APPENDIX T

T.1

FUSION METHOD

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-01	10/05/92	1342	1404	325	64	750	--/--/--	--/--/--	--	BFM	FAIL, BY HAND
TF-01R1	10/05/92	1355	1404	325	64	750	F2/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-03
TF-01R2	10/05/92	1425	1404	325	64	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-05
TF-01R3	10/05/92	1433	1404	325	65	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-06
TF-02	10/05/92	1346	1203	136	64	750	F2/--/--	--/--/--	--	BFM	FAIL
TF-02R2	10/05/92	1403	1203	138	64	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-04
TF-07	10/05/92	1705	1404	325	65	750	P2/P2/--	F2/--/--	--	BFM	FAIL
TF-07R1	10/05/92	1741	1404	325	63	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-09
TF-08	10/05/92	1730	1203	138	63	750	P2/P2/--	P2/F2/--	--	BFM	FAIL
TF-08R1	10/05/92	1746	1203	138	63	750	P2/P2/--	F2/--/--	--	BFM	FAIL. RENAMED FROM TF-10
TF-08R2	10/05/92	1803	1203	138	63	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-11
TF-12	10/05/92	1900	1404	325	55	750	F4/--/--	--/--/--	--	BFM	FAIL
TF-12R1	10/05/92	1900	1404	325	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-14
TF-13	10/05/92	1900	1203	138	55	750	F4/--/--	--/--/--	--	BFM	FAIL
TF-13R1	10/05/92	1900	1203	138	55	750	F4/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-15
TF-13R2	10/05/92	1900	1203	138	55	750	F4/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-16
TF-13R3	10/05/92	1900	1203	138	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-17
TF-13R4	10/05/92	1900	1203	138	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-18
TF-01	10/06/92	0938	1203	138	53	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	10/06/92	0950	1609	391	53	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-03	10/06/92	1155	1203	138	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-04	10/06/92	1300	1609	391	62	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/06/92	1450	1404	325	63	750	P2/P2/--	P2/F4/--	--	BFM	FAIL
TF-05R1	10/06/92	1510	1404	325	65	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-06
TF-07	10/06/92	1700	1321	MF	63	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-08	10/06/92	1753	1404	325	63	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-09	10/06/92	1800	1321	MF	60	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	10/06/92	1920	1609	391	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-11	10/06/92	1930	1321	MF	50	700	F1/--/--	--/--/--	--	BFM	FAIL
TF-11R1	10/06/92	1930	1321	MF	50	700	P2/F1/--	P2/--/--	--	BFM	FAIL, RENAMED FROM TF-14
TF-11R2	10/06/92	1930	1321	MF	50	700	P2/P2/--	P2/F4/--	--	BFM	FAIL, RENAMED FROM TF-16
TF-11R3	10/06/92	1930	1321	MF	50	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-17
TF-12	10/06/92	1930	1404	325	50	750	F1/--/--	--/--/--	--	BFM	FAIL
TF-12R1	10/06/92	1930	1404	325	50	750	F1/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-13
TF-12R2	10/06/92	1930	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-15
TF-01	10/07/92	0915	1609	391	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	10/07/92	0930	1321	429	50	700	P2/--/--	P2/--/--	--	BFM	FAIL, DID NOT WELD
TF-03	10/07/92	0950	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-04	10/07/92	1125	1609	391	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/07/92	1312	1240	429	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-06	10/07/92	1327	1404	325	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-07	10/07/92	1336	1240	425	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-08	10/07/92	1341	1609	391	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-09	10/07/92	1705	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-09	10/07/92	1500	1203	429	60	725	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	10/07/92	1735	1404	325	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-11	10/07/92	1744	1609	391	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-01	10/08/92	0915	1404	325	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	10/08/92	0926	1609	391	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-03	10/08/92	1030	1319	256	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-04	10/08/92	1035	1609	391	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/08/92	1050	1404	325	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-06	10/13/29	1700	1404	390	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-07	10/13/29	1752	1319	30	45	750	P2/--/--	F1/--/--	--	WRS	FAIL
TF-07R1	10/13/29	1800	1319	30	40	750	P2/--/--	F1/--/--	--	WRS	FAIL, RENAMED FROM TF-08
TF-07R2	10/13/29	1840	1319	30	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, TF-09 RENAMED (1)
TF-01	10/13/92	0908	1203	391	40	750	F1/--/--	--/--/--	--	WRS	FAIL, TECH DID NOT WELD
TF-02	10/13/92	1336	1240	391	45	750	P2/P2/--	F2/--/--	--	WRS	FAIL
TF-02R1	10/13/92	1413	1240	391	45	750	P2/P2/--	P2/F2/--	--	WRS	FAIL, TF-04 RENAMED (1)
TF-03	10/13/92	1350	1404	390	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-05	10/13/92	1532	1609	391	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-10	10/13/92	1856	1609	391	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-11	10/13/92	1926	1404	390	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-01	10/23/92	0940	1419	390	51	750	P2/P2/F1	P2/P2/--	--	BFM	FAIL
TF-01R1	10/23/92	1005	1419	390	52	725	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-03
TF-02	10/23/92	1000	1404	325	52	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-04	10/23/92	1030	1319	45	52	725	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/23/92	1110	1404	325	54	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-06	10/23/92	1125	1419	390	56	750	P2/P2/P2	P2/P2/P2	P1		
							P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-08	10/23/92	1356	1419	390	65	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-09	10/23/92	1430	1319	45	65	725	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	10/23/92	1610	1419	390	65	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-11	10/23/92	1700	1319	45	60	750	P2/P2/F1	P2/P2/--	--	BFM	FAIL
TF-11R1	10/23/92	1720	1319	45	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-12
TF-13	10/23/92	1735	1404	325	60	750	P2/P2/F1	P2/P2/--	--	BFM	FAIL
TF-13R1	10/23/92	1800	1404	325	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-15
TF-14	10/23/92	1738	1419	390	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-16	10/23/92	1845	1319	45	60	750	P2/P2/F1	P2/P2/--	P1	BFM	FAIL, CAPPED ALL SEAMS
TF-17	10/23/92	EOD	1319	45	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-01	10/24/92	0858	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-02	10/24/92	0906	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-03	10/24/92	0918	1319	45	50	750	P2/P2/F2	P2/P2/P2	--	WRS	FAIL
TF-04	10/24/92	1138	1419	390	50	750	P2/P2/F2	P2/P2/F2	--	WRS	FAIL
TF-04R1	10/24/92	1332	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TF-06
TF-05	10/24/92	1150	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-07	10/24/92	1530	1319	45	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-08	10/24/92	1610	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-09	10/24/92	1630	1319	45	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-10	10/24/92	1724	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-11	10/24/92	1819	1404	325	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-12	10/24/92	1847	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-13	10/24/92	0949	1319	45	50	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-01	10/25/92	0850	1404	208	42	750	P2/P2/F1	P2/P2/--	--	BFM	FAIL
TF-01R1	10/25/92	0910	1404	208	42	750	F1/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-03
TF-01R3	10/25/92	0945	1404	208	42	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-05
TF-01R4	10/25/92	0955	1404	208	42	750	F1/--/--	--/--/--	--	BFM	FAIL, RENAMED FROM TF-06
TF-01R5	10/25/92	1013	1404	208	42	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-07
TF-01R6	10/25/92	1021	1404	208	42	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-08
TF-02	10/25/92	0855	1419	390	42	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-09	10/25/92	1038	1319	45	45	750	P2/F1/--	P2/--/--	--	BFM	FAIL
TF-09R1	10/25/92	1015	1319	45	45	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-10
TF-11	10/25/92	1317	1404	208	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-12	10/25/92	1322	1419	390	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-13	10/25/92	1405	1404	208	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-14	10/25/92	1432	1319	45	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-15	10/25/92	1530	1404	208	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-16	10/25/92	1630	1419	390	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-O1R2	10/25/92	0935	1404	208	42	750	P2/P2/--	P2/F2/--	--	BFM	FAIL, RENAMED FROM TF-04
TF-01	10/26/92	0803	1419	390	42	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	10/26/92	0820	1404	325	42	750	P2/P2/P2	P2/P2/F1	--	BFM	FAIL, TECH DID NOT WELD
TF-03	10/26/92	0841	1404	325	42	750	P2/F1/--	P2/--/--	--	BFM	FAIL, TECH DID NOT WELD
TF-04	10/26/92	0940	1609	325	45	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/26/92	1327	1609	325	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-06	10/26/92	1340	1419	390	58	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-01	10/27/92	0846	1419	390	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-02	10/27/92	0857	1609	325	45	750	P2/F2/--	P2/--/--	--	WRS	FAIL
TF-02R1	10/27/92	0917	1609	325	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TF-03
TF-04	10/27/92	0923	1319	45	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-05	10/27/92	1100	1404	417	55	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-06	10/27/92	1152	1609	325	60	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-07	10/27/92	1344	1419	390	60	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-08	10/27/92	1349	1319	45	60	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-10	10/27/92	1709	1609	325	45	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-11	10/27/92	1759	1404	417	40	750	P2/--/--	--/--/--	--	WRS	FAIL
TF-11R1	10/27/92	0730	1404	417	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TF-12
TF-13	10/27/92	0735	1319	45	40	750	F1/--/--	--/--/--	--	WRS	FAIL
TF-13R1	10/27/92	0741	1319	45	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TF-14
TF-01	10/28/92	0820	1609	325	35	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	10/28/92	0835	1419	390	37	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-03	10/28/92	0845	1240	417	37	750	F1/--/--	F1/--/--	--	BFM	FAIL
TF-03R1	10/28/92	0903	1240	417	39	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/28/92	0936	1319	415	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-06	10/28/92	1320	1240	417	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-07	10/28/92	1323	1419	390	60	750	P2/P2/P2	P2/P2/F1	--	BFM	FAIL
TF-07R1	10/28/92	1348	1419	390	60	750	P2/P2/F1	P2/P2/F1	--	BFM	FAIL
TF-08	10/28/92	1341	1609	325	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	10/28/92	1505	1319	45	60	750	F1/--/--	--/--/--	--	BFM	FAIL
TF-10R1	10/28/92	1545	1319	45	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-11	10/28/92	1530	1419	390	60	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-13	10/28/92	1728	1609	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-14	10/28/92	1736	1240	417	50	750	F1/--/--	P2/--/--	--	BFM	FAIL
TF-14R1	10/28/92		1240	417	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-01	10/30/92	0758	1609	325	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-02	10/30/92	0806	1321	417	40	700	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-03	10/30/92	0821	1319	390	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-04	10/30/92	1108	1419	390	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-05	10/30/92	1312	1609	325	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-06	10/30/92	1314	1321	417	40	700	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-07	10/30/92	1333	1419	390	40	750	P2/P2/P2	P2/P2/P2	P1	WWS	PASS
TF-08	10/30/92	1403	1319	390	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-09	10/30/92	1619	1321	417	40	700	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-10	10/30/92	1729	1609	325	40	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS
TF-11	10/30/92	0745	1319	390	35	750	F1/--/--	--/--/--	--	WRS	FAIL
TF-11R1	10/30/92	0837	1319	390	35	750	P2/P2/P2	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TF-12
TF-01	10/31/92	0745	1609	325	35	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-02	10/31/92	0755	1321	417	35	700	P2/--/--	F1/--/--	--	BFM	FAIL
TF-02R1	10/31/92	0817	1321	417	35	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-04	10/31/92	0837	1319	390	39	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-05	10/31/92	1130	1609	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-06	10/31/92	1320	1321	417	55	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-07	10/31/92	1345	1319	390	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-08	10/31/92	1450	1419	256	55	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-09	10/31/92	1540	1523	416	55	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	10/31/92	1615	1609	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-11	10/31/92	1720	1321	417	50	700	P2/F1/--	P2/--/--	--	BFM	FAIL
TF-11R1	10/31/92	0730	1321	417	40	700	P2/F1/--	P2/--/--	--	BFM	FAIL
TF-11R2	10/31/92	0814	1321	417	40	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-12	10/31/92	1722	1523	416	50	700	F1/--/--	--/--/--	--	BFM	FAIL
TF-12R1	10/31/92	0732	1523	416	40	700	P2/F1/--	P2/F1/--	--	BFM	FAIL
TF-12R2	10/31/92	0925	1523	416	40	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-13	10/31/92	1750	1609	325	50	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-16	10/31/92	0735	1419	256	40	750	P2/--/--	F1/--/--	--	BFM	FAIL
TF-18	10/31/92	0824	1419	256	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-20	10/31/92	EOD	1319	390	40	750	F1/--/--	--/--/--	--	BFM	FAIL, ALL SEAMS CAPPED
TF-01	11/01/92	0751	1609	325	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-02	11/01/92	0822	1321	417	40	700	F1/--/--	--/--/--	--	BFM	FAIL
TF-02R1	11/01/92	0842	1321	417	40	700	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-04
TF-03	11/01/92	0831	1419	256	40	750	P2/P2/P2	P2/P2/F1	--	BFM	FAIL
TF-03R1	11/01/92	0850	1419	256	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TF-05
TF-06	11/01/92	0858	1319	390	40	750	P2/P2/--	P2/F1/--	--	BFM	FAIL
TF-07	11/01/92	0920	1319	390	40	750	P2/F1/--	P2/--/--	--	BFM	FAIL

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

GEOMEMBRANE TRIAL SEAM SUMMARY
FUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	WELDER ID. MACHINE NUMBER	WELDER ID. TECH	APPROX. AMBIENT TEMP.(F)	DIGITAL SET TEMP.	RESULTS PEEL INSIDE	RESULTS PEEL OUTSIDE	RESULTS SHEAR	QA MON	REMARKS
TF-08	11/01/92	0800	1609	325	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-09	11/01/92	0805	1321	417	40	760	P2/P2/P2	P2/P2/P2	P1	BFM	PASS
TF-10	11/01/92	0813	1419	256	40	750	P2/P2/P2	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was not used for welding, and was removed from use until inspected and repaired.

T.2

EXTRUSION METHOD

JUNE 1993

917-1203

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID.		MACHINE TEMP.(C)		RESULTS		QA MONITOR	REMARKS
				MACH. NUMBER	TECH.	BAR.	NOZ.	PEEL	SHEAR		
TX-01	10/05/92	0843	40	74	145	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-02	10/05/92	1440	65	74	145	7	235	P2/P2/P2	P1	BFM	PASS
TX-03	10/05/92	1751	63	74	145	7	235	F2/F2/--	--	BFM	FAIL
TX-03R1	10/05/92	1812	63	74	145	7	235	P2/P2/P2	P1	BFM	PASS, RENAMED FROM TX-04
TX-05	10/05/92	1920	55	74	145	7	235	P2/P2/P2	P1	BFM	PASS
TX-01	10/06/92	0900	50	74	145	7.5	235	P2/P2/P2	P4	BFM	PASS
TX-02	10/06/92	0905	50	74	403	7.5	235	P2/--/--	--	BFM	FAIL
TX-03	10/06/92	1005	55	111	398	5	225	P2/P2/P2	P1	BFM	PASS
TX-04	10/06/92	1300	63	111	398	5	225	P2/P2/P2	P3	BFM	PASS
TX-05	10/06/92	1330	63	74	145	7	235	P2/P2/P2	P3	BFM	PASS
TX-06	10/06/92	1630	65	74	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-07	10/06/92	1700	62	111	398	5	225	P2/P2/P2	P6	BFM	PASS
TX-08	10/06/92	1900	55	74	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-09	10/06/92	1919	39	111	398	5.5	255	P2/P2/P2	P6	WRS	PASS
TX-01	10/07/92	0857	50	111	398	5	225	P2/P2/P2	P6	BFM	PASS
TX-02	10/07/92	0910	50	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-03	10/07/92	0945	52	74	403	7.5	235	F1/--/--	--	BFM	FAIL, DID NOT WELD
TX-04	10/07/92	1320	60	111	398	5	235	P2/P2/P2	P1	BFM	PASS
TX-05	10/07/92	1332	60	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-06	10/07/92	1334	60	74	403	7.5	235	F1/--/--	--	BFM	FAIL, DID NOT WELD
TX-07	10/07/92	1351	60	111	407	5	235	P2/P2/P2	P6	BFM	PASS
TX-08	10/07/92	1650	60	74	145	7.5	233	P2/P2/P2	P6	BFM	PASS
TX-09	10/07/92	1654	60	74	403	7.5	235	P2/F4/--	--	BFM	FAIL, DID NOT WELD
TX-10	10/07/92	1707	60	111	398	5.5	225	P2/P2/P2	P6	BFM	PASS
TX-11	10/07/92	1752	60	111	398	5.5	225	P2/P2/P2	P6	BFM	PASS
TX-12	10/07/92	1805	58	111	407	5.5	225	P2/P2/P2	P6	BFM	PASS
TX-01	10/08/92	0830	55	111	398	5	235	P2/P2/P2	P6	BFM	PASS
TX-02	10/08/92	0830	55	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-03	10/08/92	0927	55	111	407	6	225	P2/P2/P2	P6	BFM	PASS
TX-01	10/09/92	0900	50	74	145	7.5	235	P2/P2/F2	--	BFM	FAIL
TX-01R1	10/09/92	0930	50	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-03
TX-02	10/09/92	0900	50	111	398	6	225	P2/P2/P2	P6	BFM	PASS
TX-04	10/09/92	1315	50	111	398	6	225	P2/P2/P2	P6	BFM	PASS
TX-05	10/09/92	1330	50	111	407	6	225	P2/P2/P2	P6	BFM	PASS
TX-06	10/09/92	1340	50	74	145	7.5	235	P2/P2/F2	--	BFM	FAIL
TX-06R1	10/09/92	1355	50	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-07
TX-08	10/09/92	1605	50	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-09	10/09/92	1610	50	111	398	6	225	P2/P2/P2	P6	BFM	PASS
TX-10	10/09/92	1615	50	111	407	6	225	P2/P2/P2	P6	BFM	PASS
TX-01	10/10/92	0844	40	111	407	6	225	P2/P2/P2	P1	WRS	PASS
TX-02	10/10/92	0846	40	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-03	10/10/92	0850	40	74	403	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-01	10/12/92	1037	50	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-02	10/12/92	1050	50	111	407	6	225	P2/P2/P2	P1	WRS	PASS
TX-03	10/12/92	1100	50	74	403	7.5	235	F2/--/--	--	WRS	FAIL
TX-03R1	10/12/92	1332	50	74	403	7.5	235	P2/F2/P2	--	WRS	FAIL, RENAMED TX-05 (1)
TX-04	10/12/92	1324	50	74	145	7.5	235	P2/P2/P2	P2	WRS	PASS
TX-06	10/12/92	1339	50	111	407	6.5	225	P2/P2/F2	--	WRS	FAIL
TX-07	10/12/92	1400	50	111	407	6.5	235	P2/P2/P2	P5	WRS	PASS
TX-01	10/13/92	0800	37	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-02	10/13/92	0915	40	111	407	7	225	P2/P2/P2	P1	WRS	PASS
TX-03	10/13/92	0922	40	70	209	6	235	P2/P2/P2	P6	WRS	PASS
TX-04	10/13/92	0929	40	70	204	6	235	P2/P2/P2	P1	WRS	PASS
TX-05	10/13/92	1318	45	111	407	7	225	P2/P2/P2	P1	WRS	PASS
TX-06	10/13/92	1331	45	74	145	8	240	P2/P2/P2	P1	WRS	FAIL
TX-06R1	10/13/92	1405	45	74	145	8	240	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-09

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-07	10/13/92	1343	45	70	402	7	235	P2/P2/P2	P1	WRS	PASS
TX-08	10/13/92	1347	45	70	209	7	235	P2/F1/--	--	WRS	FAIL
TX-10	10/13/92	1906	45	70	402	7	235	P2/P2/P2	P1	WRS	PASS
TX-11	10/13/92	1921	45	111	407	7	225	P2/P2/P2	P1	WRS	PASS
TX-12	10/13/92		45	74	145	8	240	P2/F2/F2	--	WRS	FAIL
TX-12R1	10/13/92		45	74	145	8	245	P2/P2/P2	P1	BIE	PASS, RENAMED FROM TX-13
TX-01	10/17/92	1005	38	33	45	7.5	230	P2/P2/P2	P6	BFM	PASS
TX-02	10/17/92	1010	38	111	325	7	225	P2/P2/--	--	BFM	FAIL
TX-02R1	10/17/92	1050	38	111	325	8	225	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-07
TX-03	10/17/92	1016	38	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-04	10/17/92	1022	38	70	402	7	240	P2/P2/P2	P6	BFM	PASS
TX-05	10/17/92	1027	38	27	202	6	260	P2/P2/P2	P6	BFM	PASS
TX-06	10/17/92	1042	38	27	209	6	260	P2/P2/P2	P6	BFM	PASS
TX-08	10/17/92	1325	43	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-09	10/17/92	1331	43	27	209	7	260	P2/P2/P2	P6	BFM	PASS
TX-10	10/17/92	1339	43	70	402	7	235	P2/P2/P2	P6	BFM	PASS
TX-11	10/17/92	1345	43	33	45	7.5	230	P2/P2/P2	P6	BFM	PASS
TX-12	10/17/92	1700	43	27	209	7.5	260	P2/P2/P2	P6	BFM	PASS
TX-13	10/17/92	1705	43	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-14	10/17/92	1710	43	33	45	7.5	230	P2/P2/P2	P6	BFM	PASS
TX-15	10/17/92	1728	43	70	402	7	235	P2/P2/P2	P6	BFM	PASS
TX-01	10/19/92	1020	39	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-02	10/19/92	1024	39	27	209	7	265	P2/--/--	--	WRS	FAIL
TX-03	10/19/92	1028	39	47	402	6.5	235	F2/P2/--	--	WRS	FAIL
TX-03R1	10/19/92	1110	39	47	402	7	235	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-07
TX-04	10/19/92	1033	39	33	45	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-05	10/19/92	1038	39	27	202	7	265	P2/--/--	--	WRS	FAIL
TX-05R1	10/19/92	1100	39	27	202	7	265	P2/P2/P2	P6	WRS	PASS, RENAMED FROM TX-06

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-08	10/19/92	1332	45	27	202	7	265	P2/P2/P2	P1	WRS	PASS
TX-09	10/19/92	1339	45	27	209	7	265	P2/P2/P2	P1	WRS	PASS
TX-10	10/19/92	1345	45	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-11	10/19/92	1409	45	33	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-12	10/19/92	1528	45	47	402	7	245	P2/P2/P2	P1	WRS	PASS
TX-13	10/19/92	1740	45	33	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-14	10/19/92	1744	45	27	202	7	265	P2/P2/P2	P1	WRS	PASS
TX-15	10/19/92	1752	45	402	47	7	245	P2/P2/P2	P1	WRS	PASS
TX-16	10/19/92	1755	45	74	145	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-01	10/21/92	0845	42	33	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-02	10/21/92	0855	42	74	145	7.5	260	P2/P2/P2	P1	WRS	PASS
TX-03	10/21/92	0900	42	47	402	7	245	P2/P2/P2	P6	WRS	PASS
TX-04	10/21/92	0906	42	47	243	7	245	F2/--/--	--	WRS	FAIL
TX-05	10/21/92	0912	42	27	202	7	265	P2/P2/P2	P1	WRS	PASS
TX-06	10/21/92	0919	42	27	209	7	265	P2/P2/P2	P1	WRS	PASS
TX-07	10/21/92	1133	42	47	406	7	230	P2/P2/P2	P1	WRS	PASS
TX-08	10/21/92	1317	50	33	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-09	10/21/92	1323	50	74	145	7.5	240	P2/P2/P2	P1	WRS	PASS
TX-10	10/21/92	1327	50	47	406	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-11	10/21/92	1332	50	27	202	7	265	P2/P2/P2	P1	WRS	PASS
TX-12	10/21/92	1336	50	47	243	7.5	230	P2/P2/--	--	WRS	FAIL
TX-13	10/21/92	1344	50	27	209	6	260	P2/P2/P2	P1	WRS	PASS
TX-14	10/21/92	1737	50	33	45	7.5	230	F2/F2/--	--	WRS	FAIL
TX-14R1	10/21/92	1801	50	33	45	7.5	230	P2/P2/P2	--	WRS	FAIL, RENAMED FROM TX-18
TX-15	10/21/92	1747	50	74	145	7.5	260	P2/P2/P2	P1	WRS	PASS
TX-16	10/21/92	1752	50	47	406	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-17	10/21/92	1756	50	27	209	7	267	P2/P2/P2	P1	WRS	PASS
TX-19	10/21/92	0800	50	27	202	7	260	P2/P2/P2	P1	WRS	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-20	10/21/92	----	--	--	---	-	---	-------	--	---	TEST NUMBER SKIPPED
TX-21	10/21/92	1436	50	33	45	7.5	230	F2/F2/--	--	WRS	FAIL
TX-22	10/21/92	1510	50	33	45	7.5	230	P2/P2/P2	P1	WRS	PASS, END-OF-DAY
TX-01	10/22/92	0905	37	74	145	7.5	240	P2/P2/P2	P1	WRS	PASS
TX-02	10/22/92	0910	37	27	209	7	260	P2/P2/P2	P6	WRS	PASS
TX-03	10/22/92	0919	37	47	406	7.5	235	P2/F2/--	--	WRS	FAIL
TX-03R1	10/22/92	1048	50	47	406	7.5	230	P2/F2/--	--	WRS	FAIL, RENAMED FROM TX-08
TX-03R2	10/22/92	1130	50	47	406	6	235	P2/P2/P2	P1	WRS	PASS,RENAMED FROM TX-10
TX-03R3	10/22/92	1129	50	47	406	6	235	P2/P2/P2	P1	WRS	PASS,RENAMED FROM TX-11
TX-04	10/22/92	0923	37	33	208	7	235	P2/P2/P2	P1	WRS	PASS
TX-05	10/22/92	0934	40	47	402	7.5	235	P2/P2/P2	P1	WRS	PASS
TX-06	10/22/92	0940	47	111	325	6.5	230	P2/P2/P2	--	WRS	FAIL
TX-07	10/22/92	1000	47	111	325	7.5	230	F2/--/--	--	WRS	FAIL
TX-09	10/22/92	1108	50	111	45	7.5	225	P2/P2/P2	P1	WRS	PASS
TX-12	10/22/92	1132	50	111	45	7.5	225	P2/P2/P2	P1	WRS	PASS
TX-13	10/22/92	1327	50	74	145	7.5	240	P2/P2/P2	P1	WRS	PASS
TX-14	10/22/92	1332	50	33	208	7	230	P2/P2/P2	P1	WRS	PASS
TX-15	10/22/92	1336	50	27	202	6	260	P2/P2/P2	P1	WRS	PASS
TX-16	10/22/92	1556	50	111	45	7.5	225	P2/P2	--	WRS	FAIL
TX-16R1	10/22/92	1625	50	111	45	7	225	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-18
TX-17	10/22/92	1617	50	47	406	6	235	P2/P2/P2	P1	WRS	PASS
TX-19	10/22/92	1719	50	111	45	7	225	P2/P2/P2	P1	WRS	PASS
TX-20	10/22/92	1725	50	74	145	7.5	240	P2/P2/P2	P1	WRS	PASS
TX-21	10/22/92	1436	50	33	45	7.5	230	F2/F2/--	--	WRS	FAIL
TX-22	10/22/92	1735	50	27	209	7	260	P2/P2/P2	P1	WRS	PASS
TX-23	10/22/92	1744	50	33	208	7	235	P2/P2/P2	P1	WRS	PASS
TX-24	10/22/92	1750	50	47	406	6	235	P2/P2/P2	P1	WRS	PASS
TX-01	10/23/92	0843	48	74	145	7.5	240	P2/F1/--	--	BFM	FAIL

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-01R1	10/23/92	0903	50	74	145	7.5	240	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-04
TX-02	10/23/92	0850	50	33	208	7	235	P2/P2/P2	P6	BFM	PASS
TX-03	10/23/92	0857	50	27	209	7	260	P2/P2/P2	P6	BFM	PASS
TX-05	10/23/92	1327	65	74	145	7	235	F1/--/--	--	BFM	FAIL
TX-05R1	10/23/92	1349	65	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-08
TX-06	10/23/92	1340	65	27	202	6	260	P2/P2/P2	P6	BFM	PASS
TX-07	10/23/92	1345	65	33	208	6	225	P2/P2/P2	P6	BFM	PASS
TX-09	10/23/92	1740	60	33	208	6	225	P2/P2/P2	P6	BFM	PASS
TX-10	10/23/92	1815	60	74	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-11	10/23/92	1823	60	27	202	6	260	P2/P2/P2	P6	BFM	PASS
TX-12	10/23/92	1827	60	27	209	6	260	P2/P2/P2	P6	BFM	PASS
TX-01	10/24/92	0853	50	74	145	7.5	240	P2/P2/P2	P1	WRS	PASS
TX-02	10/24/92	0913	50	27	202	7	260	P2/P2/P2	P1	WRS	PASS
TX-03	10/24/92	0924	50	111	208	6	225	F2/--/--	--	WRS	FAIL
TX-03R1	10/24/92	0951	50	111	208	6	230	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-04
TX-05	10/24/92	1320	50	111	208	6	230	P2/P2/P2	P1	WRS	PASS
TX-06	10/24/92	1328	50	27	202	7	260	P2/P2/P2	P1	WRS	PASS
TX-07	10/24/92	1350	50	33	145	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-08	10/24/92	1450	50	47	202	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-09	10/24/92	1650	50	111	208	6	230	P2/P2/P2	P1	WRS	PASS
TX-10	10/24/92	1827	50	33	145	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-11	10/24/92	1835	50	47	202	6.5	230	P2/P2/P2	P1	WRS	PASS
TX-01	10/25/92	0900	42	47	209	5	235	P2/P2/P2	P6	BFM	PASS
TX-02	10/25/92	0915	42	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-03	10/25/92	1327	55	47	202	6	235	P2/P2/P2	P6	BFM	PASS
TX-04	10/25/92	1335	55	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-05	10/25/92	1600	50	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-06	10/25/92	1608	50	47	202	6	235	P2/P2/P2	P6	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-07	10/25/92	1616	50	47	209	6	235	P2/P2/P2	P6	BFM	PASS
TX-01	10/26/92	0800	42	33	145	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-02	10/26/92	0900	42	47	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-03	10/26/92	1336	58	47	208	7	240	P2/P2/F1	--	BFM	FAIL
TX-03R1	10/26/92	1403	58	47	208	6.5	240	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-05
TX-04	10/26/92	1350	58	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-06	10/26/92	1440	58	111	45	7	230	P2/P2/P2	P6	BFM	PASS
TX-07	10/26/92	1720	50	33	145	7	235	P2/P2/P2	P6	CPB	PASS
TX-08	10/26/92	1725	50	47	208	6.5	240	P2/P2/P2	P6	CPB	PASS
TX-09	10/26/92	1740	50	111	45	7	230	P2/P2/P2	P6	CPB	PASS
TX-01	10/27/92	0815	50	74	145	7.5	250	P2/P2/P2	P1	WRS	PASS
TX-02	10/27/92	0822	50	33	208	7	240	P2/P2/P2	P1	WRS	PASS
TX-03	10/27/92	1334	60	33	208	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-04	10/27/92	1356	60	74	145	7	250	P2/P2/P2	P1	WRS	PASS
TX-05	10/27/92	1746	40	74	145	7	250	P2/P2/P2	P1	WRS	PASS
TX-06	10/27/92	1752	40	33	208	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-01	10/28/92	0802	35	74	145	7.5	250	P2/P2/P2	P6	BFM	PASS
TX-02	10/28/92	0806	35	33	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-03	10/28/92	0811	35	47	209	6	235	P2/P2/P2	P5	BFM	PASS
TX-04	10/28/92	1333	60	33	208	7	235	P2/P2/P2	P6	BFM	PASS
TX-05	10/28/92	1337	60	74	145	6	245	P2/P2/P2	P6	BFM	PASS
TX-06	10/28/92	1355	60	47	202	6	235	P2/P2/P2	P6	BFM	PASS
TX-07	10/28/92	1721	50	74	145	6	245	P2/P2/P2	P6	BFM	PASS
TX-08	10/28/92	1740	50	33	208	7	235	P2/P2/P2	P6	BFM	PASS
TX-09	10/28/92	1745	50	47	202	6	235	P2/P2/P2	P5	BFM	PASS
TX-10	10/28/92	1751	50	47	209	6	235	P2/P2/P2	P6	BFM	PASS
TX-01	10/29/92	0759	40	47	209	6	235	P2/P2/P2	P1	WRS	PASS
TX-02	10/29/92	0802	40	33	208	7	240	P2/P2/P2	P1	WRS	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-03	10/29/92	0806	40	74	145	7.5	250	P2/P2/P2	P1	WRS	PASS
TX-04	10/29/92	1326	50	33	208	7	240	P2/P2/P2	P1	WRS	PASS
TX-05	10/29/92	1334	50	47	202	6	235	P2/P2/P2	P1	WRS	PASS
TX-06	10/29/92	1340	50	74	145	7.5	250	P2/F2/--	--	WRS	FAIL
TX-06R1	10/29/92	1403	50	74	145	7.5	250	P2/F2/--	--	WRS	FAIL, RENAMED FROM TX-07
TX-06R2	10/29/92	1430	50	74	145	7	240	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-08
TX-06R3	10/29/92	1440	50	74	145	7	240	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-09
TX-10	10/29/92	1637	50	33	208	7	240	P2/P2/P2	P1	WRS	PASS
TX-11	10/29/92	1640	50	74	145	7	240	P2/P2/P2	P1	WRS	PASS
TX-12	10/29/92	1645	50	47	202	6	235	P2/P2/P2	P1	WRS	PASS
TX-13	10/29/92	1649	50	47	209	6	235	P2/P2/P2	P1	WRS	PASS
TX-01	10/30/92	0748	40	33	208	7	240	P2/P2/P2	P1	WRS	PASS
TX-02	10/30/92	0753	40	47	209	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-03	10/30/92	0814	40	74	145	7.5	255	P2/P2/P2	P1	WRS	PASS
TX-04	10/30/92	1329	40	33	208	7	240	P2/F2/--	--	WRS	FAIL
TX-04R1	10/30/92	1352	40	33	208	7	240	P2/P2/P2	P1	WRS	PASS, RENAMED FROM TX-07
TX-05	10/30/92	1341	40	74	145	8	250	P2/P2/P2	P1	WRS	PASS
TX-06	10/30/92	1345	40	47	202	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-08	10/30/92	1554	40	33	208	7	240	P2/P2/P2	P1	WRS	PASS
TX-09	10/30/92	1602	40	47	209	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-10	10/30/92	1610	40	47	202	6.5	235	P2/P2/P2	P1	WRS	PASS
TX-11	10/30/92	1724	40	74	145	6.5	250	P2/P2/P2	P1	WRS	PASS
TX-01	10/31/92	0805	35	33	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-02	10/31/92	0811	35	74	74	8	255	P2/P2/P2	P6	BFM	PASS
TX-03	10/31/92	0830	35	47	47	6.5	235	P2/P2/P2	P6	BFM	PASS
TX-04	10/31/92	1326	55	33	33	7	240	P2/P2/P2	P6	BFM	PASS
TX-05	10/31/92	1331	55	47	47	6.5	235	P2/P2/P2	P6	BFM	PASS
TX-06	10/31/92	1337	55	74	74	8	250	P2/P2/P2	P1	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-07	10/31/92	1732	50	33	33	7	240	P2/P2/P2	P5	BFM	PASS
TX-08	10/31/92	1738	50	47	202	6.5	235	F1/--/--	--	BFM	FAIL
TX-08R1	10/31/92	0803	40	47	202	6.5	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-12
TX-09	10/31/92	1740	50	47	47	6.5	235	P2/P2/P2	P1	BFM	PASS
TX-10	10/31/92	1800	50	74	145	8	250	P2/P2/F1	--	BFM	FAIL
TX-10R1	10/31/92	0748	40	74	145	8	250	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-11
TX-01	11/01/92	0800	40	74	145	7.5	255	F1/--/--	--	BFM	FAIL
TX-01R1	11/01/92	0841	40	74	145	7.5	255	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-04
TX-02	11/01/92	0801	40	33	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-03	11/01/92	0808	40	47	209	6.5	235	P2/P2/P2	P5	BFM	PASS
TX-05	11/01/92	1140	45	74	145	7.5	255	P2/P2/P2	P6	BFM	PASS
TX-01	11/05/92	0830	40	111	45	7.5	230	P2/P2/P2	P6	BFM	PASS
TX-02	11/05/92	0840	40	33	145	7.5	245	P2/P2/P2	P6	BFM	PASS
TX-03	11/05/92	0845	40	74	325	7.5	240	F1/--/--	--	BFM	FAIL
TX-03R1	11/05/92	0915	40	74	325	7.5	250	P2/P2/P2	P5	BFM	PASS, RENAMED FROM TX-04
TX-05	11/05/92	1030	40	74	33	7.5	250	P2/P2/P2	P6	CPB	PASS
TX-06	11/05/92	1037	40	33	145	7.5	245	P2/P2/F3	--	CPB	FAIL
TX-07	11/05/92	1045	40	111	45	7.5	230	P2/P2/P2	P6	CPB	PASS
TX-08	11/05/92	0939	38	33	145	7.5	245	P2/P2/P2	P1	WRS	PASS
TX-01	11/06/92	0937	38	111	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-02	11/06/92	0947	38	33	145	7.5	245	P2/P2/P2	P1	WRS	PASS
TX-03	11/06/92	0955	38	74	325	7.5	250	P2/P2/--	--	JAL	FAIL, DID NOT WELD
TX-04	11/06/92	1000	38	74	243	7.5	250	P2/P2/P2	P1	JAL	PASS
TX-05	11/06/92	1145	35	111	45	7.5	230	P2/P2/P2	P1	WRS	PASS
TX-06	11/06/92	1155	35	33	145	7.5	245	P2/P2/P2	P1	JAL	PASS
TX-07	11/06/92	1200	35	74	243	7.5	250	P2/P2/F2	--	JAL	FAIL
TX-08	11/06/92	0930	39	74	243	7.5	250	P2/P2/P2	P6	BFM	PASS
TX-09	11/06/92	0940	39	111	45	7.5	230	P2/P2/P2	P6	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID.		MACHINE TEMP.(C)		RESULTS		QA MONITOR	REMARKS
				MACH. NUMBER	TECH.	BAR.	NOZ.	PEEL	SHEAR		
TX-10	11/06/92	0955	40	33	145	7.5	245	P2/P2/P2	P6	BFM	PASS
TX-01	11/08/92	0935	39	33	174	7.5	240	P2/F1/--	--	BFM	FAIL
TX-01R1	11/08/92	1001	40	33	174	7.5	240	F-/F-/--	--	BFM	FAIL, RENAMED FROM TX-04
TX-01R2	11/08/92	1047	45	33	325	7	240	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-06
TX-02	11/08/92	0943	39	74	145	7.5	260	P2/P2/P2	--	BFM	PASS
TX-03	11/08/92	0946	39	111	45	7	235	P2/P2/P2	--	BFM	PASS
TX-05	11/08/92	1020	40	33	325	7	240	P2/P2/P2	--	BFM	PASS
TX-07	11/08/92	1320	45	111	45	7	235	P2/P2/P2	--	BFM	PASS
TX-08	11/08/92	1325	45	74	145	7.5	260	P2/P2/P2	--	BFM	PASS
TX-09	11/08/92	1330	45	33	325	7	240	F-/--/--	--	BFM	FAIL
TX-09R1	11/08/92	1402	45	33	325	7	240	F1/--/--	--	BFM	FAIL, RENAMED FROM TX-10
TX-09R2	11/08/92	1430	45	33	325	7	240	F1/--/--	--	BFM	FAIL, RENAMED FROM TX-11
TX-09R3	11/08/92	1500	45	33	325	7	240	P2/P2/P2	--	BFM	PASS, RENAMED FROM TX-12
TX-09R4	11/08/92	1507	45	33	325	7	240	P2/P2/P2	--	BFM	PASS, RENAMED FROM TX-13
TX-14	11/08/92	1648	45	33	325	7	240	P2/P2/P2	P6	BFM	PASS
TX-15	11/08/92	1715	40	74	145	7.5	260	P2/P2/P2	P6	BFM	PASS
TX-16	11/08/92	0755	40	111	45	7	235	P2/P2/P2	P5	BFM	PASS
TX-01	11/09/92	0800	40	111	45	7	235	P2/P2/P2	P5	BFM	PASS
TX-02	11/09/92	0807	40	74	325	7.5	230	P2/P2/P2	P6	BFM	PASS
TX-03	11/09/92	0813	40	33	145	7.5	240	P2/P2/P2	P6	BFM	PASS
TX-04	11/09/92	1325	40	74	325	7.5	230	P2/P2/P2	P6	CPB	PASS
TX-05	11/09/92	1330	40	111	45	7	235	P2/P2/P2	P6	CPB	PASS
TX-06	11/09/92	1335	40	33	145	7.5	260	P2/P2/P2	P6	CPB	PASS
TX-01	11/13/92	1115	36	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-02	11/13/92	1120	36	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-03	11/13/92	1515	36	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-04	11/13/92	1520	36	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-05	11/13/92	1700	36	111	45	7	235	P2/P2/P2	P5	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-06	11/13/92	1705	36	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-01(2)	11/14/92	0810	28	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-02(2)	11/14/92	0840	28	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-03(2)	11/14/92	1025	32	70	256	6	220	P2/P2/P2	P6	BFM	PASS
TX-04(2)	11/14/92	1146	37	74	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-05(2)	11/14/92	0830	28	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-06(2)	11/14/92	0834	28	70	256	6	220	P2/P2/P2	P6	BFM	PASS
TX-07(2)	11/14/92	0840	28	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-01	11/15/92	0855	40	111	45	7	235	P2/P2/P2	P5	BFM	PASS
TX-02	11/15/92	0901	40	70	256	6	220	P2/F2/--	--	BFM	FAIL
TX-02R1	11/15/92	0910	40	70	256	6	220	F3/F3/--	--	BFM	FAIL,RENAMED FROM TX-04
TX-02R2	11/15/92	0940	40	70	256	6	235	P2/P2/P2	P5	BFM	PASS, RENAMED FROM TX-05
TX-02R3	11/15/92	0945	40	70	256	6	235	F3/--/--	--	BFM	FAIL, RENAMED FROM TX-06
TX-03	11/15/92	0904	40	74	208	7	240	P2/P2/P2	P5	BFM	PASS
TX-07	11/15/92	0946	40	70	416	6	235	P2/P2/P2	P5	BFM	PASS
TX-08	11/15/92	1320	40	111	45	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-09	11/15/92	1325	40	74	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-10	11/15/92	1330	40	70	417	6	235	P2/P2/F3	--	BFM	FAIL
TX-10R1	11/15/92	1410	40	70	417	7	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-14
TX-11	11/15/92	1334	40	70	416	6	235	P2/P2/F3	--	BFM	FAIL
TX-11R1	11/15/92	1415	36	70	416	7	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-15
TX-12	11/15/92	1400	40	33	174	6	235	P2/P2/P2	P6	BFM	PASS
TX-13	11/15/92	1404	40	33	256	6	235	P2/P2/P2	P6	BFM	PASS
TX-16	11/15/92	1610	36	70	416	7	235	P2/P2/P2	P5	BFM	PASS
TX-17	11/15/92	1615	36	74	208	7	240	P2/P2/P2	P5	BFM	PASS
TX-18	11/15/92	1620	36	33	174	6	235	P2/P2/P2	P6	BFM	PASS
TX-19	11/15/92	1625	36	111	45	7.5	235	P2/P2/P2	P6	BFM	PASS
TX-01	11/16/92	0850	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS

NOTE:

1) This machine was taken out of production to be repaired. No welding was done.

