TOE 6 1			
539	480715.17	1350760.96	596.92	TOP 6 1	596.82	-0.10	5/27/2003
540	480715.08	1350768.75	591.72	TOE 1.5 1	591.65	-0.07	5/23/2003
541	480714.85	1350787.47	591.35	TOP 4 1	591.35	0.00	5/23/2003
542	480714.48	1350817.64	583.81	TOE 4 1	583.75	-0.06	5/29/2003
543	480714.24	1350837.64	584.01	GRID PT	583.76	-0.25	5/29/2003
544	480713.80	1350873.87	584.37	GRID PT	584.13	-0.24	5/29/2003
545	480713.18	1350923.87	584.87	GRID PT	584.57	-0.30	5/29/2003
546	480712.57	1350973.86	585.37	GRID PT	585.14	-0.23	5/29/2003
547	480711.96	1351023.86	585.87	GRID PT	585.63	-0.24	5/29/2003
548	480711.35	1351073.85	586.37	GRID PT	586.26	-0.11	5/29/2003
549	480710.74	1351123.85	586.87	GRID PT	586.75	-0.12	5/29/2003

[ ] A-Conforms to the Subcontract Requirements
[X] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 7/2/03

Doc# PHU-02100-005A Sht 2 of 3

000314

5371

NOTE:

POINTS SHOWN EAST AND WEST OF BASELINE PERIMETER BERM ARE NOT CERTIFIED AT THIS TIME.

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO LYNN E. HIRSCH S-5798 SURVEYOR
Lynn Edward Hirsch 6-11-2003

Date: 6-9-2003
Scale:
Project No.

AS-BUILT
SUB GRADE LAYER
CELL 6

Sheet No.
2 OF 3

Y:\Fernald-2003\Task 2\Dwg\6-9-03 C6 Asbilt SG.dwg

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
550	480710.13	1351173.85	587.37	GRID PT	587.36	-0.01	5/29/2003
551	480709.52	1351223.84	587.87	GRID PT	587.80	-0.07	5/29/2003
552	480708.91	1351273.84	588.37	GRID PT	588.29	-0.08	5/29/2003
553	480708.30	1351323.84	588.87	GRID PT	588.73	-0.14	5/29/2003
554	480707.69	1351373.83	589.37	GRID PT	589.28	-0.09	5/29/2003
555	480707.08	1351423.83	589.87	GRID PT	589.78	-0.09	5/29/2003
556	480706.66	1351458.42	590.22	TOE 4 1	590.08	-0.14	5/29/2003
557	480706.26	1351491.06	598.38	TOP 4 1	598.34	-0.04	5/22/2003
558	480706.03	1351509.78	598.75	TOE 1.5 1	598.70	-0.05	5/21/2003
559	480705.93	1351517.57	603.95	TOP 6 1	603.91	-0.04	5/22/2003
560	480705.55	1351549.20	598.68	TOE 6 1			
561	480704.94	1351599.28	595.67	TOE 6PERCENT			
562	480704.72	1351617.28	592.67	CL DITCH			
563	480704.54	1351631.55	597.23	TOP 3 1			
564	480703.98	1351677.49	597.69	TOP 1PERCENT			
565	480667.44	1350575.95	583.67	END SG			
566	480667.41	1350577.94	583.67	TOP 2 1			
567	480667.31	1350585.95	579.67	CL DITCH			
568	480666.78	1350629.56	586.95	ACC CORRIDOR			
569	480666.57	1350646.06	586.95	ACC CORRIDOR			
570	480666.50	1350652.06	584.95	CL DITCH			
571	480665.78	1350711.41	588.51	TOE 6 1			
572	480665.18	1350760.35	596.67	TOP 6 1	596.58	-0.09	5/27/2003
573	480665.08	1350768.14	591.47	TOE 1.5 1	591.44	-0.03	5/23/2003
574	480664.85	1350786.86	591.10	TOP 4 1	591.00	-0.10	5/23/2003
575	480664.45	1350819.92	582.84	TOE 4 1	582.54	-0.30	5/23/2003
576	480664.21	1350839.91	583.04	GRID PT	582.80	-0.24	5/29/2003
577	480663.80	1350873.26	583.37	GRID PT	583.37	0.00	5/29/2003
578	480663.19	1350923.26	583.87	GRID PT	583.83	-0.04	5/29/2003
579	480662.58	1350973.25	584.37	GRID PT	584.35	-0.02	5/29/2003
580	480661.97	1351023.25	584.87	GRID PT	584.83	-0.04	5/29/2003
581	480661.36	1351073.24	585.37	GRID PT	585.36	-0.01	5/29/2003
582	480660.75	1351123.24	585.87	GRID PT	585.83	-0.04	5/29/2003
583	480660.14	1351173.24	586.37	GRID PT	586.25	-0.12	5/29/2003
584	480659.52	1351223.23	586.87	GRID PT	586.63	-0.24	5/29/2003
585	480658.91	1351273.23	587.37	GRID PT	587.24	-0.13	5/29/2003
586	480658.30	1351323.22	587.87	GRID PT	587.70	-0.17	5/29/2003
587	480657.69	1351373.22	588.37	GRID PT	588.32	-0.05	5/29/2003
588	480657.08	1351423.22	588.87	GRID PT	588.61	-0.26	5/29/2003
589	480656.70	1351454.68	589.19	TOE 4 1	589.14	-0.05	5/29/2003
590	480656.26	1351490.46	598.13	TOP 4 1	598.08	-0.05	5/22/2003
591	480656.03	1351509.17	598.50	TOE 1.5 1	598.41	-0.09	5/21/2003
592	480655.94	1351516.97	603.70	TOP 6 1	603.70	0.00	5/22/2003
593	480655.55	1351548.59	598.43	TOE 6 1			
594	480654.94	1351598.68	595.42	TOE 6PERCENT			
595	480654.72	1351616.68	592.42	CL DITCH			
596	480654.55	1351630.41	596.98	TOP 3 1			
597	480653.98	1351676.88	597.44	TOP 1PERCENT			
598	480660.31	1350575.75	583.62	END SG			
599	480660.28	1350577.74	583.62	TOP 2 1			

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
600	480660.20	1350585.75	579.62	CL DITCH			
601	480659.84	1350629.47	586.91	ACC CORRIDOR			
602	480659.44	1350645.97	586.91	ACC CORRIDOR			
603	480659.37	1350651.97	584.91	CL DITCH			
604	480658.65	1350711.32	588.47	TOE 6 1			
605	480657.09	1350840.24	582.90	GRID PT	582.90	0.00	5/29/2003
606	480656.68	1350873.17	583.23	END RUNOUT 6	583.07	-0.16	5/29/2003
607	480656.07	1350923.17	583.73	END RUNOUT 6	583.71	-0.02	5/29/2003
608	480655.46	1350973.16	584.23	END RUNOUT 6	584.20	-0.03	5/29/2003
609	480654.85	1351023.16	584.73	END RUNOUT 6	584.72	-0.01	5/29/2003
610	480654.24	1351073.16	585.23	END RUNOUT 6	585.18	-0.05	5/29/2003
611	480653.63	1351123.15	585.73	END RUNOUT 6	585.54	-0.19	5/29/2003
612	480653.02	1351173.15	586.23	END RUNOUT 6	586.17	-0.06	5/29/2003
613	480652.40	1351223.15	586.73	END RUNOUT 6	586.73	0.00	5/29/2003
614	480651.79	1351273.14	587.23	END RUNOUT 6	587.22	-0.01	5/29/2003
615	480651.18	1351323.14	587.73	END RUNOUT 6	587.68	-0.05	5/29/2003
616	480650.57	1351373.13	588.23	END RUNOUT 6	588.23	0.00	5/29/2003
617	480649.96	1351423.13	588.73	END RUNOUT 6	588.72	-0.01	5/29/2003
636	481044.43	1351521.72	606.09	CERT CELL5	606.16	0.07	6/2/2003
697	481052.38	1350871.77	585.02	NOT CERT CELL5	584.89	-0.13	5/27/2003
698	481051.77	1350921.76	585.40	CERT CELL5	585.40	0.00	6/2/2003
699	481051.16	1350971.76	585.81	CERT CELL5	585.72	-0.09	6/2/2003
700	481050.55	1351021.76	586.44	CERT CELL5	586.51	0.07	6/2/2003
701	481049.94	1351071.75	586.93	CERT CELL5	586.98	0.05	6/2/2003
702	481049.33	1351121.75	587.42	CERT CELL5	587.61	0.19	6/2/2003
703	481048.71	1351171.74	587.88	CERT CELL5	588.03	0.15	6/2/2003
704	481048.10	1351221.74	588.41	CERT CELL5	588.58	0.17	6/2/2003
705	481047.49	1351271.74	588.96	CERT CELL5	589.11	0.15	6/2/2003
706	481046.88	1351321.73	589.36	CERT CELL5	589.36	0.00	6/2/2003
707	481046.27	1351371.73	589.98	CERT CELL5	589.98	0.00	6/2/2003
708	481045.66	1351421.73	590.47	CERT CELL5	590.47	0.00	6/2/2003
723	481053.68	1350765.09	599.28	NOT CERT CELL5	599.23	-0.05	5/27/2003
809	481054.08	1350666.03	588.07	CERT CELL5			
810	481051.74	1350689.13	589.25	CERT CELL5			
1201	480764.02	1351510.49	599.04	TOE 1.5 1	599.00	-0.04	5/21/2003
1205	481056.33	1350582.32	586.60	END SG			
1206	481056.31	1350584.32	586.60	TOP 2 1			
1207	481056.21	1350592.32	582.60	CL DITCH			
1208	481055.68	1350634.32	589.60	ACC CORRIDOR			
1209	481055.47	1350650.81	589.60	ACC CORRIDOR			
1210	481055.40	1350656.81	587.60	CL DITCH			
1211	481054.66	1350716.16	591.16	TOE 6 1			
1212	481054.05	1350765.10	599.32	TOP 6 1	599.29	-0.03	5/23/2003
1213	481053.95	1350772.89	594.12	TOE 1.5 1	593.83	-0.29	5/27/2003
1214	481053.71	1350791.61	593.75	TOP 4 1	593.64	-0.11	5/23/2003
1215	481053.26	1350828.01	584.65	TOE 4 1	584.50	-0.15	6/2/2003
1216	480775.41	1350578.89	584.49	END SG			
1217	480775.38	1350580.88	584.49	TOP 2 1			
1218	480775.29	1350588.89	580.49	CL DITCH			
1219	480774.77	1350630.88	587.49	ACC CORRIDOR			

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
1220	480774.57	1350647.38	587.49	ACC CORRIDOR			
1221	480774.50	1350653.38	585.49	TOE 6PERCENT			
1222	480773.77	1350712.73	589.05	TOE 6 1			
1223	480773.17	1350761.67	597.21	TOP 1.5 1	597.10	-0.11	5/27/2003
1224	480772.85	1350788.18	591.64	TOE 1.5 1	591.63	-0.01	5/23/2003
1225	480773.08	1350769.46	592.01	TOP 4 1	591.84	-0.17	5/23/2003
1226	480772.62	1350807.31	586.86	TOE 4 1	586.82	-0.04	6/2/2003
1227	480753.54	1350805.24	587.22	TOE 4 1	587.08	-0.14	5/29/2003
1228	480741.38	1350816.42	584.33	TOE 4 1	584.45	0.12	5/29/2003
1236	480658.06	1350760.26	596.63	TOP 1.5 1	596.44	-0.19	5/27/2003
1237	480657.97	1350768.05	591.44	TOE 1.5 1	591.19	-0.25	5/27/2003
1238	480657.74	1350786.77	591.06	TOP 4 1	590.77	-0.29	5/27/2003
1240	480657.33	1350820.24	582.70	TOE 4 1	582.46	-0.24	5/29/2003
1252	481045.41	1351455.81	590.92	TOE 4 1	590.80	-0.12	6/2/2003
1253	481044.91	1351495.20	600.77	TOP 4 1	600.50	-0.27	5/21/2003
1254	481044.68	1351513.92	601.15	TOE 1.5 1	601.08	-0.07	5/21/2003
1255	481044.58	1351521.71	606.34	TOP 1.5 1	606.16	-0.18	5/22/2003
1256	481044.19	1351553.34	601.07	TOE 6 1			
1257	481043.56	1351603.42	598.07	TOE 6PERCENT			
1258	481043.28	1351625.63	594.36	CL DITCH			
1259	481043.11	1351639.29	598.92	TOP 3 1			
1260	480972.76	1351451.13	589.43	TOE 4 1	589.38	-0.05	5/27/2003
1261	480956.76	1351451.44	589.43	TOE 4 1	589.43	0.00	5/27/2003
1262	480764.50	1351471.09	593.49	TOE 4 1	593.40	-0.09	6/2/2003
1263	480764.25	1351491.77	598.67	TOP 4 1	598.60	-0.07	5/22/2003
1264	480763.93	1351518.28	604.24	TOP 1.5 1	604.22	-0.02	5/22/2003
1265	480763.54	1351549.91	598.97	TOE 6 1			
1266	480762.93	1351599.99	595.96	TOE 6PERCENT			
1267	480762.71	1351617.99	592.96	CL DITCH			
1268	480745.38	1351472.84	593.90	TOE 4 1	593.73	-0.17	5/29/2003
1269	480733.51	1351460.43	590.77	TOE 4 1	590.49	-0.28	5/29/2003
1270	480649.58	1351454.15	589.04	TOE 4 1	589.01	-0.03	5/29/2003
1271	480649.14	1351490.37	598.09	TOP 4 1	598.05	-0.04	5/22/2003
1272	480648.91	1351509.08	598.47	TOE 1.5 1	598.46	-0.01	5/21/2003
1273	480648.81	1351516.88	603.66	TOP 1.5 1	603.46	-0.20	5/22/2003
1274	480848.43	1351548.50	598.39	TOE 6 1			
1275	480647.82	1351598.59	595.38	TOE 6PERCENT			
1276	480647.60	1351616.59	592.38	CL DITCH			
1277	480647.43	1351630.25	596.94	TOP 3 1			
1280	481042.64	1351677.23	599.30	TOP 1PERCENT			
1281	480936.19	1351676.07	598.78	TOP 1PERCENT			
1282	480886.03	1351679.74	598.58	TOP 1PERCENT			
1283	480646.86	1351676.79	597.41	TOP 1PERCENT			
1628	480980.35	1350830.62	583.22	TOE 4 1	582.94	-0.28	4/30/2003
1629	480980.55	1350813.89	583.06	TOE 1 1	583.06	0.00	4/30/2003
1630	480964.55	1350813.69	583.06	TOE 1 1	582.98	-0.08	4/30/2003
1631	480964.35	1350829.96	583.22	TOE 4 1	582.93	-0.29	4/30/2003
1632	480958.98	1350808.04	588.64	TOE 4 1	588.64	0.00	6/2/2003
1633	480986.54	1350808.10	588.92	TOE 4 1	588.88	-0.04	6/2/2003
1634	480689.72	1350837.34	583.51	Clay termination Pt.	583.24	-0.27	5/29/2003

PNT NO.	NORTH	EAST	PROP ELEV	DESCRIPTION	AS BUILT ELEV.	DIFF ELEV	DATE
1635	480689.27	1350873.57	583.87	Clay termination Pt.	583.87	0.00	5/29/2003
1636	480688.66	1350923.57	584.37	Clay termination Pt.	584.35	-0.02	5/29/2003
1637	480688.05	1350973.56	584.87	Clay termination Pt.	584.73	-0.14	5/29/2003
1638	480687.44	1351023.56	585.37	Clay termination Pt.	585.24	-0.13	5/29/2003
1639	480686.83	1351073.55	585.87	Clay termination Pt.	585.59	-0.28	5/29/2003
1640	480686.22	1351123.55	586.37	Clay termination Pt.	586.16	-0.21	5/29/2003
1641	480685.61	1351173.55	586.87	Clay termination Pt.	586.78	-0.09	5/29/2003
1642	480685.00	1351223.54	587.37	Clay termination Pt.	587.30	-0.07	5/29/2003
1643	480684.39	1351273.54	587.87	Clay termination Pt.	587.73	-0.14	5/29/2003
1644	480683.78	1351323.54	588.37	Clay termination Pt.	588.27	-0.10	5/29/2003
1645	480683.17	1351373.53	588.87	Clay termination Pt.	588.77	-0.10	5/29/2003
1646	480682.56	1351423.53	589.37	Clay termination Pt.	589.24	-0.13	5/29/2003
1647	480682.16	1351456.57	589.71	Clay Termination Pt.	589.71	0.00	5/29/2003
1648	480689.94	1350818.75	583.33	Clay Termination Pt.	583.30	-0.03	5/29/2003
1810	481044.53	1351513.92	601.12	CERT CELL5	601.08	-0.04	6/2/2003
1811	481044.76	1351495.20	600.70	CERT CELL5	600.50	-0.20	6/2/2003
1812	481045.24	1351455.79	590.72	CERT CELL5	590.72	0.00	6/2/2003
1822	481052.92	1350828.02	584.54	NOT CERT CELL5	584.50	-0.04	6/2/2003
1824	481053.36	1350791.60	593.74	NOT CERT CELL5	593.64	-0.10	5/27/2003
1825	481053.59	1350772.89	594.12	NOT CERT CELL5	593.83	-0.29	5/27/2003
1826	481054.28	1350716.15	591.00	NOT CERT CELL5			

[ ] A-Conforms to the Subcontract Requirements
[X] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 7/2/03

Doc# PHU-02100-005A Sht 3 of 3

000315

5371

NOTE:
POINTS SHOWN EAST AND WEST OF BASELINE PERIMETER BERM ARE NOT CERTIFIED AT THIS TIME.

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

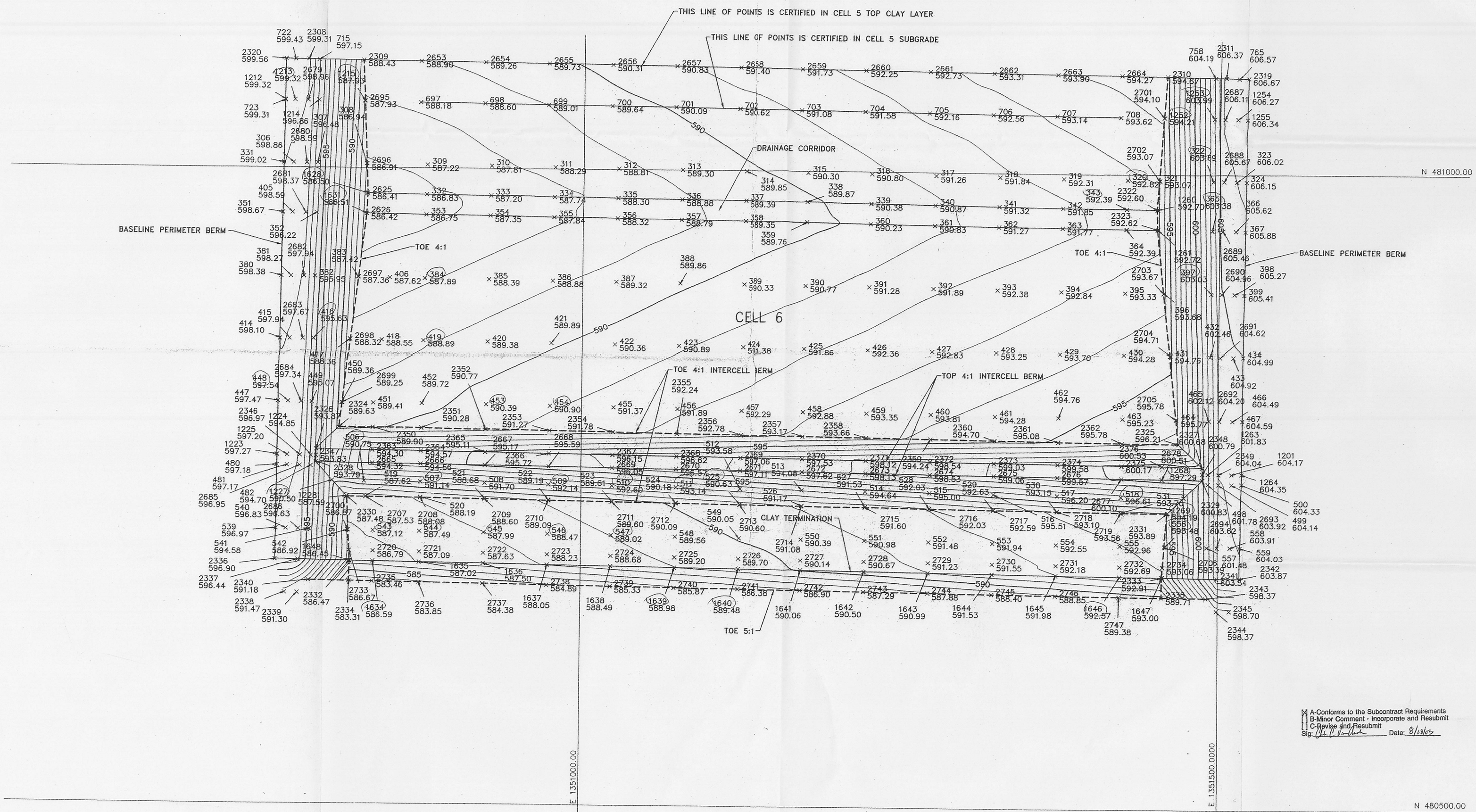
STATE OF OHIO
LYNN E. HIRSCH
S-5798
SURVEYOR
Lynn Edward Hirsch
6-11-2003

Date: 6-9-2003
Scale:
Project No.
AS-BUILT SUB GRADE LAYER CELL 6
Sheet No. 3 OF 3

Y:\Fernald-2003\Task 2\Dwg\6-9-03 C6 Asbilt SG.dwg

5371

COMPACTED CLAY LINER



LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

- - - - = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 8/18/03

STATE OF OHIO LYNN E. HIRSCH S-5738 SURVEYOR
Lynn Edward Hirsch
8-11-2003

Doc# PAW-02100-005B Rev D Sheet 1 of 3

5371

000317

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

Date: 8-8-2003
Scale: 1" = 40'
Project No.

AS-BUILT
TOP CLAY LAYER
CELL 6

Sheet No.
1 OF 3

Y:\Fernald-2003\Task 2\Dwg\8-8-03 C6 As-built T.C.dwg

Y:\Fernald-2003\Task 2\Dwg\8-8-03 C6 As-built T.C.dwg

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
306	481003.95	1350772.28	593.75	598.79	TOE 1.5 1	598.86	5.11	7/23/2003	5.04to5.34
307	481003.72	1350791.00	593.37	596.47	TOP 4 1	596.48	3.11	7/23/2003	3.09to3.39
308	481003.23	1350829.80	583.66	586.76	TOE 4 1	586.94	3.28	8/1/2003	3.09to3.39
309	481002.64	1350877.40	584.06	587.15	GRID PT	587.22	3.16	7/22/2003	3.00to3.30
310	481002.01	1350927.39	584.63	587.65	GRID PT	587.81	3.18	7/22/2003	3.00to3.30
311	481001.39	1350977.39	585.04	588.15	GRID PT	588.29	3.25	7/22/2003	3.00to3.30
312	481000.76	1351027.39	585.65	588.65	GRID PT	588.81	3.16	7/22/2003	3.00to3.30
313	481000.14	1351077.38	586.07	589.15	GRID PT	589.30	3.23	7/15/2003	3.00to3.30
314	480999.51	1351127.38	586.61	589.65	GRID PT	589.85	3.24	7/16/2003	3.00to3.30
315	480998.89	1351177.37	587.15	590.15	GRID PT	590.30	3.15	7/15/2003	3.00to3.30
316	480998.26	1351227.37	587.61	590.65	GRID PT	590.80	3.19	7/15/2003	3.00to3.30
317	480997.64	1351277.37	588.08	591.15	GRID PT	591.26	3.18	7/15/2003	3.00to3.30
318	480997.01	1351327.36	588.56	591.65	GRID PT	591.84	3.28	7/15/2003	3.00to3.30
319	480996.39	1351377.36	589.14	592.15	GRID PT	592.31	3.17	7/15/2003	3.00to3.30
320	480995.76	1351427.35	589.41	592.65	GRID PT	592.82	3.41	7/17/2003	3.00to3.30
321	480995.45	1351452.59	589.84	592.96	TOE 4 1	593.07	3.23	7/15/2003	3.09to3.39
322	480994.92	1351494.59	600.16	603.49	TOP 4 1	603.69	3.53	7/17/2003	3.09to3.39
323	480994.69	1351513.31	600.48	605.82	TOE 1.5 1	606.02	5.54	7/17/2003	5.04to5.34
324	480994.59	1351521.10	605.94	605.97	TOP 6 1	606.15	N/A	7/13/2003	N/A
331	481004.05	1350764.49	598.95	598.95	TOP 6 1	599.02	N/A	7/31/2002	N/A
332	480979.78	1350877.12	583.64	586.69	DRAIN CORR	586.83	3.19	8/7/2003	3.00to3.30
333	480979.17	1350927.11	584.17	587.19	DRAIN CORR	587.20	3.03	8/1/2003	3.00to3.30
334	480978.56	1350977.11	584.61	587.69	DRAIN CORR	587.74	3.13	8/1/2003	3.00to3.30
335	480977.95	1351027.11	585.14	588.19	DRAIN CORR	588.30	3.16	7/22/2003	3.00to3.30
336	480977.34	1351077.10	585.59	588.69	DRAIN CORR	588.88	3.29	7/15/2003	3.00to3.30
337	480976.72	1351127.10	586.16	589.19	DRAIN CORR	589.39	3.23	7/15/2003	3.00to3.30
338	480976.11	1351177.10	586.63	589.69	DRAIN CORR	589.87	3.24	7/15/2003	3.00to3.30
339	480975.50	1351227.09	587.17	590.19	DRAIN CORR	590.38	3.21	7/15/2003	3.00to3.30
340	480974.89	1351277.09	587.69	590.69	DRAIN CORR	590.87	3.18	7/15/2003	3.00to3.30
341	480974.28	1351327.08	588.19	591.19	DRAIN CORR	591.32	3.13	7/15/2003	3.00to3.30
342	480973.67	1351377.08	588.68	591.69	DRAIN CORR	591.85	3.17	7/17/2003	3.00to3.30
343	480973.05	1351427.08	589.08	592.19	DRAIN CORR	592.39	3.31	7/15/2003	3.00to3.30
351	480965.16	1350764.01	598.54	598.66	TOP 6 1	598.67	N/A	7/23/2003	N/A
352	480964.83	1350790.52	593.06	596.18	TOP 4 1	596.22	3.16	7/23/2003	3.09to3.39
353	480963.78	1350876.92	583.69	586.69	DRAIN CORR	586.75	3.06	8/7/2003	3.00to3.30
354	480963.17	1350926.92	584.14	587.19	DRAIN CORR	587.35	3.21	7/22/2003	3.00to3.30
355	480962.56	1350976.92	584.65	587.69	DRAIN CORR	587.84	3.19	7/22/2003	3.00to3.30
356	480961.94	1351026.91	585.17	588.19	DRAIN CORR	588.32	3.15	7/22/2003	3.00to3.30
357	480961.33	1351076.91	585.67	588.69	DRAIN CORR	588.79	3.12	7/17/2003	3.00to3.30
358	480960.72	1351126.90	586.11	589.19	DRAIN CORR	589.35	3.24	7/17/2003	3.00to3.30
359	480960.11	1351176.90	586.64	589.69	DRAIN CORR	589.76	3.12	7/17/2003	3.00to3.30
360	480959.50	1351226.90	587.14	590.19	DRAIN CORR	590.23	3.09	7/17/2003	3.00to3.30
361	480958.89	1351276.89	587.58	590.69	DRAIN CORR	590.83	3.25	7/17/2003	3.00to3.30
362	480958.28	1351326.89	587.99	591.19	DRAIN CORR	591.27	3.28	7/17/2003	3.00to3.30
363	480957.67	1351376.89	588.69	591.69	DRAIN CORR	591.77	3.08	7/17/2003	3.00to3.30
364	480957.06	1351426.88	589.12	592.19	DRAIN CORR	592.39	3.27	7/17/2003	3.00to3.30
365	480956.24	1351494.12	599.97	603.20	TOP 4 1	603.38	3.41	7/13/2003	3.09to3.39

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
366	480956.01	1351512.84	600.34	605.53	TOE 1.5 1	605.62	5.28	7/12/2003	5.04to5.34
367	480955.92	1351520.63	605.66	605.68	TOP 6 1	605.88	N/A	7/13/2003	N/A
380	480915.16	1350763.40	598.28	598.29	TOP 6 1	598.38	N/A	7/23/2003	N/A
381	480915.06	1350771.19	593.06	598.13	TOE 1.5 1	598.27	5.21	7/23/2003	5.04to5.34
382	480914.84	1350789.91	592.70	595.81	TOP 4 1	595.95	3.25	7/23/2003	3.09to3.39
383	480914.42	1350824.06	584.12	587.26	TOE 4 1	587.42	3.30	7/31/2003	3.09to3.39
384	480913.78	1350876.31	584.46	587.69	GRID PT	587.89	3.43	7/22/2003	3.00to3.30
385	480913.17	1350926.31	585.11	588.19	GRID PT	588.39	3.28	7/22/2003	3.00to3.30
386	480912.56	1350976.30	585.68	588.69	GRID PT	588.88	3.20	7/22/2003	3.00to3.30
387	480911.95	1351026.30	586.18	589.19	GRID PT	589.32	3.14	7/22/2003	3.00to3.30
388	480911.34	1351076.30	586.64	589.69	GRID PT	589.86	3.22	7/17/2003	3.00to3.30
389	480910.73	1351126.29	587.17	590.19	GRID PT	590.33	3.16	7/17/2003	3.00to3.30
390	480910.12	1351176.29	587.69	590.69	GRID PT	590.77	3.08	7/17/2003	3.00to3.30
391	480909.51	1351226.29	588.10	591.19	GRID PT	591.28	3.18	7/17/2003	3.00to3.30
392	480908.90	1351276.28	588.64	591.69	GRID PT	591.89	3.25	7/17/2003	3.00to3.30
393	480908.28	1351326.28	589.18	592.19	GRID PT	592.38	3.20	7/17/2003	3.00to3.30
394	480907.67	1351376.27	589.67	592.69	GRID PT	592.84	3.17	7/17/2003	3.00to3.30
395	480907.06	1351426.27	590.12	593.19	GRID PT	593.33	3.21	7/17/2003	3.00to3.30
396	480906.69	1351456.56	590.47	593.58	TOE 4 1	593.68	3.21	7/16/2003	3.09to3.39
397	480906.24	1351493.51	599.45	602.83	TOP 4 1	603.03	3.58	7/17/2003	3.09to3.39
398	480906.01	1351512.23	599.89	605.16	TOE 1.5 1	605.27	5.38	7/17/2003	5.04to5.34
399	480905.92	1351520.02	605.29	605.31	TOP 6 1	605.41	N/A	7/12/2003	N/A
405	480865.06	1350771.80	593.42	598.50	TOE 1.5 1	598.59	5.17	7/23/2003	5.04to5.34
406	480914.11	1350849.06	584.23	587.42	GRID PT	587.62	3.39	7/31/2003	3.00to3.30
414	480865.16	1350762.79	597.91	597.91	TOP 6 1	598.10	N/A	7/23/2003	N/A
415	480865.07	1350770.58	592.61	597.75	TOE 1.5 1	597.94	5.33	7/23/2003	5.04to5.34
416	480864.84	1350789.30	592.14	595.43	TOP 4 1	595.63	3.49	7/23/2003	3.09to3.39
417	480864.49	1350818.16	585.12	588.21	TOE 4 1	588.36	3.24	7/31/2003	3.09to3.39
418	480864.18	1350843.16	585.30	588.37	GRID PT	588.55	3.25	7/31/2003	3.00to3.30
419	480863.78	1350875.70	585.42	588.70	GRID PT	588.89	3.47	7/22/2003	3.00to3.30
420	480863.17	1350925.70	586.10	589.20	GRID PT	589.38	3.28	7/22/2003	3.00to3.30
421	480862.56	1350975.69	586.57	589.70	GRID PT	589.89	3.32	7/22/2003	3.00to3.30
422	480861.95	1351025.69	587.07	590.20	GRID PT	590.36	3.29	7/22/2003	3.00to3.30
423	480861.34	1351075.69	587.69	590.70	GRID PT	590.89	3.20	7/17/2003	3.00to3.30
424	480860.73	1351125.68	588.10	591.20	GRID PT	591.38	3.28	7/17/2003	3.00to3.30
425	480860.12	1351175.68	588.68	591.70	GRID PT	591.86	3.18	7/17/2003	3.00to3.30
426	480859.51	1351225.68	589.18	592.20	GRID PT	592.36	3.18	7/17/2003	3.00to3.30
427	480858.90	1351275.67	589.62	592.70	GRID PT	592.83	3.21	7/16/2003	3.00to3.30
428	480858.29	1351325.67	590.18	593.20	GRID PT	593.25	3.07	7/16/2003	3.00to3.30
429	480857.68	1351375.66	590.63	593.70	GRID PT	593.70	3.07	7/16/2003	3.00to3.30
430	480857.07	1351425.66	591.19	594.20	GRID PT	594.28	3.09	7/16/2003	3.00to3.30
431	480856.63	1351461.67	591.51	594.63	TOE 4 1	594.76	3.25	7/16/2003	3.09to3.39
432	480856.25	1351492.89	599.19	602.45	TOP 4 1	602.46	3.27	7/11/2003	3.09to3.39
433	480856.02	1351511.61	599.51	604.78	TOE 1.5 1	604.92	5.41	7/17/2003	5.04to5.34
434	480855.92	1351519.40	604.90	604.93	TOP 6 1	604.99	N/A	7/11/2003	N/A
447	480815.17	1350762.18	597.46	597.53	TOP 6 1	597.47	N/A	7/23/2003	N/A
448	480815.07	1350769.97	592.17	597.37	TOE 1.5 1	597.54	5.37	7/23/2003	5.04to5.34

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
449	480814.84	1350788.69	591.94	595.05	TOP 4 1	595.07	3.13	7/23/2003	3.09to3.39
450	480814.55	1350812.26	586.05	589.16	TOE 4 1	589.36	3.31	7/29/2003	3.09to3.39
451	480814.25	1350837.26	586.18	589.32	GRID PT	589.41	3.23	7/29/2003	3.00to3.30
452	480813.79	1350875.09	586.48	589.70	GRID PT	589.72	3.24	7/18/2003	3.00to3.30
453	480813.18	1350925.09	587.02	590.20	GRID PT	590.39	3.37	7/18/2003	3.00to3.30
454	480812.57	1350975.08	587.50	590.70	GRID PT	590.90	3.40	7/18/2003	3.00to3.30
455	480811.96	1351025.08	588.08	591.20	GRID PT	591.37	3.29	7/18/2003	3.00to3.30
456	480811.35	1351075.08	588.60	591.70	GRID PT	591.89	3.29	7/15/2003	3.00to3.30
457	480810.73	1351125.07	589.17	592.20	GRID PT	592.29	3.12	7/14/2003	3.00to3.30
458	480810.12	1351175.07	589.51	592.70	GRID PT	592.88	3.37	7/17/2003	3.00to3.30
459	480809.51	1351225.06	590.19	593.20	GRID PT	593.35	3.16	7/14/2003	3.00to3.30
460	480808.90	1351275.06	590.70	593.70	GRID PT	593.81	3.11	7/14/2003	3.00to3.30
461	480808.29	1351325.06	591.16	594.20	GRID PT	594.28	3.12	7/14/2003	3.00to3.30
462	480807.68	1351375.05	591.70	594.70	GRID PT	594.76	3.06	7/14/2003	3.00to3.30
463	480807.07	1351425.05	592.17	595.20	GRID PT	595.23	3.06	7/14/2003	3.00to3.30
464	480806.56	1351466.79	592.45	595.68	TOE 4 1	595.77	3.32	7/14/2003	3.09to3.39
465	480806.25	1351492.28	598.95	602.07	TOP 4 1	602.12	3.17	7/11/2003	3.09to3.39
466	480806.02	1351511.00	599.22	604.40	TOE 1.5 1	604.49	5.27	7/11/2003	5.04to5.34
467	480805.93	1351518.79	604.42	604.55	TOP 6 1	604.59	N/A	7/11/2003	N/A
480	480765.17	1350761.57	597.10	597.17	TOP 6 1	597.18	N/A	7/23/2003	N/A
481	480765.08	1350769.36	591.90	597.01	TOE 1.5 1	597.17	5.27	7/23/2003	5.04to5.34
482	480764.85	1350788.08	591.56	594.69	Top 4:1	594.70	3.14	7/23/2003	3.09to3.39
498	480756.25	1351491.67	598.56	601.72	Top 4:1	601.78	3.22	7/12/2003	3.09to3.39
499	480756.03	1351510.39	598.96	604.04	Toe 1.5:1	604.14	5.18	7/11/2003	5.04to5.34
500	480755.93	1351518.18	604.20	604.20	Top 6:1	604.33	N/A	7/11/2003	N/A
506	480753.23	1350830.24	587.25	590.56	TOP 4 1	590.75	3.50	7/29/2003	3.09to3.39
507	480752.70	1350874.34	587.61	591.00	TOP 4 1	591.14	3.53	7/18/2003	3.09to3.39
508	480752.08	1350924.34	588.39	591.50	TOP 4 1	591.70	3.31	7/18/2003	3.09to3.39
509	480751.47	1350974.34	588.71	592.00	TOP 4 1	592.14	3.43	7/18/2003	3.09to3.39
510	480750.86	1351024.33	589.14	592.50	TOP 4 1	592.60	3.46	7/18/2003	3.09to3.39
511	480750.25	1351074.33	589.69	593.00	TOP 4 1	593.14	3.45	7/17/2003	3.09to3.39
512	480749.64	1351124.33	590.31	593.50	TOP 4 1	593.58	3.27	7/12/2003	3.09to3.39
513	480749.03	1351174.32	590.71	594.00	TOP 4 1	594.08	3.37	7/17/2003	3.09to3.39
514	480748.42	1351224.32	591.28	594.50	TOP 4 1	594.64	3.36	7/13/2003	3.09to3.39
515	480747.81	1351274.31	591.91	595.00	TOP 4 1	595.00	3.09	7/13/2003	3.09to3.39
516	480747.20	1351324.31	592.40	595.50	TOP 4 1	595.51	3.11	7/13/2003	3.09to3.39
517	480746.58	1351374.31	592.81	596.00	TOP 4 1	596.20	3.39	7/13/2003	3.09to3.39
518	480745.97	1351424.30	593.18	596.50	TOP 4 1	596.61	3.43	7/17/2003	3.09to3.39
519	480741.20	1350831.42	584.48	587.57	TOE 4 1	587.62	3.14	7/29/2003	3.09to3.39
520	480740.67	1350874.20	584.90	588.00	TOE 4 1	588.19	3.29	7/18/2003	3.09to3.39
521	480740.06	1350924.19	585.40	588.50	TOE 4 1	588.68	3.28	7/18/2003	3.09to3.39
522	480739.45	1350974.19	585.91	589.00	TOE 4 1	589.19	3.28	7/18/2003	3.09to3.39
523	480738.84	1351024.19	586.40	589.50	TOE 4 1	589.61	3.21	7/18/2003	3.09to3.39
524	480738.23	1351074.18	586.86	590.00	TOE 4 1	590.18	3.32	7/17/2003	3.09to3.39
525	480737.62	1351124.18	587.20	590.50	TOE 4 1	590.63	3.43	7/17/2003	3.09to3.39
526	480737.01	1351174.18	587.83	591.00	TOE 4 1	591.17	3.34	7/12/2003	3.09to3.39
527	480736.40	1351224.17	588.27	591.50	TOE 4 1	591.53	3.26	7/17/2003	3.09to3.39

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
528	480735.79	1351274.17	588.89	592.00	TOE 4 1	592.03	3.14	7/12/2003	3.09to3.39
529	480735.18	1351324.16	589.28	592.50	TOE 4 1	592.63	3.35	7/12/2003	3.09to3.39
530	480734.56	1351374.16	589.84	593.00	TOE 4 1	593.15	3.31	7/12/2003	3.09to3.39
531	480733.95	1351424.16	590.21	593.50	TOE 4 1	593.70	3.49	7/17/2003	3.09to3.39
539	480715.17	1350760.96	596.82	596.92	TOP 6 1	596.97	N/A	7/23/2003	N/A
540	480715.08	1350768.75	591.65	596.76	TOE 1.5 1	596.83	5.18	7/23/2003	5.04to5.34
541	480714.85	1350787.47	591.35	594.44	TOP 4 1	594.58	3.23	7/23/2003	3.09to3.39
542	480714.48	1350817.64	583.75	586.90	TOE 4 1	586.92	3.17	7/29/2003	3.09to3.39
543	480714.24	1350837.64	583.76	587.01	GRID PT	587.12	3.36	7/29/2003	3.00to3.30
544	480713.80	1350873.87	584.13	587.37	GRID PT	587.49	3.36	7/22/2003	3.00to3.30
545	480713.18	1350923.87	584.57	587.87	GRID PT	587.99	3.42	7/22/2003	3.00to3.30
546	480712.57	1350973.86	585.14	588.37	GRID PT	588.47	3.33	7/22/2003	3.00to3.30
547	480711.96	1351023.86	585.63	588.87	GRID PT	589.02	3.39	7/18/2003	3.00to3.30
548	480711.35	1351073.85	586.26	589.37	GRID PT	589.56	3.30	7/17/2003	3.00to3.30
549	480710.74	1351123.85	586.75	589.87	GRID PT	590.05	3.30	7/13/2003	3.00to3.30
550	480710.13	1351173.85	587.36	590.37	GRID PT	590.39	3.03	7/14/2003	3.00to3.30
551	480709.52	1351223.84	587.80	590.87	GRID PT	590.98	3.18	7/13/2003	3.00to3.30
552	480708.91	1351273.84	588.29	591.37	GRID PT	591.48	3.19	7/14/2003	3.00to3.30
553	480708.30	1351323.84	588.73	591.87	GRID PT	591.94	3.21	7/13/2003	3.00to3.30
554	480707.69	1351373.83	589.28	592.37	GRID PT	592.55	3.27	7/14/2003	3.00to3.30
555	480707.08	1351423.83	589.78	592.87	GRID PT	592.96	3.18	7/13/2003	3.00to3.30
556	480706.66	1351458.42	590.08	593.31	TOE 4 1	593.48	3.40	7/14/2003	3.09to3.39
557	480706.26	1351491.06	598.34	601.47	TOP 4 1	601.48	3.14	7/11/2003	3.09to3.39
558	480706.03	1351509.78	598.70	603.79	TOE 1.5 1	603.91	5.21	7/11/2003	5.04to5.34
559	480705.93	1351517.57	603.91	603.95	TOP 6 1	604.03	N/A	7/11/2003	N/A
697	481052.38	1350871.77	584.89	588.02	NOT CERT CELL5	588.18	3.29	7/22/2003	3.00to3.30
698	481051.77	1350921.76	585.40	588.40	CERT CELL5	588.60	3.20	7/22/2003	3.00to3.30
699	481051.16	1350971.76	585.72	588.81	CERT CELL5	589.01	3.29	7/22/2003	3.00to3.30
700	481050.55	1351021.76	586.51	589.44	CERT CELL5	589.64	3.13	7/22/2003	3.00to3.30
701	481049.94	1351071.75	586.98	589.93	CERT CELL5	590.09	3.11	7/15/2003	3.00to3.30
702	481049.33	1351121.75	587.61	590.42	CERT CELL5	590.62	3.01	7/15/2003	3.00to3.30
703	481048.71	1351171.74	588.03	590.88	CERT CELL5	591.08	3.05	7/15/2003	3.00to3.30
704	481048.10	1351221.74	588.58	591.41	CERT CELL5	591.58	3.00	7/16/2003	3.00to3.30
705	481047.49	1351271.74	589.11	591.96	CERT CELL5	592.16	3.05	7/16/2003	3.00to3.30
706	481046.88	1351321.73	589.36	592.36	CERT CELL5	592.56	3.20	7/15/2003	3.00to3.30
707	481046.27	1351371.73	589.98	592.98	CERT CELL5	593.14	3.16	7/15/2003	3.00to3.30
708	481045.66	1351421.73	590.47	593.47	CERT CELL5	593.62	3.15	7/15/2003	3.00to3.30
715	481085.70	1350792.00	N/A	597.11	CELL5 TOP4:1	597.15	N/A	7/14/2003	N/A
722	481085.93	1350773.28	N/A	599.40	CELL5 TOE1.5:1	599.43	N/A	7/14/2003	N/A
723	481053.68	1350765.09	599.23	599.28	NOT CERT CELL5	599.31	N/A		N/A
758	481077.10	1351495.60	N/A	604.13	S/GCELL5TOP/SL	604.19	N/A	7/14/2003	N/A
765	481076.87	1351514.32	N/A	606.52	CELL5TOP2%	606.57	N/A	7/14/2003	N/A
1201	480764.02	1351510.49	599.00	604.08	TOE 1.5 1	604.17	5.17	7/11/2003	5.04to5.34
1212	481054.05	1350765.10	599.29	599.32	TOP 6 1	599.32	N/A	7/31/2003	N/A
1213	481053.95	1350772.89	593.83	599.16	TOE 1.5 1	599.32	5.49	7/31/2003	5.04to5.34
1214	481053.71	1350791.61	593.64	596.84	TOP 4 1	596.86	3.22	8/1/2003	3.09to3.39
1215	481053.26	1350828.01	584.50	587.74	TOE 4 1	587.93	3.43	8/1/2003	3.09to3.39

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
1223	480773.17	1350761.67	597.10	597.21	TOP 6 1	597.27	N/A	7/29/2003	N/A
1224	480772.85	1350788.18	591.63	594.73	TOP 4 1	594.85	3.22	7/29/2003	3.09to3.39
1225	480773.08	1350769.46	591.84	597.05	TOE 1.5 1	597.20	5.36	7/23/2003	5.04to5.34
1227	480753.54	1350805.24	587.08	590.31	TOE 4 1	590.50	3.42	7/29/2003	3.09to3.39
1228	480741.38	1350816.42	584.45	587.56	TOE 4 1	587.59	3.14	7/29/2003	3.09to3.39
1252	481045.41	1351455.81	590.80	594.01	TOE 4 1	594.21	3.41	7/15/2003	3.09to3.39
1253	481044.91	1351495.20	600.50	603.86	TOP 4 1	603.99	3.49	7/17/2003	3.09to3.39
1254	481044.68	1351513.92	601.08	606.19	TOE 1.5 1	606.27	5.19	7/13/2003	5.04to5.34
1255	481044.58	1351521.71	606.16	606.34	TOP 1.5 1	606.34	N/A	7/13/2003	N/A
1260	480972.76	1351451.13	589.38	592.52	TOE 4 1	592.70	3.32	7/15/2003	3.09to3.39
1261	480956.76	1351451.44	589.43	592.52	TOE 4 1	592.72	3.29	7/17/2003	3.09to3.39
1263	480764.25	1351491.77	598.60	601.76	TOP 4 1	601.83	3.23	7/11/2003	3.09to3.39
1264	480763.93	1351518.28	604.22	604.24	TOP 1.5 1	604.35	N/A	7/11/2003	N/A
1268	480745.38	1351472.84	593.73	596.99	TOE 4 1	597.29	3.56	7/17/2003	3.09to3.39
1269	480733.51	1351460.43	590.49	593.86	TOE 4 1	594.19	3.70	7/17/2003	3.09to3.39
1628	480980.35	1350830.62	582.94	586.31	TOE 4 1	586.50	3.56	8/7/2003	3.09to3.39
1631	480964.35	1350829.96	582.93	586.31	TOE 4 1	586.51	3.58	8/7/2003	3.09to3.39
1634	480689.72	1350837.34	583.24	586.51	Clay termination Pt.	586.59	3.35	7/29/2003	3.00to3.30
1635	480689.27	1350873.57	583.87	586.87	Clay termination Pt.	587.02	3.15	7/22/2003	3.00to3.30
1636	480688.66	1350923.57	584.35	587.37	Clay termination Pt.	587.50	3.15	7/22/2003	3.00to3.30
1637	480688.05	1350973.56	584.73	587.87	Clay termination Pt.	588.05	3.32	7/22/2003	3.00to3.30
1638	480687.44	1351023.56	585.24	588.37	Clay termination Pt.	588.49	3.25	7/22/2003	3.00to3.30
1639	480686.83	1351073.55	585.59	588.87	Clay termination Pt.	588.98	3.39	7/17/2003	3.00to3.30
1640	480686.22	1351123.55	586.16	589.37	Clay termination Pt.	589.48	3.32	7/13/2003	3.00to3.30
1641	480685.61	1351173.55	586.78	589.87	Clay termination Pt.	590.06	3.28	7/14/2003	3.00to3.30
1642	480685.00	1351223.54	587.30	590.37	Clay termination Pt.	590.50	3.20	7/13/2003	3.00to3.30
1643	480684.39	1351273.54	587.73	590.87	Clay termination Pt.	590.99	3.26	7/14/2003	3.00to3.30
1644	480683.78	1351323.54	588.27	591.37	Clay termination Pt.	591.53	3.26	7/13/2003	3.00to3.30
1645	480683.17	1351373.53	588.77	591.87	Clay termination Pt.	591.98	3.21	7/14/2003	3.00to3.30
1646	480682.56	1351423.53	589.24	592.37	Clay termination Pt.	592.57	3.33	7/13/2003	3.00to3.30
1647	480682.16	1351456.57	589.71	592.71	Clay Termination Pt.	593.00	3.29	7/17/2003	3.00to3.30
1648	480689.94	1350818.75	583.30	586.33	Clay Termination Pt.	586.45	3.15	7/29/2003	3.00to3.30
2308	481086.06	1350783.53	N/A	599.31	TOP4:1	599.31	N/A	7/14/2003	
2309	481085.53	1350827.20	N/A	588.43	TOE4:1	588.43	N/A	7/14/2003	
2310	481077.82	1351457.50	N/A	594.67	TOE4:1	594.67	N/A	7/14/2003	
2311	481077.25	1351504.07	N/A	606.37	TOP4:1	606.37	N/A	7/14/2003	
2319	481077.03	1351522.11	N/A	606.67	TOP2%BLPERBERI	606.67	N/A	7/14/2003	
2320	481086.28	1350765.49	N/A	599.56	TOP2%BLPERMBEI	599.56	N/A	7/14/2003	
2322	480972.74	1351450.75	N/A	592.42	T/C@NE CornerD/C	592.60	N/A	7/15/2003	
2323	480956.79	1351451.05	N/A	592.43	T/C@SE CornerD/C	592.62	N/A	7/16/2003	
2324	480795.41	1350810.36	N/A	589.43	T/C@4:1toeInterCell	589.63	N/A	7/30/2003	
2325	480787.36	1351468.37	N/A	596.01	T/C@4:1toeInterCell	596.21	N/A	7/17/2003	
2326	480777.80	1350792.49	N/A	593.71	T/C@Top InterCell	593.87	N/A	7/29/2003	
2327	480769.31	1351487.27	N/A	600.66	T/C@Top InterCell	600.68	N/A	7/13/2003	
2328	480767.80	1350792.12	N/A	593.70	T/C@Top InterCell	593.79	N/A	7/29/2003	
2329	480759.30	1351487.41	N/A	600.66	T/C@Top InterCell	600.83	N/A	7/12/2003	
2330	480740.98	1350816.79	N/A	587.32	T/C@Toe InterCell	587.48	N/A	7/29/2003	

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: ______ Date: 8/11/03

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2331	480733.11	1351460.02	N/A	593.76	T/C@Toe InterCell	593.89	N/A	7/11/2003	
2332	480689.94	1350819.11	N/A	586.33	T/C@4:1Toe/Top 5:	586.47	N/A	7/29/2003	
2333	480682.16	1351456.21	N/A	592.71	T/C@4:1Toe/Top 5:	592.91	N/A	7/14/2003	
2334	480674.09	1350818.91	N/A	583.16	T/C@5:1ToeEndclay	583.31	N/A	7/29/2003	
2335	480666.30	1351456.01	N/A	589.53	T/C@5:1ToeEndclay	589.71	N/A	7/12/2003	
2336	480690.66	1350760.66	N/A	596.80	T/C@B/L PERBERM	596.90	N/A	7/29/2003	
2337	480690.44	1350778.70	N/A	596.44	T/C@4:1 Top	596.44	N/A	7/23/2003	
2338	480664.72	1350768.13	N/A	591.47	T/C@ Toe end	591.47	N/A	7/29/2003	
2339	480664.59	1350778.38	N/A	591.27	T/C@ Toe end	591.30	N/A	7/29/2003	
2340	480674.48	1350786.97	N/A	591.15	T/C@ Toe end	591.18	N/A	7/29/2003	
2341	480681.63	1351499.23	N/A	603.46	T/C@ Top 4:1	603.54	N/A	7/13/2003	
2342	480681.41	1351517.28	N/A	603.82	T/C@B/L PERBERM	603.87	N/A	7/13/2003	
2343	480665.88	1351490.57	N/A	598.17	T/C@ toe Endclay	598.37	N/A	7/13/2003	
2344	480655.79	1351498.92	N/A	598.29	T/C@ toe Endclay	598.37	N/A	7/11/2003	
2345	480655.66	1351509.17	N/A	598.50	T/C@ toe Endclay	598.70	N/A	7/11/2003	
2346	480772.95	1350779.71	N/A	596.85	T/C@top4:1BermC/	596.97	N/A	7/23/2003	
2347	480772.80	1350792.30	N/A	593.70	IntercellBermC/L	593.83	N/A	7/29/2003	
2348	480764.30	1351487.34	N/A	600.66	IntercellBermC/L	600.79	N/A	7/12/2003	
2349	480764.15	1351500.24	N/A	603.88	T/C@top4:1BermC/	604.04	N/A	7/13/2003	
2350	480795.08	1350837.03	N/A	589.70	TOE 4:1 BERM	589.90	N/A	7/29/2003	
2351	480794.62	1350874.86	N/A	590.08	TOE 4:1 BERM	590.28	N/A	7/18/2003	
2352	480794.01	1350924.85	N/A	590.58	TOE 4:1 BERM	590.77	N/A	7/18/2003	
2353	480793.40	1350974.85	N/A	591.08	TOE 4:1 BERM	591.27	N/A	7/18/2003	
2354	480792.79	1351024.85	N/A	591.58	TOE 4:1 BERM	591.78	N/A	7/18/2003	
2355	480792.17	1351074.84	N/A	592.08	TOE 4:1 BERM	592.24	N/A	7/15/2003	
2356	480791.56	1351124.84	N/A	592.58	TOE 4:1 BERM	592.78	N/A	7/12/2003	
2357	480790.95	1351174.83	N/A	593.08	TOE 4:1 BERM	593.17	N/A	7/12/2003	
2358	480790.34	1351224.83	N/A	593.58	TOE 4:1 BERM	593.66	N/A	7/12/2003	
2359	480789.73	1351274.83	N/A	594.08	TOE 4:1 BERM	594.24	N/A	7/12/2003	
2360	480789.12	1351324.82	N/A	594.58	TOE 4:1 BERM	594.70	N/A	7/12/2003	
2361	480788.50	1351374.82	N/A	595.08	TOE 4:1 BERM	595.08	N/A	7/12/2003	
2362	480787.89	1351424.82	N/A	595.58	TOE 4:1 BERM	595.78	N/A	7/12/2003	
2363	480777.26	1350836.81	N/A	594.15	TOP 4:1 BERM	594.30	N/A	7/29/2003	
2364	480776.80	1350874.64	N/A	594.53	TOP 4:1 BERM	594.57	N/A	7/12/2003	
2365	480776.19	1350924.64	N/A	595.03	TOP 4:1 BERM	595.11	N/A	7/18/2003	
2366	480775.57	1350974.63	N/A	595.53	TOP 4:1 BERM	595.72	N/A	7/18/2003	
2367	480774.96	1351024.63	N/A	596.03	TOP 4:1 BERM	596.15	N/A	7/18/2003	
2368	480774.35	1351074.62	N/A	596.53	TOP 4:1 BERM	596.62	N/A	7/15/2003	
2369	480773.74	1351124.62	N/A	597.03	TOP 4:1 BERM	597.06	N/A	7/12/2003	
2370	480773.13	1351174.62	N/A	597.53	TOP 4:1 BERM	597.53	N/A	7/11/2003	
2371	480772.52	1351224.61	N/A	598.03	TOP 4:1 BERM	598.12	N/A	7/12/2003	
2372	480771.91	1351274.61	N/A	598.53	TOP 4:1 BERM	598.54	N/A	7/12/2003	
2373	480771.30	1351324.61	N/A	599.03	TOP 4:1 BERM	599.03	N/A	7/12/2003	
2374	480770.69	1351374.60	N/A	599.53	TOP 4:1 BERM	599.58	N/A	7/12/2003	
2375	480770.08	1351424.60	N/A	600.03	TOP 4:1 BERM	600.17	N/A	7/12/2003	
2376	480769.69	1351455.94	N/A	600.34	TOP 4:1 BERM	600.53	N/A	7/13/2003	
2625	480980.31	1350830.97	N/A	586.23	T/C@NW CornerD/C	586.41	N/A	8/7/2003	

000318

Doc# DHI-0200-005B Rev 0   sheet 2 of 3

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
8-11-2003

Date: 8-8-2003
Scale:
Project No.

AS-BUILT
TOP CLAY LAYER
CELL 6

Sheet No.
2 OF 3

5371

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2626	480964.38	1350830.32	N/A	586.22	T/C@SW CornerD/C	586.42	N/A	8/7/2003	
2653	481084.98	1350872.16	N/A	588.90	TOP 5:1	588.90	N/A	7/14/2003	
2654	481084.37	1350922.16	N/A	589.26	TOP 5:1	589.26	N/A	7/14/2003	
2655	481083.76	1350972.15	N/A	589.73	TOP 5:1	589.73	N/A	7/14/2003	
2656	481083.15	1351022.15	N/A	590.31	TOP 5:1	590.31	N/A	7/14/2003	
2657	481082.53	1351072.15	N/A	590.83	TOP 5:1	590.83	N/A	7/14/2003	
2658	481081.92	1351122.14	N/A	591.40	TOP 5:1	591.40	N/A	7/14/2003	
2659	481081.31	1351172.14	N/A	591.73	TOP 5:1	591.73	N/A	7/14/2003	
2660	481080.70	1351222.13	N/A	592.25	TOP 5:1	592.25	N/A	7/14/2003	
2661	481080.09	1351272.13	N/A	592.73	TOP 5:1	592.73	N/A	7/14/2003	
2662	481079.48	1351322.13	N/A	593.31	TOP 5:1	593.31	N/A	7/14/2003	
2663	481078.86	1351372.12	N/A	593.90	TOP 5:1	593.90	N/A	7/14/2003	
2664	481078.25	1351422.12	N/A	594.27	TOP 5:1	594.27	N/A	7/14/2003	
2665	480767.26	1350836.69	N/A	594.15	Top 4:1 Berm	594.32	N/A	7/29/2003	
2666	480766.79	1350874.52	N/A	594.53	Top 4:1 Berm	594.56	N/A	7/11/2003	
2667	480766.18	1350924.51	N/A	595.03	Top 4:1 Berm	595.17	N/A	7/18/2003	
2668	480765.57	1350974.51	N/A	595.53	Top 4:1 Berm	595.59	N/A	7/18/2003	
2669	480764.96	1351024.51	N/A	596.03	Top 4:1 Berm	596.05	N/A	7/18/2003	
2670	480764.35	1351074.50	N/A	596.53	Top 4:1 Berm	596.57	N/A	7/15/2003	
2671	480763.74	1351124.50	N/A	597.03	Top 4:1 Berm	597.11	N/A	7/12/2003	
2672	480763.13	1351174.49	N/A	597.53	Top 4:1 Berm	597.62	N/A	7/13/2003	
2673	480762.51	1351224.49	N/A	598.03	Top 4:1 Berm	598.13	N/A	7/12/2003	
2674	480761.90	1351274.49	N/A	598.53	Top 4:1 Berm	598.53	N/A	7/12/2003	
2675	480761.29	1351324.48	N/A	599.03	Top 4:1 Berm	599.06	N/A	7/12/2003	
2676	480760.68	1351374.48	N/A	599.53	Top 4:1 Berm	599.57	N/A	7/12/2003	
2677	480760.07	1351424.48	N/A	600.03	Top 4:1 Berm	600.10	N/A	7/13/2003	
2678	480759.69	1351455.81	N/A	600.34	Top 4:1 Berm	600.51	N/A	7/13/2003	
2679	481053.82	1350783.14	N/A	598.96	Top 4:1	598.96	N/A	8/1/2003	
2680	481003.82	1350782.53	N/A	598.59	Top 4:1	598.59	N/A	7/23/2003	
2681	480964.94	1350782.06	N/A	598.30	Top 4:1	598.37	N/A	7/23/2003	
2682	480914.94	1350781.44	N/A	597.93	Top 4:1	597.94	N/A	7/23/2003	
2683	480864.94	1350780.83	N/A	597.55	Top 4:1	597.67	N/A	7/23/2003	
2684	480814.95	1350780.22	N/A	597.18	Top 4:1	597.34	N/A	7/29/2003	
2685	480764.95	1350779.61	N/A	596.81	Top 4:1	596.95	N/A	7/11/2003	
2686	480714.96	1350779.00	N/A	596.56	Top 4:1	596.63	N/A	7/23/2003	
2687	481044.81	1351503.67	N/A	605.98	Top 4:1	606.11	N/A	7/13/2003	
2688	480994.82	1351503.06	N/A	605.61	Top 4:1	605.67	N/A	7/13/2003	
2689	480956.13	1351502.59	N/A	605.32	Top 4:1	605.46	N/A	7/13/2003	
2690	480906.14	1351501.97	N/A	604.95	Top 4:1	604.96	N/A	7/12/2003	
2691	480856.14	1351501.36	N/A	604.57	Top 4:1	604.62	N/A	7/11/2003	
2692	480806.14	1351500.75	N/A	604.20	Top 4:1	604.20	N/A	7/11/2003	
2693	480756.15	1351500.14	N/A	603.84	T/C Top 4:1	603.92	N/A	7/13/2003	
2694	480706.15	1351499.53	N/A	603.59	Top 4:1	603.62	N/A	7/12/2003	
2695	481053.26	1350828.36	N/A	587.76	T/C toe 4:1	587.93	N/A	8/1/2003	
2696	481003.23	1350830.15	N/A	586.71	T/C toe 4:1	586.91	N/A	8/1/2003	
2697	480914.41	1350824.41	N/A	587.17	T/C toe 4:1	587.36	N/A	7/31/2003	
2698	480864.48	1350818.51	N/A	588.12	T/C toe 4:1	588.32	N/A	7/31/2003	