2) Trial seams and geomembrane repairs occurred within heated enclosures.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-02	11/16/92	0855	40	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-03	11/16/92	0960	40	70	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-04	11/16/92	1060	38	47	256	7	230	F1/--/--	--	BFM	FAIL
TX-04R1	11/16/92	1020	38	47	256	7	230	P2/P2/P2	P5	BFM	PASS, RENAMED FROM TX-05
TX-06	11/16/92	1320	40	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-07	11/16/92	1325	40	70	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-08	11/16/92	1334	40	47	256	7	230	P2/P2/P2	P6	BFM	PASS
TX-09	11/16/92	1350	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-10	11/16/92	1635	40	70	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-11	11/16/92	1640	40	47	256	7	230	P2/P2/P2	P6	BFM	PASS
TX-12	11/16/92	1645	40	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-13	11/16/92	1649	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-01	11/17/92	0844	41	47	256	7	230	P2/P2/P2	P5	BFM	PASS
TX-02	11/17/92	0849	41	70	208	7	240	P2/P2/P2	P5	BFM	PASS
TX-03	11/17/92	0856	41	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-04	11/17/92	0920	41	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-05	11/17/92	0950	41	26	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-06	11/17/92	1100	41	105	417	7	230	P2/P2/P2	P5	BFM	PASS
TX-07	11/17/92	1110	41	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-08	11/17/92	1325	41	26	208	7	240	P2/P2/P2	P6	BFM	PASS
TX-09	11/17/92	1335	41	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-10	11/17/92	1351	41	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-11	11/17/92	1355	41	47	256	7	230	P2/P2/P2	P6	BFM	PASS
TX-12	11/17/92	1500	41	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-13	11/17/92	1630	41	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-14	11/17/92	1645	41	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-15	11/17/92	1702	41	26	308	7	240	F1/--/--	--	BFM	FAIL, END-OF-DAY
TX-16	11/17/92	1703	41	111	45	7	235	P2/P2/P2	P5	BFM	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-17	11/17/92	0820	40	47	256	7	230	P2/P2/F3	--	BFM	FAIL
TX-18	11/17/92	0825	40	26	208	7	240	P2/P2/P2	P6	BFM	PASS, RETEST FOR TX-15
TX-19	11/17/92	0840	40	47	256	7	230	F1/--/--	--	BFM	FAIL, RETEST FOR TX-17
TX-20	11/17/92	0856	40	47	256	7	230	F3/--/--	--	BFM	FAIL, RETEST FOR TX-17
TX-21	11/17/92	0940	40	47	256	7	230	P2/P2/P2	P6	BFM	PASS, RETEST FOR TX-17
TX-01	11/18/92	0835	40	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-02	11/18/92	0841	40	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-03	11/18/92	0846	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-04	11/18/92	0852	40	47	402	7	240	F1/--/--	--	BFM	FAIL
TX-04R1	11/18/92	1100	40	44	256	7	230	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-08
TX-05	11/18/92	0900	40	70	208	7	240	P2/P2/F3	--	BFM	FAIL
TX-05R1	11/18/92	0920	40	70	208	7	240	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-06
TX-07	11/18/92	1000	40	47	256	7	230	P2/P2/P2	P5	BFM	PASS
TX-09	11/18/92	1300	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-10	11/18/92	1325	40	70	208	7	240	P2/P2/P2	P5	BFM	PASS
TX-11	11/18/92	1330	40	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-12	11/18/92	1335	40	44	256	7	230	P2/P2/P2	P6	BFM	PASS
TX-13	11/18/92	1340	40	33	145	7	235	P2/P2/P2	P1	BFM	PASS
TX-14	11/18/92	1510	40	111	45	7	235	P2/P2/P2	P6	BFM	PASS
TX-15	11/18/92	1645	40	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-16	11/18/92	1655	40	70	208	7	240	P2/P2/P2	P3	BFM	PASS
TX-17	11/18/92	1701	40	44	256	7	230	P2/P2/P2	P3	BFM	PASS
TX-18	11/18/92	1706	40	105	321	7	230	P2/P2/P2	P6	BFM	PASS
TX-01	11/19/92	0845	34	44	256	6	230	P2/P2/P2	P5	BFM	PASS
TX-02	11/19/92	0850	34	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-03	11/19/92	0855	34	111	321	7	235	P2/P2/P2	P6	BFM	PASS
TX-04	11/19/92	1315	45	111	321	7	235	P2/F1/--	--	BFM	FAIL
TX-04R1	11/19/92	1330	45	111	321	7	235	P2/P2/P2	P5	BFM	PASS, RENAMED FROM TX-07

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-05	11/19/92	1318	45	44	256	6	230	P2/P2/P2	P5	BFM	PASS
TX-06	11/19/92	1325	45	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-08	11/19/92	1430	45	44	256	6	230	F1/--/--	--	BFM	FAIL, GUN BROKE
TX-09	11/19/92	1435	45	111	^321	7	235	P2/P2/P2	P5	BFM	PASS
TX-10	11/19/92	1501	45	^1501	^256	6	230	P2/P2/P2	P5	BFM	PASS
TX-11	11/19/92	1615	40	1615	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-12	11/19/92	1620	40	1620	321	7	235	P2/P2/P2	P6	BFM	PASS
TX-13	11/19/92	0831	40	70	256	6	230	P2/P2/P2	P5	BFM	PASS
TX-01	11/20/92	0840	40	70	256	7	230	P2/P2/P2	P6	BFM	PASS
TX-02	11/20/92	0847	40	33	145	7	235	P2/P2/P2	P5	BFM	PASS
TX-03	11/20/92	0905	40	111	321	7	235	P2/P2/P2	P3	BFM	PASS
TX-04	11/20/92	1325	45	33	145	7	235	P2/P2/P2	--	BFM	FAIL
TX-04R1	11/20/92	1350	45	33	145	7	235	P2/P2/P2	P5	BFM	PASS, RENAMED FROM TX-07
TX-05	11/20/92	1330	45	70	256	5	220	P2/P2/P2	P3	BFM	PASS
TX-06	11/20/92	1335	45	111	321	7	235	P2/P2/P2	P1	BFM	PASS
TX-08	11/20/92	1507	45	111	321	7	235	P2/P2/P2	P1	BFM	PASS
TX-09	11/20/92	1635	45	33	145	7	235	P2/P2/P2	P1	BFM	PASS
TX-10	11/20/92	1643	45	70	256	5	220	P2/P2/P2	P1	BFM	PASS
TX-01	11/24/92	1400	45	33	145	7	235	P2/P2/P2	P6	FWS	PASS
TX-02	11/24/92	1410	45	111	256	7	235	P2/P2/P2	P6	FWS	PASS
TX-03	11/24/92	1640	45	33	149	7	235	P2/P2/P2	P6	FWS	PASS
TX-04	11/24/92	1650	45	111	256	7	235	P2/P2/P2	P6	FWS	PASS
TX-01	11/25/92	0845	41	111	256	-	234	P2/P2/P2	P6	MAT	PASS
TX-02	11/25/92	0905	41	33	145	-	235	P2/P2/P2	P6	MAT	PASS
TX-03	11/25/92	1300	45	111	256	-	235	P2/P2/P2	P6	MAT	PASS
TX-04	11/25/92	1310	45	33	145	-	235	P2/P2/P2	P6	MAT	PASS
TX-05	11/25/92	1600	40	33	145	-	235	P2/P2/P2	P6	FWS	PASS
TX-06	11/25/92	1600	40	111	256	-	235	P2/P2/P2	P6	FWS	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID.		MACHINE TEMP.(C)		RESULTS		QA MONITOR	REMARKS
				MACH. NUMBER	TECH.	BAR.	NOZ.	PEEL	SHEAR		
TX-01	11/27/92	1020	38	33	145	7	235	P2/P2/P2	P6	MAT	PASS
TX-02	11/27/92	1140	38	111	256	7	235	P2/P2/P2	P6	MAT	PASS
TX-03	11/27/92	1330	36	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-04	11/27/92	1315	36	33	145	7	235	P2/P2/P2	P6	BFM	PASS
TX-01	11/28/92	0950	36	33	208	7	235	P2/P2/P2	P6	BFM	PASS
TX-02	11/28/92	1050	36	33	208	7	235	P2/P2/P2	P6	BFM	PASS
TX-03	11/28/92	----	--	--	---	-	---	--------	--	---	THIS NUMBER SKIPPED
TX-04	11/28/92	----	--	--	---	-	---	--------	--	---	THIS NUMBER SKIPPED
TX-05	11/28/92	1000	36	111	256	7	235	P2/P2/P2	P3	BFM	PASS
TX-01	11/29/92	1045	34	33	386	7	237	P2/P2/P2	P6	MAT	PASS
TX-02	11/29/92	1055	34	111	416	7	239	P2/P2/P2	P6	MAT	PASS
TX-03	11/29/92	1100	34	22	256	7	236	P2/P2/P2	P6	MAT	PASS
TX-04	11/29/92	1500	39	22	256	7	235	P2/P2/P2	P6	MAT	PASS
TX-05	11/29/92	1500	39	111	416	7	234	P2/P2/P2	P6	MAT	PASS
TX-06	11/29/92	1500	39	33	386	7	233	P2/P2/P2	P6	MAT	PASS
TX-07	11/29/92	1650	36	22	256	7	235	P2/P2/P2	P6	MAT	PASS
TX-08	11/29/92	1705	36	111	416	7	240	P2/P2/P2	P3	BFM	PASS
TX-09	11/29/92	1710	36	33	386	7	235	F1/--/--	--	BFM	FAIL
TX-09R1	11/29/92	0915	35	33	386	7	235	P2/P2/P2	P3	BFM	PASS, TESTED 11/30
TX-01	11/30/92	0920	34	33	145	7	240	F1/--/--	--	BFM	FAIL
TX-01R1	11/30/92	0945	34	33	145	7	235	P2/P2/P2	P6	BFM	PASS, RENAMED FROM TX-03
TX-02	11/30/92	0940	34	111	416	7	240	P2/P2/P2	P6	BFM	PASS
TX-04	11/30/92	1430	35	33	145	7	235	P2/F1/--	--	BFM	FAIL
TX-04R1	11/30/92	1445	35	33	145	7	235	P2/P2/P2	P3	BFM	PASS, RENAMED FROM TX-05
TX-01	12/03/92	1330	40	44	256	7	235	P2/P2/P2	P3	JAL	PASS
TX-02	12/03/92	1705	36	44	256	7	235	P2/P2/P2	P4	BFM	PASS
TX-01	12/04/92	0945	34	22	256	7	235	P2/P2/P2	P6	MAT	PASS
TX-02	12/04/92	1325	34	22	256	7	235	P2/P2/P2	P6	MAT	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

GEOMEMBRANE TRIAL SEAM SUMMARY
EXTRUSION METHOD – PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER	DATE	TIME TESTED	AMBIENT TEMP. (F)	WELDER ID. MACH. NUMBER	WELDER ID. TECH.	MACHINE TEMP.(C) BAR.	MACHINE TEMP.(C) NOZ.	RESULTS PEEL	RESULTS SHEAR	QA MONITOR	REMARKS
TX-03	12/04/92	1535	35	111	416	7	240	P2/P2/P2	P6	MAT	PASS
TX-04	12/04/92	1710	34	22	256	7	235	P2/P2/P2	P6	MAT	PASS
TX-05	12/04/92	1715	34	111	416	7	240	P2/P2/P2	P6	MAT	PASS
TX-01	12/22/92	1330	39	111	45	7	235	P2/P2/P2	P1	JAL	PASS
TX-01	12/23/92	0935	37	111	45	7.5	235	P2/P2/P2	P1	JAL	PASS

NOTE

1) This machine was taken out of production to be repaired. No welding was done.

APPENDIX U

U.1

FUSION METHOD

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P 1/ 2	10/05/92	1447	65	BFM	325	1404	750	540	170		10/05/92	WRS
P 2/ 3	10/05/92	1411	64	BFM	138	1203	750	520	171	DP-22	10/05/92	WRS
P 3/ 4	10/05/92	1435	65	BFM	138	1203	750	520	172		10/05/92	WRS
P 4/ 5	10/05/92	1511	65	BFM	138	1203	750	520	96	DP-01,P1	10/05/92	WRS
P 4/ 6	10/05/92	1459	65	BFM	138	1203	750	520	80		10/05/92	WRS
P 5/ 6	10/05/92	1510	65	BFM	325	1404	750	540	15		10/22/92	JAL
P 5/ 7	10/05/92	1526	65	BFM	325	1404	750	540	94	DP-02	10/22/92	BIE
P 6/ 7	10/05/92	1516	65	BFM	325	1404	750	540	89		10/22/92	BIE
P 7/ 8	10/05/92	1521	65	BFM	138	1203	750	520	174	DP-01N1	10/05/92	WRS
P 8/ 9	10/05/92	1615	65	BFM	138	1203	750	520	173	DP-03	10/05/92	WRS
P 9/ 10	10/05/92	1545	65	BFM	138	1203	750	520	173	DP-03N1	10/05/92	WRS
P 10/ 11	10/05/92	1640	65	BFM	138	1203	750	520	173	DP-23	10/05/92	WRS
P 11/ 12	10/05/92	1800	63	BFM	325	1404	750	540	150		10/06/92	WRS
P 12/ 13	10/05/92	1810	63	BFM	138	1203	750	500	172	DP-04	10/06/92	WRS
P 13/ 14	10/05/92	1820	63	BFM	325	1404	750	540	173		10/06/92	WRS
P 14/ 15	10/05/92	1831	60	BFM	138	1203	750	500	75		10/06/92	BIE
P 14/ 26	10/08/92	1120	58	BFM	256	1319	700	400	10		N/A CAPPED	
P 14/ 31	10/08/92	1122	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 14/ 32	10/08/92	1125	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 14/ 33	10/08/92	1127	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 14/ 34	10/08/92	1129	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 15/ 16	10/05/92	1844	60	BFM	325	1404	750	540	67		10/06/92	BFM
P 15/ 26	10/08/92	1118	58	BFM	256	1319	700	400	17		N/A CAPPED	
P 16/ 17	10/05/92	1840	56	BFM	138	1203	750	500	67		10/06/92	WRS
P 16/ 26	10/08/92	1116	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 17/ 18	10/05/92	1853	55	BFM	325	1404	750	540	67	DP-05	10/06/92	WRS

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P 17/ 26	10/08/92	1113	58	BFM	256	1319	700	400	15	DP–21	N/A CAPPED	
P 18/ 19	10/05/92	1901	55	BFM	325	1404	750	540	67		10/06/92	WRS
P 18/ 26	10/08/92	1111	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 19/ 20	10/05/92	1849	55	BFM	138	1203	750	500	68	DP–06P1	10/06/92	WRS
P 19/ 26	10/08/92	1109	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 20/ 21	10/05/92	1910	55	BFM	325	1404	750	540	68		10/06/92	WRS
P 20/ 26	10/08/92	1106	58	BFM	256	1319	700	400	15		N/A CAPPED	
P 21/ 22	10/05/92	1857	55	BFM	138	1203	750	500	60		10/06/92	WRS
P 21/ 26	10/08/92	1104	58	BFM	256	1319	700	400	8		N/A CAPPED	
P 21/ 27	10/08/92	1101	58	BFM	256	1319	700	400	7		N/A CAPPED	
P 22/ 23	10/05/92	1920	55	BFM	325	1404	750	540	40		10/06/92	WRS
P 22/ 27	10/08/92	1046	58	BFM	256	1319	700	400	9		N/A CAPPED	
P 22/ 28	10/08/92	1044	58	BFM	256	1319	700	400	11		N/A CAPPED	
P 23/ 24	10/05/92	1908	55	BFM	138	1203	750	500	26		10/06/92	WRS
P 23/ 28	10/08/92	1042	58	BFM	256	1319	700	400	8		N/A CAPPED	
P 23/ 29	10/08/92	1041	58	BFM	256	1319	700	400	13		N/A CAPPED	
P 24/ 29	10/08/92	1039	58	BFM	256	1319	700	400	10		N/A CAPPED	
P 24/ 30	10/08/92	1037	58	BFM	256	1319	700	400	8		N/A CAPPED	
P 25/ 30	10/08/92	1035	58	BFM	256	1319	700	400	7		N/A CAPPED	
P 26/ 27	10/06/92	1010	55	BFM	391	1609	750	525	47		10/06/92	BFM
P 26/ 31	10/06/92	1011	55	BFM	138	1203	750	510	163	DP–06	10/06/92	BFM
P 27/ 28	10/06/92	1005	55	BFM	138	1203	750	510	47		10/06/92	WRS
P 28/ 29	10/06/92	0958	53	BFM	138	1203	750	510	38		10/06/92	WRS
P 29/ 30	10/06/92	0947	53	BFM	138	1203	750	510	16		10/06/92	WRS
P 31/ 32	10/06/92	1025	55	BFM	391	1609	750	525	162		10/06/92	BIE
P 32/ 33	10/06/92	1050	58	BFM	391	1609	750	525	162		10/06/92	BIE

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GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P 33/ 34	10/06/92	1327	63	BFM	138	1203	750	530	162		10/06/92	BFM
P 34/ 35	10/06/92	1125	58	BFM	391	1609	750	525	162	DP–07	10/06/92	BFM
P 35/ 36	10/06/92	1345	65	BFM	391	1609	750	535	162		10/06/92	BFM
P 36/ 37	10/06/92	1355	63	BFM	138	1203	750	530	161	DP–06N1	10/06/92	BFM
P 37/ 38	10/06/92	1420	65	BFM	391	1609	750	535	318	DP–08	10/06/92	BFM
										DP–08P1		
										DP–08N1		
P 37/ 40	10/06/92	1530	65	BFM	391	1609	750	535	36		10/13/92	DFD
P 38/ 39	10/06/92	1444	63	BFM	138	1203	750	530	318	DP–09	10/06/92	BFM
										DP–09N1		
P 38/ 40	10/06/92	1550	65	BFM	391	1609	750	535	15		10/13/92	DFD
P 39/ 40	10/06/92	1515	65	BFM	138	1203	750	530	36		10/13/92	DFD
P 39/ 41	10/06/92	1504	65	BFM	325	1404	750	555	355	DP–10	10/06/92	BFM
										DP–10P1		
P 41/ 42	10/06/92	1650	65	BFM	391	1609	750	535	74		10/13/92	DFD
P 41/ 43	10/06/92	1615	65	BFM	391	1609	750	535	284	DP–11	10/06/92	BFM
P 42/ 43	10/06/92	----	60	BFM	138	1321	700	480	15		10/13/92	DFD
P 42/ 44	10/06/92	1745	60	BFM	138	1321	700	480	76		10/13/92	DFD
P 43/ 44	10/06/92	1715	60	BFM	138	1321	700	480	284		10/22/92	WRS
P 44/ 45	10/06/92	1809	60	BFM	391	1609	750	535	183	DP–12	10/13/92	DFD
P 44/ 46	10/06/92	1730	60	BFM	391	1609	750	535	187		10/13/92	DFD
P 45/ 46	10/06/92	1803	60	BFM	391	1609	750	535	15		10/13/92	DFD
P 45/ 47	10/06/92	1640	55	BFM	325	1404	750	510	183	DP–13	10/13/92	DFD
P 46/ 47	10/06/92	1555	58	BFM	325	1404	750	510	187	DP–10N1	10/13/92	DFD
P 47/ 48	10/07/92	1718	60	BFM	325	1404	750	550	45		10/13/92	DFD
P 47/ 48	10/07/92	1448	60	BFM	325	1404	750	550	193	DP–15	10/13/92	DFD

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE-HEAT			DATE (1)	QA MON
P 47/ 49	10/07/92	1615	60	BFM	429	1203	725	500	73		10/13/92	DFD
P 47/ 49	10/07/92	1710	60	BFM	325	1404	750	550	25		10/13/92	DFD
P 48/ 49	10/07/92	1005	55	BFM	325	1404	750	525	15		10/13/92	DFD
P 48/ 50	10/07/92	1023	55	BFM	391	1609	750	535	70		10/13/92	DFD
P 48/ 50	10/07/92	1024	56	BFM	325	1404	750	525	195		10/13/92	DFD
P 49/ 50	10/07/92	1005	55	BFM	391	1609	750	535	101		10/13/92	DFD
P 51/ 52	10/07/92	----	60	BFM	325	1404	750	525	15		10/13/92	DFD
P 50/ 51	10/07/92	1510	60	BFM	429	1203	725	500	116		10/13/92	DFD
P 50/ 51	10/07/92	1135	60	BFM	325	1404	750	525	176	DP-14	10/13/92	DFD
P 50/ 51	10/07/92	1510	60	BFM	429	1203	725	500	116		10/13/92	DFD
P 50/ 51	10/07/92	1346	60	BFM	429	1240	750	500	55		10/13/92	DFD
P 50/ 52	10/07/92	1130	58	BFM	325	1404	750	525	20		10/13/92	DFD
P 51/ 53	10/07/92	1408	60	BFM	391	1609	750	500	171		10/13/92	DFD
P 51/ 53	10/07/92	1341	60	BFM	325	1404	750	550	176		10/13/92	DFD
P 52/ 53	10/07/92	1337	60	BFM	325	1404	750	550	18		10/13/92	DFD
P 53/ 54	10/07/92	1405	60	BFM	325	1404	750	550	195		10/23/92	WRS
P 53/ 54	10/07/92	1505	60	BFM	391	1609	750	500	173	DP-16	10/23/92	WRS
P 54/ 55	10/07/92	1530	60	BFM	325	1404	750	550	72		10/23/92	WRS
P 54/ 56	10/07/92	1535	60	BFM	325	1404	750	550	121		10/23/92	WRS
P 54/ 56	10/07/92	1542	60	BFM	391	1609	750	500	160		10/23/92	WRS
P 55/ 56	10/07/92	1522	60	BFM	325	1404	750	550	15		10/23/92	WRS
P 55/ 57	10/07/92	1607	60	BFM	325	1404	750	550	42		10/23/92	WRS
P 56/ 57	10/07/92	1611	60	BFM	325	1404	750	550	125	DP-17	10/23/92	WRS
P 56/ 57	10/07/92	1627	60	BFM	391	1609	750	500	170		10/23/92	WRS
P 57/ 58	10/07/92	1645	60	BFM	325	1404	750	550	157		10/23/92	WRS
P 57/ 59	10/07/92	1702	60	BFM	391	1609	750	500	169	DP-18	10/13/92	DFD

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P 58/ 59	10/07/92	1635	60	BFM	325	1404	750	550	15		10/29/92	JAL
P 58/ 60	10/08/92	1117	58	BFM	325	1404	750	500	155		10/23/92	WRS
P 59/ 60	10/08/92	1134	58	BFM	325	1404	750	500	5		10/13/92	DFD
P 59/ 60	10/08/92	1215	58	BFM	391	1609	750	500	164		10/13/92	DFD
P 60/ 61	10/08/92	0943	55	BFM	325	1404	750	500	155	DP–19	10/23/92	WRS
P 60/ 61	10/08/92	1000	58	BFM	391	1609	750	500	166		10/23/92	WRS
P 61/ 62	10/08/92	1103	58	BFM	391	1609	750	500	158	DP–20	10/13/92	DFD
P 61/ 84	10/23/92	1625	65	CPB	45	1319	717	300	15		N/A CAPPED	
P 61/ 85	10/23/92	1622	65	CPB	45	1319	718	300	15		N/A CAPPED	
P 61/ 86	10/23/92	1619	65	CPB	45	1319	716	300	15		N/A CAPPED	
P 61/ 87	10/23/92	1616	65	CPB	45	1319	717	300	15		N/A CAPPED	
P 61/ 88	10/23/92	1613	65	CPB	45	1319	715	300	15		N/A CAPPED	
P 61/ 89	10/23/92	1610	65	CPB	45	1319	713	300	15		N/A CAPPED	
P 61/ 90	10/23/92	1606	65	CPB	45	1319	713	300	15		N/A CAPPED	
P 61/ 91	10/23/92	1602	65	CPB	45	1319	710	300	15		N/A CAPPED	
P 62/ 63	10/08/92	1015	58	BFM	325	1404	750	500	166		10/08/92	DFD
P 63/ 64	10/08/92	1130	58	BFM	391	1609	750	500	134		10/13/92	DFD
P 64/ 65	10/08/92	1155	58	BFM	391	1609	750	500	130		10/13/92	DFD
P 64/ 80	10/13/92	1845	40	---	30	1319	750	300	---		N/A CAPPED	
P 65/ 66	10/13/92	1435	45	BFM	390	1404	750	400	134	DP–24	10/13/92	DFD
P 65/ 80	10/13/92	1847	40	---	30	1319	750	300	---		N/A CAPPED	
P 65/ 80	10/13/92	1847	40	---	30	1319	754	300	---		N/A CAPPED	
P 65/ 80	10/13/92	1847	40	---	30	1319	750	300	---		N/A CAPPED	
P 65/ 80	10/13/92	1847	40	---	30	1319	754	300	---		N/A CAPPED	
P 66/ 67	10/13/92	1515	45	BFM	390	1404	750	400	134		10/13/92	DFD
P 66/ 80	10/13/92	1849	40	---	30	1319	742	300	---		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE-HEAT			DATE (1)	QA MON
P 67/ 68	10/13/92	1540	45	BFM	390	1404	750	400	70		10/13/92	DFD
P 67/ 75	10/13/92	1859	40	---	30	1319	740	300	---		N/A CAPPED	
P 67/ 76	10/13/92	1858	40	---	30	1319	740	300	---		N/A CAPPED	
P 67/ 77	10/13/92	1856	40	---	30	1319	736	300	---		N/A CAPPED	
P 67/ 78	10/13/92	1855	40	---	30	1319	750	300	---		N/A CAPPED	
P 67/ 79	10/13/92	1853	40	---	30	1319	750	300	---		N/A CAPPED	
P 67/ 80	10/13/92	1851	40	---	30	1319	746	300	---		N/A CAPPED	
P 68/ 69	10/13/92	1601	45	BFM	390	1404	750	400	51		10/13/92	DFD
P 68/ 74	10/13/92	1900	40	---	30	1319	750	300	---		N/A CAPPED	
P 69/ 70	10/13/92	1603	45	BFM	391	1609	750	400	38	DP-27	10/13/92	DFD
P 69/ 72	10/13/92	1904	40	---	30	1319	746	300	---		N/A CAPPED	
P 69/ 73	10/13/92	1902	40	---	30	1319	744	300	---		N/A CAPPED	
P 70/ 71	10/13/92	1615	45	BFM	390	1404	750	400	20		10/13/92	DFD
P 70/ 72	10/13/92	1906	40	---	30	1319	750	300	---		N/A CAPPED	
P 71/ 72	10/13/92	1908	40	---	30	1319	748	300	---		N/A CAPPED	
P 72/ 73	10/13/92	1619	45	BFM	391	1609	750	400	35		10/13/92	DFD
P 73/ 74	10/13/92	1630	45	BFM	390	1404	750	400	50		10/13/92	DFD
P 74/ 75	10/13/92	1642	45	BFM	391	1609	750	400	60		10/13/92	DFD
P 75/ 76	10/13/92	1645	45	BFM	390	1404	750	400	63		10/13/92	DFD
P 76/ 77	10/13/92	1825	45	BFM	391	1609	750	400	66		10/13/92	DFD
P 77/ 78	10/13/92	1659	45	BFM	390	1404	750	400	63	DP-25	10/13/92	DFD
P 78/ 79	10/13/92	1712	45	BFM	390	1404	750	400	58		10/13/92	DFD
P 79/ 80	10/13/92	1715	45	BFM	391	1609	750	400	63		10/13/92	DFD
P 80/ 81	10/13/92	1759	45	BFM	390	1404	750	400	130		10/13/92	DFD
P 81/ 82	10/13/92	1803	45	BFM	391	1609	750	400	144	DP-26	10/13/92	DFD
P 82/ 83	10/13/92	1843	45	BFM	390	1404	750	400	153		10/23/92	CPB

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GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P 83/ 84	10/23/92	1540	65	CPB	325	1404	750	325	150	DP-34	N/A CAPPED	
P 84/ 85	10/23/92	1030	55	CPB	325	1404	747	450	158	DP-28	10/23/92	CPB
P 85/ 86	10/23/92	1045	55	CPB	390	1419	727	450	160	DP-29	10/23/92	CPB
P 86/ 87	10/23/92	1122	60	CPC	325	1404	749	325	160		10/23/92	CPB
P 87/ 88	10/23/92	1140	60	CPB	390	1419	748	450	160		10/23/92	CPB
P 88/ 89	10/23/92	1148	60	CPB	325	1404	745	325	160		10/23/92	CPB
P 89/ 90	10/23/92	1305	65	CPB	390	1419	745	450	160		10/23/92	CPB
P 90/ 91	10/23/92	1345	65	CPB	325	1404	750	325	160	DS-30	10/23/92	CPB
P 91/ 92	10/23/92	1405	65	CPB	390	1419	751	450	160	DS-31	10/23/92	CPB
P 92/ 93	10/23/92	1410	65	CPB	325	1404	752	325	160		10/23/92	CPB
P 92/113	10/24/92	1834	45	CPB	45	1319	740	280	2		11/09/92	CPB
P 92/114	10/24/92	1835	45	CPB	45	1319	725	280	17		11/09/92	CPB
P 92/115	10/24/92	1839	45	CPB	45	1319	736	280	6		11/11/92	BIE
P 93/ 94	10/23/92	1425	65	CPB	390	1419	749	450	160		10/23/92	CPB
P 93/113	10/24/92	1830	45	CPB	45	1319	740	280	20		11/09/92	CPB
P 94/ 95	10/23/92	1435	65	CPB	325	1404	750	325	125		10/23/92	CPB
P 94/109	10/24/92	1826	45	CPB	45	1319	740	280	7		11/09/92	CPB
P 94/113	10/24/92	1828	45	CPB	45	1319	740	280	8		11/09/92	CPB
P 95/ 96	10/23/92	1450	65	CPB	390	1419	750	450	125		10/23/92	CPB
P 95/109	10/24/92	1825	45	CPB	45	1319	739	280	8		11/09/92	CPB
P 95/110	10/24/92	1824	50	CPB	45	1319	738	280	7		11/09/92	CPB
P 96/ 97	10/23/92	1500	65	CPB	325	1404	747	325	125	DP-32	10/23/92	CPB
P 96/110	10/24/92	1822	50	CPB	45	1319	737	280	8		11/09/92	CPB
P 96/111	10/24/92	1820	50	CPB	45	1319	738	280	7		11/09/92	CPB
P 97/ 98	10/23/92	1422	65	CPB	390	1419	747	450	60	DP-33	10/23/92	WRS
P 97/104	10/23/92	1811	60	CPB	45	1319	748	300	4		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE–HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P 97/105	10/23/92	1807	60	CPB	45	1319	747	300	15		N/A CAPPED	
P 97/106	10/23/92	1804	60	CPB	45	1319	747	300	15		N/A CAPPED	
P 97/107	10/23/92	1801	60	CPB	45	1319	750	300	15	DP–35	N/A CAPPED	
P 97/108	10/23/92	1757	60	CPB	45	1319	750	300	15		N/A CAPPED	
P 97/111	10/24/92	1818	50	CPB	45	1319	737	280	8		11/09/92	CPB
P 97/112	10/24/92	1817	50	CPB	45	1319	738	280	6		11/09/92	CPB
P 98/ 99	10/23/92	1435	65	CPB	390	1419	750	450	28		10/23/92	WRS
P 98/103	10/23/92	1830	60	CPB	45	1319	750	300	6		N/A CAPPED	
P 98/104	10/23/92	1813	60	CPB	45	1319	749	300	12		N/A CAPPED	
P 99/100	10/23/92	1620	65	CPB	325	1404	749	325	280		10/23/92	WRS
P 99/102	10/23/92	1825	60	CPB	45	1319	750	300	8		N/A CAPPED	
P 99/103	10/23/92	1828	60	CPB	45	1319	750	300	10		N/A CAPPED	
P100/101	10/23/92	1625	65	CPB	390	1419	735	450	20		10/23/92	WRS
P100/102	10/23/92	1821	60	CPB	45	1319	749	300	15		N/A CAPPED	
P101/102	10/23/92	1819	60	CPB	45	1319	748	300	6		N/A CAPPED	
P102/103	10/23/92	1637	60	CPB	325	1404	750	325	32	DP–34N1	10/23/92	WRS
P103/104	10/23/92	1640	60	CPB	390	1419	745	450	49		10/23/92	WRS
P104/105	10/23/92	1650	60	CPB	325	1404	740	325	58		10/23/92	WRS
P105/106	10/23/92	1655	60	CPB	390	1419	750	450	57		10/23/92	WRS
P106/107	10/23/92	1700	60	CPB	325	1404	750	325	60		10/23/92	WRS
P107/108	10/23/92	1710	60	CPB	390	1419	749	450	57		10/23/92	WRS
P108/130	10/24/92	1817	50	CPB	390	1419	749	475	40		10/25/92	WRS
P109/110	10/24/92	1015	55	CPB	325	1404	745	465	76		10/24/92	CPB
P109/113	10/24/92	1708	50	CPB	45	1319	740	280	15		11/09/92	CPB
P109/114	10/24/92	1711	50	CPB	45	1319	742	280	15		11/09/92	CPB
P109/115	10/24/92	1714	50	CPB	45	1319	741	280	15	DP–39	11/09/92	CPB

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P109/116	10/24/92	1717	50	CPB	45	1319	740	280	9		11/09/92	CPB
P109/117	10/24/92	1719	50	CPB	45	1319	740	280	15		11/09/92	CPB
P109/118	10/24/92	1722	50	CPB	45	1319	739	280	12		11/09/92	CPB
P110/111	10/24/92	1020	55	CPB	390	1419	749	475	85		10/24/92	CPB
P110/118	10/24/92	1724	50	CPB	45	1319	739	280	3		11/09/92	CPB
P110/119	10/24/92	1725	50	CPB	45	1319	738	280	15		11/09/92	CPB
P111/112	10/24/92	1045	55	CPB	325	1404	749	465	100		10/24/92	CPB
P111/120	10/24/92	1728	50	CPB	45	1319	739	280	15		11/09/92	CPB
P111/121	10/24/92	1730	50	CPB	45	1319	741	280	7		11/09/92	CPB
P112/121	10/24/92	1732	50	CPB	45	1319	740	280	8		11/09/92	CPB
P112/122	10/24/92	1734	50	CPB	45	1319	739	280	28		11/09/92	CPB
P112/124	10/24/92	1620	50	CPB	325	1404	741	465	114		10/24/92	CPB
P112/130	10/25/92	1400	65	CPB	45	1319	743	280	15		11/11/92	BFM
P112/131	10/25/92	1356	65	CPB	45	1319	742	280	18		11/11/92	BFM
P112/131	10/25/92	1356	65	CPB	45	1319	742	280	18		11/11/92	BFM
P113/114	10/24/92	1328	55	CPB	325	1404	750	465	32		10/24/92	CPB
P114/115	10/24/92	1335	55	CPB	325	1404	748	465	33	DP–36	10/24/92	CPB
P115/116	10/24/92	1345	55	CPB	390	1419	734	475	34		10/24/92	CPB
P116/117	10/24/92	1600	55	CPB	390	1419	750	475	6		10/25/92	WRS
P116/123	10/24/92	1545	55	CPB	390	1419	749	475	30		10/25/92	WRS
P117/118	10/24/92	1440	55	CPB	325	1404	750	465	42		10/24/92	CPB
P117/123	10/24/92	1602	55	CPB	390	1419	750	475	28		10/25/92	WRS
P118/119	10/24/92	1455	55	CPB	390	1419	748	475	37		10/24/92	CPB
P119/120	10/24/92	1515	55	CPB	325	1404	742	465	37		10/24/92	CPB
P120/121	10/24/92	1525	55	CPB	390	1419	750	475	37	DP–37P1	10/24/92	CPB
P121/122	10/24/92	1530	55	CPB	325	1404	750	465	30		10/24/92	CPB

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE–HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P124/125	10/24/92	1635	50	CPB	390	1419	750	475	90	DP–37	10/24/92	CPB
P124/129	10/25/92	1125	60	CPB	45	1319	750	280	40		11/11/92	BFM
P124/131	10/25/92	1355	65	CPB	45	1319	744	280	2		11/11/92	BFM
P125/126	10/24/92	1645	50	CPB	325	1404	748	465	90		10/24/92	CPB
P125/128	10/25/92	1120	60	CPB	45	1319	748	280	15		11/11/92	BFM
P126/127	10/24/92	1710	50	CPB	325	1404	750	465	150	DP–38	10/25/92	WRS
P126/128	10/24/92	1738	50	CPB	390	1419	750	475	50	DP–37N1	10/24/92	CPB
P126/130	10/25/92	1345	65	CPB	45	1319	730	280	5		11/11/92	BFM
P127/132	10/25/92	1600	60	CPB	390	1419	750	450	154		10/25/92	WRS
P127/132	10/25/92	1600	60	CPB	390	1419	750	450	154		11/09/92	BFM
P128/129	10/24/92	1740	50	CPB	325	1404	745	465	33		10/25/92	WRS
P128/130	10/25/92	1346	65	CPB	45	1319	725	280	8		11/11/92	BFM
P128/131	10/25/92	1348	65	CPB	45	1319	723	280	21		11/11/92	BFM
P129/131	10/25/92	1351	65	CPB	45	1319	738	280	15		11/11/92	BFM
P130/131	10/24/92	1824	50	CPB	390	1419	749	475	36		11/09/92	BFM
P132/133	10/25/92	0925	45	CPB	390	1419	750	450	154		10/25/92	WRS
P133/134	10/25/92	1008	45	CPB	390	1419	750	450	154	DP–40	10/25/92	WRS
P133/219	10/31/92	----	45	CPB	390	1319	750	280	5		N/A CAPPED	
P134/135	10/25/92	1030	50	CPB	208	1404	750	400	155		10/25/92	WRS
P134/219	10/31/92	----	45	CPB	390	1319	750	280	10		N/A CAPPED	
P134/220	10/31/92	----	45	CPB	390	1319	750	280	5		N/A CAPPED	
P135/136	10/25/92	1030	50	CPB	390	1419	749	450	154		10/25/92	WRS
P135/217	10/31/92	----	45	CPB	390	1319	750	280	6		N/A CAPPED	
P135/220	10/31/92	----	45	CPB	390	1319	750	280	10		N/A CAPPED	
P136/137	10/25/92	1055	50	CPB	208	1404	750	400	155		10/25/92	WRS
P136/216	10/31/92	----	45	CPB	390	1319	750	280	6		N/A CAPPED	