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2699	480814.55	1350812.61	N/A	589.07	T/C toe 4:1	589.25	N/A	7/29/2003	
2700	480714.48	1350817.99	N/A	586.81	T/C toe 4:1	586.87	N/A	7/29/2003	
2701	481045.41	1351455.46	N/A	593.91	T/C toe 4:1	594.10	N/A	7/15/2003	
2702	480995.45	1351452.24	N/A	592.88	T/C toe 4:1	593.07	N/A	7/15/2003	
2703	480906.70	1351456.21	N/A	593.49	T/C toe 4:1	593.67	N/A	7/16/2003	
2704	480856.63	1351461.32	N/A	594.55	T/C toe 4:1	594.71	N/A	7/16/2003	
2705	480806.57	1351466.44	N/A	595.61	T/C toe 4:1	595.78	N/A	7/14/2003	
2706	480706.66	1351458.07	N/A	593.21	T/C toe 4:1	593.39	N/A	7/17/2003	
2707	480740.80	1350831.41	N/A	587.47	T/C toe 4:1	587.53	N/A	7/29/2003	
2708	480740.28	1350874.19	N/A	587.90	T/C toe 4:1	588.08	N/A	7/18/2003	
2709	480739.67	1350924.19	N/A	588.40	T/C toe 4:1	588.60	N/A	7/18/2003	
2710	480739.05	1350974.19	N/A	588.90	T/C toe 4:1	589.09	N/A	7/18/2003	
2711	480738.44	1351024.18	N/A	589.40	T/C toe 4:1	589.60	N/A	7/18/2003	
2712	480737.83	1351074.18	N/A	589.90	T/C toe 4:1	590.09	N/A	7/17/2003	
2713	480737.22	1351124.17	N/A	590.40	T/C toe 4:1	590.60	N/A	7/12/2003	
2714	480736.61	1351174.17	N/A	590.90	T/C toe 4:1	591.08	N/A	7/12/2003	
2715	480736.00	1351224.17	N/A	591.40	T/C toe 4:1	591.60	N/A	7/12/2003	
2716	480735.38	1351274.16	N/A	591.90	T/C toe 4:1	592.03	N/A	7/12/2003	
2717	480734.77	1351324.16	N/A	592.40	T/C toe 4:1	592.59	N/A	7/12/2003	
2718	480734.16	1351374.16	N/A	592.90	T/C toe 4:1	593.10	N/A	7/12/2003	
2719	480733.55	1351424.15	N/A	593.40	T/C toe 4:1	593.56	N/A	7/12/2003	
2720	480697.72	1350837.44	N/A	586.67	LDS Termination Pt	586.79	N/A	7/29/2003	
2721	480697.27	1350873.67	N/A	587.03	LDS Termination Pt	587.09	N/A	7/22/2003	
2722	480696.66	1350923.66	N/A	587.53	LDS Termination Pt	587.63	N/A	7/22/2003	
2723	480696.05	1350973.66	N/A	588.03	LDS Termination Pt	588.23	N/A	7/22/2003	
2724	480695.44	1351023.66	N/A	588.53	LDS Termination Pt	588.68	N/A	7/18/2003	
2725	480694.83	1351073.65	N/A	589.03	LDS Termination Pt	589.20	N/A	7/17/2003	
2726	480694.22	1351123.65	N/A	589.53	LDS Termination Pt	589.70	N/A	7/13/2003	
2727	480693.61	1351173.65	N/A	590.03	LDS Termination Pt	590.14	N/A	7/14/2003	
2728	480693.00	1351223.64	N/A	590.53	LDS Termination Pt	590.67	N/A	7/13/2003	
2729	480692.39	1351273.64	N/A	591.03	LDS Termination Pt	591.23	N/A	7/14/2003	
2730	480691.78	1351323.63	N/A	591.53	LDS Termination Pt	591.55	N/A	7/13/2003	
2731	480691.17	1351373.63	N/A	592.03	LDS Termination Pt	592.18	N/A	7/14/2003	
2732	480690.56	1351423.63	N/A	592.53	LDS Termination Pt	592.69	N/A	7/13/2003	
2733	480697.95	1350818.75	N/A	586.49	LDS Termination Pt	586.67	N/A	7/29/2003	
2734	480690.15	1351456.82	N/A	592.87	LDS Termination Pt	593.06	N/A	7/14/2003	
2735	480673.87	1350837.15	N/A	583.34	Toe 5:1	583.46	N/A	7/29/2003	
2736	480673.42	1350873.38	N/A	583.70	Toe 5:1	583.85	N/A	7/22/2003	
2737	480672.81	1350923.37	N/A	584.20	Toe 5:1	584.38	N/A	7/22/2003	
2738	480672.20	1350973.37	N/A	584.70	Toe 5:1	584.89	N/A	7/22/2003	
2739	480671.59	1351023.37	N/A	585.20	Toe 5:1	585.33	N/A	7/22/2003	
2740	480670.98	1351073.36	N/A	585.70	Toe 5:1	585.87	N/A	7/17/2003	
2741	480670.37	1351123.36	N/A	586.20	Toe 5:1	586.38	N/A	7/14/2003	
2742	480669.76	1351173.35	N/A	586.70	Toe 5:1	586.90	N/A	7/14/2003	
2743	480669.14	1351223.35	N/A	587.20	Toe 5:1	587.29	N/A	7/14/2003	
2744	480668.53	1351273.35	N/A	587.70	Toe 5:1	587.88	N/A	7/14/2003	
2745	480667.92	1351323.34	N/A	588.20	Toe 5:1	588.40	N/A	7/14/2003	

PNT NO.	NORTH	EAST	ASBUILT SUBGRADE ELEV	PROP ELEV	DESCRIPTION	AS BUILT ELEV NO SHOT TOLERANCE	LAYER THICKNESS	DATE	THICKNESS TOLERANCE
2746	480667.31	1351373.34	N/A	588.70	Toe 5:1	588.85	N/A	7/14/2003	
2747	480666.70	1351423.34	N/A	589.20	Toe 5:1	589.38	N/A	7/14/2003	

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Sig: [signature] Date: 8/18/03

000319

5371

Doc # PHN-02100-0058 Rev 0 Sheet 3 of 3

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
8-11-2003

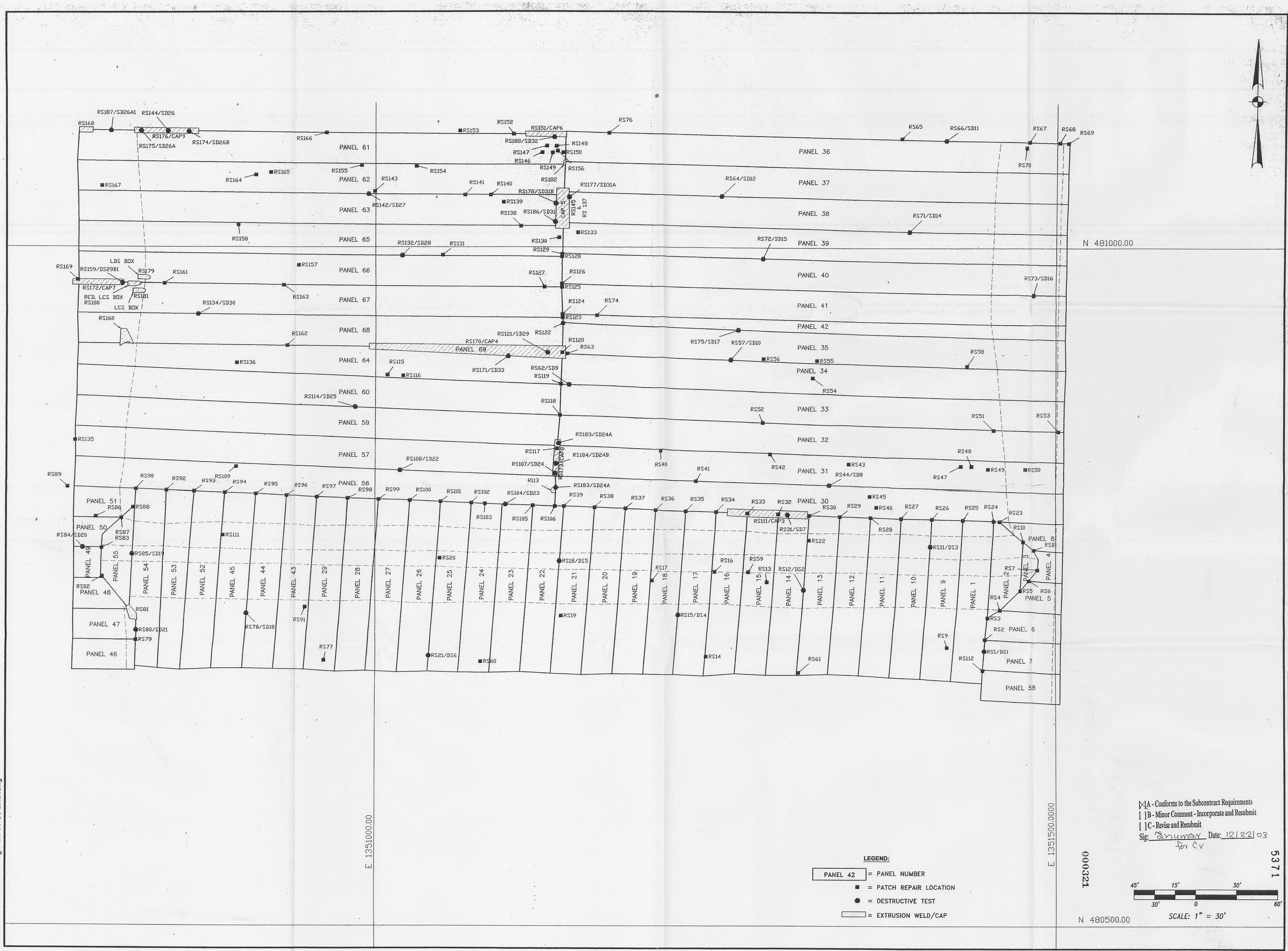
Date: 8-8-2003
Scale:
Project No.

AS-BUILT
TOP CLAY LAYER
CELL 6

Sheet No.
3 OF 3

Y:\Fernald-2003\Task 2\Dwg\8-8-03 C6 As-built T.C.dwg

SECONDARY GEOMEMBRANE PANEL LAYOUT



MA - Conforms to the Subcontract Requirements
[ ]B - Minor Comment - Incorporate and Resubmit
[ ]C - Revise and Resubmit
Sig: for CV Date: 12/22/03

000321

5371

Y:\Fernald-2003\Task 3\Dwg\7-28-03 C6 Liner.dwg

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:
REVISED: CHANGES PER GEO SYNTEC (10-27-03)

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

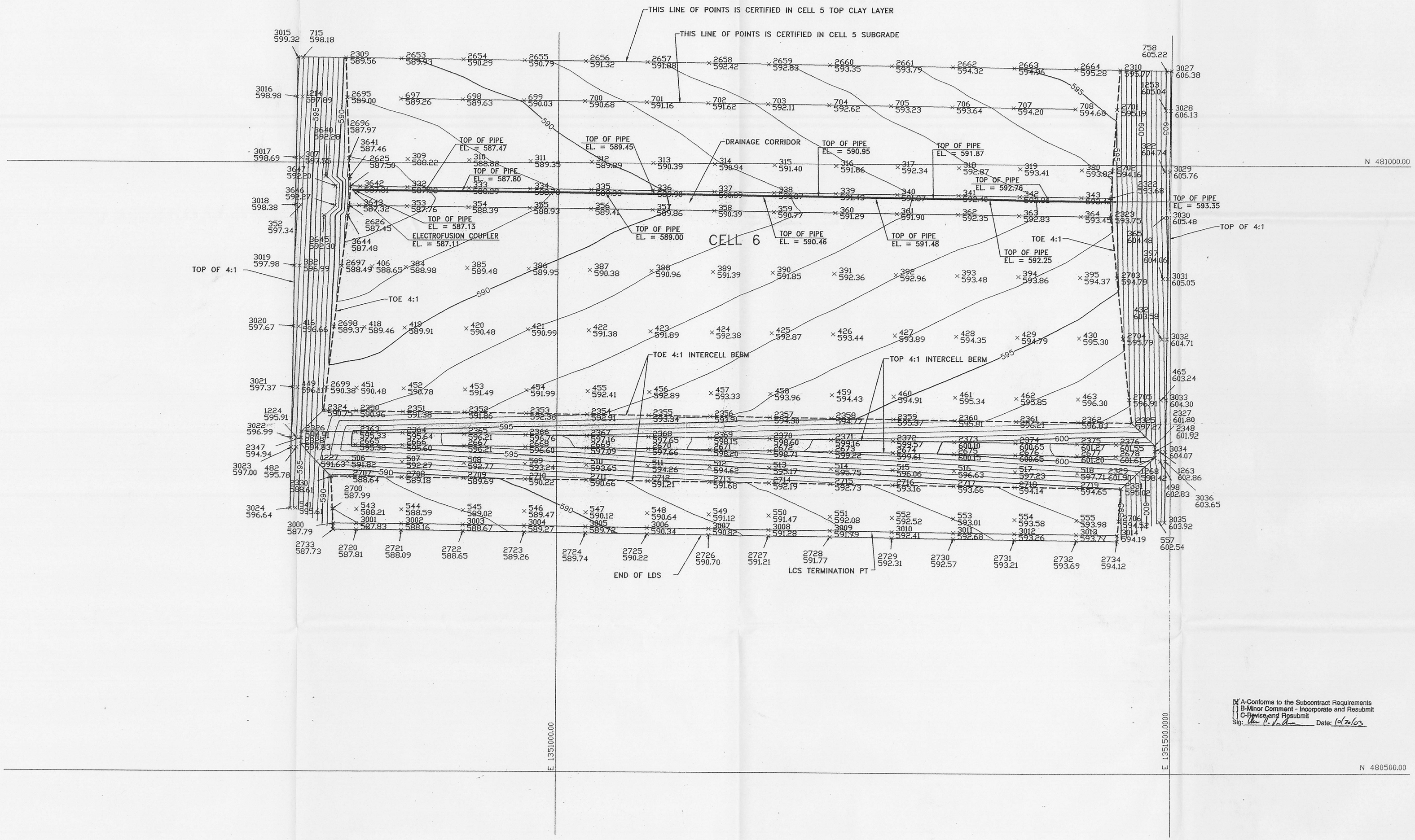
STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
12-4-2003

Date: 7-28-2003
Scale: 1" = 30'
Project No.

CELL 6
SECONDARY
GEOSYNTHETIC
LINER

Sheet No.
1 OF 1

LDS LAYER



LEGEND:

- 2100 / 619.21 = POINT NUMBER AND ELEVATION
- = PROPOSED INDEX CONTOUR
- = PROPOSED INTERMEDIATE CONTOUR
- = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' / 40' 0 80'

SCALE: 1" = 40'

Doc # PHIV-02100-DOSD Rev. 1

000323

5371

[X] A-Conforms to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: Lynn E. Hirsch Date: 10/20/03

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:
10-06-2003 ADDED 6" PERFORATED LDS PIPE

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO LYNN E. HIRSCH S-5738 SURVEYOR
Lynn Edward Hirsch 8-27-2003

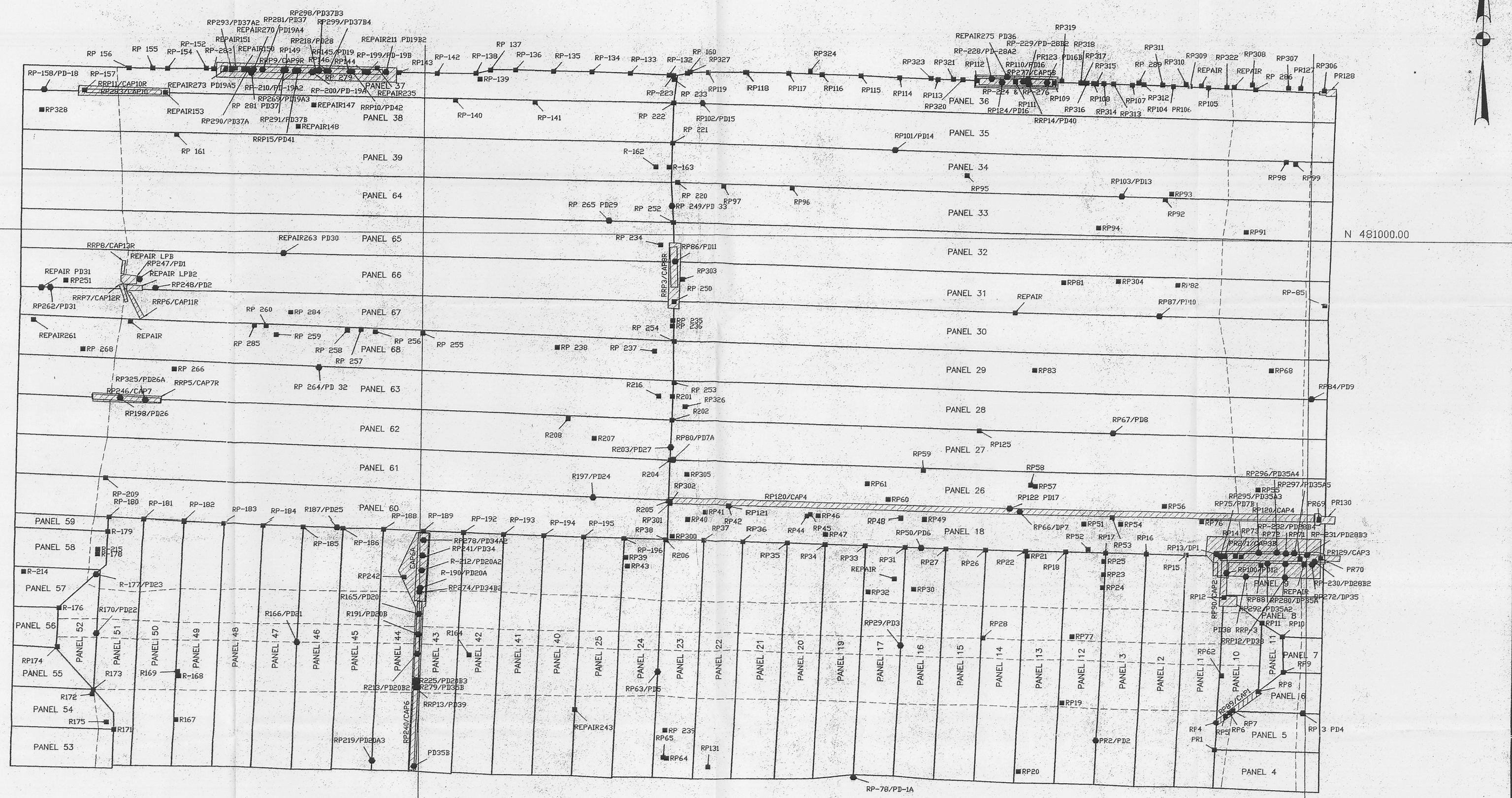
Date:	8-27-2003
Scale:	1" = 40'
Project No.	

AS-BUILT
TOP LDS LAYER
CELL 6

Sheet No. 1 OF 1

Y:\Fernald-2003\Task 2\Dwg\8-27-03 C6 Asblt LDS.dwg

PRIMARY GEOMEMBRANE PANEL LAYOUT



LEGEND:

PANEL 42	= PANEL NUMBER
■	= PATCH REPAIR LOCATION
●	= DESTRUCTIVE TEST
▨	= EXTRUSION WELD/CAP

[X] A - Conforms to the Subcontract Requirements
[ ] B - Minor Comment - Incorporate and Resubmit
[ ] C - Revise and Resubmit
Sig: SYLLIMAN for CV Date: 12/22/03

SCALE: 1" = 30'

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:
Drawn By: F.A.M.
Checked By: L.E.H.
Approved By: L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
12-4-2003

Date: 8-22-2003
Scale: 1" = 30'
Project No.

CELL 6
PRIMARY
GEOSYNTHETIC
LINER

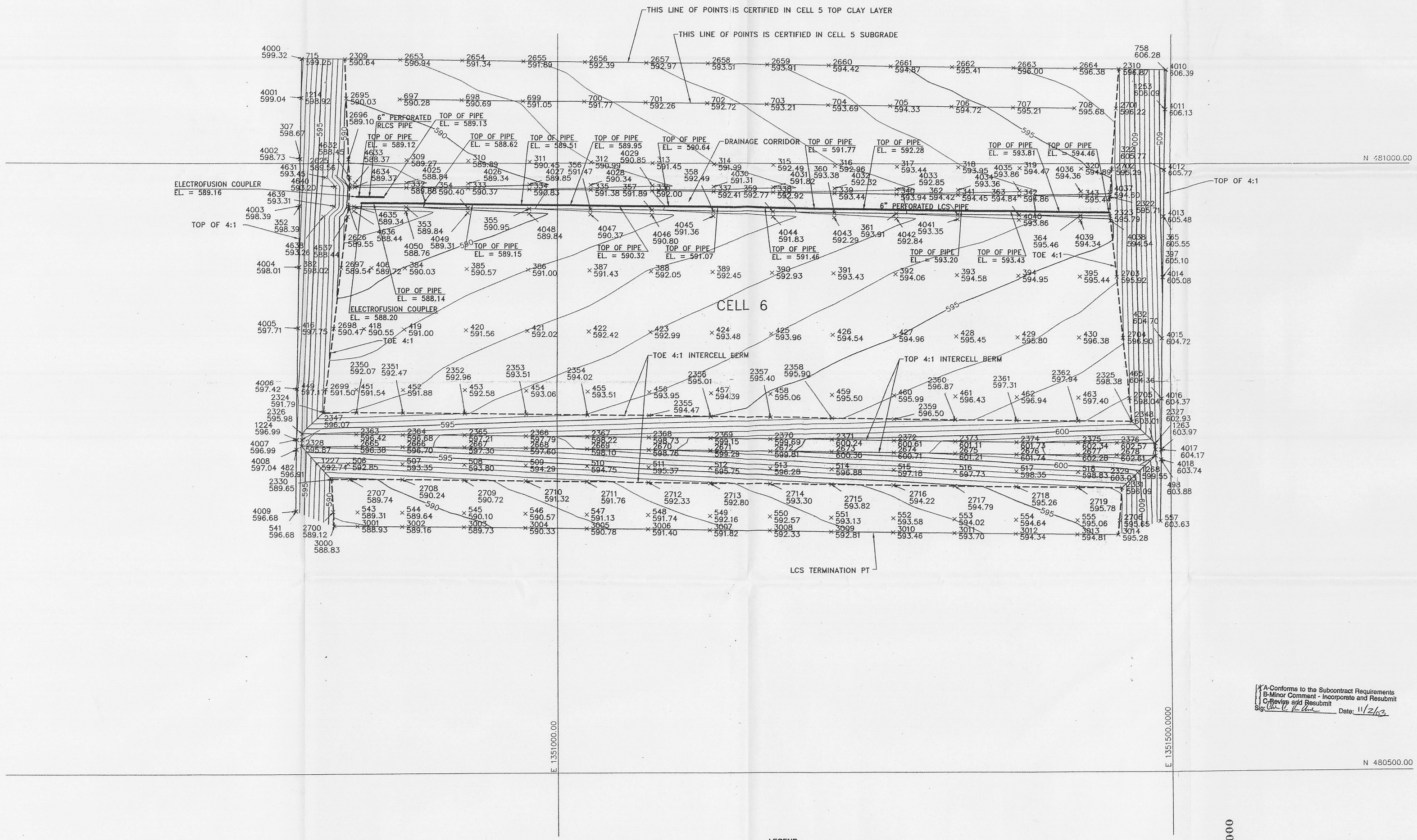
Sheet No.
1 OF 1

Y:\Fernald-2003\Task 3\Dwg\8-22-03 C6 Prime Liner.dwg

000325

5371

LCS LAYER



LEGEND:

× 2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

– – – – = TOE OF SLOPES

[X] A-Conforme to the Subcontract Requirements
[ ] B-Minor Comment - Incorporate and Resubmit
[ ] C-Revise and Resubmit
Sig: [signature] Date: 11/2/03

000327

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

Doc # PHV-02100-005F Rev. 0

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:	
Drawn By:	F.A.M.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
10-15-2003

Date:	10-15-2003
Scale:	1" = 40'
Project No.	

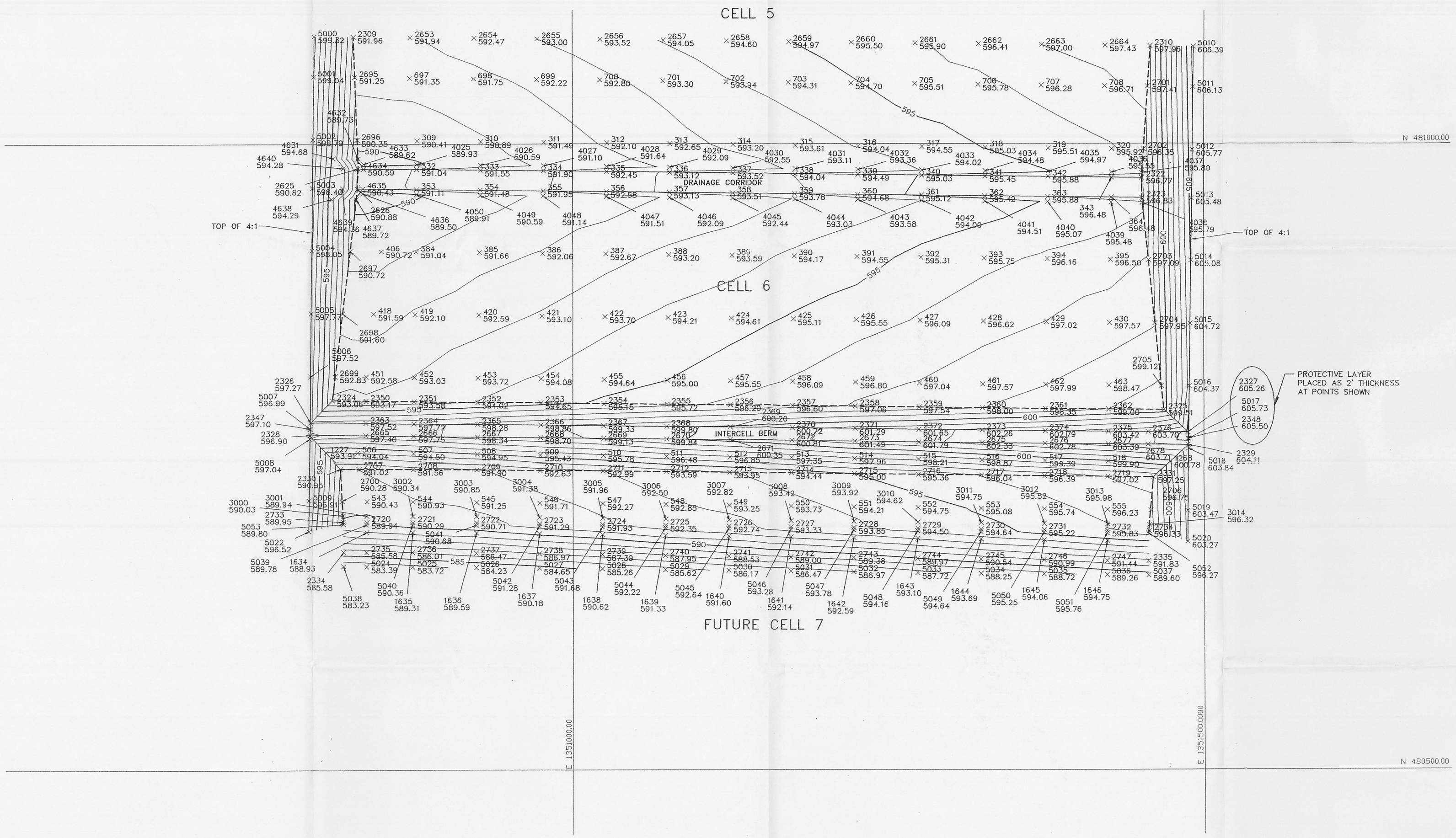
AS-BUILT
TOP LCS LAYER
CELL 6

Sheet No.
1 OF 1

5371

Y:\Fernald-2003\Task 2\Dwg\10-15-03 C6 Asblt LCS.dwg

PROTECTIVE LAYER



LEGEND:

2100 619.21 = POINT NUMBER AND ELEVATION

——— = AS-BUILT INDEX CONTOUR

——— = AS-BUILT INTERMEDIATE CONTOUR

- - - - = TOE OF SLOPES

CONTOUR INTERVAL = 1'

60' 20' 40' 40' 0 80'

SCALE: 1" = 40'

000329

5371

5371

Y:\FERNALD-2003\TASK 2\DWG\1-13-04 C6 PROT ASBLT.DWG

TECUMSEH SURVEYING, INC.
4948 CINCINNATI-BROOKVILLE ROAD
SHANDON, OHIO 45013
TELEPHONE: 513 738-2134
FAX: 513 738-2756

FLUOR FERNALD, INC.
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OSDF CELL 6

REVISIONS:

Designed By:	
Drawn By:	M.C.K.
Checked By:	L.E.H.
Approved By:	L.E.H.

STATE OF OHIO
LYNN E. HIRSCH
S-5738
SURVEYOR
Lynn Edward Hirsch
1-14-2004

Date:	1-14-2004
Scale:	1" = 40'
Project No.	

AS-BUILT
PROTECTIVE LAYER
CELL 6

Sheet No.
1 OF 1

APPENDIX R

HDPE PIPE TEST LOGS

BUTT FUSION JOINING

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

5371

BUTT FUSION JOINING LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 6Q 3211 TASK NO.: 3

DESCRIPTION: Phase V YEAR: 2003

CONTRACTOR: Wise / Flour 10 in on 6 in Bbl welds

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☑ CARRIER: ☑ OTHER: ☐

PIPE DIAMETER: 10 in / 6 in SDR:

JOINT NO.	DATE (day/mo)	OPER. ID	MACH. ID	GAUGE PRESSURE ( ) WELDING	GAUGE PRESSURE ( ) COOL DOWN	PLATE TEMPERATURE (F)	PIPE ALIGNMENT ACCEPT/REJECT	ROLL BACK DIMENSION	PASS/ FAIL	QA ID
1	25 June	J.S	1245	218 PSI	Hr. 50	400°	Accept	3/16	Pass	DLE
2	25 June	J.S	1245	218 PSI	Hr. 50	400°	Reject	3/16	Fail	DLE
3	26 June	J.S	1245	218 PSI	Hr. 50	400°	0925 Accept weld	3/16	Pass	DLE
4	26 June	J.S.	1245	218 PSI	Hr. 50	400°	1330 Accept weld	3/16	Pass	DLE
5	30 June	J.S.	1245	218 PSI	Hr. 50	499	Accept	3/16	Pass	DLE
6	30 June	J.S.	1245	218 PSI	Hr. 50	499	Accept	3/16	Pass	DLE
7	30 June	J.S	1245	218 PSI	Hr. 50	499	Accept	3/16	Pass	DLE
8	30 June	J.S	1245	218 PSI	Hr. 50	499	Accept	3/16	Pass	DLE
9	01 July	J.S.	1245	218 PSI	Hr. 50	411°	Accept	3/16	Pass	DLE
10	01 July	J.S.	1245	218 PSI	Hr. 50	411°	Accept	3/16	Pass	DLE
11	01 July	J.S	1245	218 PSI	Hr. 50	411°	Accept	3/16	Pass	DLE
12	20 July	J.S	1245	101 (6 in 2)	Hr. 50	425°	Accept	3/16	Pass	DLE
13	20 Aug	J.S	1245	101	Hr. 50	425°	Accept	3/16	Pass	DLE
14	20 Aug	J.S	1245	101	Hr. 50	425°	Accept	3/16	Pass	DLE

000332

COPY TO: Note #2 weld cut out and Re welded / Bend Test on Sample OK

©GEOSYNTEC CONSULTANTS FILE NO. F-BFWL SHEET NO. ____ OF ____

PNEUMATIC TESTING RESULTS

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: ~~G01029~~ 3211 CHW TASK NO.: ~~4.2~~ 3

DESCRIPTION: Phase V YEAR: ~~2000~~ 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: ☐ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☒

PASS/FAIL CRITERION: 5 to 10 PSI Ø Drop

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☒ CARRIER ☐ OTHER: ☐ VHG

TARGET PRESSURE: TEST DURATION: GAUGE NO.: GAUGE LOCATION:

TEST LOCATION: TO

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☒ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	—	7 July 2003	1443	5 PSI	—	CHW
2	15 min.		1458	5 PSI	Ø	CHW
3			1459	5 PSI	Ø	CHW
4			1459	10 PSI	~~*~~ + 5 PSI	CHW
5	15 min		1516	10 PSI	Ø	CHW

* At 1459 the pressure was increased to 10 psi.

PASS: ☒

FAIL: ☐

VISUAL MONITORING: X Jim Sullivan 7-9-03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Christopher H. Walker 7 July 2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Fulton 8 July 2003 — SITE CQA MANAGER day/mo/yr

COPY TO:

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase II YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise

Pop off Valve #110331-01V
Cal. Date 06-2002

TEST DESCRIPTION: HYDROSTATIC: ☐ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☒

PASS/FAIL CRITERION: 5 PSI, 15 min / 10 PSI, 15 min Ø% Drop cal. Date 11-19-02

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☒ CARRIER ☐ OTHER: ☐ VH. 6

TARGET PRESSURE: 5 PSI/10 PSI TEST DURATION: 15 Minutes GAUGE NO.: ØØA35201 GAUGE LOCATION:

TEST LOCATION: VH 6 (10in) LCS TO Past The Penetration Box into Cell-6

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☒ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	FILL	8 July	10:18	5 PSI	—	DLE
2	15	8 July	10:33	5 PSI	Ø	DLE
3	—	8 July	10:48	5 PSI		DLE
4	—	8 July	10:48	*11 PSI	+6 PSI	DLE
5	15	8 July	11:03	11 PSI	Ø	DLE
		*@ 10:48	pressure increased	TO	11 PSI	

PASS: ☒
FAIL: ☐

VISUAL MONITORING: Jim Sullivan 7-9-03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr
Paul L Evans 8 July 2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: — CONTRACTOR'S REPRESENTATIVE day/mo/yr
Collins P. Jackson 9 July 2003 — SITE CQA MANAGER day/mo/yr

COPY TO:

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: ~~GQ1029~~ 3211 CHW TASK NO.: ~~4.2~~ 3

DESCRIPTION: Phase V YEAR: ~~2000~~ 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: ☐ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☒

PASS/FAIL CRITERION: 5 to 10 PSI Ø Drop

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☒ OTHER: ☐

TARGET PRESSURE: 5 to 10 PSI TEST DURATION: 15 min GAUGE NO.: ~~ØØ~~A352 01 GAUGE LOCATION: VH6 V622

TEST LOCATION: VH6 V622 TO LCSR Drain

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	—	7 July 2003	1352	5 PSI	—	CHW
2	15 min		1408	5 PSI	Ø	CHW
3	—		1421	5 PSI	Ø	CHW
4	—		1421	* 11 PSI	+ 6 PSI	CHW
5	15 min		1440	11 PSI	Ø	CHW
~~6~~						

* At 1421, the pressure was increased to 11 PSI.

PASS: ☒

FAIL: ☐

VISUAL MONITORING: Jim Sullivan 7-9-03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Christopher H. Walker 7 July 2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Nelson 8 July 2003 — SITE CQA MANAGER day/mo/yr

000336

COPY TO:

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase IV YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise Pop off Valve #110331-01-1 Cal. Date 06-2002

TEST DESCRIPTION: HYDROSTATIC: ☐ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☒

PASS/FAIL CRITERION: 5 To 10 PSI, Ø Drop 11-19-02 Cal. Date

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☒ OTHER: ☐

TARGET PRESSURE: 5 To 10 PSI TEST DURATION: 15 min GAUGE NO.: ØØA352Ø1 GAUGE LOCATION: VH6 V633

TEST LOCATION: VH6 / V633 LCS TO Past / in to Cell / Penetration Box LCS

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	Fill Stab	8 July	0931	5 PSI	—	DLE
2	15	8 July	0946	5 PSI	Ø	DLE
3	—	8 July	1ØØ2	5 PSI	Ø	DLE
4	—	8 July	1ØØ2	* 11 PSI	+ 6 PSI	DLE
5	15	8 July	1017	11 PSI	Ø	DLE

* @ 1ØØ2, Pressure increased to 11 PSI.

PASS: ☒

FAIL: ☐

VISUAL MONITORING: Jim Sullivan 7-9-03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

David Ewen 8 July, 2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Sullivan 9 July 2003 — SITE CQA MANAGER day/mo/yr

000337

COPY TO: _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PRESSURE TEST LOG

5371

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO. 6Q3211 TASK NO.: 3

DESCRIPTION: Phase IV YEAR: 2003

CONTRACTOR: Wise / Fluor Fernald Pump Ser # M-256430

TEST DESCRIPTION: Pneumatic ☐ Hydrostatic ☐

Vacuum ☒ Gauge # 00-0A11-PI 8-7-03 cal. Date

PASS/FAIL CRITERION: 30 min @ 21.9 inches of Vacuum

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ MANHOLE: ☐ OTHER Penetration Box LCS and RLCS

TEST LOCATION:

	READING NO.	DATE (day/mo)	TIME	READING	CHANGE IN READING	PASS/ FAIL	COMMENTS	QA ID
LCS	1	22 Aug	1312	21.9				DJE
	2		1375	13	Leak in Hookup - Re Do			DJE
			Re Tighten and Brass Fittings					
LCS	1	22 Aug	1335	21.9	—		Vacuum applied	DJE
	2	22 Aug	1405	21.9	Ø	PASS	Lighting Delay @ 1485 Test Passed	DJE
RLCS	1	22 Aug	1600	21.9	—		Vacuum Applied	DJE
	2	22 Aug	1630	21.9	Ø	PASS	Test complete @ 1630	DJE

VISUAL MONITORING: Jim Sullivan 8.22.03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr; [signature] 22/Aug/2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr; [signature] 25 Aug 2003 — CQA REPRESENTATIVE day/mo/yr

COPY TO:

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

PRESSURE TEST LOG

SOR M256430

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase II YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise Pump # 93460

TEST DESCRIPTION: ~~HYDROSTATIC~~ Vaccume ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 21.9 inches of Vacume 30 min.

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☐ OTHER: ☒ Penetration Box

TARGET PRESSURE: 21.9 TEST DURATION: 30 min GAUGE NO.: 00-0A011-PI GAUGE LOCATION: Penetration Box 8-14-02

TEST LOCATION: Cell-6 Penetration Box Area (-LCSR Box-)

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: N/A ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID	
1	Vac	8 July	1325 hr	21.9	Vac	DLE	LCSR
2	s.t. Time	8 July	14.45 hr	21.9	Ø	DLE	
1	Vac	9 July	1455 hr	22.Ø	Vac	DLE	LCS
2	s.t. Time	9 July	1525 hr	22.Ø	Ø	DLE	
1	Vac	14 July	Ø820	22.Ø	Vac	DLE	LDS
2	s.t. Time	14 July	Ø850	22.Ø	Ø	DLE	

PASS: ☒

FAIL: ☐

VISUAL MONITORING: Jim Sullivan 14/July/03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul Eme 14 July ~~09 July~~ 2003 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Sullivan 14 July — SITE CQA MANAGER day/mo/yr

COPY TO:

000339

484 - 5364

HYDROSTATIC PRESSURE TESTING RESULTS

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase II YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 25 PSI for 1 hr. 15 PSI for 1 hr

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☒ CARRIER ☐ OTHER: ☐

TARGET PRESSURE: 15 PSI TEST DURATION: 1 hr GAUGE NO.: RE-6 00-08952 Cal Date 11-19-02 GAUGE LOCATION: VH-6

TEST LOCATION: VH-6 RLCS 10 in TO The 2nd Penetration Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
Full time on 10 in	Start time start	@ 09:45	TO 1010	—		
1	1030	22 Aug 03	1030	31 PSI	Ø	DJE
2	↓	22 Aug 03	1045	31 PSI	Ø	DJE
3	↓	22 Aug 03	1100	31 PSI	Ø	DJE
4	↓	22 Aug 03	1115	31 PSI	Ø	DJE
5	↓	22 Aug 03	1130	31 PSI	Ø	DJE
6	Reduce Pressure ↓	22 Aug 03	1132	Reduce Pressure 17 PSI	Ø	DJE
7	↓	22 Aug 03	1147	17 PSI	Ø	DJE
8	↓	22 Aug 03	1202	17 PSI	Ø	DJE
9	↓	22 Aug 03	1217	17 PSI	Ø	DJE
10	↓	22 Aug 03	1232	17 PSI	Ø	DJE

PASS: ☐

FAIL: ☐

VISUAL MONITORING: [signature] 8-22-03 CONTRACTOR'S REPRESENTATIVE day/mo/yr — [signature] 22/Aug/03 CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: CONTRACTOR'S REPRESENTATIVE day/mo/yr — [signature] 22 Aug 2003 SITE CQA MANAGER day/mo/yr

COPY TO:

GEOSYNTEC CONSULTANTS

5371

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase II YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 70 PSI for 5 hrs. / 60 PSI for 1 hr

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☒ OTHER: ☐

TARGET PRESSURE: 60 PSI TEST DURATION: 1 hr GAUGE NO.: 00-0A352 (RE-6, cal date 11-19-02) GAUGE LOCATION: VH-6

TEST LOCATION: VH-6 RLCS carrier TO Past The 2nd penetration Box

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
Re Sealed Pipe at		0741 / Pipe	Full overnight			
1	Re Seal @ Reading	22 Aug 03	0741	80 PSI	—	DLE
2	↓	22 Aug 03	0756	80 PSI	0	DLE
3	↓	22 Aug 03	0811	80 PSI	0	DLE
4	↓	22 Aug 03	0826	80 PSI	0	DLE
5	↓	22 Aug 03	0841	80 PSI	0	DLE
6	Back Down to 65 PSI	22 Aug 03	0845	65 PSI	—	DLE
7	↓	22 Aug 03	0900	65 PSI	0	DLE
8	↓	22 Aug 03	0915	65 PSI	0	DLE
9	↓	22 Aug 03	0930	65 PSI	0	DLE

Test

PASS: ☐

FAIL: ☐

VISUAL MONITORING: Jim Sullivan 8-27-03 (CONTRACTOR'S REPRESENTATIVE, day/mo/yr) Paul Eu 22/Aug/2003 (CQA REPRESENTATIVE, day/mo/yr)

FINAL APPROVAL: (CONTRACTOR'S REPRESENTATIVE, day/mo/yr) Collin P. Jackson 22 Aug 2003 (SITE CQA MANAGER, day/mo/yr)

000342

COPY TO:

5371

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase IV YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 25 PSI Stabilization 1 hr / 15 PSI 1 hr

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☒ CARRIER ☐ OTHER: ☐

TARGET PRESSURE: 15 PSI TEST DURATION: 1 hr GAUGE NO.: RE-6 00-0452 Cal. Date 11-19-02 GAUGE LOCATION: VH-6

TEST LOCATION: VH-6 - LCS Containment TO ~~[illegible]~~ The Penetration Box (2nd Box)

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☐ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
Started to fill 10 in Containment Pipe at 1325 hr						TO 14/6
1	1430	21 Aug 03	1430 PM	27	—	DLE
2	1445	21 Aug 03	1445	27	—	DLE
3	1500	21 Aug 03	1500	27	—	DLE
4	1515	21 Aug 03	1515	26	1	DLE
5	1530	21 Aug 03	1530	26	Ø	DLE
6	Release Pressure 1540	21 Aug 03	1540	16	—	DLE
7	1545	21 Aug 03	1545	16	—	DLE
8	↓	21 Aug 03	1600	16	—	DLE
9	↓	21 Aug 03	1615	16	—	DLE
10	↓	21 Aug 03	1630	16	—	DLE

Test

PASS: ☐

FAIL: ☐

VISUAL MONITORING: Jim Sullivan 21/Aug/03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

[signature] 21/Aug/03 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ — CONTRACTOR'S REPRESENTATIVE day/mo/yr

[signature] 21 Aug 2003 — SITE CQA MANAGER day/mo/yr

000343

COPY TO: _____

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC. 5371

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ3211 TASK NO.: 3

DESCRIPTION: Phase IV YEAR: 2003

CONTRACTOR: Fluor Fernald / Wise

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 70 PSI for Stab. / 60 PSI for 1 hr.

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☒ OTHER: ☐

TARGET PRESSURE: 60 PSI TEST DURATION: 1 hr GAUGE NO.: RE-6 00-01352 GAUGE LOCATION: VH-6

TEST LOCATION: VH-6 LCS carrier TO Past The Penetration Box (2nd Box)

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☒ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
Started to fill 6in carrier pipe from 8:40 to 1025 hr						DLE
1	1100 AM	21 Aug	1100 AM	74.0	0	DLE
2			1115	74.0	0	
3			1130	73.0	1	
4	1 HR		1145	71.0	2	
5	1200 PM		1200	71.0	~~0~~	DLE
6	Test Time 1200 PM	21 Aug	1200	~~60.5~~	Test Start	DLE
7		21 Aug	1215	60.5	~~0~~	DLE
8		21 Aug	1230	60.5	~~0~~	DLE
9		21 Aug	1245	60.5	~~0~~	DLE
10		21 Aug	1300	60.5	~~0~~	DLE

32 / 15 / 47 / 62

17 / 15 / 32

PASS: ☒

FAIL: ☐

VISUAL MONITORING: X Jim Sullivan 21/Aug/03 — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Paul Ess 21/Aug/03 — CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: X — CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Sullivan 21 Aug 2003 — SITE CQA MANAGER day/mo/yr

000344

COPY TO:

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC. 5371

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ~~1029~~ 3211 TASK NO.: ~~4.2~~ 3 Cotter

DESCRIPTION: Phase V YEAR: ~~2000~~ 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 70PSI to 60PSI min 4hr.

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☐ CARRIER ☒ OTHER: ☐

TARGET PRESSURE: 60PSI TEST DURATION: min 4hr. GAUGE NO.: ~~000A752PI~~ GAUGE LOCATION: LDS VH6 V612

TEST LOCATION: LDS Drain To VH6 TO VH6-V612

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☒ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	1hr. to min.	2 July	1512	72PSI	Ø	CHW
2	of 4hr.		1528	72PSI	Ø	CHW
3			1543	72PSI	Ø	CHW
4			1557	72PSI	Ø	CHW
5			1613	60PSI	-12*	CHW
6		3 July	Ø717	60PSI	Ø	CHW
7			Ø731	60PSI	Ø	CHW
8			Ø746	60PSI	Ø	CHW
9			Ø801	60PSI	Ø	CHW
10			Ø817	60PSI	Ø	CHW

*At 1613 the pressure was bled to 60PSI from 72PSI and readings were to be resumed in AM of 3 July.

PASS: ☒

FAIL: ☐

VISUAL MONITORING: _____ CONTRACTOR'S REPRESENTATIVE day/mo/yr

Christopher H. Walker 3 July 2003 CQA REPRESENTATIVE day/mo/yr

FINAL APPROVAL: _____ CONTRACTOR'S REPRESENTATIVE day/mo/yr

Collin P. Jackson 7 July 2003 SITE CQA MANAGER day/mo/yr

COPY TO: _____

000345

GEOSYNTEC CONSULTANTS

FLUOR FERNALD, INC.

PRESSURE TEST LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: ~~G01029~~ 3211 CHW TASK NO.: ~~4.2~~ 3

DESCRIPTION: Phase II YEAR: ~~2000~~ 2003

CONTRACTOR: Fluor Fernald

TEST DESCRIPTION: HYDROSTATIC: ☒ PNEUMATIC (ATTACH WRITTEN AUTHORIZATION): ☐

PASS/FAIL CRITERION: 25 PSI to 15 PSI min 4hr.

MATERIAL DESCRIPTION: FORCEMAIN: ☐ CONTAINMENT: ☒ CARRIER ☐ OTHER: ☐

TARGET PRESSURE: 15PSI TEST DURATION: min. 4hr. GAUGE NO. ~~000A352~~ GAUGE LOCATION: LDS VH6 ~~V611~~

TEST LOCATION: LDS Drain To VH6 TO VH6-V611

FOR CONTAINMENT PIPE TESTING, CARRIER PIPE PRESSURIZED FIRST: ☒ YES ☐ NO

READING NO.	STABILIZATION TEST PERIOD	DATE (day/mo)	TIME	READING	CHANGE IN READING	QA ID
1	1 hr. to min of 4 hr.	3 July 2003	1022	26 PSI	0	CHW
2			1035	26 PSI	0	CHW
3			1052	26 PSI	0	CHW
4			1104	26 PSI	0	CHW
5			1119	26 PSI	0	CHW
6			1123	15 PSI	-11*	CHW
7			1252	15 PSI	0	CHW
8			1337	15 PSI	0	CHW
9			1419	15 PSI	0	CHW
10			1457	15 PSI	0	CHW
11			1527	15 PSI	0	CHW

* AT 1123 the pressure was bled to 15 PSI from 26 PSI and readings were resumed for 4 hrs.

PASS: ☒

FAIL: ☐

VISUAL MONITORING: _____ CONTRACTOR'S REPRESENTATIVE day/mo/yr — Christopher H. Walker CQA REPRESENTATIVE 3 July 2003 day/mo/yr

FINAL APPROVAL: _____ CONTRACTOR'S REPRESENTATIVE day/mo/yr — Collin P. Jackson SITE CQA MANAGER 7 July 2003 day/mo/yr

COPY TO: _____

CCT VIDEO SURVEY AND INSPECTION LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #1 DATE OF RECORDING: 12/1/03 TIME: _____

STATION: START: LDS@VH #1 FINISH: _____

FOOTAGE: START: Ø.Ø' FINISH: 214.Ø

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
14.5	—	—	Camera under water
39.0			joint section under water.
55.9	Butt	Round	Under Water
69.5	Butt	Ø	Pipe appears to be crushed
109.4	Butt	Ø	
149.8	Butt	Round	Muddy Water
190.0	Butt	Round	
200.0	Coupling	Round	
201.7	Coupling	Round	
202.0	—	—	Camera under water, some wire
211.9	Coupling		Camera under water, can't tell joint config
214.0	—	—	End

PER: Steve Schaffer

SHEET NO. _____ OF _____

000348

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #1 DATE OF RECORDING: _____ TIME: _____

STATION: START: RLCS@VH #1 FINISH: cell

FOOTAGE: START: 0.0' FINISH: 225.0

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
38.2	Butt	Round	
54.2	Butt	Round	
83.1	Butt	Round	
102.3	Butt	Round	
142.0	Butt	Φ	
183.5	Butt	Round	
189.7	Coupling	Round	
193.5	Coupling	Round	mud & silt in line
202.5	Coupling	Round	
208.0	Butt	Round	
222.4	Butt	—	too much silt & mud in line to determine round
225.0	—	—	End

PER: Steve Schaffer

SHEET NO. _____ OF _____

000349

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #1 DATE OF RECORDING: 12/1/03 TIME: _____

STATION: START: LCS@VH#1 FINISH: cell #1

FOOTAGE: START: 0.0 FINISH: 235.0

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0.00	—	—	Camera under water
48.0	—	—	Camera out of water, view unblocked
53.3	Butt	Round	
67.4	Butt	Round	Muddy water present.
104.9	Butt	Round	
115.9	—	—	Camera under water.
137.0	—	—	Camera view clear.
144.2	Butt	Round	Mud & Silt present.
180.0	—	—	Camera view blocked
235.0	—	—	End

PER: Steve Schauffler

SHEET NO. _____ OF _____

000350

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #1 DATE OF RECORDING: 12/2/03 TIME:

STATION: START: HTW @ VH #1 FINISH: VH #2

FOOTAGE: START: 1:36:00 FINISH: 1:57:00

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
1:36:48	Butt	Round	
1:37:54	Butt	O.O.R.	
1:38:14	—	—	start of horizontal pipe
1:40.20	Coupling	O.O.R	joint does not look aligned
1:42:33	Butt	Round	
1:45:09	Coupling	Round	water present.
1:47:47	Butt	Round	perforated
1:48.43	Coupling	Round	
1:48:47	Butt	O.O.R	gravel present
1:53:42	Coupling	Round	
1:57:00	—	—	End

PER: Steve Schaffer

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #2 DATE OF RECORDING: 12/2/03 TIME: _____

STATION: START: HTW VH#2 FINISH: ~~cell #2~~ (35) VH#3

FOOTAGE: START: 2:14:18 FINISH: 2:28:40

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
2:14:18	Butt	Round	
2:16:31	Butt	Round	trace amounts of water
2:19:34	—	—	small amount of gravel
2:19:52	Butt	Round	
2:22:33	Butt	Round	
2:23:11	Butt	Round	
2:23:20	Butt	Round	
2:25:40	Butt	Round	looks like a bend in the pipe
2:25:53	Butt	Round	
2:27:02	Butt	⊕	
2:28:40	—	—	End

PER: Steve Schauff

SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #2 DATE OF RECORDING: 12/3/03 TIME: ____

STATION: START: LDS@VH#2 FINISH: cell #2

FOOTAGE: START: 0.00' FINISH: 264.4'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
36.7	Butt	⊕	
53.7	Butt	Round	
87.5	Butt	Round	
127.5	Butt	Round	
168.1	Butt	Round	
188.8	—	—	Camera under water
199.2	—	—	Camera out of water
199.7	Coupling?	Round	
200.3	Coupling	Round	
222.7	—	—	large pile of gravel.
233.0	—	—	end of pile for the gravel.
235.7	Butt	Round	
258.0	—	—	large amount of gravel
264.4	—	—	end

PER: Steve Schaeffer

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #2 DATE OF RECORDING: 12/3/03 TIME: _____

STATION: START: RLCS/Cell#2 FINISH: Cell #2

FOOTAGE: START: 0.00' FINISH: 232.9'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
36.6	Butt	Ø	
53.7	Butt	Round	
73.9	Butt	Round	
114.8	Butt	Round	
154.7	Butt	Round	Some mud and water present.
192.5	Coupling	Round	water Flows over joint.
202.0	Coupling	Round	mud and water present.
226.2	—	—	camera view blocked
232.9	—	—	End

PER: Steve Schaffer

SHEET NO. _____ OF _____

000354

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #2 DATE OF RECORDING: 12/3/03 TIME: _____

STATION: START: LCS @ VH #2 FINISH: cell #2

FOOTAGE: START: 0.00' FINISH: 296.0

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
39.7	Butt	Round	water flows over joint
55.9	Butt	Round	~2' pipe section
56.5	Butt	Round	~2' pipe section
97.3	Butt	Round	small trace of water
138.4	Butt	Round	
177.4	Butt	Round	
197.3	Coupling	Round	
208.5	Coupling	Round	
221.4	—	—	joint, but unable to label because of water
258.6	Butt	Round	
296.0	—	—	End

PER: Steve Schaffer

SHEET NO. _____ OF _____

000355

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: VH#3 DATE OF RECORDING: 12/2/03 TIME: _____

STATION: START: HTW Line FINISH: VH#4

FOOTAGE: START: 04:43 FINISH: 18:00

LOCATION ~~FOOTAGE (FT)~~	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
04:43	Butt	Round	Clear Water, Camera in water
04:55			Y-Shape pipe connector
05:26	Coupling	Round	little water in pipe
05:58	—	—	Large amounts of gravel
07:00	~~Butt~~ (2) Coupling	Round	Repair done by the joint.
08:41	—	—	Repair to the pipe ~6" long.
11:22	Butt	Round	~~Rp~~ Repair on the pipe, by the joint.
14:08	Coupling	Round	" " " "
15:27	Coupling	Round	
16:06	Coupling	Round	
16:10	Coupling	Round	
16:55	Coupling	Round	Repair on pipe, by the joint
1800	—	—	End tape

PER: Steve Schaffer

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

5371

VIDEO TAPE SUMMARY

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: VH#3 DATE OF RECORDING: 12/3/03 TIME: _____

STATION: START: VH#3(LDS) FINISH: ~~VH#4~~ (55) cell#3

FOOTAGE: START: 0.00 FINISH: 300.0

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0.00	—	—	1/2 full of water
29.6	—	—	camera begins in and out of water
39.2	Butt	Round	
59.4	Butt	⊕	
84.0	Butt	Round	
125.0	Butt	Round	
167.1	Butt	Round	
183.5	—	—	Camera under water
200.7	Coupling	—	Cloudy water unable to see joint config.
233.5	Butt	Round	gravel in pipe
275.2	Butt	Round	
300.0	—	—	End Run

PER: Steve Schaeffer

SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: VH#3 DATE OF RECORDING: 12/3/04 TIME: _____

STATION: START: RLCS at VH#3 FINISH: cell #3

FOOTAGE: START: 0.00 FINISH: 197.1

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0.00	—	—	begin tape, under water
39.6	Butt	Round	
57.0	Butt	Round	
75.3	Butt	Round	
116.5	Butt	Round	mud on bottom w/ some water
135.5	Butt	Round	
176	Butt	Round	
184.0	—	—	Camera went black
197.1	—	—	End of Run

PER: Steve Schauff

SHEET NO. _____ OF _____

000358

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

5371

VIDEO TAPE SUMMARY

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: UH #3 DATE OF RECORDING: 12/3/03 TIME: _____

STATION: START: LCS at UH#3 FINISH: Cell #3

FOOTAGE: START: 0.00 FINISH: 317.2

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0.00	—	—	black
21.8	—	—	begin to see pipe
38.3	butt	Round	
55.5	Butt	Round	
93.0	Butt	⊕	
129.0	Butt	⊕	
170.5	Butt	Round	3/8 deep water
187.0	Butt	Round	
198.0	Butt	Round	
208.9	Coupling	Round	
212.0	—	—	start of gravel after perforated pipe
225.0	Butt	Round	
264.9	Butt	Round	3/8 Deep water.
305.9	Butt	⊕	Some gravel
317.2	—	—	End of Run

PER: Steve Schauff

SHEET NO. ____ OF ____

000359

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #4 DATE OF RECORDING: 12-10-03 TIME: _____

STATION: START: LDS Cell #4 FINISH: _____

FOOTAGE: START: 0FT FINISH: 300'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0-10.7			Some Water
11.2	Butt	Round	
- 9.4	Butt	Round	
6min 41sec	Butt	Round	
7min 29sec			Some Water
23' -			Under Water
14min 14sec	Butt	Round	
16min 59sec	Butt	Round	
19 min	Butt	Round	
20 min 14sec	Coupling	Round	Some Water
22 min -			Under Water
24 min 25sec	Butt	Round	Some Water
25 min 58sec			Start Seeing Gravel
28min 58 sec			Some Gravel
29 min			End Run

PER: _____

SHEET NO. _____ OF _____

000360

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #4 DATE OF RECORDING: 12-~~10~~-03 ~~22~~ TIME: _____

STATION: START: ~~#~~ Las 4 FINISH: _____

FOOTAGE: START: 0' FINISH: 300'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0'-			Some Water
1min 47sec	Butt	Round	
5min 53sec	Butt	Round	
9min	Butt	Round	
13min 21 Sec	Butt	Round	
16min 7Sec	Butt	Round	Half Joint Under Water
16min 36			Some Water
17 min 27sec	Butt	Round	
18 min 23	Coupling	Round	
19 min 30	Butt	Round	Water in Pipe
20 min			End Run

PER: _____

SHEET NO. _____ OF _____

000361

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #4 DATE OF RECORDING: 12-10-03 TIME: _____

STATION: START: RLCS #4 FINISH: _____

FOOTAGE: START: 0' FINISH: 70'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0'-70'			No Visual Clear Due To
			Muddy Water Run Stopped

PER: _____ SHEET NO. _____ OF _____

000362

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #4 DATE OF RECORDING: 12-10-03 TIME: _____

STATION: START: HTW #4 FINISH: _____

FOOTAGE: START: 0' FINISH: 91'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
24 Sec	Butt	Round	
38 Sec	Coupling	Round	
2min 38	Coupling	Round	
5min 06 sec	Butt	Round	
7min 22 Sec	Butt	Round	
9min			End Run Due To Mud

PER: _____

SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #5 DATE OF RECORDING: 12-11-03 TIME: _____

STATION: START: LOS #5 FINISH: _____

FOOTAGE: START: 0 FINISH: 235'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
17.3	Butt	Round	
53.0	Butt	Round	
88.5			Water in Pipe Bottom
90.8	Butt		Water in Pipe Bottom
127.2			
130.4	Butt	Round	~~Round~~ Butt
138.0			Some Water
	Butt	Round	Some Water
			Under Water
16 min	Butt	Round	
16.54	Coupling	Round	
17.12	Butt	Round	
17.27			Under Water
19.54			Some Gravel
20.40	Butt	Round	
21.98			235 End of Run To Much Gravel

PER: _____

SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #5 DATE OF RECORDING: 12-11-03 TIME: _____

STATION: START: LCS #5 FINISH: _____

FOOTAGE: START: 0 FINISH: 239'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0-13			Under Water
16.2	Butt	Round	R
23.5			Some Water
27.0			Under Water
36.6	Butt	Round	
min 26.59	Butt	Round	No Footage Count on Tape
30.25	Butt	Round	
32.33	Butt	Round	
32.53			Some Water
34.04	Butt	Round	
34.28			Under Water
34.44	Coupling		Under Water
36.09			Gravel + Water
38.04			Gravel + Water
43.07			Piece of Gravel Type Debris
239'			End of Run Debris in Way

PER: _____ SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY

5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #5 DATE OF RECORDING: 12-11-03 TIME: _____

STATION: START: HTW Line #5 FINISH: _____

FOOTAGE: START: ~~44~~ 0FT FINISH: _____

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
44.50			START
45.07			Under water
45.22	Butt	Round	
45.25			Debris + underwater
47.44	Butt	Round	
50.0	Butt	Round	
52.41	Butt	Round	
52.50			Gravel
53.26	Coupling	Round	
53.57	Butt	Round	