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GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P136/217	10/31/92	----	45	CPB	390	1319	750	280	9		N/A CAPPED	
P137/138	10/25/92	1105	50	CPB	390	1419	750	450	154		10/25/92	WRS
P137/214	10/31/92	----	45	CPB	390	1319	750	280	6		N/A CAPPED	
P137/216	10/31/92	----	45	CPB	390	1319	750	280	9		N/A CAPPED	
P138/139	10/25/92	1120	50	CPB	208	1404	750	400	160	DP–41	10/25/92	WRS
P138/213	10/31/92	----	45	CPB	390	1319	750	280	6		N/A CAPPED	
P138/214	10/31/92	----	45	CPB	390	1319	750	280	9		N/A CAPPED	
P139/140	10/25/92	1135	60	CPB	390	1419	750	450	160	DP–42	10/25/92	WRS
P139/211	10/31/92	----	45	CPB	390	1319	750	280	6		N/A CAPPED	
P139/213	10/31/92	----	45	CPB	390	1319	750	280	9		N/A CAPPED	
P140/141	10/25/92	1325	65	CPB	208	1404	750	425	150		10/25/92	WRS
P140/203	10/31/92	----	45	CPB	390	1319	750	280	4		N/A CAPPED	
P140/211	10/31/92	----	45	CPB	390	1319	750	280	9		N/A CAPPED	
P141/142	10/25/92	1335	65	CPB	390	1419	750	450	148		10/25/92	WRS
P141/202	10/30/92	1641	45	CPB	1319	45	750	280	5		N/A CAPPED	
P141/203	10/30/92	1638	45	CPB	1319	45	750	280	10		N/A CAPPED	
P142/143	10/25/92	1415	65	CPB	390	1419	741	450	148		10/25/92	WRS
P142/201	10/30/92	1646	45	CPB	1319	45	750	280	6		N/A CAPPED	
P142/202	10/30/92	1643	45	CPB	1319	45	750	280	9		N/A CAPPED	
P143/144	10/25/92	1417	65	CPB	208	1404	750	425	148		10/25/92	WRS
P143/200	10/30/92	1649	45	CPB	1319	45	750	280	6		N/A CAPPED	
P143/201	10/30/92	1648	45	CPB	1319	45	750	280	9		N/A CAPPED	
P144/145	10/25/92	1445	65	CPB	208	1404	748	425	146	DP–43	10/25/92	WRS
P144/197	10/30/92	1652	45	CPB	1319	45	750	280	6		N/A CAPPED	
P144/200	10/30/92	1650	45	CPB	1319	45	750	280	9		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P145/146	10/25/92	1453	65	CPB	390	1419	750	450	80	DP–44	10/25/92	WRS
P145/147	10/25/92	1445	65	CPB	390	1419	749	450	64		10/25/92	WRS
P145/196	10/30/92	1655	45	CPB	1319	45	750	280	6		N/A CAPPED	
P145/197	10/30/92	1653	45	CPB	1319	45	750	280	9		N/A CAPPED	
P146/147	10/25/92	1439	65	CPB	390	1419	751	450	15		10/25/92	WRS
P146/163	10/27/92	CAP	50	CPB	45	1319	---	280	10		N/A CAPPED	
P146/196	10/30/92	1656	45	CPB	1319	45	750	280	9		N/A CAPPED	
P146/148	10/25/92	1532	60	CPB	390	1419	750	450	60		10/25/92	BFM
P147/148	10/25/92	1538	60	CPB	390	1419	749	450	64		10/25/92	BFM
P148/149	10/25/92	1512	60	CPB	390	1419	747	450	112		10/25/92	WRS
P148/162	10/27/92	1801	50	CPB	45	1319	750	280	27		N/A CAPPED	
P148/163	10/27/92	CAP	50	CPB	45	1319	---	280	6		N/A CAPPED	
P149/150	10/27/92	1127	60	CPB	390	1419	747	450	112		10/27/92	CPB
P149/162	10/27/92	1759	50	CPB	45	1319	749	280	15		N/A CAPPED	
P150/151	10/27/92	1105	60	CPB	390	1419	748	450	52	DP–45	10/27/92	CPB
P150/153	10/27/92	1739	60	CPB	45	1319	750	280	18		N/A CAPPED	
P150/154	10/27/92	1743	50	CPB	45	1319	754	280	12		N/A CAPPED	
P150/160	10/27/92	1746	50	CPB	45	1319	753	280	15		N/A CAPPED	
P150/161	10/27/92	1749	50	CPB	45	1319	750	280	15		N/A CAPPED	
P150/162	10/27/92	1801	50	CPB	45	1319	751	280	17		N/A CAPPED	
P151/152	10/27/92	1731	60	CPB	45	1319	744	280	35		N/A CAPPED	
P151/153	10/27/92	1737	60	CPB	45	1319	749	280	15		N/A CAPPED	
P151/31B	10/27/92	1730	60	CPB	45	1319	746	280	10		N/A CAPPED	
P152/153	10/27/92	1115	60	CPB	325	1609	751	425	132		10/27/92	CPB
P153/154	10/27/92	1643	60	CPB	45	1319	750	280	15		N/A CAPPED	
P153/155	10/27/92	1635	60	CPB	45	1319	747	280	33		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE-HEAT			DATE (1)	QA MON
P153/156	10/27/92	1629	60	CPB	45	1319	748	280	33		11/17/92	JAL
P153/157	10/27/92	1622	60	CPB	45	1319	746	280	33		11/18/92	JAL
P153/158	10/27/92	1617	60	CPB	45	1319	740	280	33	DP-49	11/18/92	JAL
P153/159	10/27/92	1610	60	CPB	45	1319	741	280	55		11/20/92	JAL
P154/155	10/27/92	1215	60	CPB	390	1419	751	450	166		10/27/92	CPB
P154/160	10/27/92	1426	60	CPB	325	1609	750	425	184	DP-46	10/27/92	CPB
P155/156	10/27/92	1346	60	CPB	417	1404	748	425	150		10/27/92	CPB
P156/157	10/27/92	1400	60	CPB	325	1609	749	425	120		10/27/92	CPB
P157/158	10/27/92	1410	60	CPB	390	1419	748	450	856		10/27/92	CPB
P158/159	10/27/92	1420	60	CPB	417	1404	749	425	55		11/09/92	BFM
P160/161	10/27/92	1440	60	CPB	390	1419	750	450	183	DP-48	10/27/92	CPB
										DP-48P1		
										DP-48N1		
P161/162	10/27/92	1450	60	CPB	417	1404	749	425	188	DP-47	10/27/92	CPB
P162/163	10/27/92	1503	60	CPB	325	1609	750	425	230		10/27/92	CPB
P163/164	10/27/92	1525	60	CPB	417	1404	750	425	234	DP-51P1	10/27/92	CPB
P164/165	10/27/92	1545	60	CPB	390	1419	748	450	235		10/27/92	CPB
P164/196	10/30/92	1657	45	CPB	1319	45	750	280	15		11/18/92	JAL
P165/166	10/27/92	1615	60	CPB	325	1609	751	425	350	DP-50	10/27/92	CPB
P165/196	10/30/92	1700	45	CPB	1319	45	750	280	15		11/18/92	JAL
P166/167	10/27/92	1715	50	CPB	417	1404	748	425	234	DP-51	11/09/92	BFM
P166/196	10/30/92	1703	45	CPB	1319	45	750	280	15		11/18/92	JAL
P167/168	10/28/92	1655	60	CPB	417	1240	751	400	204		10/29/92	WRS
P167/174	10/28/92	1442	60	CPB	45	1319	750	280	35		11/18/92	JAL
P167/196	10/30/92	1706	45	CPB	1319	45	750	280	3		11/18/92	JAL
P168/169	10/28/92	0835	40	CPB	325	1609	748	400	165		10/28/92	CPB

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P168/174	10/28/92	1436	60	CPB	45	1319	750	280	28		11/18/92	JAL
P168/175	10/28/92	1431	60	CPB	45	1319	750	280	28	DP–56	11/18/92	JAL
P169/170	10/28/92	0850	40	CPB	390	1419	749	450	130	DP–52	10/28/92	CPB
P169/175	10/28/92	1423	60	CPB	45	1319	750	280	40		11/18/92	JAL
P170/171	10/28/92	0930	45	CPB	325	1609	750	400	100		10/28/92	CPB
P170/175	10/28/92	1418	60	CPB	45	1319	750	280	28		11/18/92	JAL
P171/172	10/28/92	0920	45	CPB	390	1419	750	450	54		10/28/92	CPB
P171/175	10/28/92	1412	60	CPB	45	1319	750	280	32		11/18/92	JAL
P171/179	10/28/92	1406	60	CPB	45	1319	749	280	28		11/18/92	JAL
P172/173	10/28/92	0920	45	CPB	417	1240	748	400	37		10/28/92	CPB
P172/179	10/28/92	1400	60	CPB	45	1319	747	280	28		11/18/92	JAL
P173/179	10/28/92	1356	60	CPB	45	1319	749	280	18		11/18/92	JAL
P174/175	10/28/92	0940	50	CPB	390	1419	750	450	174		10/28/92	WRS
P174/176	10/28/92	0940	45	CPB	417	1240	750	400	222		10/28/92	WRS
P174/196	10/30/92	1707	45	CPB	1319	45	750	280	12		N/A CAPPED	
P175/179	10/28/92	1000	50	CPB	325	1609	749	400	70		10/28/92	CPB
P176/177	10/28/92	1023	50	CPB	390	1419	747	450	208	DP–53	10/28/92	WRS
P176/178	10/28/92	1020	50	CPB	390	1419	750	450	24		10/28/92	WRS
P176/198	10/30/92	1710	45	CPB	1319	45	750	280	12		N/A CAPPED	
P176/199	10/30/92	1712	45	CPB	1319	45	750	280	3		N/A CAPPED	
P177/178	10/28/92	1010	50	CPB	390	1419	748	450	15		N/A CAPPED	
P177/180	10/28/92	1033	50	CPB	325	1609	750	400	208	DP–54	10/28/92	WRS
P177/199	10/30/92	1718	45	CPB	1319	45	750	280	15		11/18/92	JAL
P178/180	10/28/92	1030	50	CPB	325	1609	751	400	34		10/28/92	WRS
P180/181	10/28/92	1100	45	CPB	417	1240	749	400	238	DP–55	10/28/92	WRS
P180/199	10/30/92	1722	45	CPB	1319	45	750	280	6		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P180/200	10/30/92	1723	45	CPB	1319	45	750	280	9		N/A CAPPED	
P181/182	10/28/92	1105	50	CPB	390	1419	748	450	236	DP-53N1	10/28/92	WRS
P181/200	10/30/92	1726	45	CPB	1319	45	750	280	15		N/A CAPPED	
P182/183	10/28/92	1141	55	CPB	325	1609	750	400	120		10/28/92	WRS
P182/184	10/28/92	1125	55	CPB	325	1609	749	400	132		10/28/92	CPB
P182/200	10/30/92	1734	45	CPB	1319	45	750	280	4		N/A CAPPED	
P182/201	10/30/92	1735	45	CPB	1319	45	750	280	11		N/A CAPPED	
P183/184	10/28/92	1110	55	CPB	325	1609	750	400	15		10/28/92	CPB
P183/185	10/28/92	1446	60	CPB	325	1609	750	400	120		10/28/92	CPB
P183/201	10/30/92	1737	45	CPB	1319	45	750	280	15		N/A CAPPED	
P184/185	10/28/92	1430	60	CPB	325	1609	749	400	132	DP-57	10/28/92	CPB
P185/186	10/28/92	1455	60	CPB	417	1240	748	400	236		10/28/92	WRS
P185/201	10/30/92	1738	45	CPB	1319	45	750	280	5		N/A CAPPED	
P185/202	10/30/92	1740	45	CPB	1319	45	750	280	10		N/A CAPPED	
P186/187	10/28/92	1550	60	CPB	325	1609	746	400	236	DP-58	10/28/92	WRS
P186/202	10/30/92	1742	45	CPB	1319	45	750	280	6		N/A CAPPED	
P186/204	10/30/92	1745	45	CPB	1319	45	750	280	9		N/A CAPPED	
P187/188	10/28/92	1610	60	CPB	417	1240	751	400	236	DP-59	10/28/92	CPB
P187/203	10/30/92	1753	45	CPB	1319	45	750	280	9		N/A CAPPED	
P187/204	10/30/92	1751	45	CPB	1319	45	750	280	6		N/A CAPPED	
P188/189	10/28/92	1630	60	CPB	325	1609	750	400	235		10/29/92	WRS
P188/203	10/30/92	1755	45	CPB	1319	45	750	280	15		N/A CAPPED	
P189/190	10/30/92	1600	50	CPB	1609	325	750	380	235	DP-64 DP-64P1	10/30/92	BFM
P189/203	10/30/92	1756	45	CPB	1319	45	750	280	7		11/18/92	JAL
P190/191	10/30/92	0918	40	CPB	1321	417	700	350	100		10/30/92	CPB

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE-HEAT			DATE (1)	QA MON
P190/192	10/30/92	0848	40	CPB	1321	417	700	350	125	DP-60	10/30/92	CPB
P191/192	10/30/92	0835	40	CPB	1321	417	700	350	15		10/30/92	CPB
P191/193	10/30/92	1112	45	CPB	1609	325	750	400	100	DP-61	10/30/92	CPB
P191/212	10/31/92	----	45	CPB	390	1319	750	280	15		N/A CAPPED	
P192/193	10/30/92	1052	45	CPB	1609	325	750	400	125		10/30/92	CPB
P193/194	10/30/92	1055	45	CPB	1321	417	700	350	204		10/30/92	CPB
P193/212	10/31/92	----	45	CPB	390	1319	750	280	15		N/A CAPPED	
P194/195	10/30/92	1126	45	CPB	1419	390	750	400	197	DP-62	10/30/92	CPB
P194/212	10/31/92	----	45	CPB	390	1319	750	280	15		N/A CAPPED	
P195/207	10/31/92	1328	40	CPB	325	1609	750	380	187	DP-66	10/31/92	WRS
P195/212	10/31/92	----	45	CPB	390	1319	750	280	15		N/A CAPPED	
P196/197	10/30/92	1430	50	CPB	1321	417	700	350	59	DP-63P1	10/30/92	BFM
P196/198	10/30/92	1415	50	CPB	1321	417	700	350	15		10/30/92	CPB
P197/198	10/30/92	1429	50	CPB	1321	417	700	350	3		10/30/92	BFM
P197/199	10/30/92	1417	45	CPB	1609	325	750	380	15		10/30/92	BFM
P197/200	10/30/92	1428	50	CPB	1609	325	750	380	40		10/30/92	BFM
P198/199	10/30/92	1427	50	CPB	1321	417	700	350	14		10/30/92	BFM
P199/200	10/30/92	1433	50	CPB	1609	325	750	380	65		10/30/92	BFM
P200/201	10/30/92	1447	50	CPB	1609	325	750	380	113		10/30/92	BFM
P201/202	10/30/92	1452	50	CPB	1321	417	700	350	138	DP-63 DP-63N1	10/30/92	CPB
P202/203	10/30/92	1525	50	CPB	1321	417	700	350	148		10/30/92	BFM
P202/204	10/30/92	1520	50	CPB	1609	325	750	380	15		10/30/92	BFM
P203/204	10/30/92	1523	50	CPB	1321	417	700	350	18		10/30/92	BFM
P203/211	10/31/92	1456	45	CPB	1321	417	700	350	169		10/31/92	WRS
P203/212	10/31/92	1453	45	CPB	1321	417	700	350	12		N/A CAPPED	

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON
P205/206	10/31/92	0855	45	CPB	325	1609	750	380	164	DP-64N1	10/31/92	WRS
P205/209	10/31/92	1522	45	CPB	390	1319	750	280	100	DP-67	N/A CAPPED	
										DP-67P1		
P205/210	10/31/92	1513	45	CPB	390	1319	750	280	65		N/A CAPPED	
P205/210	10/31/92	1513	45	CPB	390	1319	750	280	65		11/20/92	JAL
P207/208	10/31/92	1032	35	CPB	1321	417	700	350	180	DP-65	10/31/92	WRS
P207/212	10/31/92	----	45	CPB	390	1319	750	280	15		N/A CAPPED	
P208/209	10/31/92	1054	35	CPB	325	1609	750	380	166		10/31/92	WRS
P208/212	10/31/92	1712	45	CPB	390	1319	750	280	15		N/A CAPPED	
P209/210	10/31/92	1135	40	CPB	1321	417	700	350	66		11/14/92	BIE
P209/212	10/31/92	1711	45	CPB	390	1319	750	280	5		N/A CAPPED	
P211/212	10/31/92	1440	45	CPB	1321	417	700	350	15		10/25/92	WRS
P211/213	10/31/92	1526	45	CPB	325	1609	750	380	169	DP-68	10/31/92	WRS
P212/213	10/31/92	1457	45	CPB	325	1609	750	380	187		10/31/92	WRS
P213/214	10/31/92	1538	45	CPB	256	1419	750	400	275		11/14/92	FWS
P213/215	10/31/92	1530	45	CPB	256	1419	750	400	82		11/14/92	FWS
P214/215	10/31/92	1520	45	CPB	256	1419	750	400	15		11/14/92	FWS
P214/216	10/31/92	1600	45	CPB	1321	417	700	350	275	DP-69	11/14/92	FWS
P215/216	10/31/92	1546	45	CPB	1321	417	700	350	83		11/14/92	FWS
P216/217	10/31/92	1615	45	CPB	1523	416	700	375	344	DP-70	11/01/92	WRS
P217/218	10/31/92	1627	45	CPB	325	1609	750	380	334		11/14/92	FWS
P217/220	10/31/92	1710	45	CPB	325	1609	750	380	6		N/A CAPPED	
P218/219	10/31/92	1650	45	CPB	256	1419	750	400	334	DP-71	11/01/92	WRS
P218/220	10/31/92	1640	45	CPB	256	1419	750	400	15		11/14/92	FWS
P219/220	10/31/92	1731	45	CPB	256	1419	750	400	9		N/A CAPPED	
P221/222	11/01/92	0820	40	CPB	1609	325	750	380	340	DP-72	11/01/92	WRS

GEOMEMBRANE SEAM SUMMARY
FUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP. (F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST	
					TECH	MACH	DIGITAL SET	PRE–HEAT			DATE (1)	QA MON
P222/223	11/01/92	0934	40	CPB	1321	417	700	340	147	DP–73 DP–73P1 DP–73N1	11/14/92	FWS
P222/224	11/01/92	0900	40	CPB	1321	417	700	340	197		11/14/92	FWS
P223/224	11/01/92	0918	40	CPB	1609	325	750	380	15		11/14/92	FWS
P223/225	11/01/92	1000	40	CPB	1419	256	750	375	147	DP–74	11/14/92	FWS
P224/225	11/01/92	0925	40	CPB	1419	256	750	375	197		11/14/92	FWS
P225/226	11/01/92	0947	40	CPB	1609	325	750	380	261	DP–75	11/01/92	WRS
P225/227	11/01/92	1028	40	CPB	1609	325	750	380	78		11/01/92	WRS
P226/228	11/01/92	1042	40	CPB	1419	256	750	375	111		11/01/92	WRS
P226/228	11/01/92	1020	40	CPB	1321	417	700	340	150		11/01/92	WRS
P227/228	11/01/92	1030	40	CPB	1419	256	750	375	78		11/01/92	WRS
P228/229	11/01/92	1058	40	CPB	1609	325	750	380	191		11/01/92	WRS
P228/229	11/01/92	1115	40	CPB	1321	417	700	340	150	DP–76	11/01/92	WRS
P229/230	11/01/92	1150	40	CPB	1609	325	750	380	64	DP–77	11/01/92	WRS
P229/231	11/01/92	1200	40	CPB	1609	325	750	380	137		11/01/92	WRS
P229/231	11/01/92	1130	40	CPB	1419	256	750	375	155	DP–78	11/01/92	WRS
P230/231	11/01/92	1145	40	CPB	1609	325	750	380	15		N/A CAPPED	
P231/232	11/01/92	1200	40	CPB	1321	417	700	340	150		N/A CAPPED	

NOTE:

1) The date listed is the date on which the nondestructive testing was completed.
2) The dual track fusion welders were tested using the air pressure method. The solid wedge fusion welder was tested using the vacuum testing method.

U.2

EXTRUSION METHOD

JUNE 1993

917-1203

GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON	COMP
P 1/13D	10/22/92	929	42	BFM	145	74	240	7.5	15		10/23/92	JAL	Y
P 2/13D	10/22/92	939	42	BFM	145	74	240	7.5	15		10/23/92	JAL	Y
P 3/13D	10/21/92	1635	50	BFM	145	74	240	7.5	13		10/23/92	JAL	Y
P 4/12S	10/22/92	1028	46	BFM	145	74	240	7.5	15	DPE-06	10/23/92	JAL	Y
P 5/13D	10/22/92	1115	46	BFM	145	74	240	7.5	15		10/23/92	JAL	Y
P 7/13D	10/22/92	1128	46	BFM	145	74	240	7.5	15		10/23/92	JAL	Y
P 8/13D	10/22/92	1403	50	BFM	145	74	240	7.5	15		10/23/92	JAL	Y
P 9/13D	10/23/92	915	50	BFM	145	33	240	7.5	15		10/23/92	JAL	Y
P 10/13D	10/23/92	941	50	BFM	145	33	240	7.5	15		10/23/92	JAL	Y
P 11/13D	10/23/92	1053	54	BFM	145	33	240	7.5	15		10/23/92	JAL	Y
P 12/13D	10/23/92	1105	54	BFM	208	33	235	7	10		10/23/92	JAL	Y
P 13/13D	10/23/92	1109	54	BFM	208	33	235	7	15		10/23/92	JAL	Y
P 14/35	10/09/92	1000	50	BFM	145	74	235	7.5	16		10/22/92	CPB	Y
P 14/36	10/09/92	1015	50	BFM	145	74	235	7.5	12		10/22/92	CPB	Y
P 14/13D	10/23/92	1030	52	BFM	208	33	235	7	14		10/23/92	JAL	Y
P 37/13D	10/21/92	1719	50	BFM	145	74	240	7.5	205		10/23/92	JAL	Y
P 53/121	10/25/92	1342	65	CPB	145	33	235	7	4		11/15/92	JAL	Y
P 54/120	10/25/92	1350	65	CPB	145	33	235	7	12		10/29/92	JAL	Y
P 54/121	10/25/92	1345	65	CPB	145	33	235	7	8		11/15/92	JAL	Y
P 55/118	10/25/92	1132	55	CPB	145	33	235	7	4		10/29/92	JAL	Y
P 55/119	10/25/92	1125	55	CPB	145	33	235	7	15		10/29/92	JAL	Y
P 55/120	10/25/92	1354	65	CPB	145	33	235	7	3		10/29/92	JAL	Y

NOTE:

1) The date listed is the date on which the testing was completed.

JUNE 1993

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GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID. TECH	WELDER ID. MACH	WELDING TEMPERATURES DIGITAL SET	WELDING TEMPERATURES PRE-HEAT	APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	SEAM TEST QA MON	COMP
P 57/117	10/25/92	953	45	CPB	145	33	235	7	10		10/29/92	JAL	Y
P 57/118	10/25/92	933	45	CPB	145	33	235	7	10		10/29/92	JAL	Y
P 58/117	10/25/92	1010	50	CPB	145	33	235	7	5		10/29/92	JAL	Y
P 58/123	10/25/92	1022	50	CPB	145	33	235	7	6		10/29/92	JAL	Y
P 60/116	10/25/92	1035	50	CPB	145	33	235	7	5		10/29/92	JAL	Y
P 60/123	10/25/92	1030	50	CPB	145	33	235	7	6		10/29/92	JAL	Y
P 61/115	10/25/92	1045	50	CPB	145	33	235	7	6		10/29/92	JAL	Y
P 61/116	10/25/92	1040	50	CPB	145	33	235	7	8		10/29/92	JAL	Y
P 62/ 81	10/23/92	1650	65	BFM	145	74	235	7.5	10		10/28/92	BIE	Y
P 63/ 80	10/23/92	1600	60	BFM	145	74	235	7.5	11		10/28/92	BIE	Y
P108/126	10/28/92	1140	50	BFM	209	47	235	6	12		11/11/92	BFM	Y
P140/203	11/25/92	915	42	MAT	256	111	235	-	--		11/16/92	JAL	Y
P141/202	11/25/92	946	42	MAT	256	111	235	-	--		11/18/92	JAL	Y
P141/203	11/25/92	915	42	MAT	256	111	235	-	--		11/18/92	JAL	Y
P142/201	11/25/92	1017	43	MAT	256	111	235	-	--		11/18/92	JAL	Y
P142/202	11/25/92	946	42	MAT	256	111	235	-	--		11/18/92	JAL	Y
P143/201	11/25/92	1017	43	MAT	256	111	235	-	--		11/18/92	JAL	Y
P152/SEC	11/29/92	1325	40	MAT	386	33	235	-	15		11/30/92	MAT	Y
P153/SEC	11/29/92	1330	40	MAT	386	33	235	-	15		11/30/92	MAT	Y
P154/SEC	11/29/92	1635	38	MAT	386	33	235	-	11		11/30/92	MAT	Y
P156/SEC	11/29/92	1535	39	MAT	386	33	235	-	9		11/30/92	MAT	Y
P157/SEC	11/29/92	1430	40	MAT	386	33	235	-	11		11/30/92	MAT	Y

NOTE:

1) The date listed is the date on which the testing was completed.

JUNE 1993

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GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	QA MON	COMP
					TECH	MACH	DIGITAL SET	PRE-HEAT					
P158/SEC	11/29/92	1416	40	MAT	386	33	235	–	11		11/30/92	MAT	Y
P159/SEC	11/29/92	1345	40	MAT	386	33	235	–	16		11/30/92	MAT	Y
P160/SEC	11/29/92	1645	39	MAT	416	111	240	–	4		11/30/92	MAT	Y
P160/SEC	11/29/92	1748	38	MAT	386	33	235	–	12		11/30/92	MAT	Y
P161/SEC	11/29/92	1630	39	MAT	416	111	240	–	16		11/30/92	MAT	Y
P162/SEC	11/29/92	1620	39	MAT	416	111	240	–	16		11/30/92	MAT	Y
P163/SEC	11/30/92	1110	35	BFM	145	33	235	–	5		12/04/92	MAT	Y
P163/SEC	11/29/92	1610	39	MAT	416	111	240	–	10	DPE-35N3	11/30/92	MAT	Y
P164/SEC	11/30/92	1118	35	BFM	145	33	235	–	16		11/30/92	MAT	Y
P165/166	11/17/92	1140	41	BFM	145	33	235	7	8		11/18/92	JAL	Y
P165/SEC	11/30/92	1125	35	BFM	145	33	235	–	16		11/30/92	MAT	Y
P166/167	11/17/92	1110	41	BFM	145	33	235	7	10		11/18/92	JAL	Y
P166/167	10/30/92	925	40	WRS	145	74	250	7.5	20		11/18/92	JAL	Y
P166/SEC	11/30/92	1106	35	BFM	416	111	240	7	6		11/30/92	MAT	Y
P166/SEC	11/30/92	1115	35	BFM	416	111	240	7	10		11/30/92	MAT	Y
P167/168	11/17/92	1000	41	BFM	145	33	235	7	18		11/20/92	JAL	Y
P167/174	11/25/92	----	43	MAT	145	33	235	–	--		11/18/92	JAL	Y
P167/SEC	11/30/92	1025	35	BFM	416	111	240	7	1		11/30/92	MAT	Y
P167/SEC	11/30/92	1100	35	BFM	416	111	240	7	16		11/30/92	MAT	Y
P168/174	11/25/92	1000	43	MAT	145	33	235	–	--		11/18/92	JAL	Y
P168/175	11/25/92	930	43	MAT	145	33	235	–	--		11/18/92	JAL	Y
P168/SEC	11/30/92	1025	35	BFM	416	111	240	7	16		11/30/92	MAT	Y

NOTE:

1) The date listed is the date on which the testing was completed.

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GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	QA MON	COMP
					TECH	MACH	DIGITAL SET	PRE-HEAT					
P169/170	11/17/92	1415	41	BFM	145	33	235	7	21		11/20/92	JAL	Y
P169/SEC	11/30/92	1040	35	BFM	416	111	240	7	1		11/29/92	MAT	Y
P169/SEC	11/29/92	1100	39	MAT	416	111	240	-	15		11/29/92	MAT	Y
P170/SEC	11/29/92	1115	39	MAT	416	111	240	-	16		11/29/92	MAT	Y
P171/SEC	11/29/92	1128	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P172/SEC	11/29/92	1145	39	MAT	416	111	240	-	11		11/30/92	MAT	Y
P173/SEC	11/29/92	1152	39	MAT	416	111	240	-	7		11/30/92	MAT	Y
P174/SEC	11/29/92	1350	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P175/SEC	11/29/92	1340	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P176/SEC	11/29/92	1401	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P177/199	11/27/92	1138	38	MAT	145	33	235	-	35		11/18/92	JAL	Y
P178/SEC	11/29/92	1412	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P179/SEC	11/29/92	1302	39	MAT	416	111	240	-	16		11/30/92	MAT	Y
P180/199	11/27/92	1115	38	MAT	145	33	235	-	15		11/18/92	JAL	Y
P180/200	11/27/92	1106	38	MAT	145	33	235	-	21		11/18/92	JAL	Y
P180/SEC	11/29/92	1440	39	MAT	416	111	240	-	16	DPE-35P1	11/30/92	MAT	Y
P181/200	11/27/92	1028	38	MAT	145	33	235	-	33		11/18/92	JAL	Y
P181/SEC	11/29/92	1525	39	MAT	416	111	240	-	16	DPE-35	12/04/92	MAT	Y
P182/SEC	11/29/92	1540	39	MAT	416	111	240	-	16	DPE-35N1	11/30/92	MAT	Y
P184/SEC	11/29/92	1552	39	MAT	416	111	240	-	16	DPE-35N2	11/30/92	MAT	Y
P185/SEC	11/29/92	1622	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P186/SEC	11/29/92	1615	39	MAT	256	22	235	-	16		11/30/92	MAT	Y

NOTE:
1) The date listed is the date on which the testing was completed.

JUNE 1993

917-1203

GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	QA MON	COMP
					TECH	MACH	DIGITAL SET	PRE-HEAT					
P187/SEC	11/29/92	1605	39	MAT	256	22	235	-	16	DPE-34	11/30/92	MAT	Y
P188/SEC	11/29/92	1555	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P189/203	11/01/92	1030	40	JAL	208	33	240	7	4		11/18/92	JAL	Y
P189/212	11/01/92	1033	40	JAL	208	33	240	7	9		11/18/92	JAL	Y
P189/SEC	11/29/92	1540	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P190/SEC	11/29/92	1520	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P192/SEC	11/29/92	1445	40	MAT	256	22	235	-	16		11/30/92	MAT	Y
P193/SEC	11/29/92	1414	40	MAT	256	22	235	-	16		11/30/92	MAT	Y
P194/SEC	11/29/92	1355	40	MAT	256	22	235	-	16		11/30/92	MAT	Y
P195/SEC	11/29/92	1335	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P205/212	11/01/92	845	40	JAL	208	33	240	7	17		11/20/92	JAL	Y
P205/SEC	11/29/92	1110	34	MAT	256	22	235	-	16		11/30/92	MAT	Y
P205/SEC	11/30/92	1422	35	BFM	416	111	240	7	6		12/01/92	BFM	Y
P206/212	11/01/92	830	40	JAL	208	33	240	7	16		11/20/92	JAL	Y
P206/SEC	11/30/92	1415	35	BFM	416	111	240	7	10		12/01/92	BFM	Y
P206/SEC	11/30/92	1435	35	BFM	416	111	240	7	4		12/01/92	BFM	Y
P207/SEC	11/29/92	1320	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P208/SEC	11/29/92	1305	39	MAT	256	22	235	-	16		11/30/92	MAT	Y
P210/SEC	11/29/92	1125	34	MAT	256	22	235	-	7		11/30/92	MAT	Y
P221/221(2)	12/03/92	1435	35	MAT	256	44	235	-	15		12/24/92	FWS	Y

NOTE:

1) The date listed is the date on which the testing was completed.
2) Seaming occurred during wrinkle repair.

JUNE 1993

917-1203

GEOMEMBRANE SEAM SUMMARY
EXTRUSION SEAMING METHOD
PRIMARY GEOMEMBRANE
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

SEAM NUMBER	DATE	START TIME	AMBIENT TEMP.(F)	QA MON	WELDER ID.		WELDING TEMPERATURES		APPROX. WELDED LENGTH	DESTR. TEST NUMBER	SEAM TEST DATE (1)	QA MON	COMP
					TECH	MACH	DIGITAL SET	PRE-HEAT					
P222/222(2)	12/03/92	1450	35	MAT	256	44	235	–	15	DPE-36	12/24/92	FWS	Y
P223/223(2)	12/03/92	1505	35	MAT	256	44	235	–	15		12/24/92	FWS	Y
P225/225(2)	12/03/92	1520	35	MAT	256	44	235	–	5		12/24/92	FWS	Y

NOTE:

1) The date listed is the date on which the testing was completed.
2) Seaming occurred during wrinkle repair.

APPENDIX V

V.1

FUSION METHOD

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-01 (1)	P4/5	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-01P1 AND DP-01N1
DP-01P1 (1)	P4/5	81.4	222	T	81.7	173	T	0.0	156	T	0.0	RETEST OF DP-01 - PASS PATH OF MX1203
		81.8	227	T	81.2	169	T	0.0	148	B	0.0	
		81.2	223	T	81.0	174	T	0.0	157	T	0.0	
		80.8	222	T	81.0	164	T	0.0	161	T	0.0	
		80.3	220	T	80.6	169	T	0.0	161	T	0.0	
DP-01N1 (1)	P7/8	84.4	222	B	83.8	171	B	0.0	165	T	0.0	RETEST OF DP-01 - PASS PATH OF MX1203
		84.4	223	B	81.2	157	B	0.0	166	T	0.0	
		84.5	222	B	84.2	149	B	0.0	166	T	0.0	
		84.5	221	B	83.8	151	B	0.0	176	B	0.0	
		84.3	220	B	84.4	159	B	0.0	162	B	0.0	
DP-02 (DS#P2)	P5/7	82.3	210	G	81.2	153	T	0.0	159	T	0.0	PASS
		81.8	213	G	81.7	152	T	0.0	156	B	0.0	
		82.0	210	G	81.6	157	B	0.0	152	T	0.0	
		82.3	209	G	81.6	150	B	0.0	144	B	0.0	
		82.5	208	G	81.8	150	B	0.0	134	T	0.0	
DP-03 (DS#P3)	P8/9	81.1	208	G	80.8	130	T	0.0	148	PT	35	FAIL - SEE DP-03N1 SEAM IN "PREVIOUS" DIRECTION TRACKED AND CAPPED TO DPE-08A1 - PASS
		80.8	208	G	81.0	132	T	0.0	136	B	0.0	
		81.0	212	G	80.8	137	B	0.0	147	PB	50	
		80.8	209	G	81.1	140	T	0.0	140	B	0.0	
		81.3	210	G	81.2	131	T	0.0	128	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-03N1	P8/9	81.3	216	G	81.8	174	T	0.0	175	T	0.0	RETEST OF DP-03 - PASS
(DS#P3A)		81.4	216	G	81.9	158	B	0.0	157	T	0.0	PATH OF MX1203
		81.2	215	G	81.3	170	T	0.0	147	B	0.0	
		81.5	214	G	81.6	162	B	0.0	154	B	0.0	
		81.1	214	G	82.1	170	T	0.0	162	B	0.0	
DP-04	P12/13	83.2	209	G	85.4	165	B	0.0	145	T	0.0	PASS
(DS#P4)		83.0	208	G	84.1	162	B	0.0	152	T	0.0	
		83.4	209	G	84.4	170	B	0.0	152	T	0.0	
		83.2	209	G	82.7	160	B	0.0	154	T	0.0	
		83.7	207	G	83.0	173	T	0.0	147	T	0.0	
DP-05	P17/18	80.8	204	G	80.8	156	B	0.0	159	T	0.0	PASS
(DS#P5)		80.8	203	G	80.5	158	B	0.0	149	T	0.0	
		81.1	205	G	81.0	162	B	0.0	158	T	0.0	
		81.1	205	G	81.1	167	B	0.0	148	T	0.0	
		81.2	207	G	81.4	150	B	0.0	145	B	0.0	
DP-06	P26/31	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-06P1 AND DP-06N1
DP-06P1	P19/20	81.8	223	G	81.8	162	B	0.0	163	B	0.0	RETEST OF DP-06 - PASS
(DS#P6B)		82.2	225	G	81.7	149	B	0.0	133	B	0.0	PATH OF MX1203
		82.4	225	G	82.3	156	T	0.0	151	B	0.0	
		82.3	222	G	82.3	142	B	0.0	141	B	0.0	
		81.9	221	G	81.9	155	B	0.0	163	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-06N1	P36/37	82.4	228	G	82.7	160	T	0.0	171	B	0.0	RETEST OF DP-06 - PASS
(DS#P6A)		82.3	228	G	82.4	177	T	0.0	149	T	0.0	PATH OF MX1203
		82.4	230	G	82.7	165	B	0.0	156	T	0.0	
		82.3	231	G	82.5	170	B	0.0	155	T	0.0	
		82.4	230	G	82.1	160	T	0.0	135	T	0.0	
DP-07	P34/35	80.4	205	G	81.0	149	B	0.0	156	B	0.0	PASS
(DS#P7)		81.0	204	G	81.0	132	B	0.0	168	B	0.0	
		80.9	204	G	80.8	149	B	0.0	130	B	0.0	
		81.2	204	G	81.0	165	B	0.0	175	T	0.0	
		81.0	207	G	81.2	132	B	0.0	173	B	0.0	
DP-08	P37/38	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-08P1 AND DP-08N1
DP-08P1	P37/38	81.3	205	G	81.6	154	T	0.0	140	T	0.0	RETEST OF DP-08 - PASS
(DS#P8B)		81.5	208	G	81.7	158	T	0.0	154	T	0.0	PATH OF MX1609
		81.7	206	G	81.4	154	T	0.0	150	T	0.0	
		82.0	206	G	81.3	161	T	0.0	135	T	0.0	
		81.6	203	G	81.6	153	T	0.0	153	T	0.0	
DP-08N1	P37/38	80.9	204	G	80.8	135	T	0.0	154	T	0.0	RETEST OF DP-08 - PASS
(DS#P8A)		80.9	203	G	80.7	172	B	0.0	148	T	0.0	PATH OF MX1609
		81.1	204	G	81.0	142	T	0.0	146	T	0.0	
		80.8	205	G	81.1	158	T	0.0	162	T	0.0	
		80.5	205	G	80.5	128	T	0.0	144	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

		SHEAR TEST			PEEL TEST							
						INSIDE TRACK			OUTSIDE TRACK			
SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	REMARKS
DP-09	P38/39	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-09N1 SEAM IN "PREVIOUS" DIRECTION TRACKED AND CAPPED TO DP-06N1 - PASS
DP-09N1	P38/39	81.9	207	G	82.3	134	B	0.0	140	B	0.0	RETEST OF DP-09 - PASS
(DS#P9A)		82.4	207	G	82.0	134	T	0.0	156	T	0.0	PATH OF MX1203
		82.0	207	G	82.1	126	B	0.0	148	T	0.0	
		82.4	205	G	82.0	140	B	10	138	B	0.0	
		82.3	206	G	82.0	132	T	0.0	158	B	0.0	
DP-10	P39/41	81.4	204	G	81.5	119	T	0.0	127	B	0.0	FAIL - SEE DP-10P1 AND DP-10N1
(DS#P10)		81.7	206	G	81.1	117	T	0.0	160	T	0.0	
		81.4	204	G	81.4	126	T	0.0	136	B	0.0	
		81.6	205	G	81.2	123	T	0.0	156	B	0.0	
		81.4	205	G	81.4	135	T	0.0	128	B	0.0	
DP-10P1	P39/41	82.3	210	G	82.1	152	B	0.0	160	T	0.0	RETEST OF DP-10 - PASS
(DS#P10B)		82.2	209	G	82.4	151	T	0.0	151	T	0.0	PATH OF MX1404
		82.7	207	G	83.0	144	B	0.0	163	T	10	
		82.5	205	G	83.0	132	B	0.0	152	T	0.0	
		81.7	204	G	82.0	150	T	0.0	162	T	0.0	
DP-10N1	P46/47	82.8	219	G	82.6	132	P	100	153	B	0.0	RETEST OF DP-10 - PASS
(DS#P10A)		82.2	222	G	82.4	135	B	0.0	149	PB	10	PATH OF MX1404
		82.0	224	G	82.4	165	B	0.0	162	B	0.0	
		82.2	225	G	81.8	168	T	0.0	172	B	0.0	
		81.3	233	G	82.3	158	T	0.0	152	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-11	P41/43	82.9	230	T	83.3	154	B	0.0	152	T	0.0	PASS
(1)		83.3	229	T	83.2	171	T	0.0	147	T	0.0	
		83.1	229	T	83.4	149	B	0.0	162	B	0.0	
		83.5	229	T	83.4	170	T	0.0	150	T	0.0	
		83.1	227	T	82.8	149	B	0.0	155	T	0.0	
DP-12	P44/45	81.3	224	G	81.6	152	T	0.0	180	B	0.0	PASS
(DS#P12)		81.6	223	G	82.5	169	T	0.0	130	B	0.0	
		81.8	220	G	81.4	164	T	0.0	137	B	0.0	
		81.3	221	G	81.1	160	T	0.0	127	B	0.0	
		80.9	227	G	81.0	155	B	0.0	155	B	0.0	
DP-13	P45/47	81.7	217	G	81.6	159	T	0.0	145	T	0.0	PASS
(DS#P13)		81.3	214	G	81.7	160	T	0.0	147	T	0.0	
		81.2	217	G	81.9	152	B	0.0	143	T	0.0	
		81.1	220	G	81.8	140	T	0.0	155	T	0.0	
		81.5	219	G	82.1	148	T	0.0	150	T	0.0	
DP-14	P50/51	81.5	212	G	81.6	141	B	0.0	172	B	0.0	PASS
(DS#P14)		81.3	212	G	81.3	169	T	0.0	170	T	0.0	
		81.7	212	G	82.1	135	T	0.0	141	T	0.0	
		81.4	214	G	81.2	138	T	0.0	157	T	0.0	
		81.2	219	G	81.6	138	T	0.0	142	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-15	P47/48	81.5	220	G	81.1	138	T	0.0	142	B	0.0	PASS
(DS#P15)		81.3	219	G	81.6	140	T	0.0	139	T	0.0	
		81.4	217	G	81.4	149	T	0.0	139	B	0.0	
		81.3	220	G	81.7	162	T	0.0	156	T	0.0	
		81.5	215	G	81.4	134	T	0.0	134	T	0.0	
DP-16	P53/54	81.2	213	G	80.7	157	B	0.0	147	T	0.0	PASS
(DS#P16)		81.8	215	G	81.2	159	B	0.0	141	T	0.0	
		81.9	211	G	81.6	164	T	0.0	145	T	0.0	
		82.0	215	G	80.5	149	T	0.0	144	T	0.0	
		82.1	212	G	80.5	162	B	0.0	149	T	0.0	
DP-17	P56/57	81.7	220	G	79.7	130	T	0.0	147	T	0.0	PASS
(DS#P17)		81.5	219	G	79.6	152	T	0.0	139	T	0.0	
		81.1	221	G	79.8	139	T	0.0	151	T	0.0	
		81.5	225	G	80.3	168	T	0.0	142	T	0.0	
		81.6	228	G	79.8	154	T	0.0	146	T	0.0	
DP-18	P57/59	81.8	224	G	81.5	135	T	0.0	150	T	0.0	PASS
(DS#P18)		81.3	224	G	81.6	156	T	0.0	163	T	0.0	
		81.8	218	G	81.5	152	T	0.0	144	B	0.0	
		81.5	214	G	81.5	143	T	0.0	144	B	0.0	
		81.4	213	G	81.4	144	T	0.0	150	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-19	P60/61	80.6	218	G	80.8	171	B	0.0	150	B	0.0	PASS
(DS#P19)		81.4	219	G	81.2	163	T	0.0	133	B	0.0	
		81.3	227	G	81.4	163	T	0.0	157	T	0.0	
		81.1	223	G	80.9	163	T	0.0	127	B	0.0	
		81.3	221	G	81.1	156	B	0.0	157	B	0.0	
DP-20	P61/62	80.7	216	G	81.3	138	T	0.0	147	T	0.0	PASS
(DS#P20)		80.9	217	G	80.8	145	T	0.0	140	T	0.0	
		81.0	225	G	81.0	136	T	0.0	147	T	0.0	
		81.1	225	G	81.6	153	B	0.0	129	T	0.0	
		81.6	224	G	81.9	153	T	0.0	145	T	0.0	
DP-21 (1)	P17/26	-	-	-	-	-	-	-	-	-	-	ALL SEAM FOR MX1319 WAS TRACKED AND CAPPED - PASS
DP-22	P2/3	-	-	-	-	-	-	-	-	-	-	ALL SEAM FOR MX1203 WAS TRACKED AND CAPPED - PASS
DP-23	P10/11	83.8	206	G	82.7	134	T	0.0	167	T	0.0	PASS
(DS#P23)		83.3	206	G	83.2	139	T	0.0	172	T	0.0	
		83.8	208	G	82.0	149	B	0.0	164	T	0.0	
		83.2	210	G	82.9	171	B	0.0	168	T	0.0	
		83.0	211	G	83.5	160	B	0.0	171	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

		SHEAR TEST			PEEL TEST							
						INSIDE TRACK			OUTSIDE TRACK			
SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	REMARKS
DP-24	P65/66	81.4	213	G	81.4	153	B	0.0	138	B	0.0	PASS
(DS#P24)		81.4	215	G	81.5	154	B	0.0	153	B	0.0	
		81.6	213	G	81.4	139	T	0.0	143	B	0.0	
		81.4	213	G	81.4	165	T	0.0	143	B	0.0	
		81.4	214	G	81.4	141	T	0.0	134	B	0.0	
DP-25	P77/78	80.3	216	G	80.6	133	B	0.0	140	T	0.0	PASS
(DS#P25)		80.3	213	G	80.4	162	T	0.0	150	B	0.0	
		80.2	215	G	80.3	155	T	0.0	154	T	0.0	
		80.2	215	G	80.4	149	B	0.0	142	T	0.0	
		80.4	210	G	80.4	151	T	0.0	151	T	0.0	
DP-26	P81/82	80.7	215	G	80.7	150	T	0.0	139	B	0.0	PASS
(DS#P26)		80.4	214	G	80.6	144	B	0.0	167	B	0.0	
		80.4	210	G	80.8	150	B	0.0	155	B	0.0	
		80.5	218	G	80.7	144	B	0.0	140	B	0.0	
		80.8	218	G	80.5	139	B	0.0	6	B	0.0	
DP-27	P69/70	84.1	216	G	86.3	166	T	0.0	149	T	0.0	PASS
(DS#P27)		84.2	207	G	83.8	153	T	0.0	147	T	0.0	
		84.1	216	G	83.4	153	B	0.0	146	T	0.0	
		84.3	219	G	84.5	155	B	0.0	150	T	0.0	
		83.8	220	G	84.3	167	B	0.0	158	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-28	P84/85	81.5	215	G	81.2	161	T	0.0	161	T	0.0	PASS
(DS#P28)		81.4	218	G	81.3	169	T	0.0	157	T	0.0	
		81.4	224	G	81.4	137	T	0.0	148	T	0.0	
		81.1	221	G	81.7	143	T	0.0	146	T	0.0	
		81.0	217	G	81.5	150	T	0.0	154	T	0.0	
DP-29	P85/86	81.5	213	G	81.1	161	B	0.0	142	PT	35	PASS
(DS#P29)		81.6	210	G	80.9	168	B	0.0	157	T	0.0	
		81.4	221	G	81.0	172	B	0.0	137	B	0.0	
		81.5	219	G	81.2	153	B	0.0	125	B	0.0	
		81.7	213	G	81.2	159	B	0.0	125	B	0.0	
DP-30	P90/91	81.0	216	G	80.6	153	B	0.0	151	T	0.0	PASS
(DS#P30)		80.9	215	G	81.0	147	B	0.0	164	T	0.0	
		81.2	224	G	81.1	157	B	0.0	147	T	0.0	
		81.1	223	G	81.4	145	B	0.0	152	T	0.0	
		81.5	217	G	81.8	156	B	0.0	149	T	0.0	
DP-31	P91/92	82.5	223	B	82.4	144	T	0.0	135	B	0.0	PASS
(1)		82.7	221	B	82.5	143	T	0.0	134	B	0.0	
		82.2	218	B	82.5	146	T	0.0	135	B	0.0	
		82.7	224	B	82.5	150	T	0.0	138	B	0.0	
		82.7	221	B	82.8	146	T	0.0	138	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-32	P96/97	80.9	218	G	81.3	144	B	0.0	138	B	0.0	PASS
(DS#P32)		81.1	219	G	81.6	151	T	0.0	165	B	0.0	
		81.3	225	G	81.1	155	T	0.0	169	B	0.0	
		81.2	220	G	81.3	167	T	0.0	163	T	0.0	
		81.4	220	G	80.8	165	T	0.0	157	T	0.0	
DP-33	P97/98	83.4	209	G	82.7	154	T	0.0	151	T	0.0	PASS
(DS#P33)		82.5	210	G	83.2	150	T	0.0	145	T	0.0	
		82.6	213	G	82.3	146	T	0.0	148	PT	5	
		82.7	215	G	83.2	146	B	0.0	140	PT	5	
		82.2	216	G	83.5	156	B	0.0	142	PT	5	
DP-34	P83/84	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-34P1 AND DP-34N1
DP-34P1	P96/97	81.4	210	G	82.0	136	T	0.0	145	B	0.0	RETEST OF DP-34 - PASS
(DS#34B)		81.8	211	G	82.3	144	T	0.0	160	B	0.0	PATH OF MX1404
		81.4	211	G	82.6	168	B	0.0	141	B	0.0	
		81.7	211	G	82.4	165	B	0.0	126	B	0.0	
		81.7	207	G	82.4	168	T	0.0	142	B	0.0	
DP-34N1	P102/103	81.7	212	G	82.4	156	T	0.0	160	T	0.0	RETEST OF DP-34 - PASS
(DS#34A)		81.5	210	G	83.1	161	T	0.0	161	T	0.0	PATH OF MX1404
		80.9	216	G	82.2	144	T	0.0	159	B	0.0	
		81.1	209	G	81.9	155	T	0.0	161	T	0.0	
		80.6	216	G	82.1	150	B	0.0	138	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-35	P61/87	-	-	-	-	-	-	-	-	-	-	ALL SEAM FOR MX1309 WAS TRACKED AND CAPPED - PASS
DP-36 (DS#36)	P114/115	81.0	202	G	81.2	146	T	0.0	161	B	0.0	PASS
		81.6	210	G	81.9	155	T	0.0	163	B	0.0	
		80.8	208	G	81.2	156	T	0.0	157	B	0.0	
		81.4	210	G	81.2	134	T	0.0	152	T	0.0	
		81.0	211	G	80.8	136	T	0.0	148	T	0.0	
DP-37 (DS#37)	P124/125	81.3	200	G	82.2	137	B	0.0	149	PB	40	FAIL - SEE DP-37P1 AND DP-37N1
		80.8	206	G	82.1	160	T	0.0	159	T	0.0	
		81.3	206	G	82.2	157	B	0.0	108	P	100	
		81.0	207	G	82.1	151	T	0.0	149	B	0.0	
		80.7	206	G	82.0	144	B	0.0	154	B	0.0	
DP-37P1 (DS#P37B)	P120/121	82.1	210	G	81.3	150	PT	50	150	B	0.0	RETEST OF DP-37 - PASS PATH OF MX1419
		81.8	208	G	81.1	153	PT	10	163	T	0.0	
		81.9	212	G	81.0	143	T	0.0	170	B	0.0	
		81.9	212	G	80.8	138	T	0.0	141	T	0.0	
		82.4	217	G	80.5	146	T	0.0	146	B	0.0	
DP-37N1 (DS#P37A)	P126/128	81.3	205	G	81.2	172	T	0.0	167	T	0.0	RETEST OF DP-37 - PASS PATH OF MX1419
		81.3	208	G	81.3	163	T	0.0	163	T	0.0	
		81.4	218	G	81.2	157	T	0.0	164	B	0.0	
		81.5	213	G	81.7	152	T	0.0	156	B	0.0	
		81.7	214	G	81.1	160	T	0.0	156	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-38	P126/127	80.4	202	G	82.2	154	T	0.0	126	B	0.0	PASS
(DS#38)		80.8	200	G	82.5	151	B	0.0	144	B	0.0	
		80.2	207	G	82.0	149	B	0.0	139	B	0.0	
		80.7	210	G	82.2	139	T	0.0	134	B	0.0	
		80.2	212	G	81.7	144	T	0.0	117	B	0.0	
DP-39	P109/115	81.6	207	G	79.8	143	B	0.0	152	B	0.0	PASS
(DS#39)		81.3	208	G	79.7	143	T	0.0	167	T	0.0	
		81.5	214	G	80.3	145	T	0.0	157	PT	5	
		81.6	212	G	80.4	136	T	0.0	148	T	0.0	
		81.6	207	G	79.6	147	T	0.0	155	T	0.0	
DP-40	P133/134	81.3	207	G	80.9	154	B	0.0	152	T	0.0	PASS
(DS#40)		81.4	206	G	81.3	164	B	0.0	152	T	0.0	
		81.3	210	G	81.3	170	T	0.0	163	T	0.0	
		81.5	213	G	80.8	150	B	0.0	151	T	0.0	
		81.8	215	G	81.5	152	B	0.0	143	T	0.0	
DP-41	P138/139	79.1	223	T	80.0	141	T	0.0	157	T	0.0	PASS
(1)		79.4	222	T	79.7	157	T	0.0	138	T	0.0	
		80.0	222	T	80.1	155	T	0.0	129	T	0.0	
		79.4	221	T	80.0	157	T	0.0	137	T	0.0	
		80.0	221	T	80.1	141	T	0.0	119	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-42	P139/140	81.7	206	G	80.9	172	B	0.0	141	T	0.0	PASS
(DS#42)		81.4	209	G	81.3	173	B	0.0	143	T	0.0	
		81.0	210	G	81.4	169	B	0.0	147	T	0.0	
		81.2	213	G	81.2	162	B	0.0	139	T	0.0	
		81.4	212	G	81.3	142	T	0.0	131	T	0.0	
DP-43	P144/145	81.3	205	G	80.9	146	T	0.0	133	B	0.0	PASS
(DS#43)		80.9	206	G	80.8	140	T	0.0	168	B	0.0	
		80.9	216	G	80.7	149	T	0.0	146	B	0.0	
		81.0	212	G	81.0	151	B	0.0	160	T	0.0	
		80.7	207	G	80.8	142	T	0.0	149	B	0.0	
DP-44	P145/146	82.4	210	G	82.4	149	T	0.0	157	B	0.0	PASS
(DS#44)		81.7	212	G	82.4	177	B	0.0	150	T	0.0	
		81.9	215	G	82.4	172	B	0.0	173	B	0.0	
		81.6	214	G	82.2	160	B	0.0	152	B	0.0	
		81.8	219	G	82.3	159	T	0.0	148	T	0.0	
DP-45	P150/151	81.8	215	G	81.4	135	B	0.0	156	B	0.0	PASS
(DS#P45)		81.4	215	G	81.7	143	T	0.0	141	B	0.0	
		81.6	217	G	81.6	151	T	0.0	151	B	0.0	
		81.6	217	G	81.5	137	T	0.0	168	T	0.0	
		81.3	211	G	81.6	152	T	0.0	156	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-46	P154/160	81.2	207	G	82.0	146	T	0.0	148	T	0.0	PASS
(DS#P46)		81.1	210	G	81.8	152	T	0.0	148	T	0.0	
		81.0	213	G	82.0	142	T	0.0	143	T	0.0	
		80.9	215	G	81.7	144	T	0.0	162	T	0.0	
		81.3	216	G	81.6	146	T	0.0	142	B	0.0	
DP-47	P161/162	81.8	206	G	80.5	133	B	0.0	156	B	0.0	PASS
(DS#P47)		82.0	207	G	81.4	142	B	0.0	151	B	0.0	
		81.9	209	G	81.7	140	B	0.0	155	T	0.0	
		82.1	210	G	80.9	132	B	0.0	134	B	0.0	
		82.0	207	G	81.8	140	B	0.0	151	B	0.0	
DP-48	P160/161	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-48P1 AND DP-48N1
DP-48P1	P160/161	81.1	224	G	81.0	160	B	0.0	160	T	0.0	RETEST OF DP-48 - PASS
(DS#P48B)		91.1	221	G	80.6	143	B	0.0	130	PB	50	PATH OF MX1419
		80.9	221	G	80.8	143	B	0.0	137	B	0.0	
		81.0	224	G	81.2	143	B	0.0	130	B	0.0	
		80.9	225	G	80.4	145	B	0.0	162	B	0.0	
DP-48N1	P160/161	81.6	200	G	80.8	139	B	0.0	136	T	0.0	RETEST OF DP-48 - PASS
(DS#P48A)		81.6	207	G	81.4	165	T	0.0	151	T	0.0	PATH OF MX1419
		81.4	212	G	81.5	148	B	0.0	148	T	0.0	
		81.6	208	G	81.6	152	B	0.0	139	T	0.0	
		81.6	208	G	81.5	162	B	0.0	136	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-49	P153/158	82.6	212	G	83.4	172	T	0.0	145	T	0.0	PASS
(DS#P49)		82.8	214	G	82.5	153	B	0.0	165	T	0.0	
		82.9	222	G	82.2	152	T	0.0	160	T	0.0	
		83.0	217	G	81.8	142	T	0.0	150	T	0.0	
		83.2	210	G	81.7	150	T	0.0	161	B	0.0	
DP-50	P165/166	82.8	221	G	82.9	157	PT	5	157	B	0.0	PASS
(DS#P50)		7.99	222	G	83.1	151	T	0.0	159	B	0.0	
		81.6	225	G	81.9	157	T	0.0	158	T	0.0	
		81.4	228	G	83.1	148	T	0.0	158	T	0.0	
		81.3	227	G	84.4	149	T	0.0	148	T	0.0	
DP-51 (1)	P166/167	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-51P1 NO FURTHER SEAMING PERFORMED IN THE "NEXT" DIRECTION - PASS
DP-51P1	P163/164	82.2	221	T	81.4	159	B	0.0	151	T	0.0	RETEST OF DP-51 - PASS PATH OF MX1404
(1)		82.3	224	T	81.5	137	T	0.0	151	T	0.0	
		82.1	226	T	81.4	156	T	0.0	148	T	0.0	
		82.8	224	T	81.5	149	B	0.0	145	T	0.0	
		82.5	222	T	81.0	153	T	0.0	145	T	0.0	
DP-52	P169/170	81.8	223	G	81.5	177	T	0.0	151	T	0.0	PASS
(DS#P52)		82.9	226	G	82.4	176	T	0.0	177	T	0.0	
		82.1	231	G	82.1	155	T	0.0	165	T	0.0	
		83.4	228	G	83.5	165	B	0.0	156	PT	40	
		82.2	227	G	85.1	156	B	0.0	165	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-53	P176/177	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-53P1 AND DP-53N1
DP-53P1	P176/177	84.0	215	G	83.1	145	T	0.0	149	T	0.0	RETEST OF DP-53 - PASS
(DS#P53B)		84.5	215	G	84.2	150	T	0.0	155	T	0.0	PATH OF MX1490
		84.1	218	G	83.9	164	T	0.0	164	T	0.0	
		83.9	213	G	83.3	148	B	0.0	158	T	0.0	
		82.9	214	G	83.6	162	T	0.0	156	T	0.0	
DP-53N1	P181/182	82.2	229	G	82.0	148	T	0.0	166	T	0.0	RETEST OF DP-53 - PASS
(DS#P53A)		82.0	228	G	81.8	162	T	0.0	165	T	0.0	PATH OF MX1490
		81.5	235	G	81.7	161	B	0.0	146	T	0.0	
		82.0	233	G	81.8	155	T	0.0	154	T	0.0	
		82.0	228	G	82.0	161	B	0.0	146	T	0.0	
DP-54	P177/180	85.2	222	G	83.1	153	T	0.0	166	B	0.0	PASS
(DS#P54)		83.1	223	G	84.5	161	T	0.0	155	B	0.0	
		84.9	224	G	82.3	146	T	0.0	153	B	0.0	
		86.6	227	G	85.6	157	T	0.0	162	T	0.0	
		83.4	228	G	83.4	157	T	0.0	157	B	0.0	
DP-55	P180/181	82.4	213	G	81.9	151	B	0.0	167	B	0.0	PASS
(DS#P55)		83.1	217	G	83.4	158	B	0.0	170	T	0.0	
		81.8	222	G	82.7	152	B	0.0	162	B	0.0	
		82.5	219	G	82.5	126	T	0.0	159	T	0.0	
		82.4	214	G	81.9	134	T	0.0	155	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00. The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-56	P168/175	83.5	217	G	83.1	160	T	0.0	155	B	0.0	PASS
(DS#P56)		83.4	219	G	83.8	161	B	0.0	156	B	0.0	
		82.9	221	G	83.2	160	B	0.0	169	B	0.0	
		83.4	220	G	83.2	152	T	0.0	164	B	0.0	
		82.8	223	G	83.1	155	B	0.0	153	B	0.0	
DP-57	P184/185	83.5	228	G	82.6	134	T	0.0	146	B	0.0	PASS
(DS#P57)		83.9	222	G	82.5	133	T	0.0	146	B	0.0	
		82.5	225	G	83.3	136	T	0.0	145	B	0.0	
		82.9	230	G	83.7	130	T	0.0	163	B	0.0	
		82.3	222	G	83.2	134	T	0.0	130	B	0.0	
DP-58	P186/187	83.7	223	G	83.1	143	T	0.0	147	T	0.0	PASS
(DS#P58)		83.2	227	G	83.6	146	T	0.0	146	PT	10	
		83.6	226	G	83.5	153	T	0.0	159	T	0.0	
		84.1	230	G	83.7	166	T	0.0	146	T	0.0	
		83.1	230	G	83.5	146	T	0.0	148	T	0.0	
DP-59	P187/188	83.2	215	G	82.9	178	B	0.0	163	B	0.0	PASS
(DS#P59)		82.9	217	G	83.5	142	T	0.0	162	B	0.0	
		82.6	224	G	82.5	157	T	0.0	158	T	0.0	
		82.7	219	G	83.2	153	B	0.0	154	T	0.0	
		82.4	217	G	82.6	163	B	0.0	160	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

		SHEAR TEST			PEEL TEST							
						INSIDE TRACK			OUTSIDE TRACK			
SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	REMARKS
DP-60	P190/192	82.1	203	G	82.8	141	T	0.0	168	T	0.0	PASS
(DS#P60)		82.9	201	G	82.2	130	T	0.0	167	B	0.0	
		81.8	207	G	82.6	144	T	0.0	167	T	0.0	
		83.0	206	G	82.1	130	T	0.0	162	T	0.0	
		83.0	203	G	83.0	124	T	0.0	154	T	0.0	
DP-61	P191/193	80.7	222	B	81.3	149	T	0.0	144	T	0.0	PASS
(1)		80.6	223	B	80.9	158	B	0.0	152	T	0.0	
		80.7	222	B	81.5	136	B	0.0	151	T	0.0	
		80.5	222	T	80.8	163	B	0.0	154	T	0.0	
		80.3	222	T	80.6	154	T	0.0	158	T	0.0	
DP-62	P194/195	82.1	219	G	80.5	167	B	0.0	162	B	0.0	PASS
(DS#P62)		82.6	220	G	80.3	142	B	0.0	161	T	0.0	
		82.2	223	G	80.4	146	B	0.0	133	B	0.0	
		81.6	220	G	80.5	143	B	0.0	141	T	0.0	
		82..0	217	G	81.2	140	T	0.0	167	B	0.0	
DP-63	P201/202	82.1	220	G	82.4	167	B	0.0	139	T	0.0	FAIL - SEE DP-63P1 AND DP-63N1
(DS#P63)		81.8	220	G	82.4	143	P	100	113	P	100	
		81.6	226	G	82.4	129	T	0.0	147	T	0.0	
		81.3	222	G	82.0	124	P	100	134	T	0.0	
		81.8	218	G	81.0	139	T	0.0	130	P	100	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-63P1	P196/197	83.4	223	G	84.2	168	T	0.0	171	B	0.0	RETEST OF DP-63 - PASS
(DS#P63B)		83.4	223	G	84.3	156	T	0.0	148	B	0.0	PATH OF MX1321
		83.7	228	G	83.2	147	T	0.0	150	T	0.0	
		83.0	224	G	83.1	134	T	0.0	161	T	0.0	
		82.8	220	G	83.0	133	PT	5	137	B	0.0	
DP-63N1	P201/202	83.7	224	G	83.2	144	T	0.0	154	T	0.0	RETEST OF DP-63 - PASS
(DS#P63A)		83.7	227	G	83.8	156	B	0.0	165	T	0.0	PATH OF MX1321
		83.4	223	G	84.4	144	T	0.0	162	T	0.0	
		83.4	223	G	84.3	138	T	0.0	149	T	0.0	
		83.2	230	G	84.1	131	PB	20	160	T	0.0	
DP-64	P189/190		-	-	-	-	-	-	-	-	-	FAIL - SEE DP-64P1 AND DP-64N1
DP-64P1	P189/190	81.0	213	G	81.5	127	T	0.0	127	T	0.0	RETEST OF DP-64 - PASS
(DS#P64B)		81.8	215	G	81.3	136	B	0.0	141	T	0.0	PATH OF MX1609
		81.3	220	G	81.2	137	B	0.0	127	T	0.0	
		81.2	215	G	81.4	155	T	0.0	139	T	0.0	
		81.4	207	G	81.4	119	T	0.0	144	T	0.0	
DP-64N1	P205/206	82.5	207	G	83.1	151	T	0.0	165	T	0.0	RETEST OF DP-64 - PASS
(DS#P64A)		82.7	215	G	82.3	173	T	0.0	166	B	0.0	PATH OF MX1609
		82.7	220	G	83.1	141	T	0.0	168	T	0.0	
		83.0	218	G	83.1	161	T	0.0	159	B	0.0	
		83.3	214	G	82.6	157	T	0.0	157	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-65	P207/208	81.5	219	G	82.5	161	B	0.0	152	T	0.0	PASS
(DS#P65)		82.2	222	G	82.1	146	B	0.0	160	T	0.0	
		81.9	227	G	81.8	162	T	0.0	156	PB	10	
		81.9	221	G	82.1	160	T	0.0	160	T	0.0	
		81.5	221	G	81.9	148	T	0.0	167	B	0.0	
DP-66	P195/207	82.6	220	G	82.1	160	T	0.0	149	B	0.0	PASS
(DS#P66)		82.7	220	G	82.1	160	T	0.0	146	B	0.0	
		82.1	226	G	81.7	139	T	0.0	164	T	0.0	
		82.1	225	G	81.9	140	T	0.0	151	B	0.0	
		82.0	225	G	82.1	136	B	0.0	139	T	0.0	
DP-67	P205/209	80.5	220	G	82.4	143	T	0.0	138	P	100	FAIL - SEE DP-67P1
(DS#P67)		81.0	220	G	82.0	141	T	0.0	172	T	0.0	ALL SEAM IN THE "NEXT" DIRECTION
		81.1	225	G	82.0	159	T	0.0	160	T	0.0	WAS TRACKED AND CAPPED - PASS
		81.0	223	G	82.1	140	T	0.0	131	PT	90	
		80.9	219	G	81.9	134	T	10	130	P	100	
DP-67P1	P205/209	82.3	208	G	82.2	153	T	0.0	147	P	100	RETEST OF DP-67 - FAIL
(DS#P67B)		83.0	212	G	82.7	106	P	100	105	P	100	ALL SEAM OF MX1319 WAS TRACKED
		82.0	218	G	82.2	148	PT	15	155	T	0.0	AND CAPPED - PASS
		81.9	215	G	81.9	136	B	0.0	136	B	0.0	
		82.0	212	G	82.2	NA	NA	0.0	128	P	100	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-68	P211/213	82.8	214	G	82.8	154	T	0.0	156	T	0.0	PASS
(DS#P68)		82.9	217	G	82.7	158	B	0.0	153	T	0.0	
		82.6	222	G	82.7	161	B	0.0	162	T	0.0	
		82.9	218	G	82.8	15	B	0.0	156	T	0.0	
		82.9	218	G	83.1	150	T	0.0	151	T	0.0	
DP-69	P214/216	81.4	211	G	81.0	156	B	0.0	157	B	0.0	PASS
(DS#P69)		81.5	217	G	80.6	165	T	0.0	172	B	0.0	
		80.9	221	G	80.7	161	B	0.0	154	B	0.0	
		81.2	218	G	80.4	167	B	0.0	165	B	0.0	
		81.1	214	G	80.2	161	B	0.0	158	T	0.0	
DP-70	P216/217	-	-	-	-	-	-	-	-	-	-	ALL SEAM FOR MX1523 WAS TRACKED AND CAPPED - PASS
DP-71	P218/219	82.6	236	T	82.2	167	B	0.0	145	T	0.0	PASS
(1)		82.4	236	T	82.1	165	B	0.0	169	B	0.0	
		81.9	235	T	82.0	144	T	0.0	165	B	0.0	
		81.8	234	T	81.5	151	T	0.0	161	B	0.0	
		81.7	233	T	81.5	173	T	0.0	137	T	0.0	
DP-72	P221/222	81.3	212	G	81.8	142	PB	5	161	T	0.0	PASS
(DS#P72)		81.8	212	G	82.5	166	B	0.0	131	P	100	
		81.9	217	G	81.9	148	T	0.0	140	PT	10	
		81.5	214	G	81.9	160	B	0.0	145	T	0.0	
		81.1	208	G	82.1	141	T	0.0	135	B	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-73	P222/223	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-73P1 AND DP-73N1
DP-73P1	P222/223	81.5	210	G	81.2	156	B	0.0	150	T	0.0	RETEST OF DP-73 - FAIL
(DS#73B)		81.5	212	G	81.4	106	P	100	174	T	0.0	SEE DP-73P2
		81.3	216	G	81.5	127	T	0.0	148	T	0.0	PATH OF MX1321
		81.1	212	G	81.3	139	PB	60	165	T	0.0	
		81.4	209	G	82.0	142	T	0.0	153	T	0.0	
DP-73P2	P222/224	81.8	197	G	80.5	127	P	100	164	T	0.0	RETEST OF DP-73P1 - FAIL
(DS#73B-1)		82.2	204	G	81.3	131	PB	50	172	T	0.0	SEE DP-73P3
		81.5	211	G	81.1	157	B	0.0	167	B	0.0	PATH OF MX1321
		82.1	203	G	81.7	157	PB	10	148	B	0.0	
		81.9	200	G	81.9	152	PT	5	164	T	0.0	
DP-73P3	P222/224	83.0	222	G	82.6	170	B	0.0	168	B	0.0	RETEST OF DP-73P2 - PASS
(DS#73B-2)		84.4	223	G	83.6	158	T	0.0	146	B	0.0	PATH OF MX1321
		84.2	230	G	82.8	173	T	0.0	174	T	0.0	
		84.6	228	G	83.6	173	T	0.0	148	B	0.0	
		83.1	222	G	84.0	158	T	0.0	158	T	0.0	
DP-73N1	P222/P223	82.0	208	G	81.6	152	T	0.0	171	B	0.0	RETEST OF DP-73 - FAIL
(DS#P73A)		81.5	207	G	81.8	157	T	0.0	140	P	100	SEE DP-73N2
		81.5	215	G	81.7	155	T	0.0	160	PB	15	PATH OF MX1321
		81.8	213	G	81.8	162	T	0.0	173	T	0.0	
		81.7	211	G	82.5	154	T	0.0	149	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-73N2	P222/P223	81.7	206	G	82.1	152	T	0.0	170	T	0.0	RETEST OF DP-73N1 - PASS
(DS#P73A-1)		81.9	206	G	82.5	160	T	0.0	153	T	0.0	PATH OF MX1321
		82.3	216	G	82.4	146	T	0.0	129	P	100	
		81.9	212	G	82.5	160	T	0.0	162	B	0.0	
		81.7	210	G	82.2	167	B	0.0	156	B	0.0	
DP-74	P223/225	80.9	205	G	81.5	142	B	0.0	160	T	0.0	PASS
(DS#P74)		81.0	208	G	81.9	149	B	0.0	149	T	0.0	
		81.2	212	G	82.2	144	B	0.0	155	B	0.0	
		81.1	210	G	81.7	140	B	0.0	153	B	0.0	
		81.4	205	G	81.7	142	B	0.0	156	B	0.0	
DP-75	P225/226	81.5	210	G	81.1	158	B	0.0	145	T	0.0	PASS
(DS#P75)		81.7	213	G	80.9	148	B	0.0	163	T	0.0	
		81.9	217	G	80.8	154	P	100	147	T	0.0	
		81.9	214	G	81.1	128	T	0.0	147	T	0.0	
		81.9	206	G	81.5	156	T	0.0	156	B	0.0	
DP-76	P228/229	82.1	216	G	82.1	146	T	0.0	165	T	0.0	PASS
(DS#P76)		82.0	212	G	82.3	124	T	0.0	155	T	0.0	
		81.7	219	G	81.3	137	T	0.0	154	T	0.0	
		81.9	217	G	81.8	126	T	0.0	147	T	0.0	
		81.4	215	G	81.1	134	T	0.0	143	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
FUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEAR TEST			PEEL TEST							REMARKS
						INSIDE TRACK			OUTSIDE TRACK			
		SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	SHEET THICKNESS (mils)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	STRENGTH (lbs/inch)	FAILURE CODE	PERCENT PEEL (3) (%)	
DP-77	P229/230	82.1	213	G	80.8	145	T	0.0	163	T	0.0	PASS
(DS#P77)		81.9	213	G	81.3	148	T	0.0	143	B	0.0	
		81.8	222	G	81.4	142	B	0.0	157	B	0.0	
		81.3	219	G	81.5	146	T	0.0	152	B	0.0	
		81.7	215	G	81.7	153	T	0.0	154	T	0.0	
DP-78	P229/231	-	-	-	-	-	-	-	-	-	-	FAIL - SEE DP-78P1 AND DP-78N1
DP-78P1	P229/231	81.8	206	G	81.1	153	B	0.0	150	B	0.0	RETEST OF DP-78 - PASS
(DS#P78B)		81.9	207	G	81.5	157	B	0.0	147	T	0.0	PATH OF MX1419
		81.5	213	G	81.8	153	T	0.0	149	T	0.0	
		81.7	214	G	81.4	152	B	0.0	150	PB	80	
		82.0	210	G	82.0	154	B	0.0	145	T	0.0	
DP-78N1	P229/231	81.7	215	G	81.8	150	B	0.0	143	PT	50	RETEST OF DP-78 - PASS
(DS#P78A)		81.8	214	G	81.9	114	PT	40	123	P	100	PATH OF MX1419
		81.7	225	G	82.1	132	PB	20	135	T	0.0	
		81.8	222	G	81.5	137	B	0.0	136	T	0.0	
		81.7	218	G	81.5	139	B	0.0	145	T	0.0	

(1) Seam destructive sample was tested by GCS. All unmarked samples were tested by NSC.

(2) DP-00P1 denotes the sample was in the weld path "PREVIOUS" to location DP-00. DP-00N1 denotes the sample was in the weld path "NEXT" from DP-00.
The sample number in parentheses is NSC's laboratory sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILENAME = PF_DESTR.WK1

V.2

EXTRUSION METHOD

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-01 (1)	P8/3K	-	-	-	-	-	-	FAIL - SEE DPE-01P1 AND DPE-01N1
DPE-01P1 (1)	P33/8E	81.2/81.6	214.3	T	153.9	B	-	RETEST OF DPE-01 - PASS PATH OF MX111
			213.3	B	140.8	B	-	
			214.5	T	120.0	B	-	
			214.8	T	150.2	B	-	
			215.2	T	160.1	B	-	
DPE-01P1 (1)	P33/8E	82.0/81.7	214.3	B	117.3	B	-	RETEST OF DPE-01 - PASS PATH OF MX111
			213.3	B	108.7	B	-	
			214.5	B	122.5	B	-	
			214.8	B	132.1	B	-	
			215.2	B	100.8	B	-	
DPE-01N1 (1)	P8/8A	82.2/81.6	215.5	T	128.3	B	-	RETEST OF DPE-01 - PASS PATH OF MX111
			218.6	B	160.0	B	-	
			217.7	B	129.8	B	-	
			216.6	T	138.2	B	-	
			217.3	B	108.9	B	-	
DPE-01N1 (1)	P8/8A	81.0/82.4	218.3	T	122.5	B	-	RETEST OF DPE-01 - FAIL SEE DPE-1N2 PATH OF MX111
			216.1	T	90.3	B	-	
			218.1	T	136.4	B	-	
			218.1	B	102.2	B	-	
			215.7	T	119.9	B	-	
DPE-1N2 (1)	P34/8E	83.8/82.6	227.1	B	132.6	B	-	PASS
			226.6	B	132.1	B	-	
			226.2	B	126.3	B	-	
			225.6	T	124.4	B	-	
			224.6	T	138.8	B	-	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-02	P26/CAP	80.9	212.0	-	145.0	B	0	PASS
(DS#E-02)		81.1	212.0	-	116.0	B	0	
		81.4	212.0	-	134.0	B	0	
		81.5	210.0	-	119.0	B	0	
		81.8	211.0	-	134.0	B	0	
DPE-03	P38/39	82.7	214.0	-	158.0	B	0	PASS
(DS#PE0-3)		83.8	216.0	-	118.0	B	0	
		82.6	214.0	-	132.0	B	0	
		82.6	216.0	-	160.0	B	0	
		82.7	214.0	-	124.0	B	0	
DPE-04	P33/34	82.7	211.0	-	103.0	B	0	PASS
(DS#PE0-4)		83.1	212.0	-	114.0	B	0	
		83.2	212.0	-	135.0	B	0	
		82.9	209.0	-	136.0	B	0	
		83.4	211.0	-	126.0	B	0	
DPE-05	P2/12R	-	-	-	-	-	-	FAIL - SEE DPE-05P1 AND DPE-05N1
DPE-05P	P3/12R	83.0	212.0	-	147.0	PB	10	RETEST OF DPE-05 - PASS
(DS#E5B)		83.1	212.0	-	145.0	B	0	PATH OF MX70
		82.8	215.0	-	130.0	B	0	
		82.8	217.0	-	133.0	B	0	
		83.3	220.0	-	140.0	B	0	
DPE-05N	P2/12R	83.7	213.0	-	133.0	B	0	RETEST OF DPE-05 - PASS
(DS#E5A)		82.2	214.0	-	155.0	B	0	PATH OF MX70
		82.6	218.0	-	146.0	B	0	
		83.2	217.0	-	139.0	B	0	
		82.4	217.0	-	128.0	PB	5	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-06 (DS#E06)	P4/CAP	84.1	215.0	-	114.0	B	0	PASS
		83.7	210.0	-	121.0	B	0	
		83.0	217.0	-	143.0	T	0	
		83.3	217.0	-	106.0	B	0	
		83.4	217.0	-	137.0	B	0	
DPE-07 (DS#E07)	P7/8 CAP	83.7	212.0	-	139.0	B	0	PASS
		83.6	213.0	-	126.0	B	0	
		83.7	219.0	-	114.0	B	0	
		83.5	218.0	-	115.0	B	0	
		83.9	217.0	-	109.0	B	0	
DPE-08 (DS#E08)	P9/10 CAP	83.7	212.0	-	86.0	B	0	FAIL - SEE DPE-08P1 AND DPE-08N1
		83.2	211.0	-	109.0	PB	10	
		83.4	214.0	-	139.0	B	0	
		83.0	220.0	-	102.0	B	0	
		83.1	217.0	-	105.0	B	0	
DPE-08P1 (DS#E8B)	P9/CAP	83.9	207.0	-	131.0	B	0	RETEST OF DPE-08 - PASS PATH OF MX47
		83.6	208.0	-	136.0	B	0	
		83.9	212.0	-	123.0	B	0	
		84.4	214.0	-	147.0	B	0	
		83.8	214.0	-	145.0	B	0	
DPE-08N1 (DS#E8A)	P10/CAP	84.4	210.0	-	144.0	B	0	RETEST OF DPE-08 - PASS PATH OF MX47
		84.4	214.0	-	121.0	B	0	
		84.6	217.0	-	274.0	B	0	
		84.4	216.0	-	132.0	B	0	
		83.5	213.0	-	147.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.

(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00. The sample number in parentheses is NSC's sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-09	P31/12P	82.9	212.0	-	144.0	B	0	PASS
(DS#E09)		83.3	210.0	-	144.0	B	0	
		83.6	216.0	-	145.0	B	0	
		83.2	213.0	-	157.0	B	0	
		82.9	216.0	-	152.0	B	0	
DPE-10	P27/8B	-	-	-	-	-	-	FAIL - SEE DPE-10P1 AND DPE-10N1
DPE-10P1	P28/8B	82.6	205.0	-	135.0	B	0	RETEST OF DPE-10 - PASS
(DS#E10B)		83.6	207.0	-	152.0	B	0	PATH OF MX33
		83.0	208.0	-	150.0	B	0	
		83.0	209.0	-	156.0	B	0	
		82.7	211.0	-	149.0	B	0	
DPE-10N1	P27/8B	83.8	202.0	-	137.0	B	0	RETEST OF DPE-10 - PASS
(DS#E10A)		83.9	207.0	-	163.0	B	0	PATH OF MX33
		83.1	213.0	-	150.0	B	0	
		83.9	209.0	-	132.0	B	0	
		83.0	207.0	-	170.0	B	0	
DPE-11	P36/8J	83.1/81.2	223.2	B	130.7	B	-	FAIL - SEE DPE-11P1 AND DPE-11N1
(1)			216.6	B	143.2	B	-	
			224.7	B	111.8	B	-	
			225.2	B	129.5	B	-	
			219.6	B	128.7	B	-	
DPE-11P1	P36/8J	83.6/81.0	222.1	B	174.1	B	-	RETEST OF DPE-11 - PASS
(1)			220.3	B	161.8	B	-	PATH OF MX33
			225.5	B	178.8	B	-	
			223.5	B	158.3	B	-	
			219.5	B	193.1	B	-	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-11P1 (1)	P36/8J	82.4/81.4	224.6	T	81.1	P	-	RETEST OF DPE-11 - PASS PATH OF MX33
			223.2	T	126.3	B	-	
			222.7	T	114.9	P	-	
			222.1	T	143.6	B	-	
			221.0	T	136.8	B	-	
DPE-11N1 (1)	P36/8J	82.5/81.6	221.7	T	153.8	B	-	RETEST OF DPE-11 - PASS PATH OF MX33
			221.3	B	162.9	B	-	
			218.8	B	163.2	B	-	
			221.0	B	141.7	B	-	
			219.6	T	145.9	B	-	
DPE-12 (DS#PE-12)	P7-CAP	79.9	206.0	-	149.0	B	0	PASS
		80.2	208.0	-	150.0	B	0	
		80.2	215.0	-	141.0	B	0	
		80.3	214.0	-	148.0	B	0	
		80.4	208.0	-	148.0	B	0	
DPE-13 (DS#PE-13)	P38/CAP	80.6	209.0	-	152.0	B	0	PASS
		80.9	212.0	-	143.0	B	0	
		80.4	218.0	-	104.0	B	0	
		81.0	215.0	-	136.0	B	0	
		80.2	213.0	-	152.0	B	0	
DPE-14	P41/2P	-	-	-	-	-	-	FAIL - SEE DPE-14P1 AND DPE-14N1
DPE-14P1 (DS#E14B)	P41/2P	83.1	213.0	-	108.0	B	0	RETEST OF DPE-14 - PASS PATH OF MX111
		83.9	210.0	-	147.0	PB	10	
		82.7	214.0	-	122.0	B	0	
		83.0	214.0	-	128.0	B	0	
		82.2	210.0	-	122.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.

(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00. The sample number in parentheses is NSC's sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-14N1	P39/2P	83.4	205.0	-	105.0	B	0	RETEST OF DPE-14 - FAIL
(DS#E14A)		83.6	206.0	-	100.0	B	0	SEE DPE-14N2
		83.7	213.0	-	90.0	B	0	PATH OF MX111
		83.0	212.0	-	99.0	B	0	
		83.9	208.0	-	93.0	B	0	
DPE-14N2	P39/2P	81.4	210.0	-	134.0	PB	20	RETEST OF DPE-14N1 - PASS
(DS#E14A2)		81.7	214.0	-	136.0	PB	10	PATH OF MX111
		81.8	218.0	-	138.0	B	0	
		81.9	215.0	-	133.0	B	0	
		82.3	214.0	-	121.0	B	0	
DPE-15	P83/84	82.8	214.0	-	114.0	B	0	PASS
(DS#E15)		83.0	208.0	-	134.0	B	0	
		83.6	216.0	-	147.0	B	0	
		83.8	215.0	-	100.0	B	0	
		84.9	214.0	-	127.0	B	0	
DPE-16	P67/76	80.4	206.0	-	141.0	B	0	PASS
(DS#E16)		80.8	206.0	-	140.0	PB	10	
		80.8	211.0	-	117.0	B	0	
		82.5	213.0	-	117.0	B	0	
		80.5	212.0	-	135.0	B	0	
DPE-17	P89/30C	81.4	209.0	-	141.0	B	0	PASS
(DS#E17)		81.5	212.0	-	160.0	B	0	
		82.0	213.0	-	166.0	B	0	
		81.9	213.0	-	166.0	B	0	
		81.3	214.0	-	154.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-18	P150/154	82.7	214.0	-	148.0	B	0	PASS
(DS#PE18)		83.4	214.0	-	134.0	B	0	
		82.5	216.0	-	156.0	B	0	
		82.5	218.0	-	147.0	B	0	
		81.7	217.0	-	142.0	B	0	
DPE-19	P232/CAP	82.5	202.0	-	136.0	PB	35	PASS
(DS#E19)		82.9	206.0	-	166.0	B	0	
		82.9	212.0	-	147.0	B	0	
		83.1	211.0	-	158.0	B	0	
		83.3	207.0	-	152.0	B	0	
DPE-20	P230/CAP	83.0	205.0	-	117.0	B	0	PASS
(DS#E20)		82.1	204.0	-	122.0	B	0	
		84.7	214.0	-	110.0	B	0	
		82.5	209.0	-	134.0	B	0	
		83.2	205.0	-	128.0	B	0	
DPE-21	P221/49D	82.7/81.5	221.7	B	126.7	B	0	PASS
(1)			223.1	B	124.7	B	0	
			223.0	B	122.1	B	0	
			222.8	B	113.6	B	0	
			221.7	B	127.3	B	0	
DPE-22	P167/CAP	82.1	209.0	-	120.0	B	0	PASS
(DS#PE22)		82.5	208.0	-	105.0	B	0	
		82.9	212.0	-	121.0	B	0	
		82.1	213.0	-	120.0	B	0	
		82.0	210.0	-	116.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.