PER: _____

SHEET NO. _____ OF _____

000366

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

5371

VIDEO TAPE SUMMARY

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: VH#6 DATE OF RECORDING: 11-25-03 TIME: _____

STATION: START: LDS VH#6 FINISH: Cell #1 (4) #6

FOOTAGE: START: 0.00 FINISH: 300.0

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0	Butt	Round	Some Water
0.6	Butt	Round	Some Water
20.4	Butt	Round	Dry Pipe
59.2	Butt	Round	
98.9	Butt	Round	
139.1	Butt	Round	Some Water
164.3	—	—	Fine Sediment on lower sides of pipe
178.3	Butt	Round	3/8 Deep Water
190.1	Butt	O.O.R ⊕	
200.2	Butt	Round	
200.5	Butt	Round	
(55) ~~290.7~~ 201	Coupling	~~Coupling~~ Round	~1 in. distance between two pipes
203.2	Butt	O.O.R	3/8 Deep Water
218.3	Butt	O.O.R ⊕	
219.2	—	—	Begin to see gravel
257.9	Butt	Round	Still gravel, but no water
294.1	Butt	Round	
300.0	—	—	End of Run

PER: Steve Schaffer

SHEET NO. ____ OF ____

000367

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

VIDEO TAPE SUMMARY 5371

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #6 DATE OF RECORDING: 26 Nov 03 TIME: _____

STATION: START: VH#6 LCS FINISH: cell #6

FOOTAGE: START: 0.00' FINISH: 303.0'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
13.6	Butt	Round	
16.4	—	—	Camera under water
53.2	Butt	Round	
94.0	Butt	Round	
134.1	Butt	Round	
173.5	Butt	Round	
180.8	Butt	Round	
191.1	Butt	Round	
191.4	Butt	Round	
192.1	Butt	Round	
196.0	Butt	Round	
202.5	Butt	Round	
212.3	Butt	Round	perforated pipe begins
249.9	—	—	pile of gravel in line
252.8	Butt	Round	
262.9	—	—	pile of gravel in line
289.4	—	—	gravel in line
292.8	Butt	Round	
303.0	—	—	End of run

PER: Steve Schaffer

SHEET NO. _____ OF _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

5371

VIDEO TAPE SUMMARY

Carrier Pipe-Leachate Transmission System
Permanent Lift Station to Manhole No. 3

TAPE NO: #6 DATE OF RECORDING: 25 Nov 03 TIME: _____

STATION: START: RLCS VH #6 FINISH: cell #6

FOOTAGE: START: 0.00 FINISH: 225.0'

LOCATION FOOTAGE (FT)	JOINT TYPE BUTT/COUPLING	JOINT CONFIG.	REMARKS
0.00	—	—	½ Full of water
7.2	—	—	camera under water
18.8	Butt	Round	Small amount of water
58.6	Butt	Round	
98.5	Butt	Round	
108.4	—	—	cotton towel in pipe
137.8	Butt	Round	Small amount of water
177.3	Butt	Round	
182.1	Butt	Round	
191.3	Butt	Round	
191.4	Butt	Round	
191.8	Butt	Round	~~End of pipe~~ rag in line
~205	Butt	Round	small amount of water
215.3	—	—	gravel in pipe
225.6	—	—	end of run

PER: Steve Schauff

SHEET NO. _____ OF _____

000369

APPENDIX S

REQUESTS FOR CLARIFICATION OF INFORMATION (RCIs)

5371

State of Ohio Enviro
Southwes
East Fifth Street
Dayton, Ohio 45402-2911
TELE: (937) 285

Post-it® Fax Note 7671	Date	# of pages ▶
To JD Chiou	From OHIO EPA	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 513	Fax #	

MEM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: June 26, 2003
RE: OSDF Phase IV RCI 20104-007R

This RCI modifies the current grid dimensions for Category 2 materials. Currently the Impacted Materials Placement Plan (IMPP) limits the size of the grids to a 100 foot square. Grids are separated by a 10-foot berm of Category 1 material. This RCI allows the grid dimension to be as large as 200 ft by 200 ft. In practice, the grids will be formed by dividing each horizon (not including the catchment area) into quarters. The grids will decrease in size as they go higher in the cell. This RCI also increases the width of the berms at the eastern and western extent of the cell to 30 ft.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4grids.wpd

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.: FSC-653	(3) Pg. 1 Of 8	(4) DATE: 5/19/03

(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (OSDF) Phase IV Construction

(6) RCI NO.: 20104-007R

(7) RCI/DCN TITLE: Increasing Grid Size for Category 2 Impacted Material Placement

(6) DCN NO.:

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
OSDF Impacted Material Placement Plan	20100-PL-007	3PCN1	

(10) REQUESTOR: Charles C. Van Arsdale 5/22/03 ~~1/13/03~~
NAME (Print & Sign) DATE

(11) CE / PE: Charles C. Van Arsdale 5/22/03 ~~1/13/03~~
NAME (Print & Sign) DATE

(12) [X] RCI-DESCRIPTION (13) [ ] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Section 1.4 of the OSDF Impacted Material Placement (IMP) Plan defines a grid as "...a 100 ft by 100 ft grid system for each cell, which provides the control for management of impacted material placement..." A horizon is also defined to be "... a horizontal stratum limited horizontally to a 100 ft by 100 ft grid element..." Based on these definitions, Section 8.2 of the IMP Plan requires the establishment of 100-ft gridlines for placement of the non-soil-like materials (Categories 2 through 5). Can the grid size be increased for placement of Category 2 impacted material? Increasing the grid size would also increase the efficiency and rate of placement of Category 2 D&D debris. Please clarify.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

See attached response and figures, which indicate that the grid size can be increased to a maximum 200 ft by 200 ft at the bottom of a cell (e.g., at Elevation 605 ft MSL for Cell 4) and progressively decrease to 80 ft by 180 ft at 30 ft above the bottom of a cell (e.g., at Elevation 635 ft for Cell 4).

INFORMATION ONLY

(15) REVIEWS COMPLETED

[N/A] Configuration Management SSC Review Complete — KBT 5/27/03 — DO NAME (Print & Sign) — DATE

[X] Impact Assessment Review Complete — Kwasi Badu-Tweneboah 5/22/03 — DO NAME (Print & Sign) — DATE; Uday Kumthekar 5/23/03 — PE NAME (Print & Sign) — DATE

[X] Technical Review Complete — Kwasi Badu-Tweneboah 5/27/03 — DO NAME (Print & Sign) — DATE

[X] ED-12-4010 Review Complete — Uday Kumthekar 5/23/03 — PE NAME (Print & Sign) — DATE

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [ ] YES

IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES

Charles C. Van Arsdale
CE NAME (Print & Sign) DATE

(17) FIELD WORK COMPLETED:

CE OR PE (Print & Sign) DATE:

DESIGN ORGANIZATION RESPONSE TO RCI NO. 20104-007R

INCREASING GRID SIZE FOR PLACEMENT OF CATEGORY 2 IMPACTED MATERIAL

Category 2 impacted materials (i.e., D&D debris) are required to be placed in a grid (defined in the IMP Plan to be 100 ft by 100 ft) and at the same time isolated horizontally on all sides with a minimum of 10 ft of less permeable Category 1 material. Category 2 materials are defined to be "*...materials that can be transported, placed, spread, and compacted en masse...*" The purpose of the Category 1 surrounding berm is to reduce the potential for significant lateral migration (i.e., side slope seepage) of leachate from the more permeable Category 2 material (Section 8.3.1, page 8-2 of IMP Plan). A grid, measuring 100-ft long by 100-ft wide by 2-ft high, would occupy approximately 740 cubic yards (ICY) of material. However, if a Category 2 material is placed to the depth of 1.5 ft (the minimum depth required by the IMP Plan) with the surrounding 10-ft wide berms, the in-place volume will be 450 cubic yards (ICY). This implies that by constructing the 10-ft wide berms to contain the Category 2 material, the available air space for the Category 2 material is reduced by approximately 40 percent. This does not include the additional volume lost by mixing to fill the voids in the Category 2 material. Therefore, the current placement method for Category 2 materials often results in a reduction in air space of up to 40 percent of the air space from the original design intent.

Considering the knowledge and experience gained from Cells 1, 2, and 3 placement activities, it is believed that a loss of up to 40 percent of the intended air space for Category 2 materials is not efficient for the placement of Category 2 materials. Additionally, the decontamination and demolition (D&D) operations, as part of the overall FEMP remediation project, has accelerated to the extent that it has increased the rate and availability of Category 2 materials to be placed in the OSDF cells. This increase in rate and availability also require a corresponding increase in the rate at which the Category 2 material is transported and placed in the OSDF cell. In the event the material cannot be placed directly in the OSDF cell it will need to be stockpiled. Stockpiling in turn prevents excavation to make Category 1 impacted soils available for placement of the Category 2 material. In addition, more than one disposal cell is available to receive impacted material from the FEMP remediation operations. The above requirements are consistent with the placement procedures described in the IMP Plan (i.e., rate and time of material availability, types of material available, availability of temporary stockpile capacity, number of cells constructed and available to receive impacted material, etc.) The intent of this RCI is to increase the efficiency of Category 2 material placement consistent with the original design intent while assuring that the long-term performance of the OSDF is maintained or improved.

Based on the above requirements, it is proposed herein that the grid size for placement of Category 2 material be increased to a maximum of 200 ft by 200 ft at the bottom of the cell, by basically dividing the cell floor into four quadrants, excluding the catchment area. As the impacted material height (or elevation) increases, the cell floor can still be divided into four quadrants with the grid size reducing in size as a result of the 6H:1V side slopes. GeoSyntec believes that this recommendation is consistent with the original design intent and would have no significant impact on the OSDF long-term performance. This placement method is also consistent with our experience with municipal solid waste (MSW) landfill operations, whereby the active face can be as long as 400 ft. The Category 2 material placement grid shall still be surrounded by the 10-ft wide berm constructed of less permeable Category 1 soil material.

DESIGN ORGANIZATION RESPONSE TO RCI NO. 20104-007R

INCREASING GRID SIZE FOR PLACEMENT OF CATEGORY 2 IMPACTED MATERIAL

The attached figures illustrate the proposed changes to the grid sizes for placement of Category 2 material, from the bottom of the cell (200 ft by 200 ft) to 30 ft above the bottom of the cell (80 ft by 180 ft). The figures also show that the bottom width of the exterior soil berms on the east and west slopes will be approximately 30 ft. This ensures that the Category 2 material is contained by a Category 1 soil berm and thereby minimize the potential for lateral migration of leachate (especially, minimize seepage through the exterior slopes).

The placement of additional lift(s) of Category 1 soil material, in addition to the 3-ft thick select impacted material layer in the final cover system, is also considered to be added protection to the final cover system and an improvement to the OSDF long- term performance

All other placement and compaction procedures described in Section 8.3 of the IMP Plan, including the required minimum 2 ft thickness of the intervening horizon of Category 1 material, remain unchanged.

This clarification to Category 2 material placement will assure maintenance or improvement to the long-term performance of the OSDF because of the following reasons:

(i) The primary objective of minimizing the potential for differential settlement will be maintained since Category 1 material will be placed and mixed with the Category 2 material to fill the voids, and the Category 2 material grid will be compacted and proofrolled as required by the IMP Plan.

(ii) The secondary objective of minimizing the potential for significant lateral migration of leachate will be achieved by constructing the exterior soil berms.

(iii) The bottom width of the exterior soil berms is also considered to be added protection to the OSDF final cover system which is believed to provide an improvement to the OSDF long-term performance.

MEMORANDUM

TO: J.D. Chiou, Ph.D., P.E. and Uday Kumthekar, P.E.
Soil Disposal Facility Project
Fluor Fernald, Inc.

FROM: K. Badu-Tweneboah, Ph.D., P.E. and J.F. Beech, Ph.D., P.E.
GeoSyntec Consultants

DATE: 23 May, 2003

SUBJECT: Evaluation of the Changes and Clarifications to the Impacted Material Placement Plan On the Long-Term Performance of the On-Site Disposal Facility
Fernald Environmental Management Project (FEMP)

Introduction

GeoSyntec Consultants (GeoSyntec) has prepared this memorandum to summarize an evaluation of the individual and combined impact of the approved design changes (DCNs) and clarifications (RCIs), and proposed RCI to the Impacted Material Placement (IMP) Plan on the long-term performance of the on-site disposal facility (OSDF) at the FEMP site. This memorandum specifically addresses the significant changes and clarifications to the IMP Plan (Document No. 20100-PL-007), Revision 0, dated January 19, 1998, which was approved by the Regulatory Agencies (i.e., USEPA and OEPA) as part of the overall OSDF design package. The purpose of this memorandum is to evaluate the impact of each change and clarification, as well as the combined effect of the changes and clarifications on the: (i) original design intent; (ii) added protection and/or improvement of the systems; and (iii) maintenance of the long-term performance of the OSDF.

GQ1341-03.1/IMPPLAN.DOC

Approach for Review of DCNs and RCIs

DCNs and RCIs to the OSDF documents, including the specifications, construction drawings and the IMP Plan, are processed and approved according to the procedures described in FEMP Document No. ED-12-5002 titled "Engineering Design Change Process". During the review and approval process of each design change or clarification to the IMP Plan, GeoSyntec (the Design Organization) conducts the necessary review and technical evaluation to assure that the proposed change or clarification, and combined effect, is consistent with the original design intent, will provide protection, and that it would maintain or improve the overall long-term performance of the OSDF.

A copy of the Revision Summary from the current IMP Plan (Revision 3PCN1, dated October 2001) is attached for reference and also to summarize the changes made to the original IMP Plan (Revision 0, dated 1/19/1998). A summary of the significant changes to the IMP Plan is as follows:

- Clarification on the definition of Category 4 material. RCI No. 20102-059, dated 07/31/00 clarified the definition of "very compressible" as applied to Category 4 material and replaced it with "prone to decomposition", and thereby allowed the re-classification of materials such as PPE, insulation, rolls of fencing, carpet, ceiling tile, built-up roofing, rubber hose, tarping, plastic sheeting and the like as Category 2 impacted materials. This RCI was approved by the Regulatory Agency on November 13, 2000, and incorporated in the IMP Plan via page changes (1PCN1), dated 12/19/00.

- Addition of placement procedure for lime sludge with the proper consistency. RCI No. 20102-068R, dated 6/20/00, provided a technical justification for placing lime sludge and sludges mixed with soil with Category 2 debris in Category 2 grids. This RCI was approved by the Regulatory Agency on December 7, 2000, and incorporated in the IMP Plan via page changes (2PCN1), dated 6/01.

- Addition of alternate placement requirements for Category 3 materials (transite panels) to Section 8.4 of the IMP Plan. This change was based on a technical evaluation conducted by GeoSyntec in September 2001, which was approved by the Regulatory Agencies, and subsequently implemented as page changes to the IMP Plan (3PCN1) in October 2001.

- Use of a 2-ft minimum intervening layer thickness between lifts of Category 2 and 3 materials. This change was also based on a technical evaluation conducted by GeoSyntec, and processed through RCI No. 20104-001R, dated December 19, 2001. This RCI was subsequently approved by the Regulatory Agencies in January 2002.

- Increasing the Grid Size for Category 2 Impacted Material Placement. This proposed RCI is

addressed in the attached RCI No. 20104-007R, dated May 19, 2003. GeoSyntec has reviewed this RCI, and a technical evaluation on its individual and combined impact on the original design intent, protection of the overall system, and long-term performance of the OSDF is addressed in the body of the RCI, and summarized in this memorandum.

Evaluation of Changes and Clarifications

The design of the OSDF at the Fernald site includes impacted soil materials: (i) between the cover system and the upper most debris layer, and (ii) intervening layers between any two debris layers. The main purpose of these layers is to minimize potential settlement and resulting negative impacts to the cover system caused by future void development in any underlying debris layers. This purpose is one of the general design criteria used for developing the IMP Plan for the OSDF, which is as follows (Section 2.4, page 2-5):

> '... *Materials should be placed in a manner that results in a disposal pile with relatively homogeneous large-scale mechanical properties (i.e., compressibility and shear strength), to the extent possible; homogeneity should be achieved by distributing impacted materials throughout the OSDF to avoid large pockets or distinct concentrations of any type of impacted materials in a particular area; and the objective of achieving a homogeneous disposal pile is to minimize the potential for differential settlement...* ".

GeoSyntec reviewed and evaluated each approved change and clarification, and the impact of all the changes and clarifications, to the IMP Plan to assure that the above design criterion is always met. The assurance also confirmed that the original design intent was maintained; that the protection of the overall system was intact; and the long-term performance of the OSDF was maintained or improved. Additional technical evaluation for RCI No. 20104-007R, which is being submitted as part of this memorandum is provided below.

Proposed RCI to Increase Grid Size for Category 2 Material Placement

RCI No. 20104-007R proposes to increase the grid size for placement of Category 2 impacted material. As indicated in the RCI, the Category 2 material will still be mixed with soil to fill voids as required in the original design, thereby meeting the design criterion of homogeneity in the OSDF. The proposed clarification is also consistent with the other objectives of the placement procedures in the IMP Plan (page 2-4) that "*...Impacted material placement procedures should take into account:*

- *the rate and time at which impacted material will be available for placement in the cell;*
- *the types of impacted material available for disposal (i.e., soil, fly ash, lime sludge, solid waste, or building demolition debris);*
- *the potential for bulking/shrinkage of impacted material during placement;*
- *the availability of temporary stockpile capacity;*
- *the extent to which the disposal cell is constructed and available to receive impacted material...*"

Finally, the proposed clarification also includes the approximately 30-ft thick (bottom width) exterior soil berm on the east and west slopes, which was approved under RCI No. 20104-001R by the Regulatory Agencies. The bottom width ensures that Category 2 debris is

contained by Category 1 soil, and thereby minimizes the potential for lateral migration of leachate.

Therefore, the proposed clarification to the grid size meets the original design intent; is protective of the system; and will improve the long-term performance of the OSDF.

Closure

GeoSyntec believes that each, and collectively, approved changes and clarifications to the IMP Plan, including the proposed clarification to the grid-size for Category 2 material, is consistent with the original design intent from the approved Legacy Design (i.e., Final Design Package). Each change has been reviewed and approved to assure protection of the overall system, and maintenance or improvement to the long-term performance of the OSDF. The combined changes or clarifications have also been reviewed to confirm that there is maintenance, and added protection or improvement to the overall long-term performance of the OSDF.

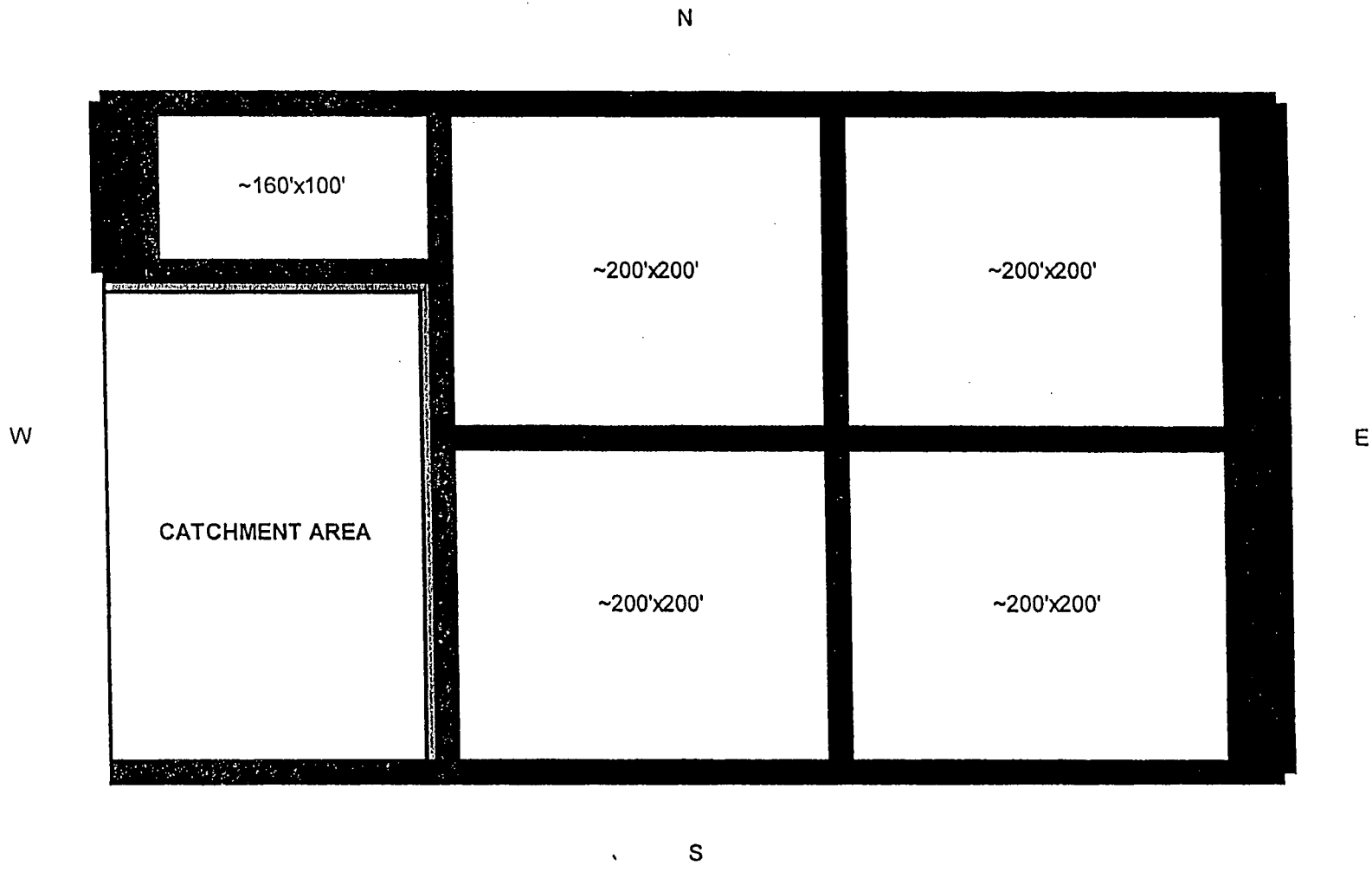
* * * * *

Attachment

Copies:
Charles Van Arsdale, P.E. (Fluor Fernald, Inc.)
David K. Phillips, P.E. (GeoSyntec)