(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00. The sample number in parentheses is NSC's sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-23	P212/CAP	82.8	206.0	-	146.0	B	0	PASS
(DS#PE-23)		83.3	206.0	-	141.0	B	0	
		83.1	213.0	-	131.0	B	0	
		82.0	211.0	-	130.0	B	0	
		82.9	208.0	-	141.0	B	0	
DPE-24	P217/CAP	83.3	211.0	-	121.0	B	0	PASS
(DS#PE-24)		83.5	211.0	-	135.0	B	0	
		83.1	220.0	-	142.0	B	0	
		82.9	217.0	-	126.0	B	0	
		83.5	212.0	-	112.0	B	0	
DPE-25	P167/CAP	81.7	225.0	-	137.0	B	0	PASS
(DS#PE-25)		82.1	230.0	-	148.0	B	0	
		81.8	233.0	-	150.0	B	0	
		81.5	231.0	-	122.0	B	0	
		82.2	227.0	-	137.0	B	0	
DPE-26	P232/CAP	82.6	199.0	-	152.0	B	0	PASS
(DS#PE-26)		80.4	202.0	-	142.0	B	0	
		80.2	209.0	-	139.0	B	0	
		80.6	207.0	-	138.0	B	0	
		80.4	203.0	-	151.0	B	0	
DPE-27	P223/CAP	82.1	216.0	-	130.0	B	0	PASS
(DS#PE-27)		81.1	212.0	-	130.0	B	0	
		82.1	210.0	-	136.0	B	0	
		81.6	209.0	-	133.0	B	0	
		81.9	215.0	-	139.0	B	0	
DPE-28	P216/217	-	-	-	-	-	-	FAIL. PATH OF MX47 TRACKED TO DPE-28P1 IN PREVIOUS DIRECTION. ALL WELDING CAPPED IN NEXT DIRECTION.NOT USED AGAIN.

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-28P1	P221/CAP	81.6	205.0	-	162.0	B	0	PASS
(DS#PE-28B)		81.5	205.0	-	147.0	B	0	
		82.2	211.0	-	138.0	B	0	
		81.3	211.0	-	144.0	B	0	
		81.2	205.0	-	153.0	B	0	
DPE-29	P221/CAP	82.5	203.0	-	150.0	B	0	PASS
(DS#PE-29)		82.0	201.0	-	159.0	B	0	
		82.9	220.0	-	158.0	B	0	
		82.9	209.0	-	156.0	B	0	
		82.8	206.0	-	163.0	B	0	
DPE-30	P216/55A	82.9	204.0	-	137.0	B	0	PASS
(DS#PE-30)		83.4	209.0	-	130.0	B	0	
		84.2	213.0	-	100.0	B	0	
		84.2	207.0	-	125.0	B	0	
		83.9	211.0	-	126.0	B	0	
DPE-31	P232/49F	80.5/82.2	214.8	T	142.9	B	-	PASS
(1)			217.0	T	135.5	B	-	
			217.6	B	125.3	B	-	
			216.9	T	159.4	B	-	
			217.2	T	154.7	B	-	
DPE-31	P232/49F	82.2	205.0	-	124.0	B	0	PASS
(DS#PE-31)		82.5	201.0	-	123.0	B	0	
		82.7	204.0	-	152.0	B	0	
		83.3	205.0	-	125.0	B	0	
		82.0	202.0	-	128.0	PB	10	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.

(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00. The sample number in parentheses is NSC's sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-32	P166/CAP	81.6	210.0	-	158.0	PB	10	PASS
(DS#PE-32)		82.4	214.0	-	139.0	B	0	
		82.9	222.0	-	123.0	PB	10	
		82.9	220.0	-	137.0	PB	20	
		82.6	216.0	-	137.0	B	0	
DPE-33	P198/CAP	81.1	212.0	-	132.0	PB	10	PASS
(DS#PE-33)		81.1	212.0	-	100.0	B	0	
		81.0	213.0	-	118.0	PB	10	
		81.5	203.0	-	131.0	B	0	
		81.3	216.0	-	150.0	PB	10	
DPE-34	P187/SEC	82.3	197.0	-	104.0	B	0	PASS
(DS#PE-34)		83.2	209.0	-	146.0	B	0	
		82.2	210.0	-	112.0	B	0	
		83.4	210.0	-	141.0	B	0	
		82.7	208.0	-	147.0	B	0	
DPE-35	P181/SEC	84.1	212.0	-	181.0	PB	80	FAIL - SEE DPE-35P1 AND DPE-35N1
(DS#PE-35)		85.1	213.0	-	164.0	T	100	
		84.1	210.0	-	127.0	B	0	
		83.2	211.0	-	138.0	B	0	
		83.3	213.0	-	114.0	PB	10	
DPE-35P1	P180/SEC	81.8	211.0	-	108.0	B	0	RETEST OF DPE-35 - PASS
(DS#PE-35B)		81.8	208.0	-	117.0	B	0	PATH OF MX111
		82.1	213.0	-	105.0	B	0	
		81.8	211.0	-	115.0	B	0	
		82.2	211.0	-	111.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.
(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00.
The sample number in parentheses is NSC's sample number.
(3) Percent peel indicates the amount of peel adhesion failure in the weld.
FILE = PX_DESTR.WK1

SUMMARY OF PRIMARY GEOMEMBRANE DESTRUCTIVE TEST RESULTS
EXTRUSION METHOD
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

SAMPLE NUMBER (2)	SEAM NUMBER	SHEET THICKNESS (mils)	SHEAR TEST STRENGTH (lbs/inch)	LOCATION CODE	PEEL TEST STRENGTH (lbs/inch)	LOCATION CODE	PERCENT PEEL (3) (%)	REMARKS
DPE-35N1	P182/SEC	81.8	211.0	-	163.0	PT	50	RETEST OF DPE-35 - FAIL
(DS#PE-35A)		81.6	212.0	-	177.0	PT	50	SEE DPE-35N2
		81.8	218.0	-	130.0	B	0	PATH OF MX111
		81.7	216.0	-	137.0	B	0	
		82.1	211.0	-	108.0	B	0	
DPE-35N2	P181/SEC	82.5	259.0	-	132.0	PB	50	RETEST OF DPE-35N1 - FAIL
(DS#PE-35A2)		81.9	220.0	-	143.0	PB	50	SEE DPE-35N3
		82.2	228.0	-	132.0	PB	20	PATH OF MX111
		82.3	220.0	-	134.0	PB	10	
		81.8	221.0	-	134.0	PB	10	
DPE-35N3	P163/SEC	82.0	215.0	-	118.0	B	0	RETEST OF DPE-35N2 - PASS
(DS#PE-35A3)		82.4	215.0	-	117.0	B	0	PATH OF MX111
		82.0	221.0	-	112.0	B	0	
		81.9	218.0	-	98.0	B	0	
		81.9	214.0	-	107.0	B	0	
DPE-36	P222/	81.0	214.0	-	146.0	B	0	PASS
(DS#PE-36)	WRINKLE	80.6	206.0	-	146.0	B	0	
		80.5	213.0	-	132.0	B	0	
		80.4	213.0	-	132.0	B	0	
		80.3	209.0	-	118.0	B	0	

(1) Seam destructive sample was tested by GCS. All unmarked tests were performed by NSC.

(2) DPE-00P1 denotes the sample was in the weld path "PREVIOUS" to location DPE-00. DPE-00N1 denotes the sample was in the weld path "NEXT" from DPE-00. The sample number in parentheses is NSC's sample number.

(3) Percent peel indicates the amount of peel adhesion failure in the weld.

FILE = PX_DESTR.WK1

APPENDIX W

ABBREVIATIONS USED IN GEOSYNTHETIC TABLES
ALLEN PARK CLAY MINE - CELL 2
FORD MOTOR COMPANY

AD	ANIMAL RELATED DAMAGE
AT	ANCHOR TRENCH
BO	FUSION WELDER BURNOUT
BS	BOOT/SKIRT FOR FML PENETRATION
C	CAP
CAP	CAP
CO	CHANGE OF OVERLAP
CR	CREASE
CS	CONFORMANCE SAMPLE
D	INSTALLATION DAMAGE
D	GENERAL FIELD DAMAGE
DIA	DIAMETER
DPE-01	PRIMARY EXTRUSION DESTRUCTIVE SAMPLE #1
DP-01	PRIMARY FUSION DESTRUCTIVE SAMPLE #1
DS	DESTRUCTIVE SAMPLE
DSE-01	SECONDARY EXTRUSION DESTRUCTIVE SAMPLE #1
DS-01	SECONDARY FUSION DESTRUCTIVE SAMPLE #1
E	EAST
EE	EARTHWORK EQUIPMENT DAMAGE
EEOP	EAST END OF PANEL
EEOS	EAST END OF SEAM
EOD	END OF DAY
EOP	END OF PANEL
EXT	EXTENSION
F1	FAILURE CONDITION #1
F2	FAILURE CONDITION #2
F3	FAILURE CONDITION #3
F4	FAILURE CONDITION #4
FS	FAILED SEAM LENGTH
FTS	FIELD TEST STRIP
GW	GRIND AND WELD
G&W	GRIND AND WELD
HT	HEAT TACK BURN
INT	INTERSECTION
IO	INSUFFICIENT OVERLAP
MD	MANUFACTURER'S DAMAGE
N	NORTH
NEOP	NORTH END OF PANEL
NEOS	NORTH END OF SEAM
N/A	NOT APPLICABLE
O	OF
P	PATCH
P1	PASS CONDITION #1
P2	PASS CONDITION #2
P3	PASS CONDITION #3
P5	PASS CONDITION #5
P6	PASS CONDITION #6
P7	PANEL 7
PT	PRESSURE TEST CUT
RS	RECONSTRUCTED SEAM
S	SOUTH
SEC	SECONDARY
SEOP	SOUTH END OF PANEL
SEOS	SOUTH END OF SEAM
SI	SOIL SURFACE IRREGULARITY
SOS	START OF SEAM
T	THREE PANEL INTERSECTION
TI	TIE IN
VL	VACUUM TEST LEAK
W	WEST
WEOP	WEST END OF PANEL
WEOS	WEST END OF SEAM
WR	WRINKLE
WS	WELDER RESTART
W/	WITH
@	AT

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
01A	P 2 / 3	91' S OF NEOS	PT	10/05/92	P	1 x 1	145	74	BFM	APPED BY 17F	
01B	P 7 / 8	10' S OF NEOS	PT	10/06/92	P	1 x 1	145	74	BFM	APPED BY 3K	
01C	P 6 / 7	13' N OF SEOS	PT	10/08/92	GW	6"	145	74	WRS	10/21/92	JAL
01D	P 5 / 7	66' S OF NEOS	PT	10/07/92	GW	14"	398	111	WRS	10/21/92	JAL
01E	P 11 / 12	6' S OF NEOS	PT	10/06/92	P	1 x 1	145	74	BFM	10/13/92	BFM
01F	P 11 / 12	12' S OF NEOS	PT	10/06/92	P	1 x 1	145	74	BFM	10/13/92	BFM
01G	P 4 / 6	6' N OF SEOS	FTS	10/05/92	P	1 x 1	145	74	BFM	10/21/92	JAL
01H	P 22 / 23	@ CREST OF AT	BO	10/06/92	P	2 x 4	145	74	WRS	10/22/92	CPB
01I	P 23 / 24	10' S OF N AT	FTS	CAPPED BY 4C		--	--	--	--	N/A CAPPED	--
01J	P 18 / 19	25' S OF N AT	FTS	10/06/92	P	1 x 1	145	74	BFM	10/22/92	CPB
01K	P 13 / 14	76' S OF N AT	PT	10/06/92	P	1 x 1	398	111	BIE	10/13/92	BFM
01M	P 12 / 11	15'N OF BENCH TOE	FTS	10/06/92	P	1 x 1	398	111	BIE	10/23/92	JAL
01N	P 12	5' W & 8'S OF N AT	SI	10/06/92	P	1 x 1	145	74	BIE	10/13/92	BFM
01P	P 13 / 14	IN N AT	D	10/06/92	P	1 x 1	145	74	WRS	EFECT VOIDED	
01Q	P 4 / 5	105'S OF N AT	FTS	10/06/92	C	1 x 69	398	111	BFM	10/21/92	JAL
01R	P 4 / 5	110' S. OF N AT	FTS	10/06/92	P	1 x 1	145	74	WRS	10/21/92	JAL
01S	P 4 / 5	89' S. OF N AT	DP-01P1	10/06/92	P	2 x 4	398	111	WRS	10/21/92	JAL
01T	P 41	91' W OF EEOS 3' N OF P43	D	10/07/92	P	1 x 1	398	111	WRS	10/31/92	JAL
01W	P 41	124'W OF EEOS 10' N OF P43	D	10/06/92	P	2 x 2	398	111	WRS	10/31/92	JAL
01X	P 41	141' W OF EEOS 2' N OF P43	D	10/06/92	P	1 x 1	398	111	WRS	10/31/92	JAL
02A	P 2 / 3	10' S OF NEOS	FTS	10/06/92	P	1 x 1	145	74	BFM	10/21/92	JAL
02B	P 1 / 2	12' S OF NEOS	FTS	10/06/92	P	1 x 1	145	74	BFM	10/21/92	JAL
02C	P 5 / 6	4' W OF EEOS	D	10/05/92	P	1 x 1	145	74	BFM	10/21/92	JAL
02D	P 4 / 5	@ INT W/ P6	BO	10/05/92	P	1 x 1	145	74	BFM	CAPPED 12T	--
02E	P 4 / 5	27' S OF NEOS	DP-01	10/05/92	P	1 x 4	145	74	BFM	10/21/92	JAL
02F	S 6 / 7	62' N OF SEOS	VOID	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
02G	P 5 / 7	30' N OF SEOS	DP-02	10/06/92	P	2 x 5	145	74	---	10/21/92	JAL
02H	P 8 / 9	34' S OF NEOS	DP-03	10/06/92	P	1 x 1	145	74	BFM	10/21/92	JAL
02I	P 5 / 6	@ INT W/ P7	PT	10/05/92	P	1 x 1	145	74	BFM	10/21/92	JAL
02J	P 12 / 13	34' N OF SEOS	DP-04	10/06/92	P	2 x 5	398	111	WRS	10/22/92	JAL
02K	P 17 / 18	8' S OF NEOS	DP-05	10/06/92	P	2 x 5	145	74	WRS	10/22/92	BIE
02M	P 16 / 17	10' S OF NEOS	PT	10/06/92	P	1 x 1	145	74	WRS	10/23/92	JAL
02N	P 21 / 22	@ CREST OF AT	PT	10/06/92	P	1 x 2	145	74	BFM	10/13/92	BFM
02P	P 39 / 41	FROM 2Q TO EEOS	FS	10/26/92	C	2 x 290	145	33	CPB	10/31/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
02Q	P 39 / 41	35' E OF WEOS	DP-10P1	10/13/92	P	2 x 4	145	74	WRS	10/24/92	JAL
02R	P 48 / 50	190' E OF WEOS	PT	CAPPED BY 15F		--	--	--	--	N/A CAPPED	--
02S	P 50 / 51	145' E OF WEOS	PT	10/24/92	GW	4	145	74	WRS	10/27/92	JAL
02T	P 48	140' E OF WEOS & 4' S OF P47	FM	10/27/92	P	2 x 8	145	74	CPB	10/27/92	JAL
02W	P 47 / 48	150' W OF EEOS	PT	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
03A	P 22 / 23	45' S OF NEOS	FTS	10/06/92	P	1 x 5	145	74	BFM	10/13/92	BFM
03B	P 25 / 30	@ CREST OF AT	IO	10/21/92	P	4 x 10	45	33	WRS	10/22/92	CPB
03C	P 12 / 13	80' S OF NEOS	FTS	10/06/92	P	1 x 1	398	111	BIE	10/22/92	JAL
03D	P 24 / 25	ENTIRE SEAM	FS	10/06/92	GW	15	145	74	BFM	10/13/92	BFM
03E	P 26 / 31	10' E TO WEOS	FTS	CAPPED BY 4S		--	--	--	--	N/A CAPPED	--
03F	P 36 / 32	25' E OF WEOS	FTS	10/07/92	P	1 x 2	398	111	BFM	10/22/92	JAL
03G	P 35 / 36	150' E OF WEOS	FTS/IO	CAPPED BY 10G		--	--	--	--	N/A CAPPED	--
03H	P 34 / 35	159' E OF WEOS	FTS	10/09/92	P	1 x 4	145	74	BFM	10/22/92	JAL
03I	P 26 / 31	160' E OF WEOS	FTS	CAPPED BY 4S		--	--	--	--	N/A CAPPED	--
03J	P 4 / 5	BETWEEN DP-01 & DP-01B1	FS	10/06/92	P	1 x 7	398	111	BFM	10/21/92	JAL
03K	P 4 / 5	FROM DP-01A1 TO NEOS	FTS	10/08/92	C	2 x 39	398	111	WRS	10/21/92	JAL
03M	P 43 / 44	60' E OF WEOS	FTS	10/13/92	P	3 x 4	145	74	--	10/27/92	BFM
03N	P 39 / 41	@ CREST OF AT	PT	10/23/92	C	2 x 7	202	27	BFM	10/27/92	BFM
03P	P 5 / 6	ENTIRE SEAM	FS	10/13/92	G	15'	145	74	BIE	10/22/92	BIE
04A	P 23 / 24	5' N OF SEOS	TS	CAPPED BY 4C		--	--	--	--	N/A CAPPED	--
04B	P 26 / 31	63' W OF EEOS	DP-06	CAPPED BY 4S		--	--	--	--	N/A CAPPED	--
04C	P 23 / 24	ENTIRE SEAM	FS	10/06/92	C	2 x 35	145	74	BFM	10/13/92	BFM
04D	P 21 / 22	10' S OF NEOS TO SEOS	FS	10/06/92	C	2 x 32	145	74	BFM	10/13/92	BFM
04E	P 34 / 35	79' E OF WEOS	DP-07	10/07/92	P	2 x 4	398	111	WRS	10/22/92	CPB
04F	P 13	2' E OF P13/P14 & 10' FROM AT	SI	10/06/92	P	1 x 1	145	74	BFM	10/13/92	BFM
04G	P 37 / 38	113' W OF EEOS	DP-08	10/06/92	P	2 x 5	398	111	WRS	10/23/92	JAL
04H	P 38 / 39	75' E OF WEOS	DP-09	10/07/92	P	2 x 4	398	111	WRS	10/22/92	CPB
04I	P 37 / 38	@ INT W/ P40	PT	10/06/92	P	2 x 2	398	111	WRS	10/31/92	JAL
04J	P 38 / 39	@ INT W/ P40	PT	10/06/92	P	1 x 2	398	111	WRS	10/31/92	JAL
04K	P 38 / 40	FROM 21' W TO EEOS	FS	10/06/92	P	2 x 2	398	111	WRS	11/18/92	FWS
04M	P 7 / 8	30' S OF N AT	DP-01N1	CAPPED BY 3K		--	--	--	--	N/A CAPPED	--
04N	P 28	15' W OF EEOS & 2' N P27/P28	SI	10/06/92	P	1 x 1	145	74	BFM	10/22/92	CPB
04P	P 38 / 41	120' E OF WEOS	DP-10	10/07/92	P	2 x 4	407	111	BFM	10/24/92	JAL
04Q	P 41 / 43	18' W OF EEOS	DP-11	10/07/92	P	2 x 5	398	111	WRS	10/31/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
04R	P 26 / 27	7' W OF EEOS	PT	10/19/92	P	1 x 1	45	33	WRS	10/22/92	BIE
04S	P 26 / 31	ENTIRE SEAM	FS	10/07/92	C	2 x 159	145	74	BFM	10/22/92	JAL
04T	P 44 / 45	30 W OF EEOS	FS	10/25/92	P	2 x 5	145	33	BFM	10/29/92	BIE
04X	P 45 / 47	28' E OF WEOS	DP-13	10/24/92	P	2 x 4	145	33	WRS	10/27/92	JAL
05A	P 47 / 49	101' E OF WEOS	T	10/13/92	P	3 x 3	145	74	WRS	10/27/92	JAL
05B	P 78 / 79	45' N OF SEOS	PT	10/13/92	P	1 x 4	145	74	--	10/22/92	BIE
05C	P 66 / 67	55' E OF WEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/29/92	JAL
05D	P 65 / 66	55' E OF WEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/29/92	JAL
05E	P 81 / 82	FROM NEOS TO DP-26	FS	10/29/92	RS	15'	208	33	WRS	10/29/92	JAL
05F	P 80 / 81	110' N OF SEOS	PT	10/24/92	P	1 x 1	202	47	WRS	10/29/92	JAL
06A	P 41	181' W OF EEOS & 5' N OF P43	D	10/24/92	P	1 x 2	208	111	WRS	10/27/92	BFM
06B	P 41	189' W OF EEOS & 2' S OF P39	D	10/23/92	P	1 x 3	208	33	BFM	10/27/92	BFM
06C	P 39 / 41	7' W OF EEOS	FTS	10/06/92	P	2 x 2	398	111	WRS	10/31/92	JAL
06D	P 38 / 40	ENTIRE SEAM	FS	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
06E	P 39 / 41	20' W OF EEOS	FTS	10/06/92	P	1 x 2	398	111	WRS	APPED BY 2P	
06F	P 41 / 42	@ INT P43	PT	10/07/92	P	2 x 2	398	111	WRS	10/31/92	JAL
06G	P 177 / 180	100' W OF EEOS	BO	11/16/92	P	2 x 2	145	33	BFM	11/18/92	JAL
06H	P 66	50' E OF WEOS	AD	10/31/92	P	8 x 13	145	74	BFM	10/31/92	JAL
06I	P 190 / 192	37J TO EEOS	FS	11/17/92	GW	29'	321	105	BFM	11/20/92	JAL
06J	P 44	@ TOE OF SLOPE	D	10/31/92	P	2 x 3	145	74	JAL	10/27/92	BIE
07A	P 50 / 51	28' E OF WEOS	FS	10/24/92	C	2 x 30	202	27	WRS	10/27/92	BFM
07B	P 50 / 51	165' W OF EEOS	DP-14	10/24/92	P	2 X 5	202	27	WRS	10/27/92	JAL
07C	P 47 / 48	50' W OF EEOS	DP-15	10/24/92	P	2 x 4	145	33	BFM	10/31/92	JAL
07D	P 53 / 54	81' E OF WEOS	DP-16	10/13/92	P	2 x 3	LEM	111	WRS	10/29/92	JAL
07E	P 54 / 56	123' W OF EEOS	CO	10/10/92	P	3 x 4	407	111	WRS	10/27/92	JAL
07F	P 53 / 54	173' E OF WEOS	CO	10/10/92	P	2 x 3	407	111	WRS	10/27/92	JAL
07G	P 51 / 53	172' E OF WEOS	CO	CAPPED BY 14W		--	--	--	--	N/A CAPPED	--
07H	P 50 / 51	171' E OF WEOS	CO	10/09/92	P	2 x 3	398	111	BFM	10/27/92	JAL
07I	P 48 / 50	171' E OF WEOS	CO	10/09/92	P	2 x 3	398	111	BFM	10/27/92	JAL
07J	P 56 / 57	57' W OF EEOS	DP-17	10/24/92	P	2 x 4	145	33	WRS	10/29/92	JAL
07K	P 56 / 57	170' E OF WEOS	CO	10/10/92	P	4 x 5	407	111	WRS	10/27/92	JAL
07M	P 47 / 49	73' E OF WEOS	WS	10/13/92	P	3 x 4	145	74	--	10/27/92	BFM
07N	P 47 / 49	WEOS TO 73' E OF WEOS	FS	10/23/92	C	2 x 78	202	27	BFM	10/27/92	BFM
07P	P 58 / 59	2' E OF WEOS	CO	10/10/92	P	3 x 4	407	111	WRS	10/27/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
07Q	P 47 / 48	45' E OF WEOS	CO	10/09/92	P	1 x 2	398	111	BFM	10/27/92	JAL
07R	P 57 / 59	17' E OF WEOS	DP-18	10/13/92	P	2 x 4	LEM	111	WRS	10/29/92	JAL
07T	P 10 / 11	42' S OF NEOS	DP-23	10/10/92	P	3 x 6	403	74	WRS	10/22/92	AWJ
08A	P 8 / 3K	25' S OF NEOS	DPE-01	CAPPED BY 3K		--	--	--	--	N/A CAPPED	--
08B	P 27 / 28	ENTIRE SEAM	FS	10/19/92	C	2 x 42	45	33	WRS	10/22/92	CPB
08C	P 28 / 29	ENTIRE SEAM	FS	10/12/92	C	2 x 30	145	74	WRS	10/13/92	BFM
08D	P 29 / 30	ENTIRE SEAM	FS	10/08/92	C	3 x 15	145	74	BFM	10/13/92	BFM
08E	P 33 / 34	ENTIRE SEAM	FS	10/07/92	C	2 x 157	398	111	WRS	10/22/92	JAL
08F	P 21 / 22	FROM 4D TO NEOS	FS	10/08/92	C	2 x 22	145	74	BFM	10/13/92	BFM
08G	P 19 / 20	5' N OF SEOS	DP-06P1	10/10/92	C	2 x 8	145	74	WRS	10/22/92	BIE
08H	P 36 / 37	20' E TO WEOS	DP-06N1	10/22/92	C	4 x 12	208	33	WRS	10/22/92	JAL
08I	P 38 / 39	180' E TO WEOS	FTS	10/22/92	C	2 x 175	202	27	WRS	10/23/92	JAL
08J	P 36 / 37	ENTIRE SEAM	FTS	10/23/92	C	2 x 145	208	33	BFM	10/24/92	JAL
08K	P 38 / 39	183' E OF WEOS	DP-09N1	CAPPED BY 8I		--	--	--	--	N/A CAPPED	--
08M	P 37 / 38	30' E OF DP-08	DP-08N1	10/10/92	P	4 x 5	407	111	WRS	10/23/92	JAL
08P	P 37 / 38	FROM DP-08N1 TO DP-08P1	FS	10/24/92	P	2 x 280	145	33	WRS	10/31/92	JAL
08Q	P 37 / 38	100' E OF WEOS	DP-08P1	10/09/92	P	2 x 5	398	111	BFM	10/24/92	JAL
09A	P 42 / 44	50' W OF EEOS	FS	10/24/92	P	2 x 4	145	33	WRS	10/31/92	JAL
09B	P 60 / 61	166' E OF WEOS	CO	10/24/92	P	4 x 5	145	74	--	10/28/92	BIE
09C	P 60 / 61	15' W OF EEOS	DP-19	10/24/92	P	3 x 5	145	33	WRS	10/29/92	JAL
09D	P 61 / 62	16' W OF EEOS	DP-20	10/23/92	P	2 x 4	145	74	BFM	10/28/92	BIE
09E	P 59 / 60	5' W OF EEOS	CO	CAPPED BY 9F		--	--	--	--	N/A CAPPED	--
09F	P 58 / 59	@ INT W/ P60	BO	10/10/92	C	3 x 10	407	111	WRS	10/27/92	JAL
09G	P 60 / 61	158' E OF WEOS	FTS	10/13/92	P	2 x 3	402	70	WRS	10/28/92	BIE
09H	P 7 / 8	FROM 8A TO SEOS	FS	10/19/92	C	1 x 123	202	27	BFM	10/21/92	JAL
09I	P 8 / 9	FROM 9J TO NEOS	FS	10/19/92	C	1 x 51	202	27	BFM	10/21/92	JAL
09J	P 8 / 9	70' S OF NEOS	DP-03N1	10/10/92	P	3 x 6	145	74	WRS	10/21/92	JAL
09K	P 17 / 26	1' W OF EEOS	DP-21	10/09/92	P	2 x 4	145	74	BFM	10/22/92	BIE
09M	P 26 / 4S	115' E OF WEOS	DPE-02	10/09/92	P	2 x 4	145	74	BFM	10/22/92	JAL
10A	P 44 / 45	@ INT W/ P46	FTS	10/09/92	P	1 x 2	398	111	BFM	10/27/92	BIE
10B	P 45 / 46	@ INT W/ P47	FTS	10/09/92	P	1 x 1	398	111	BFM	10/27/92	JAL
10C	P 46 / 47	5' W OF EEOS	FTS	10/09/92	P	1 x 4	398	111	BFM	10/27/92	JAL
10D	P 46 / 47	9' W OF EEOS	FTS	10/09/92	P	1 x 1	398	111	BFM	10/27/92	JAL
10E	P 45 / 47	11' W OF EEOS	FTS	10/09/92	P	2 x 7	398	111	BFM	10/27/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
10F	P 14 / 35	@ SEOS	EXT	10/09/92	P	13 x 17	145	74	BFM	10/22/92	CPB
10G	P 35 / 36	@ EEOS	EXT	10/09/92	P	12 x 14	145	74	BFM	10/22/92	CPB
11B	P 5 / 1Q	4' N OF SEOS	FTS	10/10/92	P	2 x 3	407	111	WRS	10/22/92	BIE
11C	P 37 / 38	78' E OF TOE	FTS	10/10/92	P	3 x 3	407	111	WRS	10/23/92	JAL
11D	P 7 / 8	4' N OF SEOS	C	10/10/92	P	3 x 6	407	111	WRS	10/21/92	JAL
11E	P 48 / 50	20' E OF TOE	FTS	10/10/92	P	3 x 3	407	111	WRS	10/27/92	JAL
11F	P 48 / 50	25' E OF TOE	FTS	10/10/92	P	2 x 2	407	111	WRS	10/27/92	JAL
11G	P 51 / 53	6' E OF TOE	WR	10/10/92	P	3 x 4	407	111	WRS	10/27/92	JAL
11I	P 33 / 34	@ INT OF P14	T	10/10/92	P	1 x 3	403	74	WRS	APPED BY 12P	
11J	P 14 / 34	3' S OF NEOS	BO	10/10/92	P	1 x 1	145	74	WRS	APPED BY 12P	
11K	P 39 / 8I	96' E OF WEOS	FTS	10/10/92	P	1 x 1	407	111	WRS	10/23/92	JAL
11M	P 9 / 10	ENTIRE SEAM	FS	10/23/92	C	2 x 173	145	74	BFM	10/21/92	JAL
11N	P 10 / 11	NEOS TO DP-23	FS	10/21/92	C	2 x 45	202	27	WRS	10/22/92	JAL
11P	P 5 / 1Q	25' N OF SEOS	DPE-1P2	CAPPED BY 19G		--	--	--	--	N/A CAPPED	--
12A	P 33 / 8E	2' E OF CREST	DPE-1N1	CAPPED BY 20G		--	--	--	--	N/A CAPPED	--
12B	P 38 / 8I	90' E OF WEOS	DPE-03	10/13/92	P	3 x 4	145	74	WRS	10/23/92	JAL
12C	P 34 / 8E	130' E OF WEOS	DPE-04	10/13/92	P	2 x 4	LEM	111	WRS	10/22/92	JAL
12D	P 8 / 8A	40' S OF NEOS	DPE-1P1	CAPPED BY 8K		--	--	--	--	N/A CAPPED	--
12E	P 16 / 26	4' W OF P15	FTS	10/10/92	P	1 x 1	403	74	WRS	APPED BY 12P	
12F	P 20 / 26	10' W OF P19	FTS	10/10/92	P	1 x 1	145	74	WRS	APPED BY 12P	
12G	P 26 / 27	42' E OF EEOS	FTS	10/19/92	P	2 x 2	45	33	WRS	10/22/92	CPB
12H	P 43 / 44	@ CREST OF SLOPE	SI	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
12I	P 48 / 49	@ P50	T	10/13/92	P	2 x 4	LEM	111	WRS	10/27/92	JAL
12J	P 51 / 52	35' E OF WEOS	FTS	10/13/92	P	2 x 2	LEM	111	WRS	10/27/92	BFM
12K	P 43 / 44	FROM 3M 32' E	FS	10/22/92	C	2 X 30	202	27	WRS	10/27/92	BFM
12M	P 26 / 21	TO P15/P26 E	FS	10/19/92	C	2 x 60	45	33	WRS	10/22/92	BIE
12N	P 25 / 30	TO P21/P27 S	FS	10/19/92	C	2 x 70	45	33	WRS	10/22/92	BIE
12P	P 14 / 26	TO P14/P34 S	FS	10/21/92	C	2 x 72	45	33	BFM	10/22/92	JAL
12R	P 2 / 3	ENTIRE SEAM	FS	10/21/92	C	1 x 165	145	74	BFM	10/21/92	WRS
12S	P 3 / 4	ENTIRE SEAM	FS	10/21/92	C	2 x 173	145	74	BFM	10/22/92	JAL
12T	P 4 / 6	ENTIRE SEAM	FS	10/17/92	C	2 x 99	145	74	WRS	10/21/92	JAL
12W	P 4 / 5	ENTIRE SEAM	FS	CAPPED BY 12T		--	--	--	--	N/A CAPPED	--
12X	P 8 / 9	9 J TO SEOS	FS	10/19/92	C	2 x 117	402	47	--	10/21/92	JAL
13A	P 36 / 37	20' E OF WEOS	C	CAPPED BY 8H		--	--	--	--	N/A CAPPED	--

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
13B	P 28 / 8C	12' E OF WEOS	FS	10/13/92	P	1 x 1	LEM	111	WRS	10/13/92	BFM
13C	P 27	8' S & 10' E OF WEOS	SI	10/21/92	P	2 x 3	45	33	WRS	10/23/92	BIE
13D	P 14 / 37	P14 E THRU TO P1	C	10/23/92	C	2 x 195	145	74	BFM	10/23/92	JAL
13E	P 3 / 12S	61' S OF NEOS	FS	10/13/92	P	2 x 2	145	74	WRS	10/13/92	BFM
13F	P 6 / 12T	12' S OF NEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/21/92	JAL
13G	P 3 / 12R	39' S OF NEOS	FTS	10/13/92	P	2 x 2	402	70	WRS	10/21/92	JAL
13H	P 3 / 12R	49' S OF NEOS	FTS	10/13/92	P	2 x 2	402	70	WRS	10/21/92	WRS
13I	P 3 / 12R	57' S OF NEOS	FTS	10/13/92	P	2 x 2	402	70	WRS	10/21/92	WRS
13J	P 3 / 12R	67' S OF NEOS	FTS	10/13/92	P	2 x 2	402	70	WRS	10/21/92	WRS
13K	P 10 / 11M	13' S OF NEOS	FTS	10/13/92	P	2 x 2	LEM	111	WRS	10/21/92	JAL
13M	P 9 / 11M	15' S OF NEOS	FTS	10/13/92	P	2 x 2	LEM	111	WRS	10/21/92	JAL
13N	P 10 / 11M	90' S OF NEOS	FTS	10/13/92	P	2 x 2	LEM	111	WRS	10/21/92	JAL
13P	P 4 / 12T	60' S OF NEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/21/92	JAL
13Q	P 41 / 59	140' E OF WEOS	DS	10/13/92	P	2 x 4	145	74	WRS	10/24/92	JAL
13R	P 41 / 39	167' E OF WEOS	PT	10/13/92	P	2 x 2	145	74	WRS	APPED BY 2P	
13S	P 41 / 39	182' E OF WEOS	FTS	10/13/92	P	2 x 3	145	74	WRS	10/24/92	JAL
13T	P 50 / 51	50' E OF WEOS	FTS	10/13/92	P	2 x 3	LEM	111	WRS	10/23/92	BIE
13W	P 50 / 51	25' E OF WEOS	FTS	10/13/92	P	2 x 2	LEM	111	WRS	10/27/92	BFM
13X	P 41 / 43	100' E OF WEOS	D	10/26/92	P	1 x 1	145	33	CPB	10/27/92	BFM
14A	P 46 / 47	8' E OF WEOS	DP-10N1	10/13/92	P	1 x 1	145	74	BFM	10/13/92	BFM
14B	P 46 / 47	8' E OF WEOS	DP-10N2	10/13/92	P	1 x 1	LEM	111	--	10/27/92	BFM
14C	P 57	5' S OF P56/P57 & 5' E OF WEOS	SI	10/29/92	P	2 x 2	208	33	WRS	10/29/92	JAL
14D	P 42 / 44	27' E OF WEOS	FTS	10/24/92	P	2 x 4	145	74	WRS	10/31/92	JAL
14E	P 44 / 46	85' E OF WEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/27/92	BFM
14F	P 54 / 56	70' E OF WEOS	FTS	CAPPED BY 16A		--	--	--	--	N/A CAPPED	--
14G	P 43 / 42	@ INT OF P44	FTS	10/24/92	P	1 x 2	145	74	WRS	10/31/92	JAL
14H	P 43 / 44	30' E OF WEOS	BO	10/22/92	P	2 x 3	202	27	WRS	10/27/92	BFM
14I	P 47 / 48	30' W OF EEOS	FTS	10/25/92	P	1 x 1	145	33	BFM	10/30/92	JAL
14J	P 48 / 50	98' W OF EEOS	FTS	10/24/92	P	2 x 2	145	33	WRS	11/19/92	BIE
14K	P 50 / 51	@ INT OF P52	T	10/25/92	P	2 x 2	145	33	BFM	10/29/92	JAL
14M	P 51 / 52	@ INT OF P53	T	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
14N	P 50 / 51	45' E 0F WEOS	FTS	CAPPED BY 7A		--	--	--	--	N/A CAPPED	--
14P	P 50 / 51	77' E 0F WEOS	FTS	10/13/92	P	2 x 2	407	111	CPB	10/27/92	JAL
14Q	P 50 / 51	165' W OF EEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
14R	P 48 / 50	25' E OF WEOS	FS	10/13/92	P	2 x 6	LEM	111	WRS	10/27/92	JAL
14S	P 51 / 53	75' W OF EEOS	SI	10/27/92	P	1 x 1	145	74	CPB	10/29/92	JAL
14T	P 51 / 53	160' W OF EEOS	PT	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
14W	P 51 / 53	162' W OF EEOS	PT	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
14X	P 53 / 54	162' W OF EEOS	PT	10/13/92	P	1 x 1	402	70	WRS	10/27/92	BIE
15A	4D	10' N OF S END OF CAP	VL	10/12/92	GW	2"	145	74	BFM	10/22/92	BIE
15B	P 55 / 56	@ INT	PT	10/24/92	P	2 x 3	145	33	WRS	10/29/92	JAL
15C	P 56 / 57	42' W OF EEOS	FTS	10/24/92	P	1 x 2	145	33	WRS	10/29/92	BIE
15D	P 57 / 59	2' W OF EEOS	PT	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
15E	P 48 / 50	79' E OF WEOS	FS	10/27/92	RS	20'	145	74	CPB	10/27/92	JAL
15F	P 48 / 50	88' E OF WEOS	FS	10/13/92	GW	2'	145	74	BIE	10/27/92	JAL
15G	P 48 / 47	3' W OF EEOS	FS	10/13/92	GW	3'	402	70	WRS	10/27/92	JAL
15H	P 45 / 47	4' E OF WEOS	FS	10/26/92	RS	6'	145	33	CPB	10/27/92	JAL
15I	P 65 / 66	34' W OF EEOS	DP-24	10/13/92	P	2 x 4	145	74	WRS	10/29/92	JAL
15J	P 70 / 71	@ INT W/ P72	FTS	CAPPED BY 28P		--	--	--	--	N/A CAPPED	--
15K	P 70 / 77	18' N OF SEOS	DP-25	10/13/92	P	1 x 4	LEM	111	BFM	10/29/92	JAL
15M	P 81 / 82	30' S 0F NEOS	DP-26	10/13/92	P	1 x 4	LEM	111	BFM	10/29/92	JAL
15N	P 80	2' W P80/81 & 65' N OF SEOS	D	10/13/92	P	1 x 1	LEM	111	BFM	10/29/92	JAL
15P	P 63 / 80	2' N OF SEOS	D	10/13/92	P	1 x 2	145	74	BFM	10/28/92	BIE
16A	P 41	141' W OF EEOS & 2' N OF P43	D	10/13/92	P	1 x 1	LEM	111	WRS	10/28/92	JAL
16B	P 45 / 46	ENTIRE SEAM	FS	10/26/92	RS	15'	145	33	CPB	10/27/92	JAL
16C	P 45 / 46	1' N OF SEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
16D	P 46 / 47	10' W OF EEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
16E	P 43 / 44	83' E OF WEOS	FTS	CAPPED BY 20D		--	--	--	--	N/A CAPPED	--
16F	P 50 / 51	110' E OF WEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
16G	P 54 / 56	113' E OF WEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
16H	P 56 / 57	111' E OF WEOS	FTS	10/13/92	P	1 x 1	402	70	WRS	10/27/92	JAL
16I	P 72 / 73	3' S OF NEOS	FTS	10/13/92	P	2 x 2	145	74	WRS	10/29/92	JAL
16J	P 60 / 61	104' E OF WEOS @ TOE	FS	10/13/92	GW	4'	402	70	WRS	10/28/92	BIE
16K	P 44 / 45	@ INT OF P46	T	CAPPED BY 16B		--	--	--	--	N/A CAPPED	--
17A	P 45 / 47	15' E OF WEOS	PT	10/24/92	P	1 x 1	145	34	WRS	10/27/92	JAL
17B	P 60 / 61	75' W OF EEOS	FTS	10/24/92	P	2 x 2	145	33	WRS	10/27/92	BIE
17C	P 57 / 59	120' E OF WEOS	BO	10/24/92	P	2 x 2	202	27	WRS	10/28/92	BIE
17D	P 18 / 19	10' S OF NEOS	SI	10/22/92	P	1 x 1	45	111	CPB	10/22/92	CPB

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ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
17E	P 46 / 47	WEOS	FS	10/23/92	P	2 x 8	202	27	BFM	10/27/92	BFM
17F	P 2 / 3	55' S OF NEOS TO 30' N OF SEOS	FS	10/22/92	C	3 x 64	145	74	BFM	10/23/92	CPB
17G	P 9 / 10	90' S OF NEOS	DPE-08	10/19/92	P	2 x 3	402	47	BFM	10/21/92	JAL
17H	P 9 / 11M	100' S OF NEOS	DPE-08P1	CAPPED BY 25E		--	--	--	--	N/A CAPPED	--
17I	P 10 / 11M	130' S OF NEOS	PE-08N1	CAPPED BY 25E		--	--	--	--	N/A CAPPED	--
17J	P 27 / 8B	40' E OF WEOS	DPE-10N1	CAPPED BY 17M		--	--	--	--	N/A CAPPED	--
17K	P 28 / 8B	15' E OF WEOS	DPE-10P1	CAPPED BY 17M		--	--	--	--	N/A CAPPED	--
17M	P 27 / 28	WE0S TO 40' E	FS	10/22/92	C	4 x 30	45	111	WRS	10/22/92	CPB
18A	P 17 / 12M	7' E OF WEOS	FTS	10/17/92	P	1 x 1	45	33	BFM	10/22/92	BIE
18B	P 26 / 27	2' W OF EEOS	FS	10/19/92	GW	3'	45	33	WRS	10/22/92	BIE
18C	P 21 / 12M	1' W OF EEOS	FTS	10/17/92	P	1 x 1	45	33	BFM	10/22/92	BIE
18D	P 22 / 12N	4' N OF SEOS	FTS	10/17/92	P	1 x 1	45	33	BFM	10/22/92	BIE
18E	P 22 / 12N	9' N OF SEOS	FTS	10/17/92	P	1 x 1	45	33	BFM	10/22/92	BIE
18F	P 150 / 151	10' N OF SEOS	DP-45	10/28/92	P	2 x 5	145	74	BFM	11/17/92	JAL
18G	P 149 / 150	@ AT	FTS	10/28/92	P	2 x 2	145	74	BFM	11/17/92	JAL
18H	P 153	36' W OF EEOS & 8' S	D	10/27/92	P	2 x 2	145	74	WRS	11/17/92	JAL
18I	P 153	95' W OF EEOS & 8' S	D	10/27/92	P	1 x 1	145	74	BFM	11/17/92	JAL
18J	P 155 / 156	35' W OF EEOS	FM	10/30/92	P	4 x 6	202	47	WRS	11/19/92	FWS
18K	P 154 / 160	102' W OF EEOS	DP-46	10/30/92	P	2 x 4	202	47	WRS	11/18/92	JAL
18M	P 160 / 161	75' W OF EEOS	DP-48	CAPPED BY 37G		--	--	--	--	N/A CAPPED	--
18N	P 161 / 162	56' W OF EEOS	DP-47	10/30/92	P	2 x 4	202	47	WRS	11/20/92	JAL
18P	P 162 / 163	15' E OF WEOS	FTS	10/29/92	P	2 x 6	145	74	WRS	11/17/92	JAL
18Q	P 153 / 158		DP-49	10/31/92	P	2 x 4	209	47	BFM	11/17/92	JAL
18R	P 165 / 166	97' E OF WEOS	DP-50	10/31/92	P	2 x 4	202	47	BFM	11/20/92	JAL
18S	P 160 / 161	6' W OF EEOS	FS	10/29/92	P	3 x 7	145	74	WRS	11/17/92	JAL
18T	P 165 / 166	@ EEOS	IO	11/17/92	P	3 x 3	145	33	BFM	11/20/92	JAL
18W	P 154	85' W OF EEOS & 1' N	SI	10/31/92	P	1 x 1	209	47	BFM	11/19/92	FWS
18X	P 154	50' W OF EEOS & 1' N	SI	10/31/92	P	1 x 1	209	47	BFM	11/19/92	FWS
19A	P 26 / 12M	45' E OF WEOS	FTS	10/17/92	P	1 x 1	45	33	BFM	10/22/92	BIE
19B	P 4 /	147' S OF NEOS & 7' E	SI	10/17/92	P	2 x 2	145	74	WRS	10/21/92	JAL
19C	P 3 / 12S	93' S OF NEOS	FTS	10/17/92	P	2 x 2	209	27	WRS	10/21/92	JAL
19D	P 2 / 12R	120' S OF NEOS	FTS	10/17/92	P	2 x 4	402	70	WRS	APPED BY 17F	
19E	P 3 / 12R	125' S OF NEOS	FTS	10/17/92	P	2 x 2	402	70	WRS	APPED BY 17F	
19F	P 5 / 1Q	30' N OF SEOS	DPE-1P2	CAPPED BY 19G		--	--	--	--	N/A CAPPED	--

PRIMARY GEOMEMBRANE REPAIR SUMMARY
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FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
19G	P 4 / 5	15' N OF SEOS	FS	10/17/92	C	2 x 69	145	74	WRS	10/21/92	JAL
19H	P 2 / 2R	124' S OF NEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
20A	P 2 / 12R	80' S OF NEOS	DPE-05	10/17/92	P	2 x 4	402	70	WRS	APPED BY 17F	
20B	P 4 / 12S	62' S OF NEOS	DPE-06	10/21/92	P	2 x 3	145	74	WRS	10/21/92	JAL
20C	P 8 / 9H	98' S OF NEOS	DPE-07	10/17/92	P	2 x 4	145	74	WRS	10/21/92	JAL
20E	P 69 / 70	35' E OF WEOS	DP-27	10/27/92	P	2 x 4	208	33	WRS	APPED BY 28P	
20F	P 34 / 8E	35' E OF WEOS	DPE-1N2	CAPPED BY 20G		--	--	--	--	N/A CAPPED	--
20G	P 33 / 34	38' E OF WEOS	FS	10/21/92	C	3 x 45	209	27	WRS	10/22/92	CPB
21A	P 27 / 8B	39' E OF WEOS	PT	10/19/92	P	2 x 2	45	33	WRS	APPED BY 17M	
21B	P 27 / 8B	18' E OF WEOS	PT	10/19/92	P	2 x 4	45	33	WRS	APPED BY 17M	
21C	12M	1' S OF P20 TO 15' E OF WEOS	SI	10/21/92	P	1 x 2	45	33	BFM	10/22/92	BIE
21D	P 29 / 12N	3' E OF WEOS	FTS	10/19/92	P	2 x 2	45	33	WRS	10/22/92	CPB
21E	P 26 / 12P	1' N OF SEOS	FTS	10/19/92	P	1 x 1	45	33	WRS	10/22/92	JAL
21F	P 31 / 12P	7' S OF NEOS	DPE-09	10/19/92	P	3 x 4	45	33	WRS	10/22/92	JAL
22A	P 3 / 12R	117' S OF NEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
22B	P 2 / 12R	108' S OF NEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
22C	P 8 / 9H	46' N OF SEOS	FTS	10/19/92	P	1 x 1	145	74	BFM	10/21/92	JAL
22D	P 9 / 9I	56' S OF NEOS	FTS	10/19/92	P	1 x 1	202	27	BFM	10/21/92	JAL
22E	P 2 / 12R	71' S OF NEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
22F	P 3 / 12R	100' S OF NEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
22G	P 3 / 12R	47' N OF SEOS	FTS	CAPPED BY 17F		--	--	--	--	N/A CAPPED	--
22H	P 8 / 12X	30' N OF SEOS	FTS	CAPPED BY 22J		--	--	--	--	N/A CAPPED	--
22I	P 10 / 11M	92' S OF NEOS	FTS	10/19/92	P	1 x 1	402	47	BFM	10/21/92	JAL
22J	P 8 / 12X	28' N SEOS TO 39' N SEOS	FS	10/19/92	C	3 x 11	145	74	BFM	10/21/92	JAL
22K	P 9 / 9I	22' S OF NEOS	FTS	10/19/92	P	1 x 1	202	27	BFM	10/21/92	JAL
22M	P 8 / 12X	28' N SEOS TO 25' N SEOS	FS	10/19/92	P	2 x 3	145	74	BFM	10/21/92	JAL
22N	P 8 / 22J	3' N OF SEOS	FTS	10/19/92	P	1 x 1	145	74	BFM	10/21/92	JAL
22P	P 8 / 9	11' S OF NEOS	D	10/21/92	P	2 x 3	145	74	BFM	10/21/92	JAL
23A	P 2 / 3	75' S OF NEOS	C	10/22/92	C	2 x 18	145	74	BFM	10/22/92	CPB
23B	P 2 / 3	90' S OF NEOS	C	10/22/92	C	2 x 15	145	74	BFM	10/22/92	CPB
23C	P 3 / 17F	3' S OF NEOS	FTS	10/21/92	P	1 x 1	145	74	WRS	10/22/92	JAL
23D	P 27 / 8B	10' E OF WEOS	DPE-10	CAPPED BY 17M		--	--	--	--	N/A CAPPED	--
24A	P 2 / 12R	BETWEEN 13H & 13I	VL	10/22/92	GW	4"	145	74	BFM	10/23/92	JAL
24C	P 19 19	@ S TOE	SI	10/23/92	C	10 x 13	145	74	BFM	10/24/92	JAL

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24D	P 36 36	4' N OF P37 TO 2' E OF WEOP	BS	CAPPED BY 8J		--	--	--	--	N/A CAPPED	--
25A	P 9 / 11M	41' N OF SEOS	FTS	10/21/92	P	1 x 1	406	47	BFM	APPED BY 25E	
25B	P 34 / 12P	6' N OF SEOS	FTS	10/21/92	P	1 x 1	45	33	BFM	10/22/92	JAL
25C	P 9 / 11M	35' N OF SEOS	FTS	CAPPED BY 25E		--	--	--	--	N/A CAPPED	--
25D	P 14 / 12P	40' N OF SEOS	FTS	10/21/92	P	1 x 2	45	33	BFM	10/22/92	JAL
25E	P 9 / 11M	28' N SEOS TO 102' S NEOS	FS	10/21/92	C	3 x 42	145	74	BFM	10/21/92	JAL
25F	P 11 / 11N	20' S OF NEOS	FTS	10/21/92	P	2 x 2	202	27	WRS	10/22/92	JAL
26A	P 7 / 13N	6' W OF EEOS	DPE-12	10/22/92	P	2 x 4	145	74	BFM	10/23/92	JAL
26B	P 38 / 8P	141' E OF WEOS	DPE-13	10/24/92	P	2 x 4	208	111	WRS	10/24/92	JAL
26C	P 63 / 80	5' N OF SEOS	CR	10/24/92	P	2 x 2	202	47	WRS	10/28/92	BIE
26D	P 36 / 8J	45' E WEOS TO 83' E WEOS	FS	10/24/92	C	3 x 57	202	27	WRS	10/24/92	JAL
26E	P 62 / 80	@ INT P81	T	10/23/92	P	2 x 4	145	74	BFM	10/28/92	BIE
26F	P 62 / 81	4' N OF SEOS	D	10/23/92	P	2 x 3	145	74	BFM	10/28/92	BIE
26G	P 62 / 81	@ INT P82	T	10/23/92	P	8 x 9	145	74	BFM	10/28/92	BIE
26H	P 36 / 8J	45' E OF WEOS	DPE-11N1	CAPPED BY 26D		--	--	--	--	N/A CAPPED	--
26I	P 36 / 8J	83' E OF WEOS	DPE-11P1	CAPPED BY 26D		--	--	--	--	N/A CAPPED	--
26J	P 37	120' E WEOS & 3' S P36/37	D	10/26/92	P	1 x 1	145	33	CPB	10/27/92	BFM
26K	P 18 / 129	@ INT P131	T	10/29/92	P	1 x 1	209	47	WRS	11/11/92	BFM
27A	P 43 / 44	100' E OF WEOS	FTS	10/22/92	P	1 x 2	202	27	WRS	10/27/92	BFM
27B	P 14 / 12P	80' S OF NEOP OF P14	FTS	10/22/92	P	2 x 4	45	111	BFM	10/22/92	CPB
27C	P 61 / 82	ENTIRE SEAM	FS	10/24/92	GW	12	145	74	WRS	10/29/92	JAL
27D	P 61 / 83	ENTIRE SEAM	FS	10/24/92	GW	12	145	74	WRS	10/29/92	JAL
27E	P 60 / 9F	162' E OF WEOS	SI	10/24/92	P	5 x 7	145	74	WRS	10/28/92	BIE
27F	P 48 / 50	196' E OF WEOS	FTS	10/24/92	P	1 x 2	145	74	WRS	10/27/92	JAL
27G	P 61 / 92	ENTIRE SEAM	FTS	10/24/92	C	3 x 10	145	33	WRS	10/29/92	JAL
27H	P 84 / 29H	25' N OF SEOS	DPE-15	10/25/92	P	3 x 4	202	47	BFM	10/29/92	JAL
27I	P 116 / 117	@ INT P123	PT	CAPPED BY 37E		--	--	--	--	N/A CAPPED	--
27J	P 125 / 129	6' S OF NEOS	FTS	10/28/92	P	1 x 2	209	47	BFM	10/27/92	JAL
27K	P 127 / 132	40' N TO SEOS	FS	10/28/92	C	2 x 50	202	47	BFM	11/11/09	JAL
28B	P 36 / 8J	10' E OF WEOS.	DPE-11	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
28C	P 36 / 8J	60' E OF WEOS.	DPE-11	10/22/92	P	2 x 5	208	33	WRS	10/22/92	BFM
28D	P 53 / 54	167' E OF WEOS	APT	10/24/92	P	2 x 3	145	74	WRS	10/27/92	JAL
28E	P 54 / 56	170' E OF WEOS	APT	10/24/92	P	1 x 1	145	74	WRS	10/27/92	JAL
28F	P 56 / 57	165' E OF WEOS	APT	10/24/92	P	1 x 1	145	74	WRS	10/27/92	JAL

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DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
28G	P 57 / 58	3' E OF WEOS	APT	10/24/92	P	1 x 1	145	74	WRS	10/27/92	JAL
28H	P 59 / 60	170' E OF WEOS	APT	10/24/92	P	2 x 2	145	74	WRS	10/27/92	JAL
28I	P 61 / 82	3' E OF WEOS	FTS	10/24/92	P	1 x 1	145	74	WRS	10/28/92	BIE
28J	P 62 / 81	@ P82	T	CAPPED BY 28I		--	--	--	--	N/A CAPPED	--
28K	P 62 / 82	2' S OF NEOS	FTS	10/24/92	P	2 x 3	145	74	WRS	10/28/92	BIE
28M	P 54 / 55	@ P56	T	10/24/92	P	2 x 2	145	33	WRS	10/29/92	JAL
28N	P 58 / 59	ENTIRE SEAM	FS	10/27/92	RS	13'	208	33	WRS	10/29/92	JAL
28P	P 71 / 72	TO P79/80 W	FS	10/27/92	C	2 x 87	208	33	WRS	10/29/92	JAL
28Q	P 67 / 79	TO P63/64 N	FS	10/26/92	C	2 x 72	208	47	CPB	10/29/92	JAL
28R	P 41 / 2P	200' E OF WEOS	DPE-14P1	CAPPED BY 28T		--	--	--	--	N/A CAPPED	--
28S	P 39 / 2P	215' E OF WEOS	DPE-14N1	CAPPED BY 28T		--	--	--	--	N/A CAPPED	--
28T	P 39 / 41	200' TO 238' E OF WEOS	FS	10/26/92	C	4 x 45	145	33	CPB	10/31/92	JAL
29A	P 84 / 85	64' N OF SEOS	DP-28	10/27/92	P	2 x 4	208	33	WRS	10/29/92	JAL
29B	P 85 / 86	100' N OF SEOS	DP-29	10/27/92	P	2 x 4	208	33	WRS	10/29/92	JAL
29C	P 90 / 91	36' N OF SEOS	DP-30	10/26/92	P	2 x 4	45	111	CPB	10/29/92	JAL
29D	P 91 / 92	70' N OF SEOS	DP-31	10/26/92	P	2 x 5	45	111	CPB	10/29/92	JAL
29E	P 89 / 90	130' N OF SEOS	PT	10/26/92	P	1 x 1	45	111	CPB	10/29/92	JAL
29F	P 96 / 97	41' N OF SEOS	DP-32	10/26/92	P	2 x 5	45	111	CPB	11/09/92	BFM
29G	P 97 / 98	10 S OF NEOS	DP-33	10/26/92	P	2 x 5	45	111	CPB	11/09/09	BFM
29H	P 83 / 84	ENTIRE SEAM	DP-34	10/25/92	C	2 x 159	202	47	BFM	10/29/92	JAL
29I	P 61 / 87	7' E OF WEOS	DP-35	CAPPED BY 30C		--	--	--	--	N/A CAPPED	--
29J	P 98 / 99	SEOS TO 20' N	FS	10/26/92	P	3 x 5	45	111	CPB	11/09/92	BFM
29K	P 105 / 106	@ INT W/97	BO	CAPPED BY 30D		--	--	--	--	N/A CAPPED	--
29M	P 97 / 98	@ INT W/104	BO	CAPPED BY 30D		--	--	--	--	N/A CAPPED	--
29N	P 98 / 104	4' S OF NEOS	WS	CAPPED BY 30D		--	--	--	--	N/A CAPPED	--
29P	P 114 / 115	5' W OF EEOS	DP-36	10/24/92	P	3 x 4	145	33	WRS	11/09/92	CPB
29Q	P 41 / 2P	135' W OF EEOS	DPE-14	CAPPED BY 28T		--	--	--	--	N/A CAPPED	--
29R	P 96 / 97	10' S OF P101	DP-34P1	10/28/92	C	3 x 10	208	33	BFM	11/09/92	CPB
29S	P 99 / 100	ENTIRE SEAM	FS	10/26/92	C	2 x 28	45	111	CPB	11/09/92	BFM
29T	P 102 / 103	15' W TO EEOS	FS	10/26/92	C	2 x 15	45	111	CPB	11/09/92	BFM
29W	P 124 / 125	20' N OF SEOS	DP-37	10/29/92	P	2 x 4	202	47	WRS	11/11/92	BFM
29X	P 126 / 127	42' S OF NEOS	DP-38	10/29/92	P	2 x 4	202	47	WRS	11/11/92	JAL
30A	P 61 / 89	4' W OF P90	FTS	CAPPED BY 30C		--	--	--	--	N/A CAPPED	--
30B	P 61 / 84	6' W OF P85	FTS	CAPPED BY 30C		--	--	--	--	N/A CAPPED	--

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30C	P 61 / 84	INCLUDES P61/85,86,87&88	CAP	10/27/92	C	2 x 138	208	33	WRS	10/29/92	JAL
30D	P 97 / 108	INCLUDES P97/107, 106,105&104	CAP	10/29/92	C	2 x 162	208	33	WRS	11/11/92	JAL
30E	P 109 / 115	4' N OF P114	DP-39	10/29/92	C	3 x 35	208	33	WRS	11/09/92	CPB
30F	P 92 / 114	4' N OF P113	FM	10/25/92	P	4 x 5	145	33	BFM	10/29/92	JAL
31A	P 61 / 83	@ INT W/ P84	T	10/24/92	P	3 x 4	145	74	WRS	10/29/92	JAL
31B	P 151 / 152	@ SEOS	EXT	10/27/92	C	8 x 12	145	74	BFM	11/17/92	JAL
31C	P 124 / 131	@ INT W/ P112	T	10/28/92	P	1 x 4	209	47	BFM	11/11/92	BFM
31D	P 124 / 125	@ INT W/ P129	T	10/28/92	P	2 x 2	209	47	BFM	11/11/92	BFM
31E	P 128 / 129	FROM NEOS TO 5' S	FS	10/28/92	GW	5'	209	47	BFM	11/11/92	BFM
31F	P 151 / 31B	FROM P151/152 TO P146/163	FS	10/29/92	C	2 x 170	145	74	WRS	11/17/92	JAL
31G	P 153 / 154	INCLUDES SEAM P153/155	FS	10/28/92	C	2 x 14	145	74	BFM	11/17/92	JAL
31H	P 144	1' E OF P145 & 2' N	SI	10/28/92	P	1 x 1	145	74	BFM	11/17/92	JAL
31J	P 112 / 130	@ INT W/ P131	T	10/28/92	P	1 x 1	208	33	BFM	11/11/92	BFM
31K	P 98 / 99	FROM NEOS TO 12' S	FS	10/28/92	GW	12'	208	33	BFM	11/09/92	BFM
32A	P 117 / 123	@ INT OF P58	T	10/25/92	P	4 x 4	145	33	CPB	10/31/92	JAL
32B	P 57 / 58	@ INT OF P117	T	10/25/92	P	4 x 6	145	33	CPB	10/29/92	JAL
32C	P 55 / 57	@ INT OF P118	T	10/25/92	P	3 x 3	145	33	CPB	10/29/92	JAL
32D	P 61 / 92	@ INT OF P115	T	10/25/92	P	1 x 1	145	33	CPB	10/29/92	JAL
32E	P 57 / 118	6' N OF P117	FTS	10/25/92	P	1 x 1	145	33	CPB	10/29/92	JAL
32F	P 133 / 134	100' N OF SEOS	DP-40	10/28/92	P	2 x 5	209	47	BFM	11/11/92	JAL
32G	P 138 / 139	65' N OF SEOS	DP-41	10/28/92	P	2 x 5	209	47	BFM	11/11/92	JAL
32H	P 139 / 140	72' N OF SEOS	DP-42	10/28/92	P	2 x 5	209	47	BFM	11/11/92	JAL
32I	P 126 / 127	3' N OF AT	PT	10/28/92	P	1 x 1	209	47	BFM	11/11/92	JAL
32J	P 108 / 130	@ INT OF P126	T	10/28/92	P	3 x 4	209	47	BFM	11/11/92	BFM
32K	P 144 / 145	57' N OF SEOS	DP-43	10/29/92	P	2 x 4	145	74	WRS	11/17/92	JAL
32M	P 146 / 147	@ INT OF P145	T	10/29/92	P	1 x 2	145	74	WRS	11/17/92	JAL
32N	P 145 / 146	45' N OF P147	DP-44	10/29/92	P	2 x 4	145	74	WRS	11/12/92	BIE
32P	P 148 / 149	4' N OF AT	FTS	10/28/92	P	1 x 1	145	74	BFM	11/17/92	JAL
32Q	P 146 / 148	FROM NEOS TO 20' S	FS	10/29/92	P	3 x 3	145	74	WRS	11/17/92	JAL
32R	P 146 / 147	@ INT OF P148	T	10/29/92	P	1 x 2	145	74	WRS	10/27/92	BIE
32S	P 139 / 140	2' N OF AT	PT	10/30/92	P	1 x 1	209	47	WRS	11/11/92	JAL
32T	P 147 / 148	3' N OF AT	FTS	10/28/92	P	1 x 2	145	74	BFM	11/17/92	JAL
32W	P 130	6' W OF P126 & 4' N	D	10/29/92	P	2 x 2	209	47	WRS	11/11/92	BFM
32X	P 130	4' W OF P126 & 9' N	D	10/29/92	P	2 x 2	209	47	WRS	11/11/92	BFM

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
33A	P 78 / 79	40' N OF SEOS	FTS	10/27/92	P	2 x 4	208	33	WRS	10/29/92	JAL
33B	P 80	3' W OF P81 & 6' N	SI	10/27/92	P	2 x 2	208	33	WRS	10/29/92	JAL
33C	P 152	3' S OF P153 & 55' E	WR	10/27/92	P	1 x 1	145	74	WRS	11/17/92	JAL
33D	P 60 / 9G	ON DEFECT 9G	O	10/27/92	GW	3"	208	33	WRS	10/28/92	BIE
33E	P 152	4' S OF P153 & 35' W	ER	10/27/92	P	2 x 4	208	33	WRS	11/17/92	JAL
33F	P 152	4' S OF P153 & 35' W	WR	10/27/92	P	2 x 2	145	74	WRS	11/17/92	JAL
33G	P 39 / 2P	170' E OF WEOS	DPE-14N2	10/31/92	C	2 x 18	145	74	JAL	11/18/92	FWS
33H	P 39 / 2P	185' E OF WEOS	FTS	10/31/92	C	2 x 8	145	74	JAL	11/18/92	FWS
34A	P 78 / 79	40' N OF SEOS	FTS	10/26/92	P	1 x 1	208	47	CPB	10/28/92	BIE
34B	P 76 / 28P	6' W OF P77	DPE-16	10/26/92	P	2 x 5	208	47	CPB	10/28/92	JAL
34C	P 42 / 44	FROM EEOS TO 45' W	FS	10/26/92	RS	45'	145	33	CPB	10/31/92	JAL
34D	P 42 / 44	@ EEOS	D	CAPPED BY 49F		--	--	--	--	N/A CAPPED	--
34E	P 125 / 126	@ INT W/128	T	10/28/92	P	2 x 4	209	47	BFM	11/13/92	BFM
34F	P 166 / 167	@ EEOS	IO	CAPPED BY 37R		--	--	--	--	N/A CAPPED	--
34G	P 166 / 167	88' W OF EEOS	DP-51	CAPPED BY 37R		--	--	--	--	N/A CAPPED	--
34H	P 166 / 167	36' W OF EEOS	FM	CAPPED BY 37R		--	--	--	--	N/A CAPPED	--
34I	P 166 / 167	25' E OF WEOS	D	10/30/92	C	2 x 10	145	74	WRS	11/17/92	JAL
34J	P 43 / 44	@ TOE OF BOTH PANELS	SI	10/31/92	C	2 x 48	145	74	JAL	11/18/92	FWS
35A	P 169 / 170	10' E OF WEOS	DP-52	11/16/92	P	2 x 6	145	33	BFM	11/18/92	JAL
35B	P 176 / 177	25' E OF WEOS	DP-53	10/30/92	P	2 x 4	145	74	WRS	11/18/92	JAL
35C	P 177 / 180	18' W OF P178	DP-54	11/17/92	P	2 x 5	145	33	BFM	11/20/92	JAL
35D	P 174 / 176	35' E OF WEOS	FTS	10/30/92	P	2 x 3	145	74	WRS	11/18/92	JAL
35E	P 180 / 181	136' W OF EEOS	DP-55	11/16/92	P	2 x 4	145	33	BFM	10/29/92	JAL
35F	P 169 / 170	FROM EEOS TO 20' W	FS	11/17/92	P	1 x 1	145	33	BFM	11/20/92	JAL
35G	P 181 / 182	20' W OF EEOS	FM	CAPPED BY 40G		--	--	--	--	N/A CAPPED	--
35H	P 176 / 177	@ INT W/ P178	T	11/17/92	P	1 x 1	145	33	BFM	11/20/92	JAL
35I	P 177 / 178	@ INT W/ P180	T	11/17/92	P	1 x 1	145	33	BFM	11/20/92	JAL
35J	P 177 / 178	ENTIRE SEAM	FS	11/17/92	GW	15'	145	33	BFM	11/20/92	JAL
35K	P 170 / 171	@ INT W/ P175	T	11/16/92	P	2 x 3	145	33	BFM	11/18/92	JAL
35M	P 168 / 175	10' W OF P169	DP-56	10/30/92	P	2 x 4	145	74	WRS	11/18/92	JAL
35N	P 167 / 168	@ INT W/ P174	T	CAPPED BY 37H		--	--	--	--	N/A CAPPED	--
35P	P 184 / 185	25' W OF EEOS	DP-57	11/17/92	P	3 x 5	321	105	BFM	11/20/92	JAL
35Q	P 182 / 183	@ INT W/ P184	T	11/16/92	P	3 x 3	145	33	BFM	11/18/92	JAL
35R	P 183 / 184	@ INT W/ P185	T	11/16/92	P	3 x 3	145	33	BFM	11/18/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
35S	P 183 / 184	ENTIRE SEAM	FS	11/16/92	GW	11'	145	33	BFM	11/18/92	JAL
35T	P 186 / 187	36' E OF WEOS	DP-58	11/13/92	P	3 x 6	145	33	BFM	11/18/92	JAL
35W	P 182 / 183	42' W OF P184	PT	11/13/92	C	3 x 10	145	33	BFM	11/18/92	JAL
35X	P 182 / 183	6' W OF P184	PT	11/16/92	P	2 x 2	145	33	BFM	11/18/92	JAL
36A	P 81 / 82	30' S OF NEOS	OTHER	10/29/92	P	3"	208	33	WRS	10/29/92	JAL
36B	P 164 / 165	133' W OF EEOS	FTS	10/30/92	P	2 x 4	145	74	WRS	10/29/92	--
36C	P 180 / 180	7' S OF NEOS & 4' W OF P63	SI	10/29/92	GW	2 x 4	208	33	WRS	10/29/92	JAL
36D	P 148 / 163	@ INT	FS	10/29/92	RS	6'	145	74	WRS	11/17/92	JAL
36E	P 146 / 163	@ INT	FS	10/29/92	RS	10'	145	74	WRS	11/18/92	JAL
36F	P 146 / 163	@ INT OF P164	FTS	10/29/92	RS	2 x 3	145	74	WRS	11/18/92	BIE
36G	P 147 / 148	10' S OF NEOS TO NEOS	FS	10/29/92	RS	10'	145	74	WRS	11/17/92	JAL
37A	P 126 / 128	6' N OF SEOS	DP-37N1	10/29/92	C	2 x 7	209	47	WRS	11/11/92	BFM
37B	P 124 / 125	ENTIRE SEAM	FS	10/30/92	C	2 x 80	209	47	WRS	11/13/92	BFM
37C	P 116 / 117	ENTIRE SEAM	FS	10/30/92	C	2 x 30	208	33	WRS	11/11/92	BFM
37D	P 117 / 123	ENTIRE SEAM	FS	CAPPED BY 37C		--	--	--	--	N/A CAPPED	--
37E	P 116 / 123	ENTIRE SEAM	FS	10/30/92	C	2 x 20	208	33	WRS	11/18/92	JAL
37F	P 120 / 121	@ NEOS	DP-37P1	10/30/92	C	2 x 7	208	33	WRS	11/18/92	JAL
37G	P 160 / 161	80' W OF EEOS	DP-48N1	10/31/92	C	2 x 67	202	47	BFM	11/20/92	JAL
37H	P 167 / 168	FROM WEOS TO 48' E	FS	10/30/92	C	2 x 40	145	74	WRS	11/17/92	JAL
37I	P 190 / 192	20' W OF EEOS	WS	11/17/92	P	2 x 3	321	105	BFM	11/20/92	JAL
37J	P 190 / 192	28' W OF EEOS	FTS	11/17/92	P	2 x 2	321	105	BFM	11/20/92	JAL
37K	P 190 / 192	100' W OF EEOS	DP-60	11/15/92	P	2 x 5	208	74	FWS	11/19/92	FWS
37M	P 190 / 191	FROM WEOS	FS	11/14/92	P	2-x 3	145	33	BFM	11/18/92	JAL
37N	P 191 / 193	25' E OF WEOS	DP-61	11/14/92	P	2 x 5	145	33	BFM	11/19/92	FWS
37P	P 192 / 193	42' W OF EEOS	FM	11/17/92	P	3 x 6	321	105	BFM	11/20/92	JAL
37Q	P 194 / 195	18' E OF WEOS	DP-62	11/01/92	P	2 x 3	208	33	JAL	11/19/92	FWS
37R	P 166 / 167	FROM EEOS TO 34I	FS	11/17/92	C	2 x 177	145	33	BFM	11/18/92	JAL
37S	P 163 / 164	@ WEOS	DP-51P1	10/30/92	P	2 x 4	145	74	WRS	11/18/92	JAL
37T	P 197 / 198	ENTIRE SEAM	BO	10/31/92	C	2 x 5	145	74	JAL	11/18/92	JAL
37W	P 201 / 202	30' S OF NEOS	DP-63	11/18/92	P	3 x 5	145	33	FWS	11/18/92	JAL
37X	P 197 / 199	ENTIRE SEAM	FS	11/16/92	RS	15'	45	111	FWS	11/18/92	JAL
38A	P 206 / 212	@ AT	EXT	11/01/92	P	10 x 15	208	33	JAL	11/20/92	FWS
38B	P 206	6' E OF P212 & 6' N	WR	11/19/92	C	3 x 9	145	33	BFM	11/20/92	FWS
38C	P 212	95' S OF NEOS & 1' W	D	11/17/92	P	1 X 1	45	111	BFM	11/19/92	FWS

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
38D	P 188 / 189	@ INT OF P203/212	T	11/01/92	P	2 x 2	208	33	JAL	11/18/92	JAL
38E	P 200	4' S OF NEOS & 6' E	D	11/01/92	P	1 x 1	145	74	BFM	11/18/92	JAL
38F	P 144 / 197	2' E OF P200	FTS	11/01/92	P	1 x 1	209	47	BFM	11/16/92	JAL
38G	P 140 / 203	@ INT OF P211	T	11/01/92	P	2 x 4	209	47	BFM	11/16/92	JAL
38H	P 214 / 216	4' N OF P137	FTS	11/06/92	P	2 x 9	243	74	WRS	11/16/92	JAL
38I	P 216 / 217	4' N OF P136	FTS	11/08/92	C	3 x 7	325	33	BFM	11/16/92	JAL
38J	P 218 / 219	3' N OF P220	FTS	11/08/92	C	2 x 10	325	33	BFM	11/16/92	JAL
38K	P 197	ON PATCH 37T	FTS	11/01/92	P	1 x 3	145	74	BFM	11/18/92	JAL
38M	P 221 / 222	69' S OF NEOS	DP-72	11/15/92	P	2 x 5	45	111	BFM	11/20/92	FWS
38N	P 140 / 211	CAP TO SEAM P133/219	FS	11/08/92	C	2 x 105	325	33	BFM	11/16/92	JAL
38P	P 220	4' N OF P134 & 6' E	D	11/08/92	P	2 x 2	325	33	BFM	11/16/92	JAL
38Q	P 220	1' N OF P135 & 3' W	D	11/08/92	P	1 x 3	325	33	BFM	11/16/92	JAL
38R	P 209 / 212	CAP TO SEAM P190/212	FS	11/17/92	C	2 x 138	45	111	BFM	11/19/92	FWS
38S	P 222 / 223	74' N SEOS	DP-73	CAPPED BY 55E		--	--	--	--	N/A CAPPED	--
38T	P 223 / 225	9' N SEOS	DP-74	11/15/92	P	2 x 3	174	33	FWS	11/20/92	JAL
38W	P 228	12' S OF NEOS & 7' E	D	11/17/92	P	1 X 1	256	47	BFM	11/20/92	FWS
38X	P 225 / 227	107' N OF SEOS	DP-75	11/17/92	P	2 x 4	256	47	FWS	11/17/92	JAL
39A	P 56	255' E OF WEOS & 1' N	D	11/01/92	P	1 x 1	208	33	BFM	11/13/92	BFM
39B	P 174 / 176	25' E OF WEOS TO WEOS	FS	10/30/92	RS	25'	145	74	WRS	11/18/92	JAL
39C	P 176	163' W OF EEOS & 3' N	SI	10/30/92	P	1 x 1	208	33	WRS	11/18/92	JAL
39D	P 150 / 31F	35' S OF NEOS	DPE-18	11/13/92	P	2 x 4	45	111	BFM	11/17/92	JAL
39E	P 202 / 204	ENTIRE SEAM	FS	11/06/92	RS	4'	243	74	WRS	11/18/92	JAL
39F	PS1 / 2	@ S SIDE OF SUMP	SI	10/30/92	P	6 x 9	145	74	WRS	11/19/92	FWS
39G	PS1	@ E SIDE OF SUMP	SI	10/30/92	P	6 x 20	145	74	WRS	10/30/92	BIE
39H	P 189 / 190	170' W OF EEOS	FTS	11/13/92	P	2 x 5	145	33	BFM	11/19/92	FWS
40A	P 187 / 188	112' W OF EEOS	DP-59	11/16/92	P	3 x 5	145	33	BFM	11/18/92	JAL
40B	P 167 / 168	EEOS TO 15' W	IO	DEFECT VOIDED		--	--	--	--	N/A VOIDED	--
40C	P 176 / 177	148' E OF WEOS TO 35B	DP-53P1	11/13/92	C	4 x 116	145	33	BFM	11/17/92	JAL
40D	P 176 / 177	DP-53P1 TO DP-53	FS	CAPPED BY 40C		--	--	--	--	N/A CAPPED	--
40E	P 176 / 177	DP-53 TO WEOS	FS	11/18/92	C	2 x 25	145	33	FWS	11/20/92	JAL
40F	P 181 / 182	38' E OF WEOS	FTS	11/13/92	P	1 x 1	145	33	BFM	11/18/92	JAL
40G	P 181 / 182	FROM EEOS TO 50' W	FS	11/17/92	C	2 x 50	145	33	BFM	11/20/92	JAL
40H	P 181 / 182	50' W OF EEOS	DP-53N1	11/17/92	P	2 x 4	145	33	BFM	11/20/92	JAL
40I	P 181 / 182	4' W OF EEOS	FTS	11/01/92	P	2 x 6	145	74	BFM	11/18/92	JAL

FILENAME: P_DEFECT.WK1

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
40J	P 183 / 185	@ INT OF P201	T	11/01/92	P	2 x 2	208	33	JAL	11/18/92	JAL
40K	P 189 / 190	68' E OF WEOS	DP-64	11/14/92	P	3 x 5	145	33	BFM	11/18/92	JAL
40M	P 187 / 188	@ INT OF P203	T	CAPPED BY 42E		--	--	--	--	N/A CAPPED	--
40N	P 176 / 17	@ INT OF P199	T	10/31/92	P	2 x 2	145	74	JAL	11/18/92	JAL
40P	P 176 / 177	4' E OF P199	FTS	10/31/92	P	1 x 1	145	74	JAL	APPED BY 40E	
40Q	P 180 / 181	@ INT OF P200	T	11/01/92	P	2 x 4	145	74	BFM	11/18/92	JAL
41A	P 207 / 208	30' E OF WEOS	DP-65	11/17/92	P	2 x 4	321	105	BFM	11/19/92	FWS
41B	P 208 / 209	45' E OF WEOS	BO	11/17/92	P	2 x 4	321	105	BFF	11/20/92	JAL
41C	P 195 / 207	52' W OF EEOS	DP-66	11/17/92	P	2 x 4	321	105	BFM	11/20/92	JAL
41D	P 195 / 207	8' E OF WEOS	BO	11/01/92	P	2 x 5	208	33	JAL	11/19/92	FWS
41E	P 205 / 209	57' E OF WEOS	DP-67	11/17/92	P	2 x 6	321	105	BFM	11/20/92	FWS
41F	P 211 / 211	41' N OF SEOS	DP-68	11/15/92	P	2 x 2	174	33	FWS	11/17/92	JAL
41G	P 214 / 216	95' S OF NEOS	DP-69	11/15/92	P	2 x 5	174	33	FWS	11/17/92	JAL
41H	P 216 / 217	100' S OF NEOS	DP-70	11/14/92	P	2 x 4	145	33	BFM	11/19/92	FWS
41I	P 211 / 212	@ INT OF P213	T	11/18/92	P	3 x 3	45	111	BFM	11/18/92	JAL
41J	P 203 / 212	ENTIRE SEAM	FS	11/05/92	RS	9'	325	74	WRS	11/18/92	JAL
41K	P 203 / 211	@ INT OF P212	T	11/18/92	P	3 x 3	45	111	BFM	11/18/92	JAL
41M	P 214 / 216	75' S OF NEOS	FTS	CAPPED BY 52C	P	--	--	--	--	N/A CAPPED	--
41N	P 218 / 219	49' S OF NEOS	DP-71	11/15/92	P	2 x 5	45	111	BFM	11/19/92	FWS
41P	P 205 / 209	@ INT OF P212	T	11/01/92	P	1 x 3	208	33	JAL	11/19/92	FWS
41Q	P 190 / 212	ENTIRE SEAM	FS	11/17/92	P	2 X 15	45	111	BFM	11/18/92	JAL
42A	P 153 / 158	@ INT OF P159	T	10/31/92	P	2 x 3	209	47	BFM	11/17/92	JAL
42B	P 190 / 191	@ INT OF P192	PT	11/15/92	P	2 x 2	208	74	FWS	11/19/92	FWS
42C	P 191 / 192	@ INT OF P193	PT	11/15/92	P	2 x 2	208	74	FWS	VISUAL INSP	--
42D	39F / 39G	AROUND SUMP	BS	10/31/92	BT	10 x 14	145	74	BFM	VISUAL INSP	--
42E	P 185 / 202	FROM NEOS TO 6' S	FS	CAPPED BY 61D		--	--	--	--	N/A CAPPED	--
42F	P 202 / 203	@ INT OF P204	PT	11/01/92	P	1 x 1	208	33	JAL	11/18/92	JAL
42G	P 152	@ S & W AT CREST	WR	10/31/92	P	1 x 1	209	47	BFM	11/17/92	JAL
42H	P 205	8' N OF P205/210 & 4' W OF E AT	WR	10/31/92	P	3 x 3	208	33	BFM	11/20/92	JAL
42I	P 167	7' S OF P167/168 & 3' E OF E AT	SI	10/31/92	P	1 x 1	202	47	BFM	11/20/92	FWS
43A	P 195 / 207	187' W OF EEOS	PT	11/01/92	P	1 x 1	208	33	JAL	11/19/92	FWS
43B	P 206	155' W OF EEOS & 2' N OF P205	D	DEFECT VOIDED	P	--	--	--	--	N/A VOIDED	--
43C	P 206	100' W OF EEOS & 5' N OF P205	D	11/27/92	P&W	2X2+15'	256	111	BFM	11/20/92	JAL
43D	P 206	50' W OF EEOS & 3' N OF P205	D	10/31/92	P	2 x 2	208	33	BFM	11/20/92	JAL