GQ1341-03.1/IMPPLAN.DOC

RCI - 20104-007R

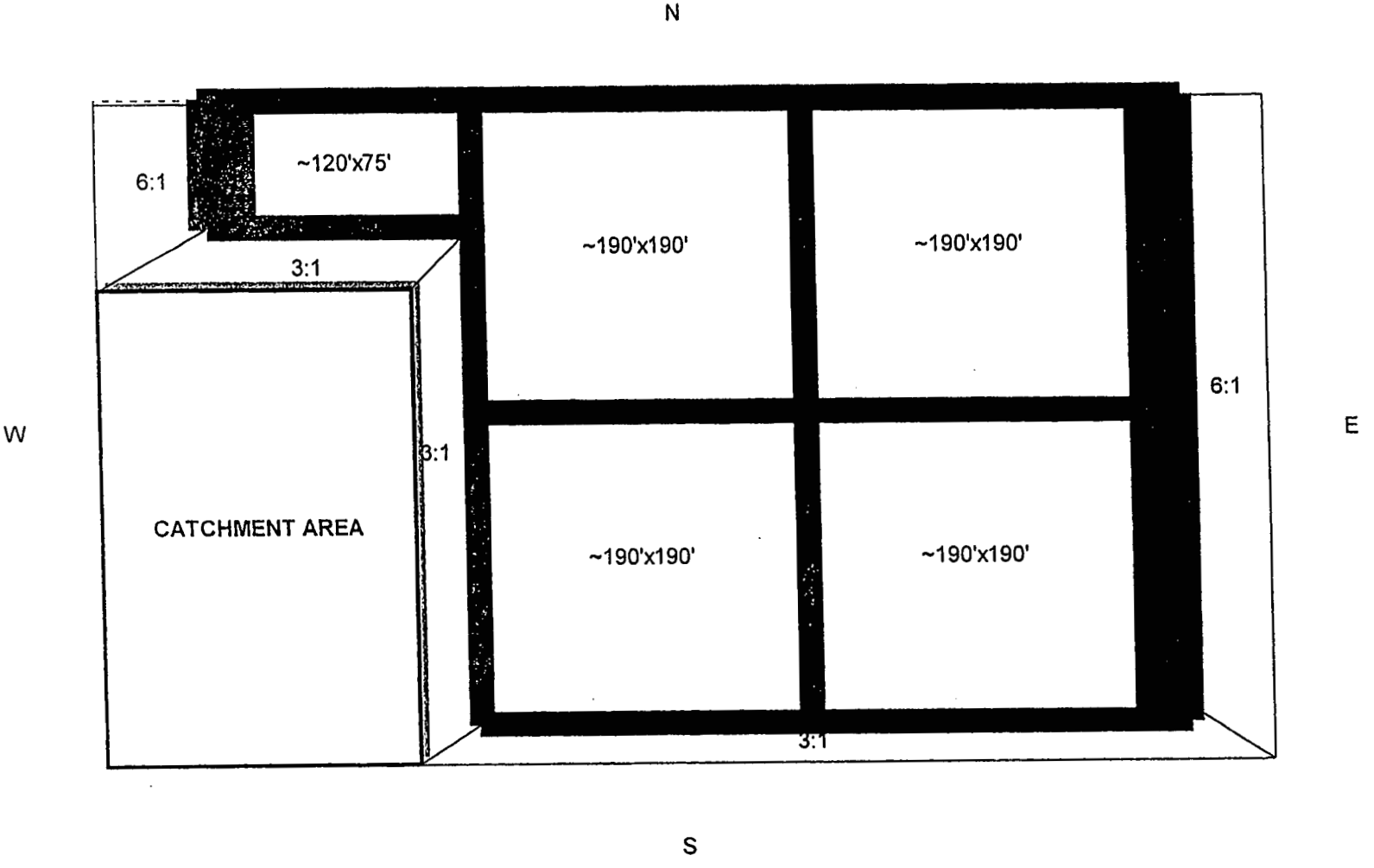


PROPOSED CONFIGURATION OF DEBRIS GRIDS AT THE BOTTOM OF A CELL

RCI - 20104-007R
9
5371

000380

RCI-20104-007



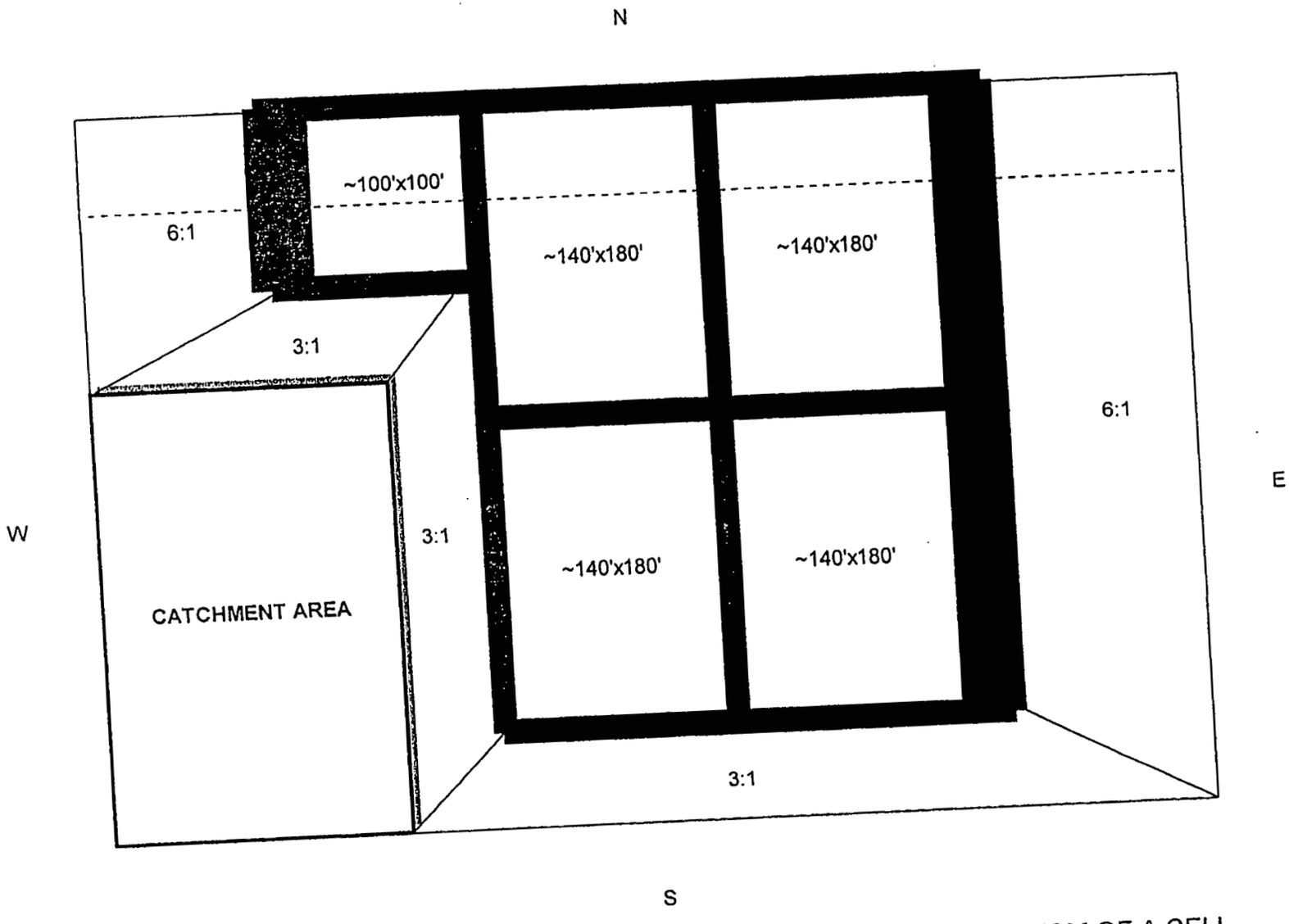
PROPOSED CONFIGURATION OF DEBRIS GRIDS AT 10' ABOVE THE BOTTOM OF A CELL

RCI-20104-007R
10

5371

000381

RCI - 20104-0

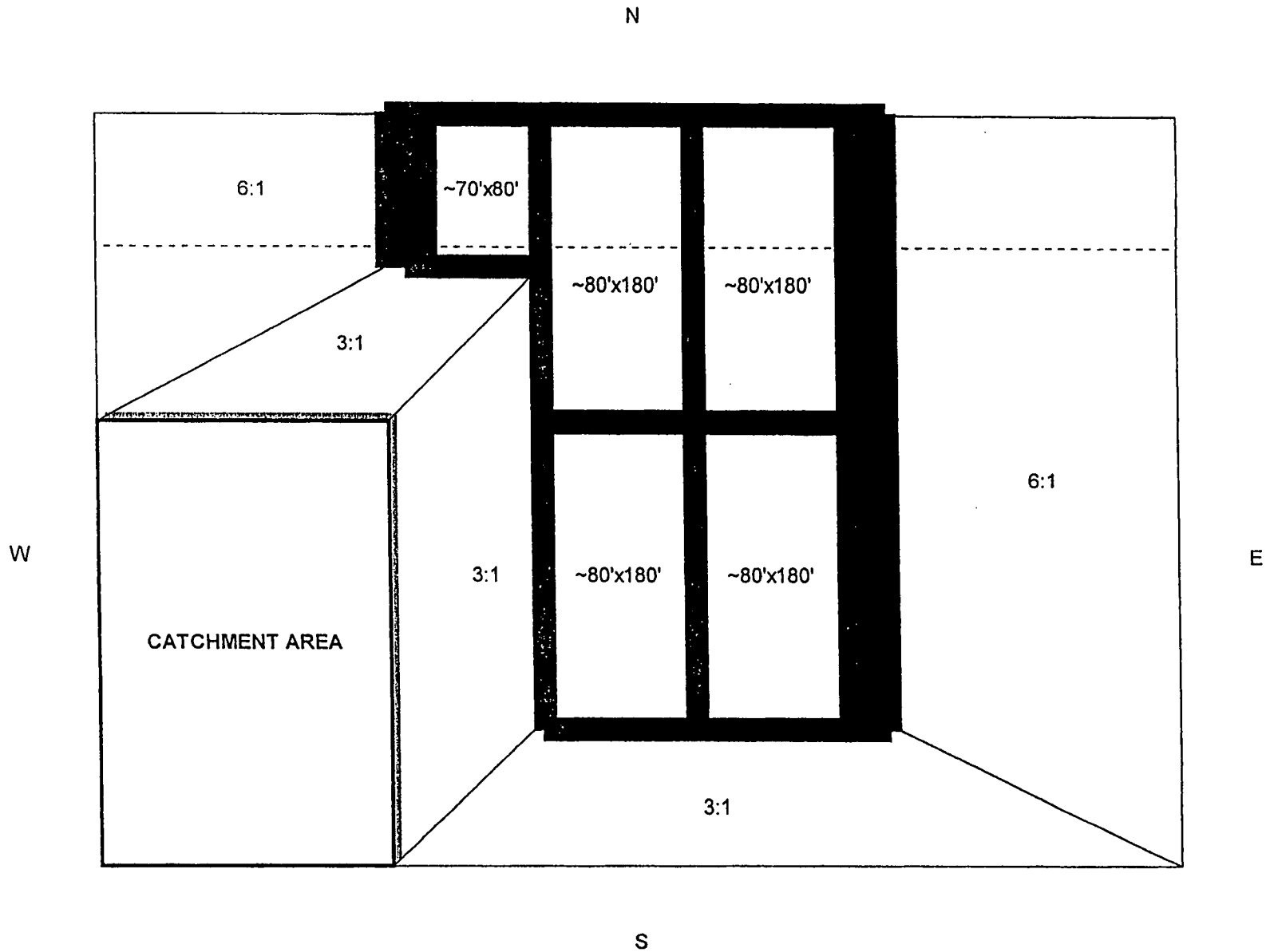


PROPOSED CONFIGURATION OF DEBRIS GRIDS AT 20' ABOVE THE BOTTOM OF A CELL

RCI-20104-007R
11
5371

000382

RCI-20104 7R



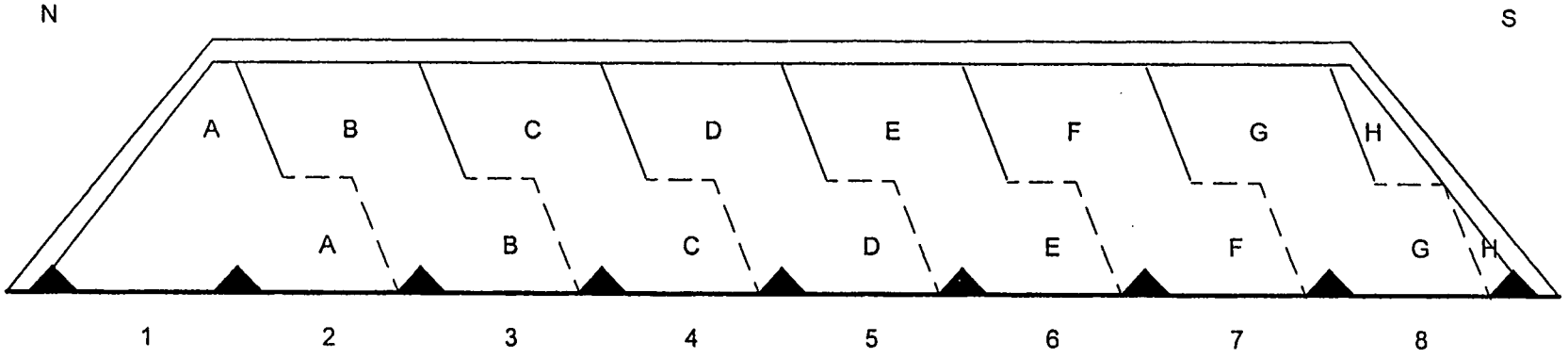
PROPOSED CONFIGURATION OF DEBRIS GRIDS AT 30' ABOVE THE BOTTOM OF A CELL

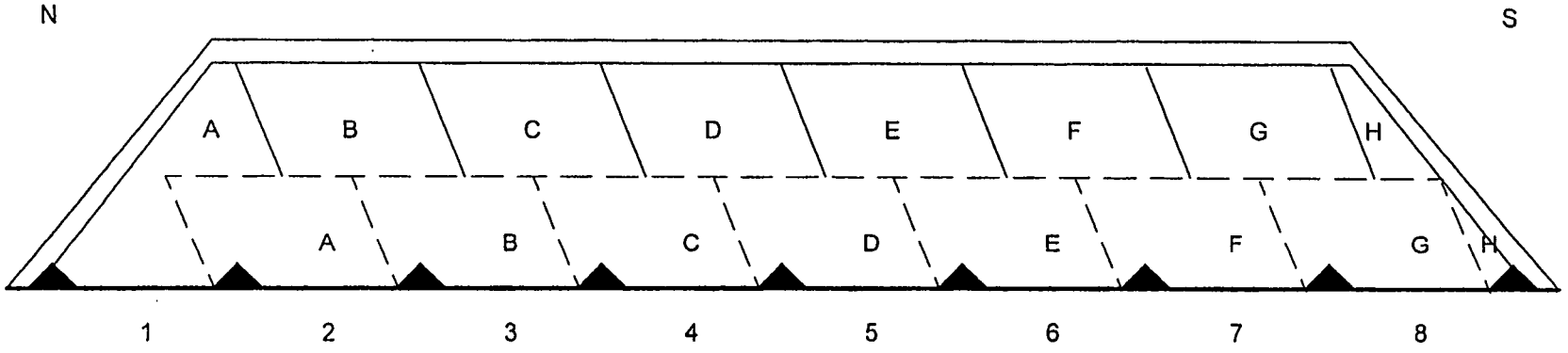
RCI-20104-007R
12

5371

000383

RCI-20104-007R





RCI 20104-007R

13

5371

000384

APPENDIX T

DESIGN CHANGE NOTICES (DCNs)

5371

State of Ohio Environmental Protection Agency

Southwest

East Fifth Street
Dayton, Ohio 45402-2911
TELE: (937) 285-6:

Post-it® Fax Note 7671	Date	# of pages ▶
To JDCHiou	From OHIOEPA	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # X5131	Fax #	

MEMO

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: April 16, 2003
RE: OSDF Phase IV DCN 20104-011

This DCN changes the Cell 2 cap construction drawings to reflect lessons learned during the construction of the Cell 1 cap. Changes are made in the location for which coir matting is the only approved erosion mat. Details showing the tie-in between the compacted clay cap and the geomembrane cap of Cells 1 and 2 were also added along with changes to the temporary termination of Cell 2 Changes to the drawings were provided.

The Ohio EPA approves these changes.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4caplessons wpd

5371

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.: FSC-653	(5) Pg 1 Of 9	(6) DATE March 27, 2003
(3) S/C TITLE: On-Site Disposal Facility (Phase IV) Construction			(11) RCI NO.:
(4) RESPONSIBLE DISCIPLINE: E [ ] M [ ] C [x] OTHER [ ]	(4A) RCI/DCN TITLE: Changes to Cell 2 Final Cover Construction Drawings		(11) DCN NO.: 20104-011

(7) DOCUMENTS AFFECTED	(7) DOCUMENT NOS.	(7) REV.	(8) OTHER
Phase IV Construction Drawings: Final Cover System Details	90X-6000-G-00358	0	Sheet G-30
Phase IV Construction Drawings: Contouring Layer Grading Plan	90X-6000-G-00354	0	Sheet G-26
Phase IV Construction Drawings: Compacted Clay Cp Grading Plan	90X-6000-G-00355	0	Sheet G-27
Phase IV Construction Drawings: Final Cover system Grading Plan	90X-6000-G-00356	0	Sheet G-28

(9) [ ] RCI-INQUIRY [ ] USQD SCREENING BY PROJECT ENGINEER (9) [x] DCN-JUSTIFICATION, EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

[ ] REQUIRED [ ] NOT REQUIRED

Justification: Lessons learned during the Phase III – Cell 1 final cover construction project, including agreements made at the 11 October 2001 meeting with Ohio EPA and DOE, have to be incorporated for Cell 2 final cover construction.

xisting Condition: The Phase IV Construction Drawings and related documents, including Cell 2 final cover system, were prepared prior to ompletion of the Cell 1 final cover system construction; therefore lessons learned and DCNs that were issued were not incorporated into the Cell 2 final cover system CFC drawings and related documents.

Proposed Change: See the following pages for the required changes.

(10) REQUESTOR:	COMPANY:	DATE:	(12) CE / PE	DATE:
Kwasi Badu-Tweneboah	GeoSyntec	March 27, 2002	Charles C. Van Arsdale	3-31-03

(13) RESPONSE: FOR RCI, IS A DCN REQ'D? [ ] NO [ ] YES (14) FOR DCN: [x] APPROVED [ ] APPROVED AS NOTED [ ] DISAPPROVED

#011

RCI - DCN ACCEPTANCE

(15) DESIGN ORGANIZATION APPROVAL/DISAPPROVAL DATE: 3/31/03 Kwasi Badu-Tweneboah, GeoSyntec [ ] FIT [ ] FORM [X] FUNCTION	(20) CHARGE NO. FOR CADD SERVICES TO INCORPORATE:
(16) FDF PE ACCEPTANCE & VERIFICATION THAT ALL REQUIRED REVIEWS ARE COMPLETE: (DCN ONLY) DATE: 4/1/03 PERFORMANCE GRADE: (17) Charles C. Van Arsdale	
(18) CONSTRUCTION CONCURRENCE DATE: 4/1/03 Bill Zebuck PURCHASE REQUISITION REQUIRED: [ ] YES [X] NO (19)	(21) FIELD WORK COMPLETED: (SIGNOFF BY CE OR PE) DATE:

ORIGINAL

FS-F-4259
REV. 5: 10/01/99

A. The following changes and additions have been made to Drawing No. 90X-6000-G-00358 - Final Cover System Details (Sheet No. G-30):

Changes to Detail 64 – Final Cover System and Liner System Tie-in

1. Revise Note 9 to include specific OSDF cell final cover locations for which Coir Mat is specified as the only erosion mat to be used. Revisions are shown on the attached revised drawing for Detail 64. Add the following to Note 9: "Erosion mat with a 100% coir yarn content shall be used at two locations, to limits indicated on Detail, as follows: (i) at the 10H:1V to 6H:1V final cover system slope transition; and (ii) at the toe of the east and west slopes. Two 6-foot widths of coir mat shall be used at each location with: (i) a 1.5 foot overlap on each side of the 10H:1V to 6H:1V transition; and (ii) a 11 feet minimum width along the toe of the slopes."

Changes to Detail 65 – Final Cover System Temporary Termination and Construction Access Road

This detail has been revised to include the following changes and notes:

1. Add Note 17 to include the use of crusting agent to stabilize the surface of the protective layer.

2. Reference: Note 9 on erosion mat as described above.

3. Add Note 18 for the extension of the geomembrane cap over the 6H:1V sloping face to provide additional protection of the compacted clay cap.

4. Add Note 19 for construction of Zone A of the protective layer after completion of the compacted clay cap.

5. Add Note 20 for construction of Zone B of the protective layer after completion of the other components of the final cover system.

6. Reference Note 16 to toe of final cover system temporary termination for the installation of silt fence.

Changes to Detail 66 – Final Cover System

1. Revise Note 9 to include specific OSDF cell final cover locations for which Coir Mat is specified as the only erosion mat to be used. Revisions are shown on the attached revised drawing for Detail 64. Additions to Note 9 are indicated above.

Add Detail 67 – Final Cover System Tie-In

1. Add Detail 67 to show tie-in of the Cell 2 final cover system to the existing Cell 1 final cover system, especially the tie-in of the compacted clay cap and the geomembrane cap.

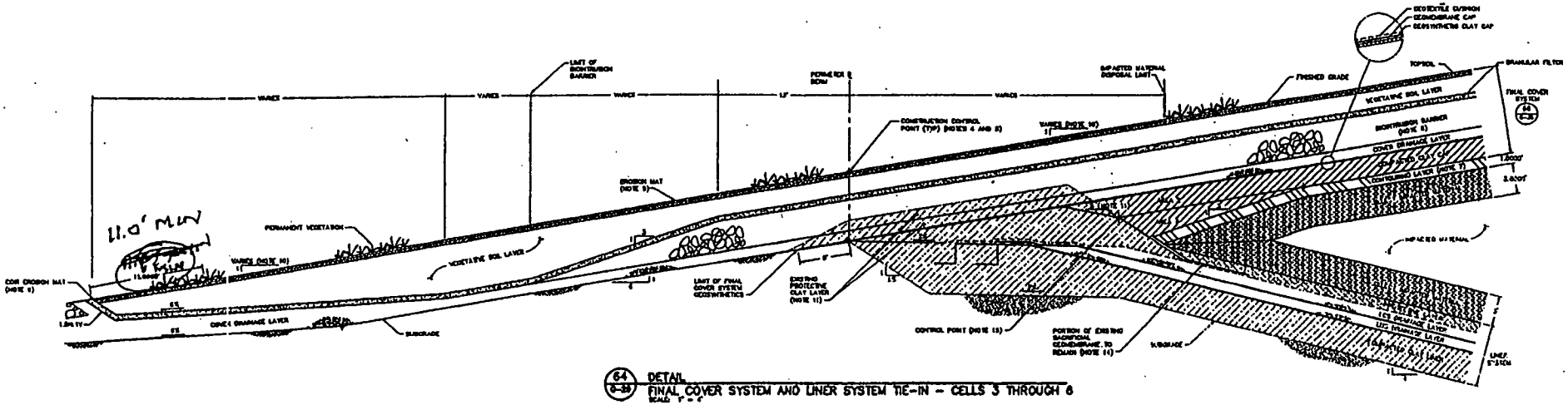
2. Add Note 22 for the removal of any damaged portions of the existing geomembrane cap prior to welding to the new geomembrane cap. Geomembrane Installer shall recognize that the existing geomembrane cap in Cell 1 final cover system is 60-mil thick textured HDPE whereas the proposed geomembrane cap for the Cell 2 final cover system is 80-mil thick textured HDPE. Installer shall submit a plan to the Construction Manager for welding the two geomembranes with different thickness together.

3. Add Note 23 for the tie-in of the compacted clay cap in Cell 2 final cover system to the existing compacted clay cap in the Cell 1 final cover system.

B. The following changes shall be made to Drawing Nos. 90X-6000-G-00354, 00355, and 00356:

1. The changes to the details of Drawing No. 90X--6000-G-00358, especially Detail 65, would affect Drawing Nos. 90X-6000-G-00354 (Contouring Layer Grading Plan – Cell 2), 90X-6000-G-00355 (Compacted Clay Cap Grading Plan – Cell 2), and 90X-6000-G-00356 (Final Cover System Grading Plan – Cell 2). The affected changes, including control points for the temporary termination, are shown on revised Sheet Nos. G-26, G-27, and G-28, respectively.

DCN NO. 20104-11
Page 4 of 9



64 DETAIL
8-38 FINAL COVER SYSTEM AND LINER SYSTEM TIE-IN – CELLS 3 THROUGH 6
SCALE: 1" = 5'

; AND (ii) AT THE TOE OF THE EAST AND WEST SLOPES.

AS FOLLOWS: (i)

NOTES:

9. EROSION MAT SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02270. EROSION MAT WITH A 100% COIR YARN CONTENT SHALL BE USED AT TWO LOCATIONS, TO LIMITS INDICATED ON DETAIL, ~~AND~~ AT THE 10H:1V TO 6H:1V FINAL COVER SYSTEM SLOPE TRANSITION; TWO 6-FOOT WIDTHS OF COIR EROSION MAT SHALL BE USED AT EACH LOCATION WITH A 1.5' OVERLAP ON EACH SIDE OF THE 10H:1V TO 6H:1V TRANSITION; AND (ii) a 11-FT MINIMUM WIDTH PLANK AT THE TOE OF SLOPE

~~13. GEOSYNTHETICS FOR THE COVER SYSTEM WILL BE SUPPLIED BY FLUOR FERNALD, INC. AS SPECIFIED IN PART 8 OF THE CONTRACT DOCUMENTS.~~

DRAFT

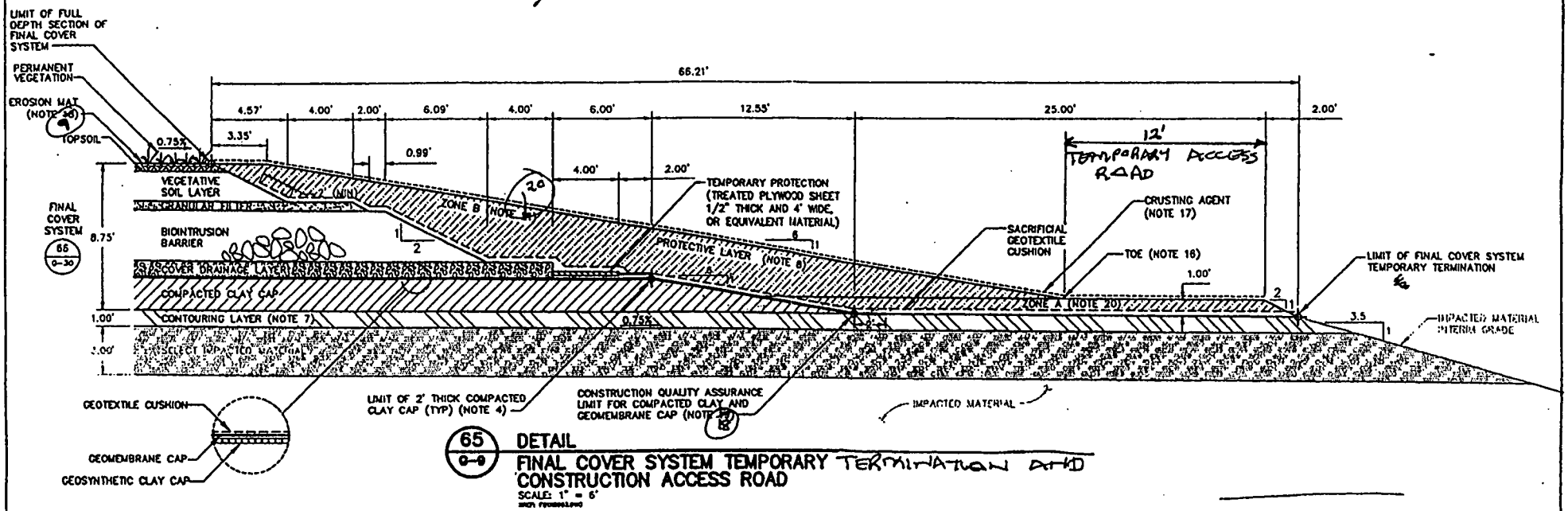
GEOSYNTEC CONSULTANTS
ATLANTA, GA

PROJECT NO.	GQ1342-5	FIGURE NO.	–
DOCUMENT NO.	–	FILE NO.	DCN-010

000390

5371

DCN NO. 20104-
Page 5 of 9



65 / 0-9 DETAIL
FINAL COVER SYSTEM TEMPORARY TERMINATION AND CONSTRUCTION ACCESS ROAD
SCALE: 1" = 6'

NOTES:

16. INSTALL SILT FENCE 10 FEET (MEASURED HORIZONTALLY) UPSLOPE FROM TOE OF 6H:1V SLOPE AT FINAL COVER SYSTEM TEMPORARY TERMINATION. SILT FENCE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02270.

17. CRUSTING AGENT SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02270.

9 ~~18.~~ ~~EROSION MAT SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02270. EROSION MAT WITH A 100% COIR YARN CONTENT SHALL BE USED AT TWO LOCATIONS, TO LIMITS INDICATED ON DETAIL AND AT THE 10H:1V TO 6H:1V FINAL COVER SYSTEM SLOPE TRANSITION. TWO 6-FOOT WIDTHS OF COIR EROSION MAT SHALL BE USED AT EACH LOCATION WITH A 1.5' OVERLAP ON EACH SIDE OF THE 10H:1V TO 6H:1V TRANSITION.~~

18 ~~19.~~ EXTEND GEOMEMBRANE CAP ONLY BEYOND TEMPORARY PROTECTION.

19 ~~20.~~ ZONE A PROTECTIVE LAYER SOIL SHALL BE PLACED AFTER INSTALLATION OF COMPACTED CLAY CAP.

20 ~~21.~~ ZONE B PROTECTIVE LAYER SOIL SHALL BE PLACED AFTER COMPLETION OF UNDERLYING COMPONENTS OF FINAL COVER SYSTEM TEMPORARY TERMINATION SHOWN.

~~KWAGI, (THE MODIFICATIONS ILLUSTRATED IN THIS DETAIL WILL INFLUENCE PHASE IV CONSTRUCTION DRAWINGS C-26, C-27, AND C-28. REVISIONS TO THESE SHEETS, INCLUDING CONTROL POINTS, WILL BE PROVIDED ON FUTURE REVISIONS TO THOSE SHEETS.)~~

DRAFT

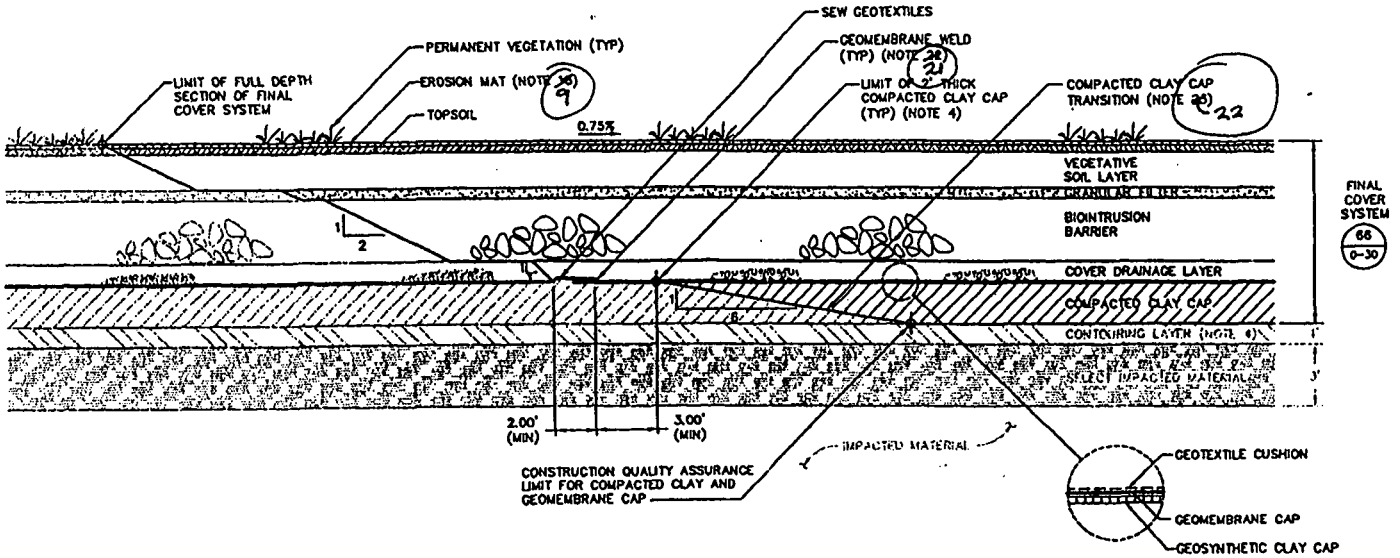
GEOSYNTEC CONSULTANTS
ATLANTA, GA

PROJECT NO.	GQ1342-5	FIGURE NO.	–
DOCUMENT NO.	–	FILE NO.	DCN-001

000391

5371

DCH No. 20104-011
Page 6 of 9



67 / - DETAIL
FINAL COVER SYSTEM TIE-IN
SCALE: 1" = 6"

NOTES:

9 ~~26~~. EROSION MAT SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02270. EROSION MAT WITH A 100% COIR YARN CONTENT SHALL BE USED AT TWO LOCATIONS, TO LIMITS INDICATED ON DETAIL AND AT THE 10H:1V TO 6H:1V FINAL COVER SYSTEM SLOPE TRANSITION. TWO 5-FOOT WIDTHS OF COIR EROSION MAT SHALL BE USED AT EACH LOCATION WITH A 1.5' OVERLAP ON EACH SIDE OF THE 10H:1V TO 6H:1V TRANSITION.

21 ~~22~~. CONTRACTOR SHALL REMOVE DAMAGED PORTION OF EXISTING GEOMEMBRANE CAP BY CUTTING PRIOR TO INSTALLATION OF NEW GEOMEMBRANE CAP.

22 ~~25~~. TRANSITION FROM FULL-DEPTH SECTION OF COMPACTED CLAY CAP TO ADJACENT SECTION OF COMPACTED CLAY CAP SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 02225.

DRAFT

GEOSYNTEC CONSULTANTS
ATLANTA, GA

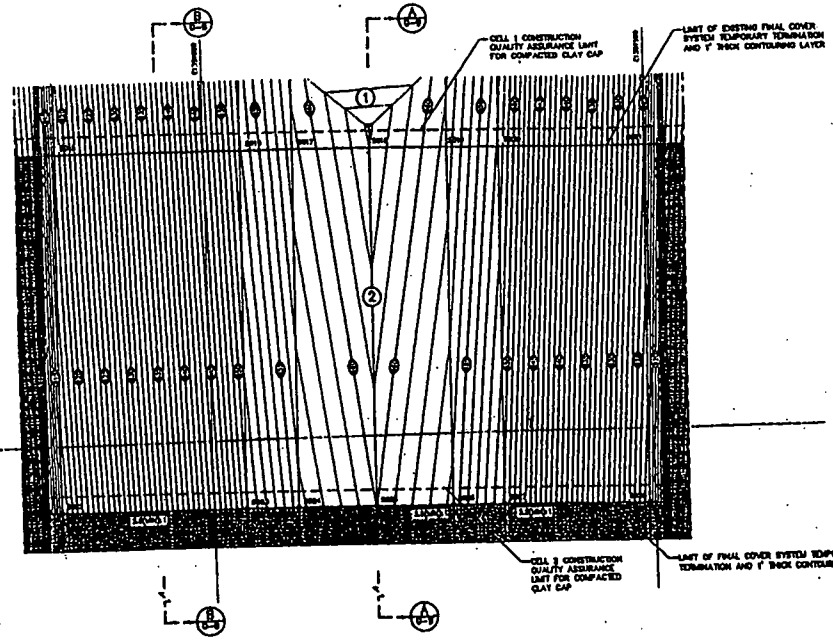
PROJECT NO.	GQ1342-5	FIGURE NO.	-
DOCUMENT NO.	-	FILE NO.	DCN-003.DWG

11a 12/20/2001 17:30:57 DCN-003.dwg

000392

5371

DCH No. 20104-0
Page 7 of 9



LEGEND

- EXISTING CONTOURING LAYER ELEVATION (FEET) (NOTE 2)
- PROTECTIVE CLAY LAYER ELEVATION (FEET) (NOTE 3)
- CONTOURING LAYER ELEVATION (FEET) (NOTE 2)
- PERIMETER BERM BASELINE
- CONSTRUCTION CONTROL POINT
- CELL DESIGNATION
- DRAINAGE FLOW DIRECTION (NOTE 4)
- CONTOURING LAYER AND INFACTED MATERIAL SYSTEM GRADE (NOTE 2)
- EXISTING PROTECTIVE CLAY LAYER GRADES

CONTOURING LAYER CONSTRUCTION CONTROL POINTS

POINT NO.	NORTHING	EASTING	ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]

NOTES:

1. PURPOSE OF THIS DRAWING IS TO PROVIDE CONSTRUCTION CONTROL POINTS FOR CONTOURING LAYER AND LIMIT OF FINAL COVER SYSTEM TEMPORARY TERMINATION FOR CELL 2.
2. PROTECTIVE CLAY LAYER AND CONTOURING LAYER ELEVATIONS CORRESPOND TO TOP OF PROTECTIVE CLAY LAYER AND CONTOURING LAYER, RESPECTIVELY.
3. CONSTRUCT INTERIM GRADES TO MEET EXISTING INFACTED MATERIAL GRADES.
4. RUNOFF FROM NON-INFACTED CONTOURING LAYER SHALL BE DIVERTED TO INFACTED RUNOFF CATCHMENT AREA UNTIL COMPLETION OF SECOND LIFT OF COMPACTED CLAY CAP IS COMPLETED. DRAINAGE FLOW DIRECTION INDICATES LOCATION OF TEMPORARY DRAINAGE CHANNEL. THIS SHALL BE USED TO DIVERT RUNOFF FROM CONTOURING LAYER TO INFACTED RUNOFF CATCHMENT AREA. CONTRACTOR SHALL CONTROL AND CONTAIN WATER GENERATED DURING CONSTRUCTION AND PLACE OF RUNOFF IN ACCORDANCE WITH SPECIFICATION SECTION 02276.

REV. NO.	DATE	DESCRIPTION	DR	CK	PM	A	A
0	10/29/93	ISSUED FOR CONSTRUCTION, 10 PLANS REVISED, 10 NEW PLANS ADDED	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	11/15/93	ISSUED FOR CONSTRUCTION, REVISED, 10 PLANS REVISED, 1 PLAN ADDED	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	-	NOT ISSUED	-	-	-	-	-
3	-	NOT ISSUED	-	-	-	-	-
4	-	NOT ISSUED	-	-	-	-	-
5	10/27/94	ISSUED FOR CONSTRUCTION, REVISED, 10 PLANS REVISED, 1 PLAN ADDED	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SCALE IN FEET

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

FLUOR FERNALD, INC.