FILENAME: P_DEFECT.WK1

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
44A	P 53 / 121	@ INT OF P230	P	11/05/92	P	5 x 6	45	111	WRS	11/22/92	FWS
44B	P 189 / 203	1' N OF P188	P	11/05/92	P	1 x 1	325	74	WRS	11/18/92	JAL
44C	P 229 / 230	107' S OF NEOS	P	11/05/92	P	2 x 2	145	33	WRS	APPED BY 46A	
45A	P 174	6'W OF P174/196 & 4' S OF P174/176	SI	11/01/92	P	2 x 2	145	74	BFM	11/18/92	JAL
45B	P 226 / 227	ENTIRE SEAM	FS	CAPPED BY 45C		--	--	--	--	N/A CAPPED	--
45C	P 226 / 227	SUMP	UMP BOX	11/01/92	GW	38'	145	74	BFM	12/04/92	MAT
46A	P 229 / 231	107' S OF NEOS	BO	11/06/92	P	3 x 4	145	33	JAL	11/20/92	FWS
46B	P 166 / 61D	7' S OF P166/167	DPE-32	11/27/92	P	2 X 4	256	111	BFM	11/27/92	BFM
46C	P 198 / 61D	6' N OF SEOS	DPE-33	11/27/92	P	2 X 4	145	33	BFM	11/27/92	BFM
46D	P 216	43' S OF 2:1 TOE	D	11/28/92	P	2 X 2	208	33	BFM	11/27/92	BFM
47A	P 225 / 226	@ INT OF P227	T	CAPPED BY 45C		--	--	--	--	N/A CAPPED	--
47B	P 225 / 226	FROM SEOS TO 6' N	FS	CAPPED BY 45C		--	--	--	--	N/A CAPPED	--
47C	P 228 / 229	155' S OF NEOS	WS	11/17/92	P	3 x 4	256	47	FWS	11/20/92	FWS
47D	P 228 / 229	155' S OF NEOS	WS	11/05/92	P	3 x 5	145	33	BFM	11/20/92	FWS
47G	P 228 / 229	35' N OF SEOS	DP-76	11/16/92	P	2 x 5	208	70	FWS	11/20/92	FWS
47H	P 229 / 231	155' S OF NEOS	WS	11/05/92	P	3 x 5	145	33	WRS	11/20/92	FWS
47I	P 229 / 231	15' N OF SEOS	DP-77	11/16/92	P	2 x 5	256	47	FWS	11/17/92	JAL
47J	P 229 / 231	100' S OF NEOS	DP-78	11/16/92	P	2 x 5	208	70	FWS	APPED BY 54F	
48A	P 167 / 37R	55' E OF WEOS	DPE-22	11/16/92	P	2 x 3	45	111	FWS	11/17/92	JAL
48B	P 189 / 190	31' E OF WEOS	D	11/14/92	P	3 x 3	145	33	BFM	11/19/92	FWS
48C	P 189 / 190	43' E OF WEOS	FTS	11/14/92	P	3 x 4	145	33	BFM	11/19/92	FWS
48D	P 189 / 190	67' E OF WEOS	FTS	11/14/92	P	2 x 2	145	33	BFM	11/18/92	JAL
49A	P 229 / 231	FROM P230 TO TOE	FS	11/09/92	C	2 X 140	325	74	--	11/17/92	JAL
49B	P 231 / 232	ENTIRE SEAM	FS	11/17/92	C	2 x 320	26	208	FWS	11/21/92	MAT
49C	P 219 / 221	ENTIRE SEAM	FS	11/18/92	C	2 x 330	321	105	BFM	11/20/92	FWS
49D	P 133 / 221	TO P121/230	FS	11/08/92	C	2 x 120	45	111	CPB	11/15/92	JAL
49E	P 121 / 230	INCLUDES P232	FS	11/08/92	C	2 x 120	45	111	CPB	11/15/92	JAL
49F	P 1 / 232	INCLUDES P48/232	FS	11/19/92	C	2 x 200	145	33	BFM	11/16/92	JAL
50A	P 230 / 49	40' N OF P121	DPE-20	11/08/92	P	2 x 5	145	74	CPB	11/13/92	JAL
50B	P 232 / 49	30' N OF P48	DPE-19	11/08/92	P	2 x 5	145	74	CPB	11/16/92	JAL
50C	P 135 / 38	3' W OF P217	FTS	11/09/92	P	1 x 2	45	111	CPB	11/16/92	JAL
50D	P 219 / 38	6' N OF P134	FTS	11/09/92	P	1 x 1	45	111	CPB	11/16/92	JAL
50E	P 221 / 49	7' W OF P119	DPE-21	11/16/92	P	2 x 5	256	47	BFM	11/16/92	JAL
51A	44A	S SIDE OF PATCH	VL	11/16/92	GW	4"	256	47	BIE	11/22/92	JAL

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
51B	44A	S SIDE OF PATCH	VL	11/16/92	GW	4"	256	47	BIE	11/22/92	JAL
51C	44A	N SIDE OF PATCH	VL	11/16/92	GW	4"	256	47	BIE	11/22/92	JAL
52A	P 213 / 214	INT W/P215	PT	11/14/92	P	1 x 2	145	33	BFM	01/19/92	FWS
52B	P 214 / 215	INT W/ P216	PT	11/14/92	P	4 x 4	145	33	BFM	01/19/92	FWS
52C	P 214 / 215	10' S OF TOE	PT	11/15/92	P	3 x 3	174	33	FWS	11/17/92	JAL
52D	P 213 / 214	@ SEOS	PT	11/16/92	P	1 x 1	256	47	BFM	11/16/92	JAL
52E	P 222 / 224	INT W/ P223	PT	11/15/92	P	2 x 2	174	33	FWS	APPED BY 58I	
52F	P 217 / 218	INT W/P220	PT	11/16/92	P	1 x 2	256	47	BFM	11/16/92	JAL
52G	P 217 / 220	ENTIRE SEAM	FS	11/16/92	GW	3'	256	47	BFM	11/16/92	JAL
52H	P 224 / 225	INT W/P223	PT	11/15/92	P	2 x 2	174	33	FWS	11/17/92	JAL
52I	P 201 / 202	35' S OF DP-63	DP-63N1	11/16/92	P	2 x 4	45	111	FWS	11/18/92	JAL
52J	P 223 / 225	@ SEOS	PT	11/16/92	P	1 x 2	256	47	BFM	11/17/92	JAL
52K	P 222 / 223	@ SEOS	PT	11/16/92	P	2 x 2	256	47	BFM	11/17/92	JAL
52M	P 196 / 197	5' N OF P145	DP-63P1	11/16/92	P	2 x 4	45	111	FWS	11/20/92	JAL
52N	P 189 / 190	48B TO 39H	FS	11/15/92	C	1 x 8	208	74	FWS	11/19/92	FWS
52P	P 189 / 190	48B TO 48C	FS	11/15/92	C	2 x 11	208	74	FWS	11/19/92	FWS
52Q	P 189 / 190	48C TO 40K	FS	11/15/92	C	2 x 9	208	74	FWS	11/18/92	JAL
52R	P 189 / 190	3' W OF UPPER LEDGE TOE	DP-64P1	11/15/92	P	2 x 5	208	74	FWS	11/18/92	JAL
52S	P 205 / 206	23' E OF AT	DP-64N1	11/17/92	C	2 x 8	321	105	BFM	11/20/92	JAL
52T	P 189 / 190	40K TO 48D	FS	11/15/92	C	2 x 11	208	74	FWS	11/18/92	JAL
52W	P 189 / 190	52R TO 48D	FS	11/16/92	C	2 x 24	145	33	BFM	11/19/92	FWS
54A	P 216 / 217	@ TOE	FTS	11/15/92	P	2 x 2	174	33	FWS	APPED BY 58B	
54B	P 216 / 217	38' S OF TOE	FTS	11/15/92	P	2 x 2	174	33	FWS	11/17/92	JAL
54C	P 216 / 217	95' S OF TOE	FTS	11/15/92	P	2 x 2	174	33	FWS	11/19/92	JAL
54D	P 205	2' W OF AT & 2' N	FS	11/17/92	P	2 x 7	321	105	BFM	11/20/92	JAL
54E	P 229 / 231	10' N OF DP-78	DP-78P1	11/16/92	P	2 x 4	208	70	FWS	11/20/92	FWS
54F	P 229 / 231	10' S OF DP-78	DP-78N1	11/16/92	P	2 x 8	208	70	FWS	11/20/92	FWS
54G	P 229 / 231	54E TO DP-78	FS	11/16/92	P	2 x 8	208	70	FWS	11/20/92	FWS
54H	P 201 / 202	20' S OF DP-63	FTS	11/16/92	P	1 x 2	45	111	FWS	11/18/92	JAL
54I	P 201 / 202	10' S OF DP-63	FTS	11/16/92	P	1 x 2	45	111	FWS	11/18/92	JAL
54J	P 201 / 202	12' S OF NEOS	FTS	11/16/92	P	1 x 2	45	111	FWS	11/18/92	JAL
54K	P 201 / 202	5' S OF NEOS	FTS	11/16/92	P	2 x 2	45	111	FWS	11/18/92	JAL
54M	P 201 / 202	NEOS TO DP-63N1	FS	11/16/92	RS	65'	45	111	FWS	11/18/92	JAL
54N	P 222 / 223	24' S OF DP-73	DP-73N1	CAPPED BY 55E		--	--	--	--	N/A CAPPED	--

FILENAME: P_DEFECT.WK1

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
54P	P 229 / 231	46A TO 47H	FS	11/17/92	C	2 x 30	208	26	FWS	11/20/92	FWS
54Q	42F	ENTIRE E SIDE OF CAP	FS	11/17/92	C	2 x 46	45	111	BFM	11/18/92	JAL
55A	P 216 / 217	ENTIRE SEAM	FS	11/18/92	C	2 x 325	256	44	FWS	11/19/92	FWS
55B	50C	EAST SIDE OF PATCH	VL	11/16/92	GW	3"	256	47	BFM	11/19/92	FWS
55C	P 219 / 220	@ EEOS	FTS	11/16/92	P	1 x 1	256	47	BFM	11/16/92	JAL
55D	P 222 / 223	10' S OF NEOS	DP-73P1	11/17/92	P	2 x 5	256	47	FWS	11/17/92	JAL
55E	P 222 / 223	FROM 55D TO 54N	FS	11/17/92	C	2 x 80	256	47	FWS	11/17/92	JAL
55F	P 212 / 38R	INT W/ P193/194	DPE-23	11/17/92	P	2 x 4	256	47	FWS	11/19/92	FWS
55G	P 217 / 55A	64' S OF N AT	DPE-24	11/17/92	P	2 x 4	256	47	FWS	11/19/92	FWS
55I	P 165 / 166	40' E OF WEOS	D	11/17/92	C	5 x 15	45	111	BFM	11/17/92	JAL
55J	P 167 / 37R	38' W OF E AT	DPE-25	11/17/92	P	2 x 4	145	33	BFM	11/17/92	JAL
55K	P 167 / 168	11' E OF E AT	PT	11/17/92	P	2 x 2	145	33	BFM	11/20/92	JAL
55M	P 232 / 49B	104' S OF N AT	DPE-26	11/17/92	P	2 x 4	208	26	FWS	11/20/92	FWS
55N	P 93	65' N OF S AT	D	11/17/92	PC	7 x 15	45	111	BFM	11/17/92	JAL
55P	P 165 / 166	25' E OF E AT	IO	11/17/92	P	2 x 2	145	33	BFM	11/20/92	JAL
56A	P 143	5' OFF TOE & 5' W OF P144	D	11/20/92	P	1 x 1	145	33	BFM	11/20/92	FWS
56B	P 144	5' OF TOE & 2' W OF P145	D	11/20/92	P	1 x 1	145	33	BFM	11/20/92	FWS
56C	P 222 / 224	105' S OF N AT	DP-73P2	CAPPED BY 59X		--	--	--	--	N/A CAPPED	--
57A	P 209 / 210	INT W/ P205	T	11/17/92	P	1 x 3	321	105	BFM	11/20/92	JAL
57B	P 223 / 55E	17' S OF 55D	DPE-27	11/17/92	P	2 x 4	256	47	FWS	11/17/92	JAL
57C	P 230 / 231	ENTIRE SEAM	FS	11/18/92	GW	15'	321	105	BFM	11/24/92	FWS
57D	P 228 / 229	47D TO 47G	FS	11/17/92	RS	24'	208	26	FWS	11/20/92	FWS
58A	P 232 / 49B	@ TOE OF N FLOOR	FTS	11/18/92	P	2 x 6	208	70	FWS	11/20/92	FWS
58B	P 216 / 55A	8' N OF LOWER SLOPE CREST	DPE-28	11/18/92	C	3 x 20	256	44	BFM	11/19/92	FWS
58C	P 189 / 190	39H TO WEOS	FS	11/18/92	C	2 x 25	145	33	FWS	11/18/92	JAL
58D	P 190 / 212	AND P191/212; ENTIRE SEAM	FS	11/18/92	C	4 x 25	145	33	FWS	11/18/92	JAL
58E	49F	7' S OF N FLOOR TOE	WR	11/18/92	P	3 x 4	208	70	FWS	11/20/92	FWS
58F	P 216 / 217	58B TO 7' N OF 58B	FS	11/18/92	P	3 x 8	145	33	FWS	11/19/92	FWS
58G	P 221 / 49C	@ CREST OF FLOOR SLOPE	DPE-28P1	11/18/92	C	4 x 15	145	33	FWS	11/19/92	FWS
58H	P 232 / 49F	35' N OF LOWER CREST	DPE-31	11/19/92	C	2 x 11	145	33	BFM	11/20/92	FWS
58I	P 222 / 224	5' N OF P-223/224	DPE-73P2	11/19/92	C	3 x 14	145	33	BFM	11/22/92	JAL
58J	P 222 / 224	31' N OF SEOS	DP-73N1	11/19/92	C	2 x 14	256	44	BFM	11/22/92	JAL
59A	P 221 / 49C	93' S OF N AT	DPE-29	11/18/92	P	2 x 4	321	105	BFM	11/20/92	FWS
59B	P 216 / 55A	48' N OF SEOS	DPE-30	11/18/92	P	2 x 4	256	44	FWS	11/19/92	FWS

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
59C	P 211	42' S OF P212 & 6' W	D	11/19/92	P	1 x 1	256	44	BFM	11/19/92	FWS
59D	P 40	6' W OF P232 & 1' S	D	11/19/92	P	1 x 1	145	33	BFM	11/19/92	FWS
59E	P 232 / 49F	N AT TO 65' S	FS	11/19/92	C	4 x 65	145	33	BFM	11/20/92	FWS
59F	P 216 / 55A	N AT TO 18' S	WR	11/19/92	C	4 x 18	256	44	BFM	11/19/92	FWS
59H	P 232 / 49F	11' N OF DPE-31	WR	11/19/92	P	2 x 6	321	111	BFM	11/20/92	FWS
59I	P 205 / 209	11' W OF EEOS TO WEOS	FS	11/24/92	C	2 x 140	256	111	FWS	11/25/92	JAL
59J	P 205 / 209	11' W OF EEOS	DP-67P1	CAPPED BY 59I		--	--	--	--	N/A CAPPED	--
59K	P 39 / 41	@ EEOS	FS	11/20/92	P	2 x 7	145	33	BFM	11/22/92	JAL
59M	P 153 / 159	AT EEOS	EXT	11/20/92	P	4 x 6	321	111	BFM	11/27/92	FWS
59N	P 226 / 227	INT W/ P228	PT	11/20/92	P	2 x 6	145	33	BFM	12/04/92	MAT
59Q	P 154	5' E OF E AT	WR	11/20/92	GW	16'	321	111	BFM	11/27/92	FWS
59R	P 155	FROM E AT TO 6' E	WR	11/20/92	P	1 x 4	321	111	BFM	11/27/92	FWS
59S	P 228	4' S OF P226/227 & 1' W	D	11/20/92	P	2 x 3	145	33	BFM	12/04/92	MAT
59T	P 225	56' S OF N AT	CS	11/20/92	C	5 x 15	256	70	BFM	11/20/92	FWS
59W	P 185 / 202	INT W/ P186	FTS	11/20/92	C	4 x 5	145	33	BFM	11/27/92	BFM
59X	P 222 / 224	FROM 56C TO 58I	FS	11/24/92	C	2 X 80	145	33	FWS	11/25/92	MAT
60A	P 219 / 225	3' S OF SUMP, P219 & 225	WR	12/03/92	RS	50'	256	44	MAT	12/04/92	MAT
60B	P 219	38' S OF SUMP	WR	12/03/92	P	3 X 2	256	44	MAT	12/04/92	MAT
60C	P 222	17' S OF SUMP	DPE-36	12/03/92	P	3 X 2	256	44	MAT	12/04/92	MAT
60D	P 225	3' S OF SUMP	WR	12/03/92	P	5 X 2	256	44	MAT	12/04/92	MAT
60E	P 225 / 232	17' S OF SUMP, P223 & 232	WR	12/04/92	RS	82'	256	22	MAT	12/04/92	MAT
60F	P 223 / 225	17' S OF S CREST-SUMP	WR	12/04/92	P	2 X 2.5	256	22	MAT	12/04/92	MAT
60G	P 225 / 227	6K TO 6M	WR	12/04/92	RS	19'	256	22	MAT	12/04/92	MAT
60H	P 229 / 231	ON DEFECT 60E	WR	12/04/92	P	2 X 2	256	22	MAT	12/04/92	MAT
60I	P 231 / 232	14' N OF P230/232/233	WR	12/04/92	P	2 X 3	256	22	MAT	12/04/92	MAT
60J	P 45 / 232	5' N OF P45/48/232	WR	12/04/92	P	2 X 2	256	22	MAT	12/04/92	MAT
60K	P 225	@ INT W/ 60E AND 60G	WR	12/04/92	P	1 X 1	256	22	MAT	12/04/92	MAT
60M	P 227	2' S OF SUMP	WR	12/04/92	P	2 X 4	256	22	MAT	12/04/92	MAT
60N	P 45 / 232	ON 60J	VL	12/04/92	GW	6"	256	22	MAT	12/04/92	MAT
60P	P 226	2' N OF SUMP	D	12/04/92	P	3 X 3	256	22	MAT	12/04/92	MAT
60Q	P 227	5' S OF SUMP	D	12/04/92	P	2.5X2.5	256	22	MAT	12/04/92	MAT
60R	P 180 / SEC	ENTIRE SEAM & TO DPE35	FS	12/04/92	RS	21'	416	111	MAT	12/04/92	MAT
60S	P 182 / SEC	ENTIRE SEAM & TO DPE35	FS	12/04/92	RS	24'	416	111	MAT	12/04/92	MAT
60T	P 184 / SEC	ENTIRE SEAM	FS	12/04/92	RS	15'	416	111	MAT	12/04/92	MAT

FILENAME: P_DEFECT.WK1

PRIMARY GEOMEMBRANE REPAIR SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

DEFECT CODE	SEAM, PANEL OR DEFECT NUMBER	APPROXIMATE LOCATION	DEFECT TYPE	REPAIR DATE	REPAIR TYPE	APPROX. SIZE	WELDER ID OPER.	WELDER ID MACH.	QA MON.	TEST DATE	TEST MON.
60W	P 163 / SEC	ENTIRE SEAM	FS	12/04/92	RS	15'	416	111	MAT	12/04/92	MAT
60X	P 229 /	INT WITH 231	T	12/22/92	P	1 X 1	H.S.	111	JAL	12/22/92	JAL
61A	P 212 / 213	45' S OF NEOP	SI	11/24/92	P	2 X 2	145	33	FWS	11/25/92	JAL
61B	P 217	105' S OF NEOP	SI	11/24/92	P	2 X 2	145	33	FWS	11/25/92	JAL
61C	P 168 / 174	DPW-56 TO FLOOR TIE-IN	FS	11/24/92	C	2 X 54	145	33	FWS	11/25/92	FWS
61D	P 185 / 202	E FLOOR TIE-IN	FS	11/27/92	C	2 X 242	145	33	BFM	11/27/92	BFM
61E	P 152	S&E AT INT	D	11/27/92	P	1 X 3	256	111	BFM	11/27/92	BFM
61F	P 225	AT EXTENSION	EXT	11/27/92	C	5 X 15	145	33	FWS	11/27/92	BFM
62A	P 209	EEOP	EXT	11/29/92	EXT	3' X 16	256	22	MAT	11/30/92	MAT
62B	P 171 / SEC	2' S OF P172	D	11/29/92	P	1.5 X 1.5	416	111	MAT	11/30/92	MAT
62C	P 155	EEOS & 5' N & 6' S OF P155	EXT	11/29/92	P	3 X 27	386	33	MAT	11/30/92	MAT
62D	P 178 / SEC	2' S OF P180	FM	11/29/92	P	1 X 1	416	111	MAT	11/30/92	MAT
62E	P 176 / SEC	11' S OF P178	FM	11/29/92	P	1 X 1.5	416	111	MAT	11/30/92	MAT
62F	P 157	3' S OF P156 & 1' W OF SEC	FM	11/29/92	P	1.5 X 1	386	33	MAT	11/30/92	MAT
62G	P 180 / SEC	6' N OF P178	FM	11/29/92	P	1 X 1.5	416	111	MAT	11/30/92	MAT
62H	P 192	2' S OF P193 & 2' W OF SEC	FM	11/29/92	P	1 X 1	256	22	MAT	11/30/92	MAT
62I	P 181 / SEC	2' S OF P182	FM	11/29/92	P	1 X 1.5	416	111	MAT	11/30/92	MAT
62J	P 189	3' S OF P190 & 1' W OF SEC	FM	11/29/92	P	1 X 1	256	22	MAT	11/30/92	MAT
62K	P 163	3' N OF P162 & 1' S OF SEC	FM	11/29/92	P	1 X 1.5	416	111	MAT	11/30/92	MAT
62M	P 179 / SEC	6' S OF P175	VL	11/30/92	GW	3"	416	111	BFM	11/30/92	MAT
63A	P 187 / SEC	6' N OF SEOS	DPE-34	11/30/92	EXT	5'	145	33	BFM	11/30/92	MAT
63B	P 181 / SEC	6' N OF SEOS	DPE-35	11/30/92	EXT	4'	145	33	BFM	11/30/92	MAT
63C	P 168 / SEC	1' S OF NEOS	WR	11/30/92	P	1 X 5	416	111	BFM	11/30/92	MAT
63D	P 163 / 164	@ EEOS	D	11/30/92	P	1 X 1	145	33	BFM	11/30/92	MAT
63E	P 205 / 206	@ EEOS	EXT	11/30/92	EXT	5 X 8	416	111	BFM	12/01/92	BFM
63F	P 180 / SEC	6' S OF NEOS	DPE-35P1	DAMAGED LINER REMOVED						N/A VOIDED	
63G	P 182 / SEC	5' N OF SEOS	DPE-35N1	DAMAGED LINER REMOVED						N/A VOIDED	
64A	- -	N 3704 E 6668	D	12/23/92	P	1.5 X 1.5	45	111	JAL	12/23/92	JAL
64B	- -	5' S & 5'W OF MANHOLE	D	12/23/92	P	1.5 X 1.5	45	111	JAL	12/23/92	JAL

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APPENDIX X

FEBRUARY 1993 917–1203

LEACHATE COLLECTION SAND THICKNESS SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

TEST NUMBER	DATE	LOCATION NORTH (ft)	LOCATION EAST (ft)	THICKNESS (ft)	PASS/ FAIL
1	12/22/92	3675	7308	1.0	PASS
2	12/22/92	3705	7305	1.0	PASS
3	12/22/92	3680	7280	1.0	PASS
4	12/22/92	3725	7285	1.1	PASS
5	12/22/92	3780	7260	1.0	PASS
6	12/22/92	3825	7230	1.0	PASS
7	12/22/92	3780	7238	1.1	PASS
8	12/22/92	3730	7226	1.1	PASS
9	12/22/92	3680	7224	1.1	PASS
10	12/22/92	3682	7175	1.0	PASS
11	12/22/92	3725	7165	1.1	PASS
12	12/22/92	3775	7180	1.0	PASS
13	12/22/92	3820	7165	1.0	PASS
14	12/22/92	3855	7175	1.0	PASS
15	12/22/92	3820	6830	1.1	PASS
16	12/22/92	3780	6825	1.1	PASS
17	12/22/92	3735	6830	1.0	PASS
18	12/22/92	3675	6825	1.1	PASS
19	12/22/92	3628	6830	1.0	PASS
20	12/22/92	3580	6840	1.1	PASS
21	12/22/92	3575	6825	1.1	PASS
22	12/22/92	3625	6828	1.1	PASS
23	12/22/92	3670	6875	1.0	PASS
24	12/22/92	3730	6870	1.1	PASS
25	12/22/92	3775	6875	1.0	PASS
26	12/22/92	3820	6865	1.1	PASS
27	12/22/92	3822	6880	1.0	PASS
28	12/22/92	3770	6875	1.0	PASS
29	12/22/92	3830	6930	1.0	PASS
30	12/22/92	3771	6925	1.0	PASS
31	12/22/92	3730	6970	1.0	PASS
32	12/22/92	3675	6965	1.0	PASS
33	12/22/92	3631	6930	1.0	PASS
34	12/22/92	3580	6920	1.0	PASS
35	12/22/92	3590	6905	1.0	PASS
36	12/22/92	3630	6965	1.0	PASS

FEBRUARY 1993 917–1203

LEACHATE COLLECTION SAND THICKNESS SUMMARY
ALLEN PARK CLAY MINE – CELL 2
FORD MOTOR COMPANY

TEST NUMBER	DATE	LOCATION		THICKNESS (ft)	PASS/ FAIL
		NORTH (ft)	EAST (ft)		
37	12/22/92	3675	6982	1.1	PASS
38	12/22/92	3725	6978	1.0	PASS
39	12/22/92	3825	7025	1.0	PASS
40	12/22/92	3770	7024	1.0	PASS
41	12/22/92	3835	7075	1.0	PASS
42	12/22/92	3770	7075	1.1	PASS
43	12/22/92	3725	7020	1.0	PASS
44	12/22/92	3680	7021	1.1	PASS
45	12/22/92	3685	7075	1.0	PASS
46	12/22/92	3720	7068	1.1	PASS
47	12/22/92	3825	7120	1.0	PASS
48	12/22/92	3770	7131	1.0	PASS
49	12/22/92	3726	7125	1.1	PASS
50	12/22/92	3680	7120	1.0	PASS
51	12/22/92	3852	7210	1.0	PASS
52	12/22/92	3851	7140	1.1	PASS

ALLEN PARK CLAY MINE LANDFILL

HAZARDOUS WASTE DISPOSAL SITE - CELL II

PHASE I AS-BUILTS

CITY OF ALLEN PARK, WAYNE COUNTY, MICHIGAN

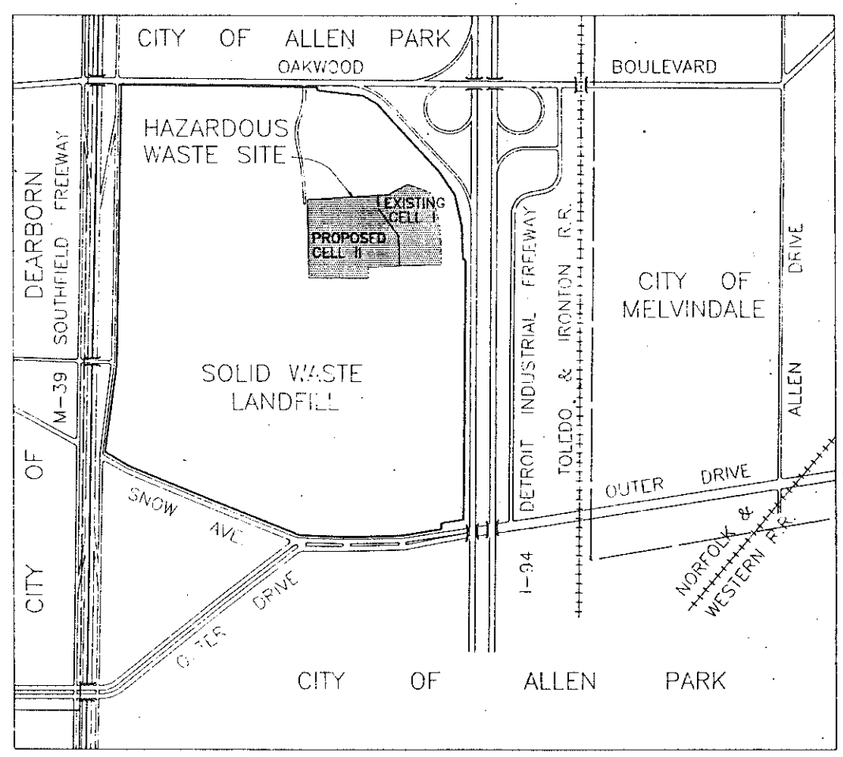
OWNER

FORD MOTOR COMPANY
ENVIRONMENTAL QUALITY OFFICE
15201 CENTURY DRIVE
DEARBORN, MICHIGAN 48120
TELE: (313) 322-0700

ENGINEERING CONSULTANTS

NTH CONSULTANTS, LTD.
38955 HILLS TECH DRIVE
FARMINGTON HILLS, MICHIGAN 48331-3432
TELE: (313) 553-6300
FAX: (313) 489-0727

MIDWESTERN CONSULTING, INC.
3815 PLAZA DRIVE
ANN ARBOR, MICHIGAN 48103
TELE: (313) 995-0200
FAX: (313) 995-0599



VICINITY SKETCH

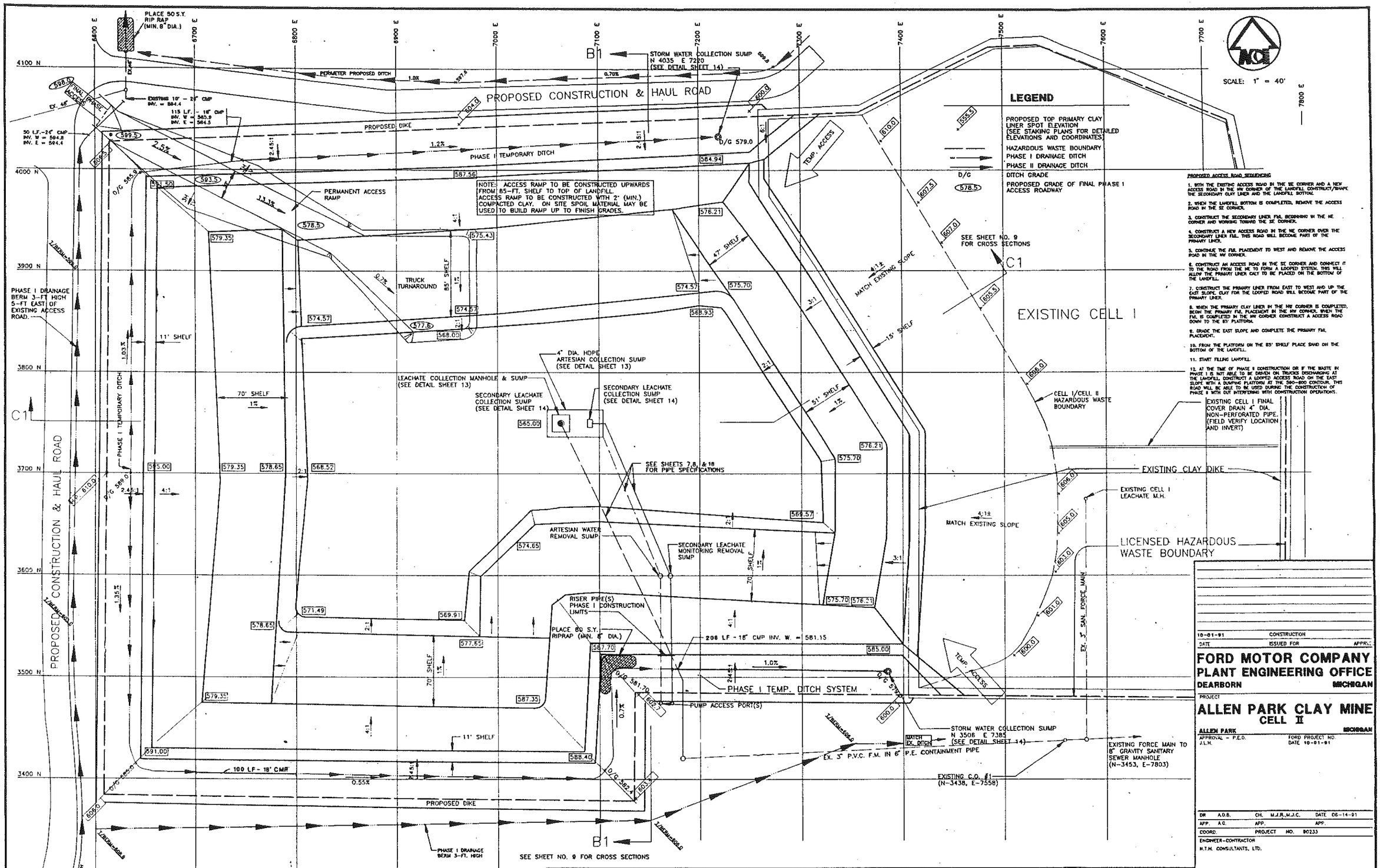
NOT

AS BUILT INFORMATION PROVIDED BY:
GOLDER CONSTRUCTION SERVICES 7/19/93

SHEET INDEX

1 – OVERALL LANDFILL PLAN
2 – EXISTING TOPOGRAPHY
3 – FINAL GRADING PLAN
4 – PRIMARY LINER STAKING PLAN
5 – SECONDARY LINER STAKING PLAN
6 – LEACHATE COLLECTION/REMOVAL SYSTEM
7 – SECONDARY LEACHATE COLLECTION/REMOVAL SYSTEM
8 – ARTESIAN WATER COLLECTION/REMOVAL SYSTEM
9 – LANDFILL CROSS SECTIONS
10 – SIDE SLOPE CROSS SECTIONS
11 – DETAILS
12 – DETAILS
13 – DETAILS
14 – DETAILS
15 – DETAILS
16 – DETAILS
17 – ELECTRICAL AND LEACHATE PUMPING PLAN
18 – DETAILS

FILE CR402003
DATE 10-01-91



NOTES:

1. PHASE I CONSTRUCTION TO INCLUDE:
   a.) LINER INSTALLATION FROM CELL BOTTOM TO: 11-FT. SHELF NORTH, SOUTH & WEST SIDES). CELL I LIMITS (EAST SIDE).
   b.) PHASE I TEMPORARY DRAINAGE DITCH SYSTEM.
   c.) TEMPORARY PERIMETER DRAINAGE BERM ALONG SOUTH AND WEST SIDES OF CELL II.

M.C.I. JOB No. 90233	DATE: 06-14-91
REVISIONS:	SHEET 1 OF 18
ADD 15' SHELF TO EAST SLOPE 8/1/91	BY: A.D.B.
REVISED PER MDNR COMMENTS 8/91	
AS-BUILT INFO. 7/10/95	FILE: C8403002

NTH Consultants, Ltd.
A Neyer, Theo & Hindo Company
Professional Engineering and Environmental Services
30233 Hills Tech Drive, Farmington Hills, Michigan 48331 (313) 553-6300
61 Cadillac Square, Suite 1323, Detroit, Michigan 48226 (313) 963-0016
866 Springdale Drive, Suite 300, Exton, Pennsylvania 19341 (215) 524-3300

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers Planners, Surveyors
3815 Plaza Drive
Ann Arbor, Michigan 48108
313.995.0200 Fax 313.995.0599

DATE	ISSUED FOR	APPRV.
10-01-91	CONSTRUCTION	

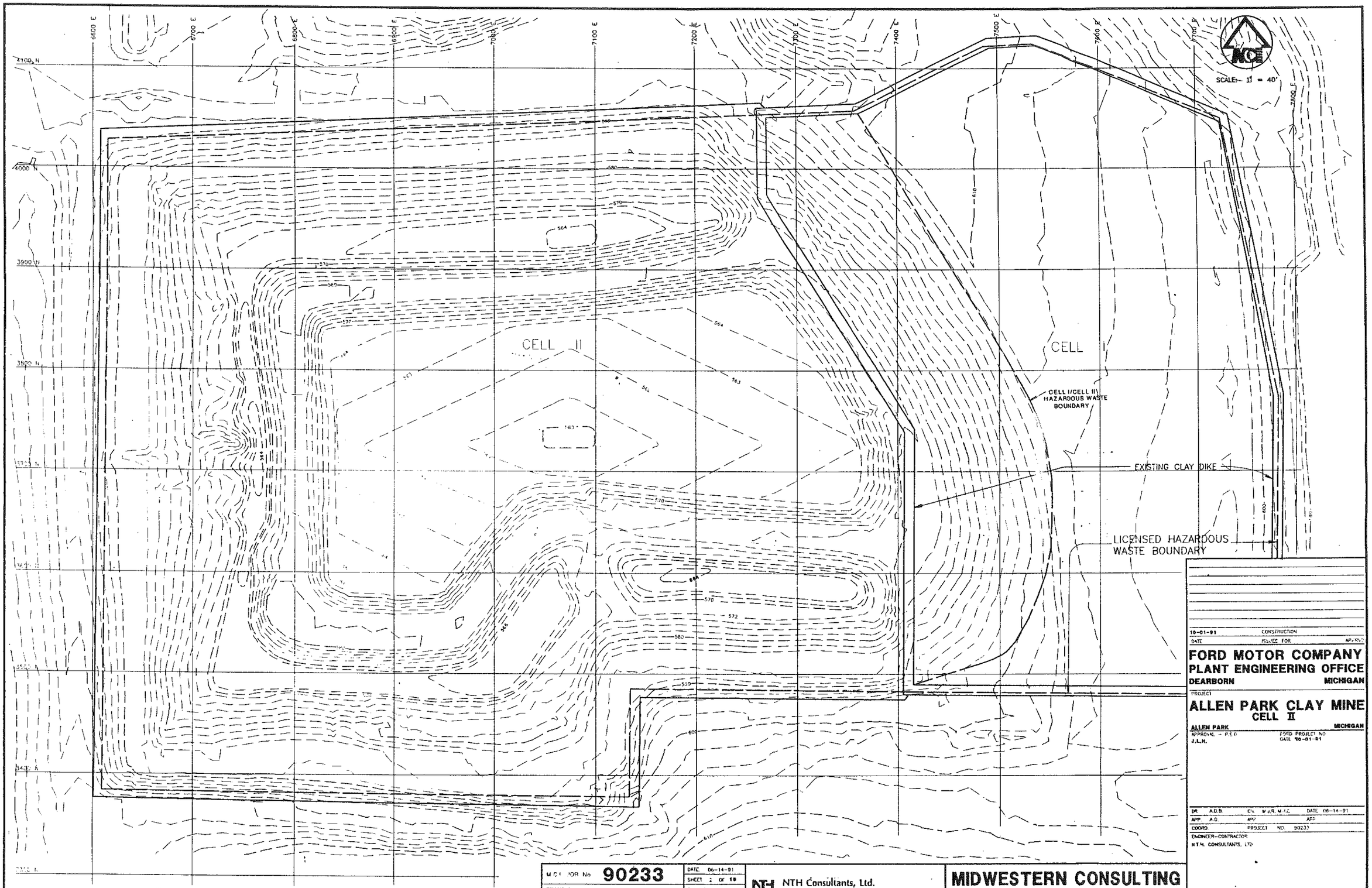
FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR A.D.B. CH. M.J.R./M.J.C. DATE 06-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

DRAWING TITLE: OVERALL LANDFILL PLAN
DRAWING NO. 1



NOTE:
EXISTING TOPOGRAPHY INFORMATION AS PER OWNER.
(DATA RECEIVED 5/28/91)

M.C.I. JOB No. 90233	DATE 06-14-91	
	SHEET 2 OF 10	
REVISIONS	BY: A.D.B.	
ADD EAST SLOPE 10-FT SHELF 8-1-91		
REVISED PER MDNR COMMENTS 8/91		
	FILE C8403002	

NTH Consultants, Ltd.
A Meyer, Tuttle & Hinds Company
Professional Engineering and Environmental Services
38251 Mile Road, Farmington Hills, Michigan 48331 (313) 553-4300
55 Cadillac Square, Suite 1111, Detroit, Michigan 48226 (313) 963-8015
166 Springfield Drive, Suite 300, Exton, Pennsylvania 19341 (215) 524-1300

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
3815 Plaza Drive
Ann Arbor, Michigan 48108
313.996.0800 Fax 313.996.0999

10-01-91 CONSTRUCTION
DATE ISSUED FOR APPROV.