ON-SITE DISPOSAL FACILITY - PHASE IV

CONTOURING LAYER GRADING PLAN - CELL 2

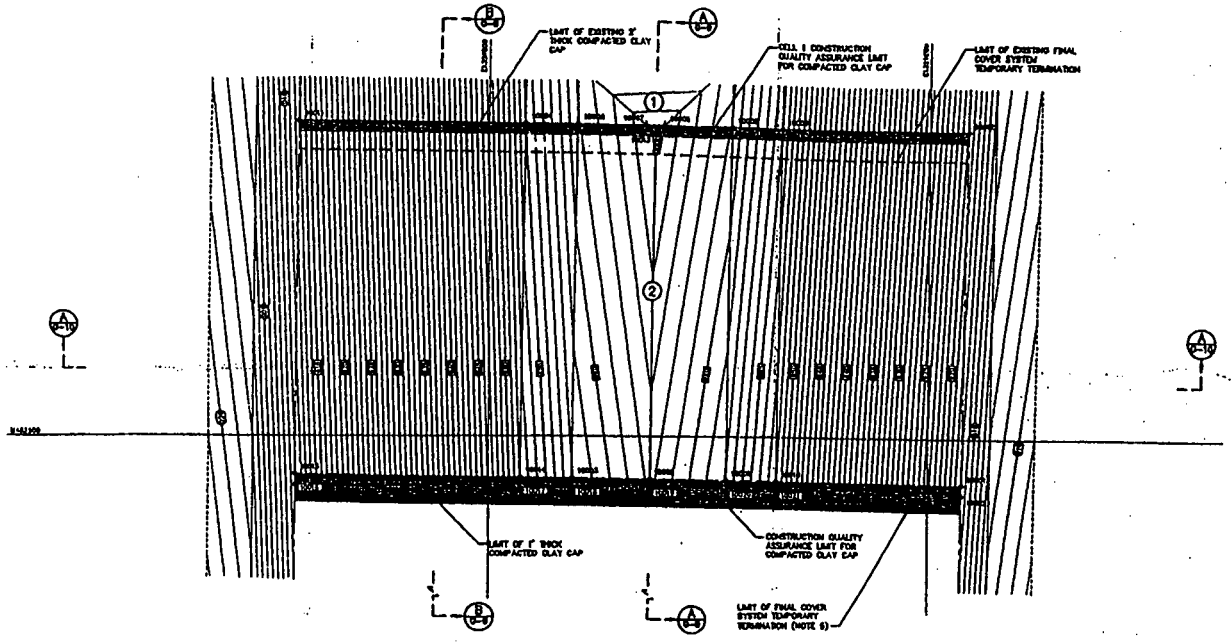
ECDC CONTROLLED
COPY NO. C011

CERTIFIED-FOR-CONSTRUCTION

000393

5371

DCH No. 201 -011
Page 8 of 9



LEGEND

- 11 — SUBGRADE LAYER ELEVATION (FEET)
- 12.50 — COMPACTED CLAY CAP LAYER ELEVATION (FEET)
- FORMER SOIL BASELINE
- CONSTRUCTION CONTROL POINT
- 2 — CELL DESIGNATION
- PORTION OF FINAL COVER SYSTEM TEMPORARY TERMINATION AREA (NOTE 3)
- COMPACTED CLAY CAP TRANSITION AREA (NOTE 4)

COMPACTED CLAY CAP LAYER CONSTRUCTION CONTROL POINTS

POINT NO.	NORTHING	EASTING	ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]

NOTES:

1. PURPOSE OF THIS DRAWING IS TO PRESENT CONSTRUCTION CONTROL POINTS FOR COMPACTED CLAY CAP FOR CELL 2.
2. COMPACTED CLAY CAP ELEVATIONS CORRESPOND TO TOP OF COMPACTED CLAY CAP.
3. SHADED AREA REPRESENTS A PORTION OF TEMPORARY TERMINATION OF FINAL COVER SYSTEM. TEMPORARY TERMINATION SHALL BE CONSTRUCTED ACCORDING TO DETAIL SHOWN ON DRAWING D-20.
4. CONTRACT TRANSITION FROM EXISTING FULL DEPTH SECTION OF COMPACTED CLAY CAP TO ADJACENT SECTION OF COMPACTED CLAY CAP IN ACCORDANCE WITH SPECIFICATION SECTION 02233.
5. CONSTRUCTION CONTROL POINTS FOR LIMIT OF FINAL COVER SYSTEM TEMPORARY TERMINATION FOR CELL 2 ARE PROVIDED ON DRAWING D-20.

REV. NO.	DATE	DESCRIPTION	DR	CK	PE	S	PE
3	11/18/98	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	8/13/98	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	-	[illegible]	-	-	-	-	-
0	-	[illegible]	-	-	-	-	-
0	10/97	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SCALE IN FEET

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

FLUOR FERNALD, INC.

ON-SITE DISPOSAL FACILITY - PHASE IV

COMPACTED CLAY CAP GRADING PLAN - CELL 2

ECDC CONTROLLED
COPY NO. C 011

CERTIFIED-FOR-CONSTRUCTION

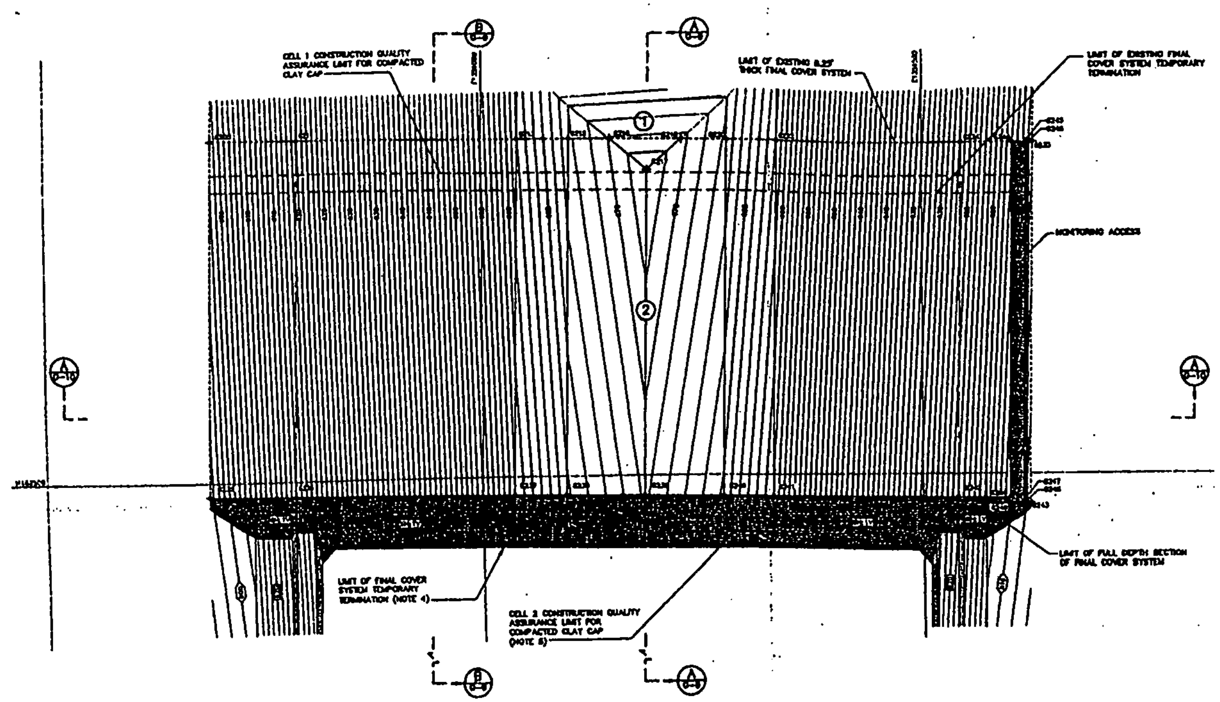
0-27

0000394

5371

5371

DCH NO. 20104-11
Page 9 of 9



LEGEND

- SUBGRADE LAYER ELEVATION (FEET)
- PROTECTIVE CLAY ELEVATION (FEET) (NOTE 2)
- FINISHED GRADE ELEVATION (FEET) (NOTE 2)
- PERIMETER BERM BASELINE
- APPROXIMATE LIMIT OF FINAL COVER SYSTEM CONSTRUCTION
- CONSTRUCTION CONTROL POINT
- CELL DESIGNATION
- FINAL COVER SYSTEM TEMPORARY TERMINATION AREA (NOTES 3, 4 AND 5)

FINAL COVER SYSTEM CONSTRUCTION CONTROL POINTS

POINT NO.	NORTHING	EASTING	ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

NOTES:

1. PURPOSE OF THIS DRAWING IS TO PRESENT CONSTRUCTION CONTROL POINTS FOR FINAL COVER SYSTEM FOR CELL 2.
2. FINISHED GRADE ELEVATIONS CORRESPOND TO TOP OF TOPSOIL, RIPRAP AND [illegible] AGGREGATE BASE COMPONENTS OF FINAL COVER SYSTEM. PROTECTIVE CLAY LAYER ELEVATIONS CORRESPOND TO TOP OF PROTECTIVE CLAY LAYER.
3. SHADED AREA REPRESENTS EXTENT OF TEMPORARY TERMINATION OF FINAL COVER SYSTEM. TEMPORARY TERMINATION SHALL BE CONSTRUCTED ACCORDING TO DETAIL SHOWN ON DRAWING [illegible].
4. CONSTRUCTION CONTROL POINTS FOR LIMIT OF FINAL COVER SYSTEM TEMPORARY TERMINATION FOR ARE PROVIDED ON DRAWING [illegible].
5. CONSTRUCTION CONTROL POINTS FOR CONSTRUCTION QUALITY ASSURANCE LIMIT FOR COMPACTED CLAY CAP FOR CELL 2 ARE PROVIDED ON DRAWING 0-27.

SCALE IN FEET

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

FLUOR FERNALD, INC.

ON-SITE DISPOSAL FACILITY – PHASE IV

FINAL COVER SYSTEM GRADING PLAN – CELL 2

GeoSyntec Consultants

0-28

ECDC CONTROLLED
COPY NO. C011

CERTIFIED-FOR-CONSTRUCTION

000395

5371

Kwas

State of Ohio Envir

Southwe

East Fifth Street
Dayton, Ohio 45402-2911
TELE: (937) 2

Post-it® Fax Note 7671	Date	# of pages ▶
To JDCHiou	From OHIO EPA	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # X5131	Fax #	

MEM

FILE COPY

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: June 2, 2003
RE: OSDF Phase IV DCN 20104-012

This DCN modifies the specification for the vegetative soil layer of the OSDF cap to reflect lessons learned in Cell 1. The change allows topsoil to be used in the final lift of the vegetative layer.

The OHIO EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4veggistopsoil.wpd

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.:FSC-653	(3) Pg. 1 Of 2	(4) DATE: Apr 28, 2003
(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase IV) Construction			(6) RCI NO.:
(7) RCI/DCN TITLE: Changes to the Final Lift of Vegetative Soil Layer			(6) DCN NO.: 20104-012

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase IV Technical Specifications	20104-TS-0001	1	Part 2.01

(10) REQUESTOR: Kwasi Badu-Tweneboah 5/22/03
NAME (Print & Sign) DATE

(11) CE / PE Charles C. VanArsdale 5/23/03
NAME (Print & Sign) DATE

(12) [ ] RCI-DESCRIPTION

(13) [x] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: Based on the lessons learned during the Phase III – Cell 1 final cover construction project, including agreements made at the 11 October 2001 meeting with Ohio EPA and DOE and Phase III DCN No. 20103-035, changes to the material requirements for the final lift of the vegetative soil layer are necessary.

Existing Condition: The material for the vegetative soil layer shall be relatively free of organics, and shall conform to CL, SC, or GC according to the USCS (per ASTM D 2487). Compaction requirements for the final lift are similar to the placement and compaction requirements for topsoil (Section 02920).

Proposed Change: Revise Section 02250, Part 2.01 to allow the use of topsoil material for the final lift of vegetative soil layer. See page 2 of 2.

DESIGN ORGANIZATION RCI – DCN SUMMARY D ESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

Material meeting the requirements of topsoil (Section 02920, Part 2.01.A) may be used for the final lift of the vegetative soil layer if approved by the Construction Manager. Compaction requirements for the final lift shall be in accordance with Section 02250, Part 3.03.A.

(15) REVIEWS COMPLETED

[N/A] Configuration Management SSC Review Complete — KBT 5/27/03 — DO NAME (Print & Sign) DATE

[N/A] Impact Assessment Review Complete — Kwasi Badu-Tweneboah 5/22/03 — DO NAME (Print & Sign) DATE; Uday Kumthekar 5/23/03 — PE NAME (Print & Sign) DATE

[X] Technical Review Complete — Kwasi Badu-Tweneboah 5/22/03 — DO NAME (Print & Sign) DATE

[X] ED-12-4010 Review Complete — Uday Kumthekar 5/23/03 — PE NAME (Print & Sign) DATE

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES

IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES

Charles C. VanArsdale Bill Zebek 5/28/03
CE NAME (Print & Sign) DATE

(17) FIELD WORK COMPLETED:

#011
CE OR PE (Print & Sign) DATE:

FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

ORIGINAL

DCN NO. 20104-012
OSDF Phase IV – Cell 2 Final Cover Construction

1. **Revise Section 02250, Part 2.01 (MATERIALS) to read as follows:**

   A. Material for the vegetative soil layer shall be obtained from the OSDF cell excavation, trenching, and soil stockpiles as approved by the Construction Manager. Material for the final lift of the vegetative soil layer may be from on-site excavations and topsoil stockpiles in accordance with Section 02920 if approved by the Construction Manager. Obtain additional material for vegetative soil layer, if required, from on-site borrow area, indicated on the Construction Drawings. Borrow area management shall be in accordance with Section 13000.

   B. Material for the vegetative soil layer shall be relatively free of debris, foreign objects, large rock fragments, roots, and organics. Visible rock particles shall be a maximum dimension of 4 inches. Material shall conform to CL, SC, or GC according to the Unified Soil Classification System (per ASTM D 2487). Material for the final lift of the vegetative soil layer may be topsoil meeting the requirements of Section 02920.

2. **Revise Section 02250, Part 3.03 (COMPACTION) as follows:**

   A. Remove "first two lifts of" from the first sentence of Part 3.03.A.

State of Ohio Environmental Protection Agency

Southwest District Office

East Fifth Street
ton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

5371

MEMORANDUM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA TMO
DATE: June 24, 2003
RE. OSDF Phase IV DCN 20104-013

FILE COPY

Technical spec 02770, part 1.04 requires that the seamer have a letter of approval or a license from the gml manufacturer. The Manufacturer approved the seamer last year but has not provided the seamer an approval for this construction project. This DCN adds 02770, part 1.04.B.3 which allows the Construction Manager to waive this requirement based on the seamer's qualifications, experience and past performance.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4seamerlicense.wpd

RCI/DCN FORM

5371

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.: FSC-653	(3) Pg. 1 Of 2	(4) DATE: June 12, 2003

(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal (Phase IV) Construction

(6) RCI NO.:

(7) RCI/DCN TITLE: Alternative Requirement to letter of approval or license by geomembrane manufacturer

(6) DCN NO.: 20104-013

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase IV OSDF Technical Specifications	20104-TS-001	1	Section 02770, Part 1.04

(10) REQUESTOR: Charles C. Van Arsdale 6/12/03
NAME (Print & Sign) DATE

(11) CE / PE Charles C. Van Arsdale 6/12/03
NAME (Print & Sign) DATE

(12) [ ] RCI-DESCRIPTION

(13) [X] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: Due to the possibility of conflict of interest or business competition, a geomembrane Manufacturer may not issue a letter of approval or license to an Installer even though the Manufacturer might have approved the same Installer in previous construction projects. An alternative requirement needs to be specified to address this potential scenario in current and future construction contracts.

Existing Conditions: Technical Specification 02770, Part 1.04 requires the Installer to submit a letter of approval or license by the Manufacturer of the geomembrane for the installation of the geomembrane material, and no alternate is specified.

Requested/Proposed Change: See page 2 of 2 for proposed change.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

An alternative requirement is added to the Specification to allow the Installer to submit a letter to the Construction Manager requesting a waiver of the letter of approval or license by the Manufacturer. The Construction Manager may approve this waiver request based on the experience and past performance of the Installer on similar projects.

(15) REVIEWS COMPLETED

#011

[ ] Configuration Management SSC Review Complete
DO NAME (Print & Sign) DATE

[X] Impact Assessment Review Complete
K. BADU-TWEBEBAH 6/13/03
DO NAME (Print & Sign) DATE
UDAY KUMTHEKAR 6/13/03
PE NAME (Print & Sign) DATE

[X] Technical Review Complete
K. BADU-TWEBEBAH 6/12/03
DO NAME (Print & Sign) DATE

[X] ED-12-4010 Review Complete
UDAY KUMTHEKAR 6/13/03
PE NAME (Print & Sign) DATE

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES

IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES

Charles C. Van Arsdale 6/13/03
CE NAME (Print & Sign) DATE

(17) FIELD WORK COMPLETED:

CE OR PE (Print & Sign) DATE:

FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

000100

ALTERNATIVE REQUIREMENT OF APPROVAL OF INSTALLER BY MANUFACTURER

Add the following to Part 1.04.B.3 of Technical Specification 02770:

The Installer may submit a letter to the Construction Manager requesting waiver of the letter of approval or license by the Manufacturer. The letter should be based on the Installer's qualifications, experience, and past performance on installation of similar types of geomembranes at the Fernald site or similar projects. The Construction Manager will review the letter along with the supporting information and may approve the request based on the Installer's qualifications, experience, and past performance.

State of Ohio Environmental Protection Agency

5371

Southwest District Office

1 East Fifth Street
ayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

MEMORANDUM

FILE COPY

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: June 26, 2003
RE: OSDF Phase IV DCN 20104-015

The geomembrane cap in Cell 1 is 60 mil. An RCI changed the specification for the other caps to 80 mil. This DCN provides minimum seam properties for the tie-in between the 60 mil in the Cell 1 cap to the 80 mil in the Cell 2 cap.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4seam80-60.wpd

5371

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.:FSC-653	(3) Pg. 1 Of 2	(4) DATE: June 23, 2003 ~~Apr 28, 2003~~ KBT

(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase IV) Construction	(6) RCI NO.:
(7) RCI/DCN TITLE: HDPE Textured Geomembrane Seam Properties for the Tie-in of the Cell 1 to Cell 2 Final Cover Systems	(6) DCN NO.: 20104-015

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase IV Technical Specifications	20104-TS-0001	1	Section 02770, Table 02770-2

(10) REQUESTOR: Kwasi Badu-Tweneboah KBadu-Tweneboah 6/21/03 NAME (Print & Sign) DATE	(11) CE / PE Charles C. Van Arsdale Chl C. Van Arsdale 6/23/03 NAME (Print & Sign) DATE

(12) [ ] RCI-DESCRIPTION (13) [X] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: As a result of RCI No. 20104-001R, the thickness of geomembrane cap in the final cover system was changed from 60 mil minimum in the Cell 1 final cover system to 80 mil minimum in the Cell 2 final cover system. Therefore, minimum seam properties are required for the tie-in of the 60- mil thick geomembrane cap in Cell 1 to the 80-mil thick geomembrane cap in Cell 2.

Existing Condition: Table 02770-2 of the Phase IV Technical Specifications has the seam properties requirements for 80-mil thick geomembrane cap only.

Proposed Change: Use the attached Table 02770-2A as the required geomembrane seam properties for the 60 to 80 mil tie-in.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

Table 02770-2A is added to the Phase IV Technical Specifications to provide the required seam properties for the tie-in of the 60-mil thick HDPE geomembrane cap in the Cell 1 final cover system to the 80-mil thick geomembrane cap in the Cell 2 final cover system.

(15) REVIEWS COMPLETED

	DO NAME (Print & Sign)	DATE
[ ] Configuration Management SSC Review Complete		
[X] Impact Assessment Review Complete	K. BADU-TWENEBOAH KBadu-Tweneboah	6/23/03
	x UDAY KUMTHEKAR UKumthekar	6/23/03
[X] Technical Review Complete	K. BADU-TWENEBOAH KBadu-Tweneboah	6/23/03
[X] ED-12-4010 Review Complete	x UDAY KUMTHEKAR UKumthekar	6/23/03

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES	(17) FIELD WORK COMPLETED:
IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES	
Chl C. Van Arsdale Charles C. Van Arsdale 6/23/03 CE NAME (Print & Sign) DATE	CE OR PE (Print & Sign) DATE:

FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

5371

DCN NO. 20104-015
OSDF Phase IV – Cell 2 Final Cover Construction

1. The required HDPE textured geomembrane properties for the tie-in of the 60-mil thick HDPE geomembrane in the Cell 1 final cover system to the 80-mil thick geomembrane in the Cell 2 final cover system shall be as follows:

TABLE 02770-2 A (KBT)

Properties	Qualifiers	Units[3]	Specified Property Values	Test Method
Shear Strength[1]				
Fusion	minimum	lb/in.	113	ASTM D 6392
Extrusion	minimum	lb/in.	113	ASTM D 6392
Peel Adhesion				
FTB[2]				
Fusion	minimum	lb/in.	88	ASTM D 6392
Extrusion	minimum	lb/in.	63	ASTM D 6392

Notes:
1. Also called "Bonded Seam Strength". Value is at material yield point.
2. FTB = Film Tear Bond. (Maximum 10 percent separation.)
3. lb/in. = pounds per inch.
4. All dual track seams shall be tested in accordance with ASTM D 5820. All extrusion seams shall be tested in accordance with ASTM D 5741.

5371

State of Ohio Environmental Protection Agency

Southwes

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-

Post-it® Fax Note 7671	Date	# of pages ▶
To JD Chiou	From OHIO EPA	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # x 5131	Fax #	

MEMO

TO: J.D. Chiou, SDFP Manager,
FROM: Tom Ontko, Ohio EPA TWO
DATE: September 15, 2003
RE: OSDF Phase IV RCI 20104-017

This DCN changes the temporary termination at the south side of the Cell 2 (and subsequent caps). The current design specifies that a soil protective layer be placed over the termination. Removal of the protective soil is time consuming and requires manual labor because of mixing of the cap layers. The change requires a minimum of two feet of protective soil only over the compacted clay component of the termination. An additional sacrificial geotextile layer which is weighted down by sandbags is also added.

The Ohio EPA approves this change. We note that the termination is not as robust as in the original design. The termination will needed to be inspected periodically for damage and tears to the geotextile and and also to check that the sand bags are still in place.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph4captermination.wpd

RCI/DCN FORM

5371

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20104	(2) S/C NO.: FSC-653	(3) Pg. 1 of 2	(4) DATE: September 2, 2003

(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase IV Construction)

(6) RCI NO.:

(7) RCI/DCN TITLE: Final cover termination protective layer change

(6) DCN NO.: 20104-017

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase IV Construction Drawings: Final Cover System Details	90X-6000-G-00358	0	Sheet G-30
Phase V Construction Drawings: Final Cover System Details I	90X-6000-G-00396	0	Sheet G-34

(10) REQUESTOR: Mike Stumbo — NAME (Print & Sign) — DATE

(11) CE / PE: Charles C. Van Arsdale — NAME (Print & Sign) — DATE 9/8/03

(12) [ ] RCI-DESCRIPTION

(13) [X] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: Modifying the protective layer at the final cover system termination will continue to provide frost protection to the underlying geosynthetic and compacted clay liner layers and reduce the manual effort for cell tie-in preparation prior to construction.

Existing Conditions: Currently, the design of the final cover termination specifies a soil protective layer placed over the entire southern termination of the final cover system per cell. During cell tie-in preparation, soil at the upper portion of the cell is removed. The process takes many hours of manual labor, and results in the intermixing of some of the layers.

Proposed Change: Place protective layer at the final cover termination to a point 3 foot minimum above the top of the compacted clay layer. This will protect the underlying compacted clay layer from freeze-thaw conditions. Also, place an additional layer of sacrificial geotextile (16 ./sy) from the topsoil interface down to the cover drainage layer as shown in the attached sketch. Geotextiles will be weighted down with ..ndbags.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

See attached sketches.

(15) REVIEWS COMPLETED

[ ] Configuration Management SSC Review Complete — DO NAME (Print & Sign) — DATE

[X] Impact Assessment Review Complete — DO NAME (Print & Sign) — DATE 9/8/03

x Uday Kumthekar — PE NAME (Print & Sign) — DATE 09.08.03

[X] Technical Review Complete — DO NAME (Print & Sign) — DATE 9/8/03

[X] ED-12-4010 Review Complete — x Uday Kumthekar — PE NAME (Print & Sign) — DATE 09.08.03

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES

IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES

Charles C. Van Arsdale — CE NAME (Print & Sign) — DATE 9/8/03

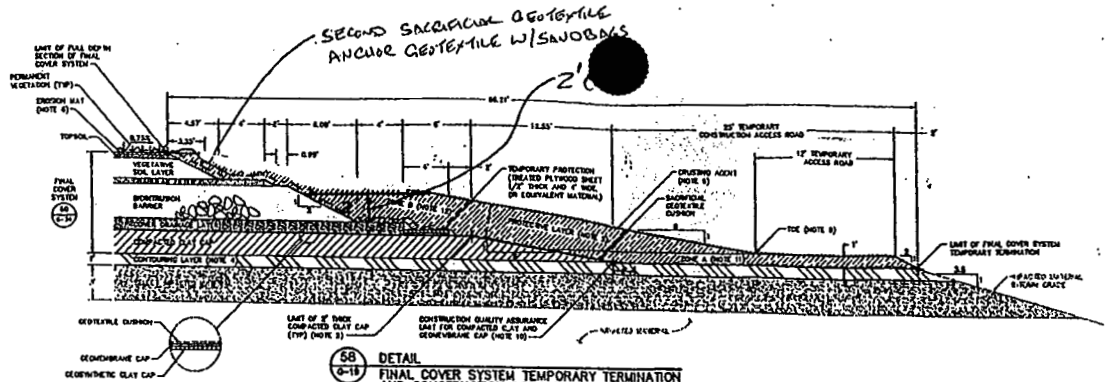
(17) FIELD WORK COMPLETED: #011

CE OR PE (Print & Sign) — DATE:

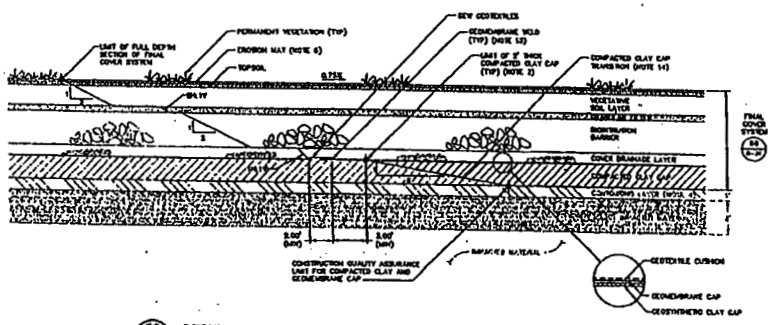
FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

ORIGINAL

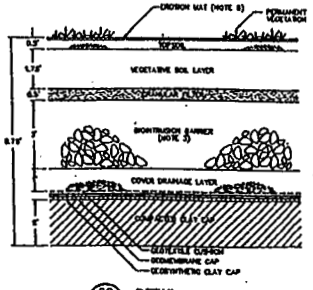
000406



58 / G-18 DETAIL
FINAL COVER SYSTEM TEMPORARY TERMINATION AND CONSTRUCTION ACCESS ROAD
SCALE: 1" = 4'



59 / G-19 DETAIL
FINAL COVER SYSTEM TIE-IN AT EXISTING TEMPORARY TERMINATION
SCALE: 1" = 4'



60 / G-21 DETAIL
FINAL COVER SYSTEM
SCALE: 1" = 2'

FINAL COVER SYSTEM COMPONENTS		
GEOSYNTHETICS (NON-SOIL)		
SYMBOL	COMPONENT	SPECIFICATION SECTION
	GEOMEMBRANE CAP	02779
	GEOSYNTHETIC CLAY CAP	02771
	GEOTEXTILE CUSHION	02711
SOILS		
SYMBOL	COMPONENT	SPECIFICATION SECTION
	COMPACTED CLAY CAP	02225
	COVER DRAINAGE LAYER	02719
	BIOINTRUSION BARRIER	02280
	GRANULAR FILTER	02711
	VEGETATIVE SOIL LAYER	02230
	TOPSOIL	02730
	PROTECTIVE LAYER (NON-IMPACTED NON-GRANULAR)	02240
	CONTOURING LAYER (NON-IMPACTED)	02240
VEGETATION		
SYMBOL	COMPONENT	SPECIFICATION SECTION
	PERMANENT VEGETATION	02930

NOTES:

1. DETAILS ARE SHOWN TO SCALE AS NOTED EXCEPT FOR GEOSYNTHETICS WHICH ARE SHOWN AT AN EXAGGERATED SCALE FOR CLARITY. MATERIAL TOLERANCES SHALL BE WITHIN LIMITS GIVEN IN SPECIFICATIONS.
2. CONSTRUCTION CONTROL POINTS FOR CONTOURING LAYER, COMPACTED CLAY CAP, AND FINAL COVER SYSTEM ARE PROVIDED ON DRAWINGS G-16 THROUGH G-18.
3. CHOKE STONE LAYER SHALL BE PLACED INTO TOP OF BIOINTRUSION BARRIER IN ACCORDANCE WITH SPECIFICATION SECTION 02280.
4. CONTOURING LAYER SHALL CONSIST OF NON-IMPACTED MATERIAL IN ACCORDANCE WITH SPECIFICATION SECTION 02240. RUNOFF FROM NON-IMPACTED CONTOURING LAYER SHALL BE DIVERTED TO IMPACTED RUNOFF CATCHMENT AREA UNTIL COMPACTION OF SECOND LIFT OF COMPACTED CLAY CAP IS COMPLETED. CONTRACTOR SHALL CONTAIN AND CONTROL WATER GENERATED DURING CONSTRUCTION AND FILLING OF GCCP IN ACCORDANCE WITH SPECIFICATION SECTION 02270.
5. PROTECTIVE LAYER IN FINAL COVER SYSTEM TEMPORARY TERMINATION SHALL BE NON-IMPACTED NON-GRANULAR MATERIAL. NON-IMPACTED PROTECTIVE LAYER SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02240.
6. EROSION MAT SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 02270. EROSION MAT WITH A 100% CORN YARN CONTENT SHALL BE USED AT TWO LOCATIONS, TO LIMITS INDICATED ON DETAIL AND AT THE 10H:1V TO 5H:1V FINAL COVER SYSTEM SLOPE TRANSITION. TWO 6-FOOT WIDTHS OF CORN EROSION MAT SHALL BE USED AT EACH LOCATION WITH A 1.5' FOOT OVERLAP ON EACH SIDE OF THE 10H:1V TO 5H:1V TRANSITION.
7. GEOSYNTHETICS FOR THE COVER SYSTEM WILL BE SUPPLIED BY FLUOR FERNALD, INC. AS SPECIFIED IN PART 5 OF THE CONTRACT DOCUMENTS.
8. INSTALL SILT FENCE 50 FEET (MEASURED HORIZONTALLY) UPHILLFROM TOE OF 5H:1V SLOPE AT FINAL COVER SYSTEM TEMPORARY TERMINATION. SILT FENCE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02270.
9. CRUSTING AGENT SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02270.
10. EXTEND GEOMEMBRANE CAP ONLY BEYOND TEMPORARY PROTECTION.
11. ZONE A PROTECTIVE LAYER SOIL SHALL BE PLACED AFTER INSTALLATION OF COMPACTED CLAY CAP.
12. ZONE B PROTECTIVE LAYER SOIL SHALL BE PLACED AFTER COMPLETION OF UNDERLYING COMPONENTS OF FINAL COVER SYSTEM.
13. CONTRACTOR SHALL REMOVE DAMAGED PORTION OF EXISTING GEOMEMBRANE CAP BY CUTTING PRIOR TO INSTALLATION OF NEW GEOMEMBRANE CAP.
14. TRANSITION FROM EXISTING 8" THICK COMPACTED CLAY CAP TO ABANDON SECTION OF COMPACTED CLAY CAP SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 02225.

REV. NO.	DATE	DESCRIPTION	DES. BY	DR. BY	CHK. BY	APP. BY
2	10/29/97	PRELIMINARY SUBMITTAL TO FF/DOE/EPA	[illegible]	[illegible]	[illegible]	[illegible]
1	9/22/97	PRELIMINARY SUBMITTAL TO FF/DOE	[illegible]	[illegible]	[illegible]	[illegible]
0	8/14/97	PRELIMINARY SUBMITTAL TO FF/DOE	[illegible]	[illegible]	[illegible]	[illegible]

SCALE AS SHOWN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

FLUOR FERNALD, INC.

ON-SITE DISPOSAL FACILITY – PHASE V

FINAL COVER SYSTEM DETAILS I

THIS DRAWING MAY NOT BE USED FOR PUBLIC WORKS OR CONSTRUCTION UNLESS SEALED.

STATE OF OHIO
JOHN H. BRUNE
E-34344
PROFESSIONAL ENGINEER

CH2M HILL

PROJECT NO. 201150
CONTRACT NO. 97C20000
FIELD WORK BY
DRAWN BY
DESIGNED BY
CHECKED BY
SUPERVISED BY
DATE 0-3
REVISION NO. 0

CERTIFIED-FOR-CONSTRUCTION

000407

5371

State of Ohio Environmental Protection Agency

5371

Southwest District Office

01 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

MEMORANDUM

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: December 12, 2003
RE: OSDF Phase IV DCN No. 20104-018

This DCN clarifies seed purity and germination requirements for the varieties of seed which make up the final cover permanent vegetation seed mix.
Current technical specifications Section 02930 requires a purity statement from the manufacturer for each variety of seed. The change clarifies the ambiguity in the phrase 'variety of seed' by requiring the seed mix as a whole to contain not more than 10% weed, inert matter and other impurities.
The current specification also requires that more than 80% of the seeds germinate within three weeks. Since many species normally do not germinate this quickly, the specification will be changed to require that the cover crop species germinate at the 80% rate. There will be no specifications for the other seeds.
The current specification does not allow substitutions in the final cover permanent vegetation seed mix. The change allows the Construction Manager to make substitutions which meet the same intent in order to keep up with seed availability from the distributers.
Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

C:\DOCUME~1\VANA3740\LOCALS~1\TEMP\DCNPH4SEED.DOC

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.:	(2) S/C NO.:	(3) Pg. 1 Of 2	(4) DATE:
20104	FSC-653		11/10/2003

(5) PROJECT/CWO/RES/S/C TITLE:	(6) RCI NO.:
On-Site Disposal Facility (OSDF) Phase IV Construction	20104-008R
(7) RCI/DCN TITLE:	**(6) DCN NO.:**
Clarification for Seed Purity, Germination and Addition of Requirements for Seed Substitutions	20104-018

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase IV OSDF Technical Specification	20104-TS-0001	1	Section 02930, Part 2.01 and Table 02930-1C

(10) REQUESTOR:	(11) CE / PE
Eric Woods 12/11/03	Charles C. Van Arsdale 12/11/03
NAME (Print & Sign) DATE	NAME (Print & Sign) DATE

(12) [ ] RCI-DESCRIPTION (13) [X] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: In order to clarify submittal review, but not change the intent of the seed product qualifications, it is necessary to change the wording on requirements of purity, germination, and substitutions.

Existing Conditions: Current Technical Specifications Section 02930 requires the vendor to provide the percent purity for each variety of seed. Vendors have been providing a ratio by weight for each species in the seed mix. The vendors have also provided a percentage of pure live seed for the entire mix and percentage of inert material, weed seed and other impurities. Even though, seeds have met the requirements, the term ed in the specification "variety of seed" is ambiguous and should be changed to clarify the vendor submittals.

e Technical Specifications also require the vendor to provide seed with a percentage of germination that is not less than 80 percent by weight. Within three weeks of seeding, vendors will only provide documentation that an 80 percent germination rate can be achieved by cover crops. There is no specification for seeds that are not cover crops.

Table 02930-1C does not allow for substitutions for the final cover permanent vegetation, but other Tables in the Technical Specification do allow for substitutions.

Proposed Change: Change the Technical Specification to require each seed species, within a seed mix or individual, to have a minimum of 90% pure live seed, and less than 10% weed seed, inert materials, and other impurities.

Change the Technical Specifications to require 80% germination by weight of cover crop species only. No other change related to performance requirements is being proposed at this time.

Change the Technical Specifications to allow the Construction Manager to approve seed substitutions deemed appropriate by the Environmental Scientist.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

See page 2 of 2 for detailed changes.

#01

(15) REVIEWS COMPLETED

	DO NAME (Print & Sign)	DATE
[ ] Configuration Management SSC Review Complete		
[X] Impact Assessment Review Complete	KWASI BADU-TWENEBOAH	12/4/03
	UDAY KUMTHEKAR	12/11/03
	PE NAME (Print & Sign)	**DATE**
[X] Technical Review Complete	KWASI BADU-TWENEBOAH	12/11/03
	DO NAME (Print & Sign)	**DATE**
[X] ED-12-4010 Review Complete	UDAY KUMTHEKAR	12/11/03
	PE NAME (Print & Sign)	**DATE**

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES IS A PURCHASE REQUISITION REQUIRED: [X] NO [ ] YES Charles C. Van Arsdale 12/11/03 CE NAME (Print & Sign) DATE	(17) FIELD WORK COMPLETED: 5371 CE OR PE (Print & Sign) DATE:

DCN No. 20104-018

CLARIFICATION FOR SEED PURITY, GERMINATION AND ADDITION OF REQUIREMENTS FOR SEED SUBSTITUTIONS

1. Revise Section 02930, Part 2.01, Paragraph A, fourth sentence (line 4) to read as follows:

   "...Each seed mix shall have less than 10% weed seed, inert material or other impurities contained in the mix resulting in at least 90% pure live seed. Each seed mix shall contain no more than 1% weed seed and shall contain no noxious weed seeds."

2. Add the following to the end of the revised sentences in Part 2.01, Paragraph A (stated above):

   "...Each seed mix shall have a germination percentage of at least 80 percent by weight for the cover crop species only."

3. Revise title of Table 02930-1C to read as: "SEED MIX[1] FOR CELL FINAL COVER PERMANENT VEGETATION", and add following footnote to Table 02930-1C:

   Notes: (1) "If certain species are not available, substitutions will be approved by the Construction Manager or designated representative."

5371

State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt Governor
Christopher Jones, Director

MEMORANDUM

FILE COPY

TO: J.D. Chiou, SDFP Manager, Fluor Fernald
FROM: Tom Ontko, Ohio EPA
DATE: June 25, 2003
RE: OSDF Phase IV DCN 20105-003

This DCN moves Gravity Inlet Structure (GIS) # 11 approximately 10 feet north because field checking shows it will be too close to an existing concrete pad and bollard.

The Ohio EPA approves this change.

Approval of these changes does not constitute an assurance that the proposed facilities will operate in compliance with Ohio laws and regulations or that these facilities will perform in a fashion that achieves the objectives of the Operable Unit 2 Record of Decision.

Q:\ou2\dcnph5gismove.wpd

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.: 20105	(2) S/C NO.:FSC-659	(3) Pg. 1 Of 2	(4) DATE: June 23, 2003

(5) PROJECT/CWO/RES/S/C TITLE: On-Site Disposal Facility (Phase V) Construction

(6) RCI NO.:

(7) RCI/DCN TITLE: Location change of Gravity Inlet Structure (GIS) #11

(6) DCN NO.: 20105-003

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Phase V Construction Drawings: Subgrade Grading Plan II – Cell 6 Liner System and OSDF Sedimentation Basin No. 2	90X-6000-G-00366	0	Sheet No. G-4
Phase V Construction Drawings: Surface-Water Management System Details VIII	90X-6000-G-00405	0	Sheet No. G-43

(10) REQUESTOR: Bill Zebick — NAME (Print & Sign) — 6/24/03 DATE

(11) CE / PE: Charles C. Van Arsdale — NAME (Print & Sign) — 6/24/03 DATE

(12) [ ] RCI-DESCRIPTION

(13) [X] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: The Gravity Inlet Structure will be moved to the north to take into account a changed field condition.
Existing Condition: The location of Gravity Inlet Structure (GIS) #11 shown on the drawing appears to be encroaching on an existing bollard and ncrete pad, when the location is staked in the field.
oposed Change: Move GIS #11 approximately 10 feet north to avoid damage to an existing bollard and horizontal monitoring well concrete pad uring construction of the GIS.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

The attached plan sketch shows the new coordinates, elevation and location for GIS #11

#011

(15) REVIEWS COMPLETED

[ ] Configuration Management SSC Review Complete — DO NAME (Print & Sign) — DATE

[X] Impact Assessment Review Complete — KWASI B. TWENEBOAH — DO NAME (Print & Sign) — 6/24/03 DATE
x UDAY KUMTHEKAR — PE NAME (Print & Sign) — 6/24/03 DATE

[X] Technical Review Complete — KWASI B. TWENEBOAH — DO NAME (Print & Sign) — 6/24/03 DATE

[X] ED-12-4010 Review Complete — x UDAY KUMTHEKAR — PE NAME (Print & Sign) — 6/24/03 DATE

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [X] YES

IS A PURCHASE EQUISITION REQUIRED: [X] NO [ ] YES

Charles C. Van Arsdale — CE NAME (Print & Sign) — 6/24/03 DATE

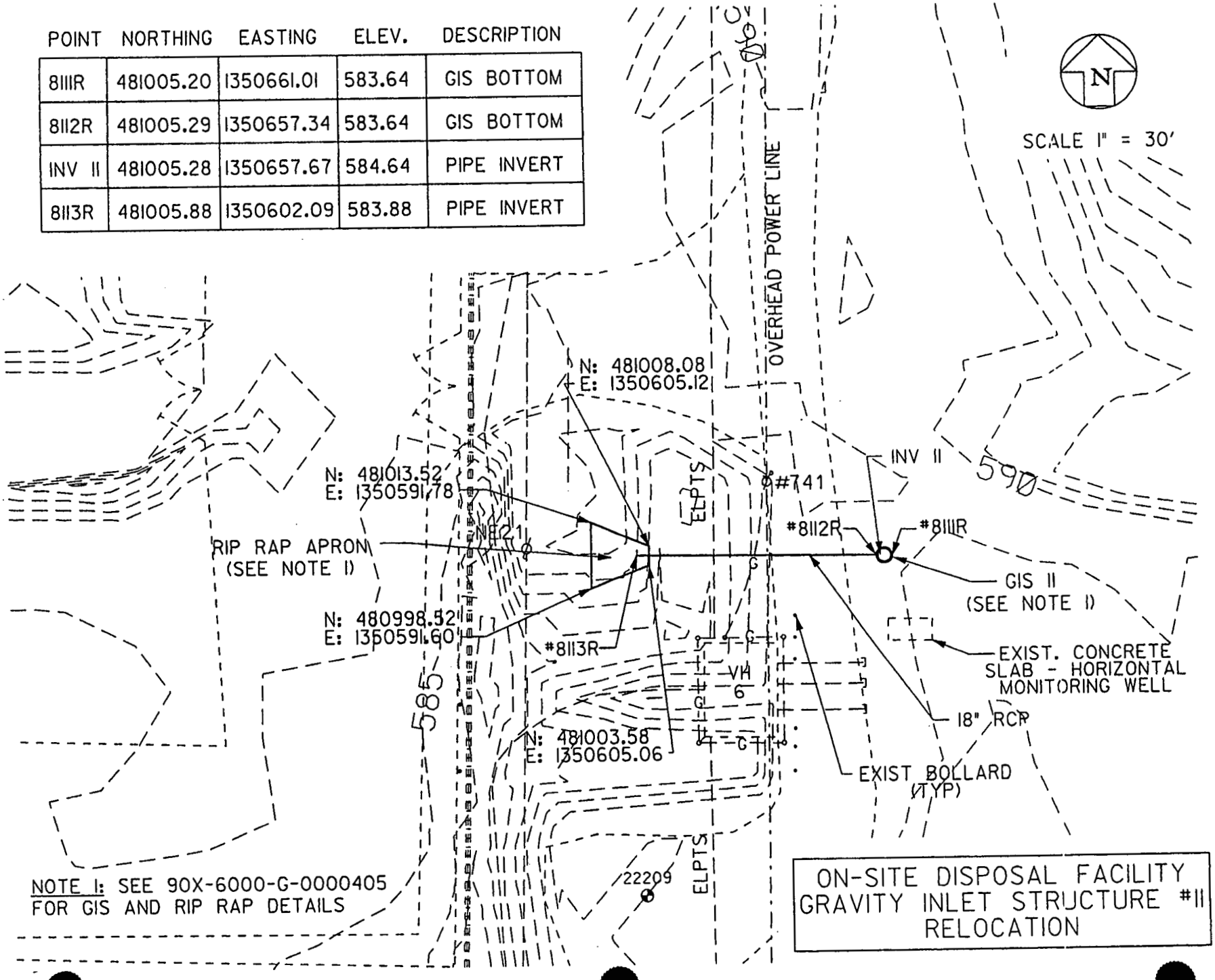
(17) FIELD WORK COMPLETED:

CE OR PE (Print & Sign) — DATE:

FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

5371

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
8111R	481005.20	1350661.01	583.64	GIS BOTTOM
8112R	481005.29	1350657.34	583.64	GIS BOTTOM
INV 11	481005.28	1350657.67	584.64	PIPE INVERT
8113R	481005.88	1350602.09	583.88	PIPE INVERT



000413

APPENDIX U

NONCONFORMANCE REPORTS (NCRs)

GEOSYNTEC CONSULTANTS

GeoSyntec Consultants

CONSTRUCTION NONCONFORMANCE REPORT

1. ORIGINATOR:	2. TITLE/ORGANIZATION:	3. NCR NUMBER:	4. DATE DISCOVERED:
Collin P. Sukow	Site CQC Manager	20104-003	24 January through 24 March 2003

5. RESPONSIBLE ORGANIZATION/PROJECT:	6. ASSESSMENT ACTIVITY:	7. HOLD TAG:
Fluor Fernald Construction OSDF Phase IV2	Construction Quality Control	( ) YES (x) NO 8. REMOVED (Initial/Date): N/A

9. REQUIREMENTS (Identify requirement from document [e.g., CQA plan, specification, drawing, etc.]):

OSDF Specification Section 02710 Part 2.01.B states that "Granular drainage material ... shall meet the AASHTO M-43 modified gradation requirements for No. 78 coarse aggregate"; and Part 2.01.C requires that "Percentage of granular drainage material passing the No. 200 sieve ... shall be less than 2.0 percent by weight when tested in accordance with ASTM C 136."

10. NONCONFORMANCE TYPE: Construction Nonconformance ( ) Material Deviation (x)

11. NONCONFORMANCE (Fully describe as it relates to requirements. Use supplemental sheets as required):

No. 78 stone samples were collected incrementally as the material was delivered and stockpiled throughout the 2003 construction season. Three of the 8 samples collected did not meet the gradation requirements for No. 78 stone. All three failing samples had over 2.0 percent, by weight, passing the U.S. No. 200 sieve ,and one of the three also had greater than 5.0 percent, by weight, passing the No. 16 sieve.

12. ORIGINATOR'S SIGNATURE:	13. DATE PROVIDED TO RESPONSIBLE MANAGER:
Timothy Willis for Collin Sukow	29 July 2003

14. RESPONSIBLE MANAGER'S PROPOSED CORRECTIVE ACTION: Use As-Is (x) Reject ( ) Other ( ) Repair ( ) Rework ( )

The three failing samples had 2.4, 2.9, and 4.2 percent, by weight, passing the U.S. No. 200 sieve. The same sample with 4.2 percent passing the No. 200 sieve also had 6.2 percent, by weight, passing the No. 16 sieve which exceeds the required maximum of 5.0 percent. It should be noted that this sample failed on the No. 16 sieve due to the high amount of fines passing through the No. 200.

The hydraulic conductivity (permeability) test results for these three samples all passed project specifications with 1.8, 2.2, and 0.95 cm/sec, respectively, where the minimum permeability value is 0.1 cm/sec. Therefore, use as is.

15. RESPONSIBLE MANAGER (NAME, TITLE, ORGANIZATION):

Kwasi Badu-Tweneboah, Project Manager, GeoSyntec

16. RESPONSIBLE MANAGER'S SIGNATURE:	17. PROPOSED COMPLETION DATE:	18. DATE FORWARDED TO APPROVAL AUTHORITY:
KBadu-Tweneboah	7 Aug 2003	7/29/03

GeoSyntec Consultants

CONSTRUCTION NONCONFORMANCE REPORT

19. EVALUATION OF PROPOSED CORRECTIVE ACTION: Accept (X) Reject ( )
Comments ( )

20. APPROVAL AUTHORITY SIGNATURE: [signature]

21. DATE: 7/31/03

22. VERIFICATION OF CORRECTIVE ACTION (Describe who, what, when, where):

- FCP ENGINEERING EVALUATION
- ACCEPTABLE TEST DATA

23. VERIFIER'S SIGNATURE: [signature]

24. DATE: 8/7/03

25. APPROVAL AUTHORITY SIGNATURE: [signature]

26. DATE CLOSED: 8/7/03

27. CONTINUATION FROM BLOCK ____:

GeoSyntec Consultants

CONSTRUCTION NONCONFORMANCE REPORT

1. ORIGINATOR:	2. TITLE/ORGANIZATION:	3. NCR NUMBER:	4. DATE DISCOVERED:
Collin P. Sukow	Site CQC Manager	20105-001	03 June through 20 June 2003

5. RESPONSIBLE ORGANIZATION/PROJECT:	6. ASSESSMENT ACTIVITY:	7. HOLD TAG:
Fluor Fernald Construction OSDF Phase V	Construction Quality Control	( ) YES (x) NO 8. REMOVED (Initial/Date): N/A

9. REQUIREMENTS (Identify requirement from document [e.g., CQA plan, specification, drawing, etc.]):

OSDF Specification Section 02710 Part 2.01.B states that "Granular drainage material ... shall meet the AASHTO M-43 modified gradation requirements for No. 78 coarse aggregate"; and Part 2.01.C requires that "Percentage of granular drainage material passing the No. 200 sieve ... shall be less than 2.0 percent by weight when tested in accordance with ASTM C 136.

10. NONCONFORMANCE TYPE: Construction Nonconformance ( ) Material Deviation (x)

11. NONCONFORMANCE (Fully describe as it relates to requirements. Use supplemental sheets as required):

No. 78 stone samples were collected incrementally as the material was delivered and stockpiled throughout the 2003 construction season. Three of the 10 samples collected did not meet the gradation requirements for No. 78 stone. All three failing samples had over 2.0 percent by weight passing the No. 200 sieve.

12. ORIGINATOR'S SIGNATURE:	13. DATE PROVIDED TO RESPONSIBLE MANAGER:
Timothy Willis Jr. for Collin Sukow	29 July 2003

14. RESPONSIBLE MANAGER'S PROPOSED CORRECTIVE ACTION: Use As-Is (x) Reject ( ) Other ( ) Repair ( ) Rework ( )

The three failing samples had 2.4, 2.6, and 3.0, percent by weight passing the No. 200 sieve.

The hydraulic conductivity test results for these three samples all passed project specifications with 2.6, 0.94, and 4.8 cm/sec, which exceed the minimum required value of 0.1 cm/sec. Therefore, use as is.

15. RESPONSIBLE MANAGER (NAME, TITLE, ORGANIZATION):

Kwasi Badu-Tweneboah, Project Manager, GeoSyntec

16. RESPONSIBLE MANAGER'S SIGNATURE:	17. PROPOSED COMPLETION DATE:	18. DATE FORWARDED TO APPROVAL AUTHORITY:
K Badu-Tweneboah	7 AUG 2003	7/29/03

GeoSyntec Consultants

CONSTRUCTION NONCONFORMANCE REPORT

19. EVALUATION OF PROPOSED CORRECTIVE ACTION: Accept (X) Reject ( )
Comments ( )

20. APPROVAL AUTHORITY SIGNATURE: [signature]

21. DATE: 7/31/03

22. VERIFICATION OF CORRECTIVE ACTION (Describe who, what, when, where):

- FCP ENGINEERING EVALUATION
- ACCEPTABLE TEST DATA

23. VERIFIER'S SIGNATURE: [signature]

24. DATE: 8/7/03

25. APPROVAL AUTHORITY SIGNATURE: [signature]

26. DATE CLOSED: 8/7/03

27. CONTINUATION FROM BLOCK ____:

FLUOR FERNALD

VALIDATED QUALITY RECORD INITIAL DS DATE 12/17/03

NONCONFORMANCE REPORT FORM

5371

ORIGINATOR/ASSESSOR

1	Nonconformance Number/Revision	NCR No.: 696 Revision No. 0
2	Dates	Date Discovered: 11-4-03 Date NCR Issued: 11-~~8~~ 12-03 DS 11/12/03
3	Type of Nonconformance	[x] FINDING [ ] CONCERN
4	Project Number Project/Activity @ Fac/Loc/Bldg.	20104 Cell 6 Liner/ Geotextile
5	Hazard Category	Nuclear: [ ] 1 [ ] 2 [ ] 3 Radiological: [ ] Non-Nuclear: [ ] High Hazard [ ] Moderate Hazard [ ] Low Hazard Industrial: [x] Standard Industrial Hazard [ ] Other Industrial Hazard Not Designated [ ] Desktop review, document review, etc.
6	Assessment	[x] Internal (Site) [ ] External (OEPA, DOE) [ ] Supplier/Vendor_____
7	Assessment Type	[ ] Audit [ ] Surveillance [x] Inspection [ ] Self Assessment [ ]Other_____
8	Assessment Number	2020127
9	Responsible Program/Project Division/Vendor	[ ] WPRAP [ ] D&DP [x] S&DFP [ ] M&IS [ ] WMP [ ] ARP [ ] SH&Q [ ] SP [ ] CPM [ ] OP [ ] ADM [ ]Supplier/Vendor/Subcontractor [ ] Other
10	Responsible Department/Vendor	Construction
11	Responsible Manager/Supervisor/Vendor (Print Name)	(For Concerns, assign to Project/Program Director Warren Hooper
12	Functional Area (NA for Vendors) (choose any that apply) (Ref. RM-0016)	[ ] CM [ ] ED [ ] RD [ ] MS [ ] QA [ ] AC [ ] PM [ ] PI [ ] FM [ ] EP [ ] EW [ ] MT [ ] OP [ ] PT [ ] SE [ ] TR [x] CT [ ] HR [ ] PC [ ] EM [ ] FP [ ] NS [ ] SH [ ] RP
13	QA Criteria (choose one that applies Ref. RM-0012) Other Criteria (CONOPS, etc.) (not RM-0012 applicable)	[ ] 1 Program [ ] 2 Training [ ] 3 Quality Improvement [ ] 4 Document/Records [x] 5 Work process [ ] 6 Design [ ] 7 Procurement [ ] 8 Inspect/Test [ ] 9 Management Assessment [ ] 10 Independent Assessment [ ] Other
14	Requirement Description Cite the requirement (clearly, concisely, and completely) and its source, including document identification number, page and paragraph number. A copy of the document (or page of the document) in which the requirement appears may be attached or added to the NCR file. Use additional or separate sheets as necessary.	**Per Technical Specification, On Site Disposal Facility, Phase IV, Rev 1, Sec. 02714, 3.01, D, Geotextile:** After unwrapping the geotextiles from their opaque covers, do not leave them exposed for a period in excess of 10 calendar days or for the Manufacturers written recommended exposure period.
15	Nonconformance Description Describe the nonconformance. Include details such as supplier names, container numbers, purchase order, work order, or requisition numbers) and clearly describe the deviation from the written requirement. Use additional or separate sheets as necessary.	10-21-2003;Geotextile was placed across the center of Cell 6 floor for the placement of the impacted haul road into the Cell area. There were also several rolls of geotextile left uncovered at the bottom of the inner-cell berm. As of 11-4-2003, this is outside the ten-day window; these items were still exposed to UV damage. **See item 14 above. Please see the attached documents.**
16	Tagging Required / Number of Tags	[ ] Yes [x] No Number of Tags: N/A
17	Originator/Assessor	Name: Muriel Allen Signature: Muriel Allen Date: 11-6-03

MANAGER/SUPERVISOR'S REVIEW

18	Manager/Supervisor (Trained/Briefed on QA-0001)	Name: Reinhard Friske Signature: R Friske Date: 11-12-03
19	Response Date From Responsible Organization	REQUESTED RESPONSE DATE: 12/15/03 (Reply within 20 working days)

NONCONFORMANCE REPORT FORM

5371

RESPONSIBLE ORGANIZATION'S CORRECTIVE ACTION RESPONSE

	Nonconformance Number/Revision	NCR No.: 696 Revision No. 0
20	**Root Cause Analysis** Provide documentation as attachment. Use additional or separate sheets as necessary	[ ] YES [x] NO Level 1 Cat.: [ ] (human performance.) [ ] (equip.) [ ] (natural phenom/sabotage [ ] (other) [ ] Supplier/Vendor/Subcontractor (root cause per their program) List Cause: N/A
21	**Corrective Action (CA) Description and Disposition** Describe the actions necessary to correct the nonconformance. Corrective actions must be detailed and complete. They must be written in a clear, concise, and verifiable manner. The corrective action must also include actions to prevent recurrence. Use additional or separate sheets as necessary. (A disposition of Accept-as-is or Repair REQUIRES a written Technical Concurrence/Justification below)	A) Hardware NCR: → [x] Accept-as-is [ ] Repair [ ] Rework [ ] Reject B) Non-Hardware NCR: → [ ] Other: See Attached Corrective Action Plan [x] Yes [ ] NA
22	**Technical Concurrence/Justification (mark NA if not applicable)**	Name: Charles C Van Assdale Signature: Chl C Van Assdale Date: 12/16/03
23	**Was a Design Change Notice Required?**	[ ] Yes [x] No DCN # N/A Date Issued
24	**Was a SBDR Performed?** **Was a USQD Performed?**	[ ] Yes [x] No SBDR # N/A Date Issued [ ] Yes [x] No USQD # N/A Date Issued
25	**Actions taken to Prevent Recurrence** Use additional or separate sheets as necessary.	SEE ATTACHED
26	**Proposed Completion Date For CA**	Date: 12.12.03
27	**Responsible Manager/Supervisor/Vendor**	Name: Warren Hooper Signature: [signature] Date: 12/16/03

EVALUATION OF THE CORRECTIVE ACTION RESPONSE BY THE ORIGINATOR/ASSESSOR

28	**Response Acceptable?**	[x] Yes [ ] No
29	**Originator's/Assessor's**	Name: Muriel Allen Signature: [signature] Date: 12-17-03

COMPLETION OF THE CORRECTIVE ACTIONS BY THE RESPONSIBLE ORGANIZATION

30	**Date Corrective Action Completed**	Date: 12-12-03
31	**Responsible Manager/Supervisor/Vendor**	Name: Warren Hooper Signature: [signature] Date: 12/16/03

VERIFICATION OF COMPLETED CORRECTIVE ACTIONS BY THE VERIFIER

32	**Verification Action** (Describe what objective evidence was examined to verify completion of this action and attach documentation to the NCR)	Reviewed the attached corrective action and Manufacturer's letter and test data. This is satisfactory.
33	**Verifier**	Name: Muriel Allen Signature: [signature] Date: 12-17-03

CLOSURE BY THE VERIFIER'S MANAGER/SUPERVISOR

34	**Verifier's Manager/Supervisor** (NCR Closed)	Name: Reinhard Friske Signature: [signature] Date: 12-17-03

2.06 EQUIPMENT

A. Furnish equipment for acceptance, handling, storage, and installation of geotextile.

PART 3 EXECUTION

3.01 PLACEMENT

A. Do not commence geotextile installation until the CQC Consultant completes performance testing and confirmation of compliance of underlying layers, including acceptance of Contractor's survey results for underlying layers.

B. Handle geotextiles so as to ensure they are not damaged.

C. Take precautions to prevent damage to underlying layers.

D. After unwrapping the geotextiles from their opaque covers, do not leave them exposed for a period in excess of 10 calendar days or for the Manufacturer's written recommended exposure period.

E. If white colored geotextiles are used, take appropriate safety precautions against "snowblindness" of personnel.

F. Take care not to entrap stones, excessive dust, or moisture below or in the geotextiles.

G. Examine the geotextile surface after installation to ensure that no potentially harmful foreign objects are present. Remove any such objects and replace any damaged geotextiles.

3.02 SEAMS AND OVERLAPS

A. Continuously overlap a minimum of 6 inches and sew geotextile filters, cushions, and supplemental geotextile cushions using a "single prayer" seam. Sew seams using Stitch Type 401 as per Federal Standard No. 751a. Spot sewing will not be allowed.

B. Do not install horizontal seams on slopes that are steeper than 10 horizontal to 1 vertical (10H:1V). Seams shall be along, not across, the slopes.

C. Overlap geotextile separator a minimum of 12 inches and spot sew at intervals to ensure that the overlap is maintained.

D. Overlap geotextile filter used for riprap construction in Section 02271 a minimum of 12 inches. No seaming is required.

CORRECTIVE ACTION PLAN
NCR 6916

(22)TECHNICAL CONCURRENCE/JUSTIFICATION

Geotextile Filter was removed from opaque covers and placed in areas at the locations of the impacted material haul road and the south side of the inter-cell berm. This geotextile is placed as a filter layer to allow drainage to filter into the leachate collection system located directly below the filter fabric. The geotextile filter is not to be exposed to ultra-violet (UV) rays in excess of 10 days prior to covering the geotextile or a period designated by the Manufacturer in writing according to the geotextile Technical Specification Section 02714. The geotextile filter was placed on October 21, 2003 and was not covered with soil material until November 4, 2003. Therefore, the geotextile was exposed for 15 days. At that time, there was not an exposure limit designated in writing by the geotextile Manufacturer. The placement of geotextile filter was not in compliance with the specifications.

TNS, the geotextile Manufacturer, looked at UV resistance testing according to ASTM D4355 and checked the tensile strength (ASTM D1682) after the geotextile was subjected to 500 hours of UV ray esposure. The results show that after 500 hours of exposure, the maximum loss of geotextile strength should be less than 5%. Therefore, 21 days of exposure would be sufficient for the strength loss above.

It is recommended to leave the geotextile in place, since the actual exposure limit was less than the 21 days tested by TNS. The letter from TNS is attached.

(25)ACTIONS TAKEN TO PREVENT RECURRENCE

Additional UV and loss of strength testing will be provided for future cell and cap construction. The geotextile Manufacturer will be required by the Procurement Specification Section 02714P to submit a letter recommending an acceptable exposure period of subjecting geotextile to UV rays. This letter will be submitted to Fluor Fernald prior to receiving the shipment for each year's activity.