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO
DATE 10-01-91

DR. A.D.B. CK. M.A.R. M.I.C. DATE 06-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD

DRAWING TITLE
EXISTING TOPOGRAPHY

DRAWING NO.
2

SCALE: 1" = 40'

PROPOSED CONSTRUCTION & HAUL ROAD

EXISTING 10' - 24" CMP INV. = 584.4

EX. 48"

1.0% 597.8 0.70% 600.5

604.0 600.0

610 615 620 625 630 635

INV. = 621.1 @ 4" CAP

INV. = 611.8 @ 4" CAP

CELL II

CELL I

4" PERFORATED WRAPPED COVER DRAIN PER PLAN DETAIL

LEACHATE COLLECTION MANHOLE & SUMP

4" TEE INV.=620.3

4" CROSS INV.=606.6

4" NON-PERFORATED COVER DRAIN

CELL II FINAL COVER DRAIN 4" DIA. NON-PERFORATED PIPE

CELL I/CELL II HAZARDOUS WASTE BOUNDARY

EXISTING CELL I FINAL COVER DRAIN 4" DIA. NON-PERFORATED PIPE. (FIELD VERIFY LOCATION AND INVERT)

EXISTING CLAY DIKE

LICENSED HAZARDOUS WASTE BOUNDARY

PROPOSED CONSTRUCTION & HAUL ROAD

PERIMETER PROPOSED DITCH 0.50%

INV. = 607.5 @ 4" CAP

INV = 621.1 @ 4" CAP

0.50% PERIMETER PROPOSED DITCH (SEE FINAL COVER DETAIL SHEET 3, 11 & 14)

PROPOSED DITCH

EXTEND DITCH TO EXISTING SEDIMENT POND. PLACE F.M.L. SPILLWAY AT DISCHARGE POINT. INV. = 594.0

PERIMETER PROPOSED DITCH 0.50%

4100 N 4000 N 3900 N 3800 N 3700 N 3600 N 3500 N 3400 N 3300 N

6600 E 6700 E 6800 E 6900 E 7000 E 7100 E 7200 E 7300 E 7400 E 7500 E 7600 E 7700 E 7800 E

LEGEND

- HAZARDOUS WASTE BOUNDARY
- 610 PROPOSED GRADES (PHASE II)

10-01-91	CONSTRUCTION	
DATE	ISSUED FOR	APPRVD

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL – P.E.O. J.L.H.
FORD PROJECT NO
DATE 10-01-91

DR. A.D.B. CH. M.J.S. M.J.C. DATE 6-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

DRAWING TITLE: FINAL GRADING PLAN
DRAWING NO: 3

M.C.I JOB No. **90233**
DATE: 6-14-91
SHEET 3 OF 18
BY: A.D.B.
FILE: C6403002

REVISIONS:
ADD EAST SLOPE 16-FT. SHELF 8-1-93.
REVISED PER MDNR COMMENTS 8/93
AS-BUILT INFO. 7/19/95

NTH Consultants, Ltd.
A Meyer, Tisco & Hindo Company
Professional Engineering and Environmental Services
30915 19th Tech Drive, Farmington Hills, Michigan 48331 (313) 553-0600
65 Cadillac Square, Suite 3113, Detroit, Michigan 48226 (313) 963-0036
560 Springdale Drive, Suite 300, Exton, Pennsylvania 19341 (215) 524-2300

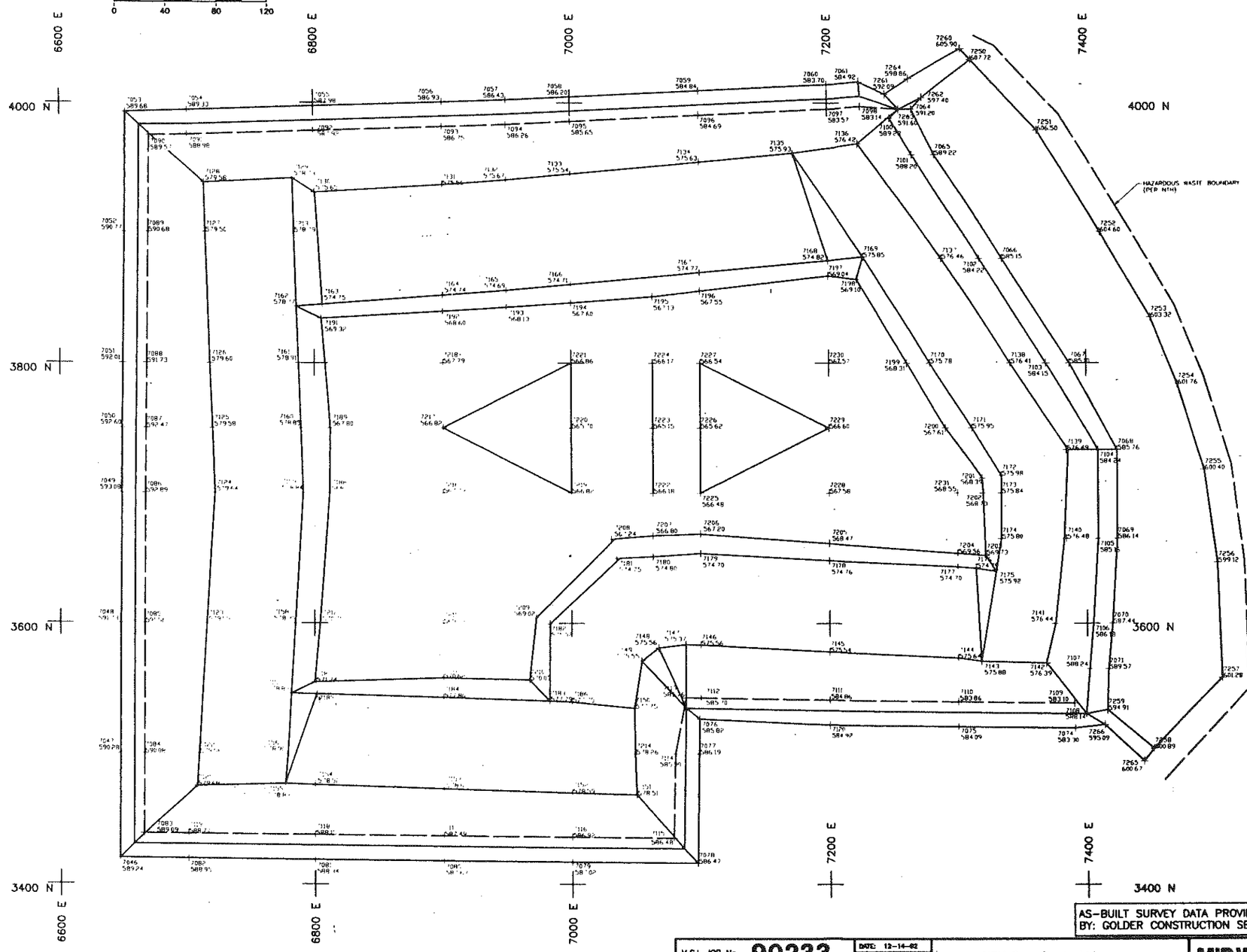
MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
3815 Plaza Drive
Ann Arbor, Michigan 48108
313.995.0200 Fax 313.995.0599

LEGEND

7164 — PRIMARY LINER POINT NO." I.D.
574.74 — AS-BUILT PRIMARY LINER ELEVATION
} REFER TO TABLE AT RIGHT

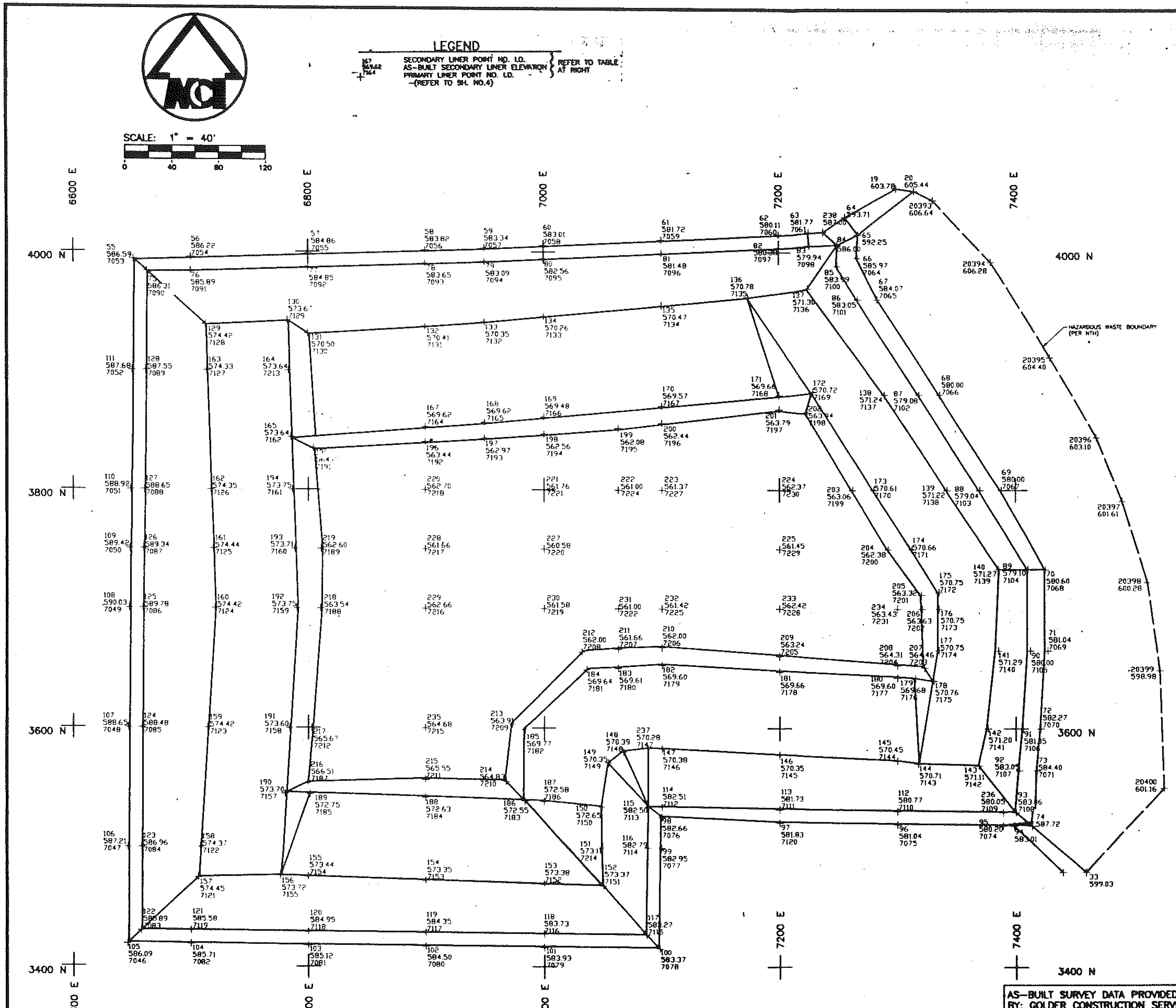
SCALE: 1" = 40'

0 40 80 120



PRIMARY AS-BUILT COORDINATES:

PNT #	NORTH	EAST	ELEV
7040	3419.81	6646.67	588.34
7041	3800.00	6647.68	591.25
7042	3800.00	6647.68	591.25
7043	3700.00	6648.00	593.00
7044	3800.00	6648.53	591.61
7045	3800.00	6650.77	589.77
7046	3800.00	6651.84	588.98
7047	3894.14	6700.00	589.33
7048	3897.27	6800.00	587.86
7049	4000.38	6800.00	586.53
7050	4002.16	6800.00	586.43
7051	4004.38	7000.00	586.30
7052	4009.76	7100.00	586.04
7053	4014.17	7200.00	583.70
7054	4018.16	7275.33	584.02
7055	3895.00	7294.00	581.39
7056	3800.00	7302.84	580.23
7057	3800.00	7335.31	580.15
7058	3800.00	7387.13	580.16
7059	3733.30	7424.33	580.79
7060	3688.00	7424.33	581.44
7061	3600.00	7424.33	582.57
7062	3519.00	7400.00	583.30
7063	3500.74	7300.00	584.00
7064	3528.74	7100.00	585.02
7065	3600.00	7087.67	586.19
7066	3418.32	7087.13	586.67
7067	3417.67	7000.00	587.00
7068	3418.75	6900.00	588.34
7069	3419.54	6700.00	588.95
7070	3438.00	6600.79	588.00
7071	3800.00	6600.79	583.56
7072	3800.00	6600.00	581.90
7073	3700.00	6687.00	582.47
7074	3800.00	6688.53	581.72
7075	3800.00	6688.53	580.87
7076	3874.48	6700.00	580.57
7077	3875.37	6700.00	581.00
7078	3874.37	6800.00	581.75
7079	3881.58	6900.00	582.26
7080	3882.58	6900.00	582.26
7081	3900.38	7100.00	584.80
7082	3905.17	7200.00	583.57
7083	3897.00	7233.33	583.74
7084	3896.00	7248.00	583.32
7085	3800.00	7286.00	580.20
7086	3800.00	7317.97	584.22
7087	3800.00	7388.33	584.15
7088	3733.30	7400.33	584.24
7089	3688.00	7400.33	583.19
7090	3600.00	7400.14	583.10
7091	3585.00	7401.00	582.74
7092	3530.83	7399.14	582.14
7093	3538.92	7300.00	583.10
7094	3538.74	7200.00	583.86
7095	3541.04	7100.00	584.88
7096	3542.75	7000.00	585.69
7097	3543.00	6900.00	585.70
7098	3600.00	6879.11	584.72
7099	3638.48	6879.13	583.62
7100	3638.17	6800.00	581.98
7101	3638.00	6800.00	581.19
7102	3638.38	6700.00	580.17
7103	3532.91	7200.00	584.82
7104	3575.96	6787.11	578.88
7105	3600.00	6788.00	578.36
7106	3600.00	6714.83	578.64
7107	3700.00	6731.21	578.64
7108	3700.00	6718.48	578.56
7109	3800.00	6711.88	578.00
7110	3800.00	6714.17	578.00
7111	3838.19	6713.20	578.59
7112	3841.86	6782.30	578.73
7113	3838.54	6888.41	575.86
7114	3838.38	6900.00	575.56
7115	3840.36	6950.00	575.67
7116	3844.86	7000.00	575.54
7117	3854.20	7100.00	575.63
7118	3841.20	7113.31	576.42
7119	3840.38	7224.19	576.42
7120	3800.00	7300.00	576.88
7121	3800.00	7341.58	576.41
7122	3733.30	7341.50	576.40
7123	3688.00	7341.50	576.40
7124	3600.00	7341.50	576.40
7125	3569.83	7341.50	576.40
7126	3511.64	7300.00	575.64
7127	3513.48	7200.00	575.54
7128	3513.11	7100.00	575.54
7129	3513.13	6900.00	575.37
7130	3513.30	6800.00	575.36
7131	3513.50	6700.00	575.30
7132	3513.50	6600.00	575.30
7133	3440.22	6600.00	575.75
7134	3443.00	6600.00	577.80
7135	3443.83	6601.62	577.80
7136	3539.92	7000.00	577.75
7137	3564.77	6800.00	577.74
7138	3700.00	6811.46	578.93
7139	3700.00	6817.00	578.92
7140	3833.71	6805.43	580.32
7141	3839.75	6800.00	580.80
7142	3842.73	6850.00	580.13
7143	3840.75	7000.00	581.13
7144	3850.48	7063.00	581.13
7145	3854.84	7100.00	581.55
7146	3844.81	7200.00	580.94
7147	3800.00	7221.91	581.18
7148	3700.00	7291.21	581.37
7149	3711.36	7319.08	581.61
7150	3700.00	7319.61	581.71
7151	3653.13	7321.00	581.72
7152	3653.78	7300.00	581.35
7153	3653.33	7100.00	581.31
7154	3653.33	7000.00	581.30
7155	3653.75	6900.00	581.29
7156	3654.21	6831.14	581.07
7157	3554.44	6817.00	579.83
7158	3557.98	6800.00	579.80
7159	3600.00	6801.13	579.75
7160	3700.00	6801.17	579.70
7161	3700.00	6781.30	579.79
7162	3800.00	6781.31	579.83
7163	3800.00	6781.31	579.42
7164	3800.00	6781.31	579.88
7165	3800.00	6781.31	579.85
7166	3800.00	6781.31	579.91
7167	3800.00	6781.31	579.77
7168	3800.00	6781.31	579.84
7169	3700.00	6781.31	579.84
7170	3700.00	6781.31	579.84
7171	3700.00	6781.31	579.84
7172	3700.00	6781.31	579.85
7173	3700.00	6781.31	579.91
7174	3700.00	6781.31	579.77
7175	3700.00	6781.31	579.84
7176	3700.00	6781.31	579.84
7177	3700.00	6781.31	579.84
7178	3700.00	6781.31	579.84



AS-BUILT SURVEY DATA PROVIDED BY: GOLDER CONSTRUCTION SERVICES

List of Coordinate Points

Point ID		NORTH	EAST	AS-BUILT ELEV	Descriptor
55	•	3993.58	6650.99	586.59	7053
56	•	3995.12	6700.00	586.22	7054
57	•	3996.38	6800.00	584.86	7055
58	•	4001.53	6900.00	583.82	7056
59	•	4003.14	6950.00	583.34	7057
60	•	4005.54	7000.00	583.01	7058
61	•	4010.34	7100.00	581.72	7059
62	•	4015.15	7200.00	580.11	7060
63	•	4017.00	7225.95	581.77	7061
65	•	4019.00	7267.50	592.25	
66	•	3995.00	7267.00	585.97	7064
67	•	3960.00	7284.00	584.07	7065
68	•	3860.00	7336.34	580.00	7066
69	•	3800.00	7398.16	580.00	7067
70	•	3733.20	7425.08	580.60	7068
71	•	3665.00	7427.09	581.04	7069
72	•	3600.00	7431.00	582.27	7070
73	•	3565.00	7417.72	584.40	7071
74	•	3518.69	7413.36	587.72	
75	•	3983.47	6662.16	586.31	7090
76	•	3983.78	6700.00	585.89	7091
77	•	3986.99	6800.00	584.85	7092
78	•	3990.17	6900.00	583.65	7093
79	•	3991.78	6950.00	583.09	7094
80	•	3994.16	7000.00	582.56	7095
81	•	3998.95	7100.00	581.48	7096
82	•	4003.79	7200.00	580.38	7097
83	•	4005.71	7226.33	579.94	7098
84	•	4006.20	7250.00	586.00	
85	•	3988.00	7250.00	583.89	7100
86	•	3960.00	7267.11	583.05	7101
87	•	3860.00	7316.49	579.08	7102
88	•	3800.00	7370.31	579.04	7103
89	•	3733.20	7410.09	579.10	7104
90	•	3665.00	7412.08	580.00	7105
91	•	3600.00	7406.00	581.05	7106
92	•	3565.00	7407.72	583.05	7107
93	•	3530.00	7400.00	583.06	7108
94	•	3518.49	7389.38	583.01	
95	•	3518.74	7389.38	580.20	7074
96	•	3519.78	7300.00	581.04	7075
97	•	3521.06	7200.00	581.83	7120
98	•	3525.76	7099.50	582.66	7076
99	•	3500.00	7099.45	582.95	7077
100	•	3415.44	7098.11	583.37	7078
101	•	3416.19	7000.00	583.93	7079
102	•	3416.99	6900.00	584.50	7080
103	•	3417.77	6800.00	585.12	7081
104	•	3418.57	6700.00	585.71	7082
105	•	3418.93	6645.69	586.09	7046
106	•	3500.00	6646.17	587.21	7047
107	•	3600.00	6646.71	588.65	7048
108	•	3700.00	6647.27	590.03	7049
109	•	3750.00	6647.82	589.42	7050
110	•	3800.00	6648.55	588.92	7051
111	•	3900.00	6649.79	587.68	7052
112	•	3530.76	7300.00	580.77	7110
113	•	3532.06	7200.00	581.73	7111
114	•	3534.13	7100.00	582.51	7112
115	•	3534.28	7088.82	582.50	7113
116	•	3500.00	7088.09	582.79	7114
117	•	3428.86	7086.75	583.27	7115
118	•	3427.56	7000.00	583.73	7116
119	•	3428.34	6900.00	584.35	7117
120	•	3429.13	6800.00	584.95	7118
121	•	3429.93	6700.00	585.58	7119
122	•	3430.00	6657.16	585.89	7083
123	•	3500.00	6657.53	586.96	7084
124	•	3600.00	6658.07	588.48	7085
125	•	3700.00	6658.63	589.78	7086
126	•	3750.00	6659.26	589.34	7087
127	•	3800.00	6659.91	588.65	7088
128	•	3900.00	6661.15	587.55	7089
129	•	3938.81	6712.68	574.42	7128
130	•	3942.30	6782.12	573.67	7129
131	•	3931.28	6799.80	570.50	7130
132	•	3937.21	6900.00	570.41	7131
133	•	3940.96	6950.00	570.35	7132
134	•	3945.58	7000.00	570.26	7133
135	•	3954.82	7100.00	570.47	7134
136	•	3961.84	7173.93	570.78	7135
137	•	3960.00	7225.07	571.30	7136
138	•	3860.00	7289.87	571.24	7137
139	•	3800.00	7343.50	571.22	7138
140	•	3733.20	7385.88	571.27	7139
141	•	3665.00	7385.88	571.29	7140
142	•	3600.00	7377.14	571.20	7141
143	•	3549.00	7349.33	571.11	7142
144	•	3570.42	7317.41	570.71	7143
145	•	3572.84	7300.00	570.45	7144
146	•	3577.85	7200.00	570.35	7145
147	•	3582.85	7100.00	570.38	7146
148	•	3579.95	7087.20	570.39	7148
149	•	3571.20	7054.88	570.35	7149
150	•	3534.28	7049.08	572.65	7150
151	•	3500.00	7049.53	573.11	7214
152	•	3467.95	7050.49	573.37	7151
153	•	3469.36	7000.00	573.38	7152
154	•	3472.46	6900.00	573.35	7153
155	•	3475.53	6800.00	573.44	7154
156	•	3476.32	6775.98	573.72	7155
157	•	3474.44	6706.49	574.45	7121
158	•	3500.00	6708.06	574.37	7122
159	•	3600.00	6714.31	574.42	7123
160	•	3700.00	6720.59	574.42	7124
161	•	3750.00	6718.84	574.44	7125
162	•	3800.00	6717.07	574.35	7126
163	•	3900.00	6713.98	574.33	7127
164	•	3900.00	6792.98	573.64	7213

Point ID		NORTH	EAST	AS-BUILT ELEV	Descriptor
165	•	3844.19	6794.81	573.64	7162
167	•	3852.77	6850.00	569.62	7164
168	•	3854.64	6950.00	569.62	7165
169	•	3861.14	7000.00	569.48	7166
170	•	3870.39	7100.00	569.57	7167
171	•	3878.53	7200.00	569.66	7168
172	•	3882.35	7229.02	570.72	7169
173	•	3800.00	7289.67	570.61	7170
174	•	3750.00	7312.32	570.66	7171
175	•	3713.76	7338.25	570.75	7172
176	•	3700.00	7338.25	570.75	7173
177	•	3665.31	7339.25	570.75	7174
178	•	3639.90	7331.04	570.76	7175
179	•	3641.64	7318.25	569.68	7176
180	•	3642.28	7300.00	569.60	7177
181	•	3647.09	7200.00	569.66	7178
182	•	3652.49	7100.00	569.60	7179
183	•	3646.95	7063.00	569.61	7180
184	•	3648.62	7036.34	569.64	7181
185	•	3598.69	6984.29	569.77	7182
186	•	3539.04	6983.92	572.55	7183
187	•	3539.44	7000.00	572.58	7186
188	•	3541.90	6900.00	572.63	7184
189	•	3544.45	6801.62	572.75	7185
190	•	3544.93	6779.98	573.70	7157
191	•	3600.00	6783.75	573.60	7158
192	•	3700.00	6790.03	573.75	7159
193	•	3750.00	6788.28	573.71	7160
194	•	3800.00	6789.51	573.75	7161
195	•	3634.89	6804.24	564.21	7191
196	•	3640.33	6900.00	563.44	7192
197	•	3643.35	6950.00	562.97	7193
198	•	3649.93	7000.00	562.56	7194
199	•	3651.67	7063.00	562.08	7195
200	•	3656.03	7100.00	562.44	7196
201	•	3667.79	7200.00	563.79	7197
202	•	3665.18	7224.00	563.94	7198
203	•	3600.00	7262.39	563.06	7199
204	•	3750.00	7282.37	562.38	7200
205	•	3711.70	7320.26	563.32	7201
206	•	3700.00	7320.99	563.63	7202
207	•	3650.05	7327.88	564.46	7203
208	•	3652.58	7300.00	564.31	7204
209	•	3660.10	7200.00	563.24	7205
210	•	3667.35	7100.00	562.00	7206
211	•	3665.93	7063.00	561.66	7207
212	•	3663.57	7032.32	562.00	7208
213	•	3603.38	6973.68	563.91	7209
214	•	3555.28	6968.18	564.83	7210
215	•	3556.81	6900.00	565.55	7211
216	•	3553.59	6799.62	566.51	7187
217	•	3600.00	6802.95	565.67	7212
218	•	3700.00	6810.30	563.54	7188
219	•	3750.00	6810.80	562.60	7189
220	•	3800.00	6900.00	562.70	7218
221	•	3800.00	7000.00	561.76	7221
222	•	3800.00	7063.00	561.00	7224
223	•	3800.00	7100.00	561.37	7227
224	•	3800.00	7200.00	562.37	7230
225	•	3750.00	7200.00	561.45	7229
227	•	3750.00	7000.00	560.58	7220
228	•	3750.00	6900.00	561.66	7217
229	•	3700.00	6900.00	562.66	7216
230	•	3700.00	7000.00	561.58	7219
231	•	3700.00	7063.00	561.00	7222
232	•	3700.00	7100.00	561.42	7225
233	•	3700.00	7200.00	562.42	7228
234	•	3700.00	7300.00	563.43	7231
235	•	3600.00	6900.00	564.68	7215
236	•	3530.00	7389.38	580.05	7109
237	•	3583.21	7098.00	570.28	7147
238	•	4017.23	7237.98	587.00	7238

ADDITIONAL AS-BUILT INFORMATION 08/30/92

19	•	4064.00	7300.00	603.78
20	•	4052.00	7315.00	605.44
33	•	3480.00	7480.00	599.03
64	•	4029.78	7258.70	593.71
20393	•	4044.27	7330.63	606.64
20394	•	3881.54	7380.31	606.28
20395	•	3811.89	7489.60	604.40
20396	•	3694.69	7490.01	603.10
20397	•	3799.49	7489.48	601.61
20398	•	3722.18	7511.56	600.28
20399	•	3648.38	7521.71	598.98
20400	•	3550.05	7528.51	601.16

DATE	ISSUED FOR	APPRVD

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

APPROVAL – P.E.O. J.L.H.
FORD PROJECT NO DATE: 10-01-91

DR. D.S./A.D.B./R.A.B. CH. M.R./J.S./M.C. DATE 12-07-92
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER–CONTRACTOR
N.T.H. CONSULTANTS, LTD.

M.C.I. JOB No. **90233**
DATE: 12-11-92
SHEET 5 OF 18
BY: RDP
FILE: C8403010

REVISIONS
ADDITIONAL AS-BUILT COORDINATES 8-30-92
REVISED PER OWNER 10-9-92
REVISED PER OWNER 12-7-92
AS-BUILT RED. 2-18-93

NTH Consultants, Ltd.
A Hayes, Tope & Hinds Company

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers, Planners, Surveyors
3815 Plaza Drive Ann Arbor, Michigan 48108
313.995.0200 Fax 313.995.0599

DRAWING TITLE
AS-BUILT SECONDARY LINER
DRAWING NO. 5

SCALE: 1" = 40'

LEGEND

- HAZARDOUS WASTE BOUNDARY
- 8" DIA. LEACHATE REMOVAL PIPE
- 6" DIA. LEACHATE REMOVAL PIPE
- 570 TOP PRIMARY CLAY LINER GRADES
- 589.26 A.B. AS-BUILT ELEVATION

EXISTING CELL I

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

150 LF - 6" @ TOE OF SLOPE (END TO TEE)

250 LF - 6" @ TOE END TO TEE

130 LF-6" @ TOE OF SLOPE

255 LF-8" DIA. LEACHATE REMOVAL PIPE (TYP., SEE DETAIL SHEET 12)

230-8" DIA. LEACHATE REMOVAL PIPE (TYP., SEE DETAIL SHEET 12)

5" DIA. LEACHATE REMOVAL PIPE (TYP., SEE DETAIL SHEET 12)

8" DIA. CLEANOUT FROM 70' SHELF TO TOP OF LANDFILL NOT INCLUDED IN PHASE I CONSTRUCTION (SEE DETAIL SHEET 15)

CELL I/CELL II HAZARDOUS WASTE BOUNDARY

8" DIA. CLEANOUT FROM 51' SHELF TO TOP OF CELL I BOUNDARY NOT INCLUDE IN PHASE I CONSTRUCTION (SEE DETAIL SHEET 15

EXISTING CLAY DIKE

LICENSED HAZARDOUS WASTE BOUNDARY

115 LF - 6" @ TOE (END TO TEE)

255 LF - 6" @ TOE OF SLOPE (END TO TEE)

160 LF - 6" @ TOE OF SLOPE (END TO 90' BEND)

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

M.C.I. JOB No.	90233
REVISIONS	
ADD 15' SHELF TO CAST SLOPE 8/17/91	
REVISED PER MDNR COMMENTS 8/91	
REVISED INV. ELEV.S PER R. GLEVE 8-26-91	
AS-BUILT INFO.	
DATE 04-14-91	
SHEET 6 OF 16	
BY: A.D.R.	
FILE 28403002	

NTH Consultants, Ltd.
A Meyer, Tuss & Hinde Company

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers Planners, Surveyors
3815 Plaza Drive
Ann Arbor, Michigan 48108
313.995.0200 Fax 313.995.0599

DATE	ISSUED FOR	APPRV.
10-01-91	CONSTRUCTION	

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR. A.D.R. CK. M.J.R., M.J.C. DATE 08-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
NTH CONSULTANTS, LTD

DRAWING TITLE
LEACHATE COLLECTION/ REMOVAL SYSTEM

DRAWING NO.
6

SCALE: 1" = 40'

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

EXISTING CELL I

CELL I/CELL II HAZARDOUS WASTE BOUNDARY

EXISTING CLAY DIKE

LICENSED HAZARDOUS WASTE BOUNDARY

SECONDARY LEACHATE COLLECTION SUMP (SEE DETAIL SHEET 14).

22-1/2° BEND INV. 555.60 3750 N, 7106 E

170 LF 3" HDPE TOP OF CONTAINER PIPE

SECONDARY LEACHATE MONITORING REMOVAL (N-3600 E-7170)
6" N. INV.=553.83 A.B.
18" S INV. = 550.40

18" HDPE RISER PIPE

PUMP ACCESS PORT (3475 N, 7170 E)

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

LEGEND

HAZARDOUS WASTE BOUNDARY

--570-- TOP SECONDARY CLAY LINER GRADES

569.89 A.B. AS-BUILT ELEVATION

NOTES:

1. REFER TO DETAIL SHEET 12 FOR TYPICAL SECONDARY LEACHATE COLLECTION SYSTEM CROSS SECTION.

M.C.I. JOB No.	90233
REVISIONS:	
ADD 15' SHELF TO EAST SLOPE 8/1/91	
REVISED PER MDNR COMMENTS 8/91	
20' SHELF REMO.	
DATE	09-14-91
SHEET	7 OF 18
BY	ADB
FILE	C840.3002

NTH Consultants, Ltd.
A Nepar, Tissa & Hindo Company
Professional Engineering and Environmental Services
39955 Mills Tech Drive, Farmington Hills, Michigan 48331 (313) 553-8300
30 Cadillac Square, Suite 2111, Detroit, Michigan 48226 (313) 964-0916
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DATE	ISSUED FOR	APPROVED
10-01-91	CONSTRUCTION	

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL - P.E.O.
M.L.H.
FORD PROJECT NO
DATE 10-01-91

DR. A.D.B. CK. M.J.K. M.J.C. DATE 09-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO 90233

ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD

DRAWING TITLE
SECONDARY LEACHATE COLLECTION/ REMOVAL SYSTEM

DRAWING NO
7

SCALE: 1" = 40'

LEGEND

- HAZARDOUS WASTE BOUNDARY
- --570-- TOP SECONDARY CLAY LINER GRADES
- 660.76 A.S. AS-BUILT ELEVATION
- ARTESIAN WATER REMOVAL SYSTEM (CONTINUOUS COVERAGE)

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

EXISTING CELL I

CELL I/CELL II HAZARDOUS WASTE BOUNDARY

EXISTING CLAY DIKE

LICENSED HAZARDOUS WASTE BOUNDARY

PHASE I SIDEWALL DIVIDER BERM (SEE DETAIL SHEET NO.18)

CONTINUOUS COVERAGE OF ARTESIAN WATER REMOVAL SYSTEM

4" DIA. HDPE ARTESIAN COLLECTION SUMP (SEE DETAIL SHEET 13)

235' L.F. 4" DIA. PERFORATED HDPE ARTESIAN WATER REMOVAL SYSTEM COLLECTION PIPE (SEE DETAIL SHEET 12)

205 L.F.-4" DIA. PERFORATED HDPE ARTESIAN WATER REMOVAL SYSTEM COLLECTION PIPE (SEE DETAIL SHEET 12)

ARTESIAN WATER REMOVAL SUMP (3600-N, 7160-E) 4" N.INV. = 554.19 A.B. 18" S. INV. = 550.50 (SEE DETAIL SHEET 14)

18" HDPE RISER PIPE

PUMP ACCESS PORT(S) (3475 N, 7160 E)

CONTINUOUS COVERAGE OF ARTESIAN WATER REMOVAL SYSTEM

NOTES:

1. ARTESIAN WATER REMOVAL SYSTEM SHALL BE PLACED IMMEDIATELY BELOW THE 80 MIL HDPE SECONDARY LINER.
2. REFER TO DETAIL SHEET 12 FOR FABRIC PLACEMENT AT CELL BOTTOM TOE OF SLOPE.

M.C.I. JOB No.	90233
REVISIONS:	
ADD 15' SHELF TO LAST SLOPE 8/1/91	
REVISED PER MDNR COMMENTS 8/91	
AS-BUILT INFO.	
DATE	06-14-91
SHEET 8 OF 18	
BY: A.D.B.	
FILE	C8403002

NTH Consultants, Ltd.
A Mayer, Hess & Hinds Company
Professional Engineering and Environmental Services
39111 Mills Park Drive, Farmington Hills, Michigan 48331 (313) 553-6300
50 Cadillac Square, Suite 2121, Detroit, Michigan 48226 (313) 964-0236
2320 Springdale Drive, Suite 200, Exton, Pennsylvania 19341 (215) 524-2300

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
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3815 Plaza Drive
Ann Arbor, Michigan 48108
313.995.0800 Fax 313.995.0888

DATE	ISSUED FOR	APPRV'D
10-01-91	CONSTRUCTION	

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

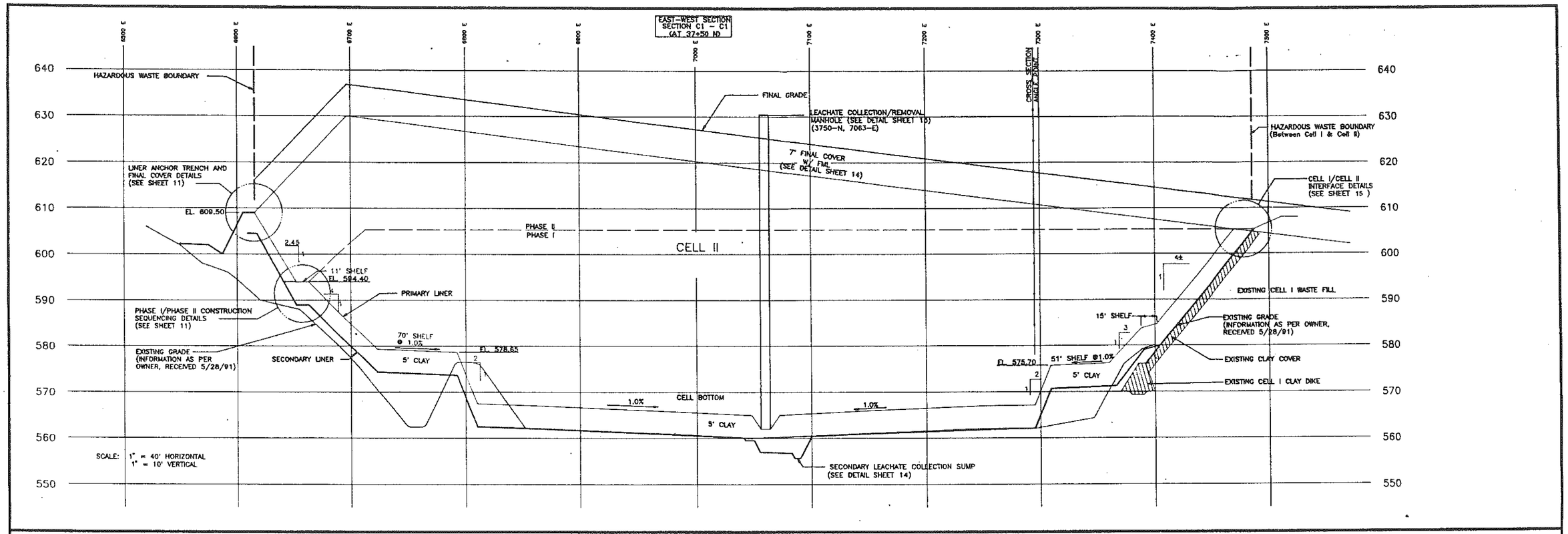
PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

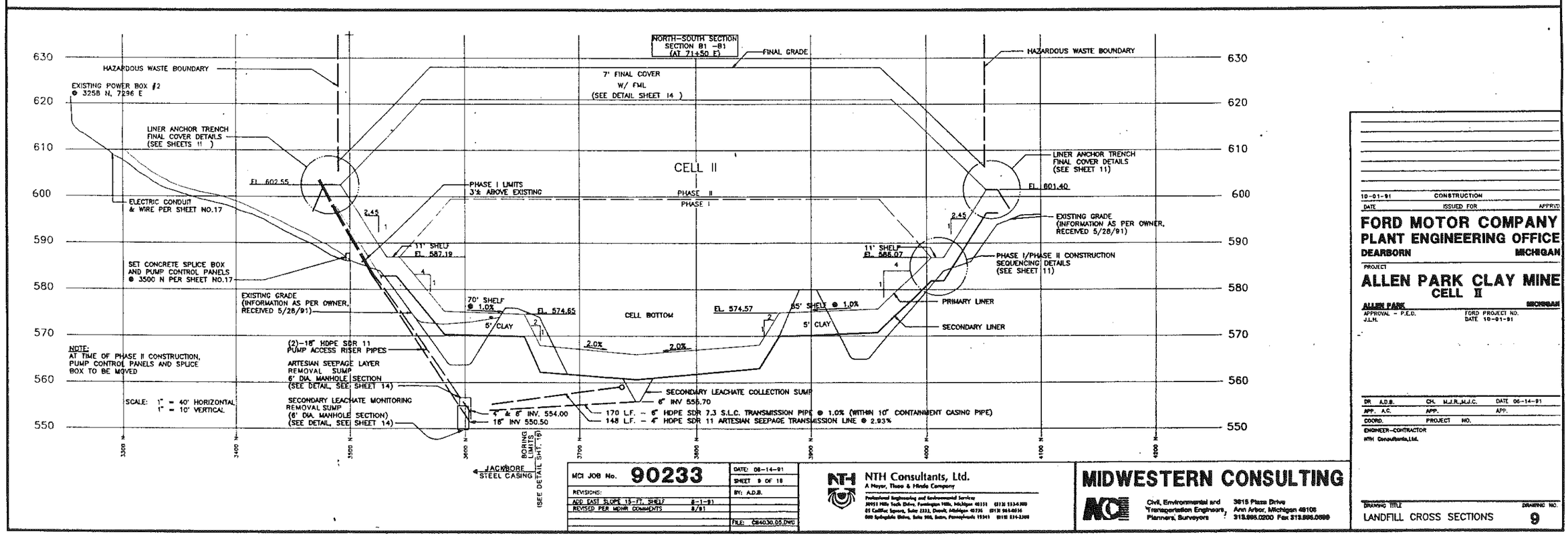
APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR. A.D.B. CK. M.J.R. M.J.C. DATE 06-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

DRAWING TITLE
ARTESIAN WATER COLLECTION/ REMOVAL SYSTEM

DRAWING NO. 8





MCI JOB No. **90233**	DATE: 08-14-91	
	SHEET 9 OF 18	
REVISIONS:	BY: A.D.B.	
ADD EAST SLOPE 15-FT. SHELF 8-1-91		
REVISED PER MDNR COMMENTS 8/91		
	FILE: C84030.05.DWG	

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01 Cadillac Square, Suite 2333, Detroit, Michigan 48226 (313) 963-6036
600 Springdale Drive, Suite 300, Exton, Pennsylvania 19341 (215) 524-3300

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Civil, Environmental and Transportation Engineers, Planners, Surveyors
3815 Plaza Drive
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DATE	ISSUED FOR	APPRVD
10-01-91	CONSTRUCTION	

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN **MICHIGAN**

PROJECT
ALLEN PARK CLAY MINE
CELL II

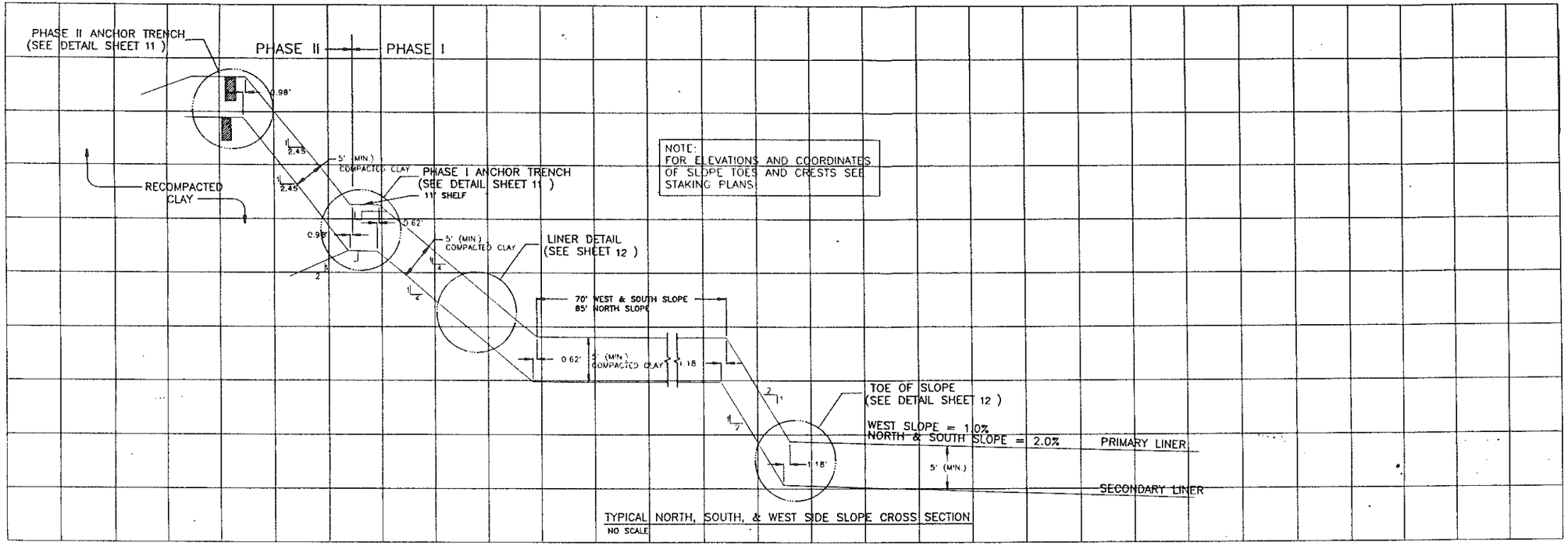
ALLEN PARK MICHIGAN
APPROVAL - P.E.D. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR. A.D.B.	CH. M.J.R./M.J.C.	DATE 06-14-91	
APP. A.C.	APP.	APP.	
COORD.	PROJECT NO.		

ENGINEER-CONTRACTOR
NTH Consultants, Ltd.

DRAWING TITLE
LANDFILL CROSS SECTIONS

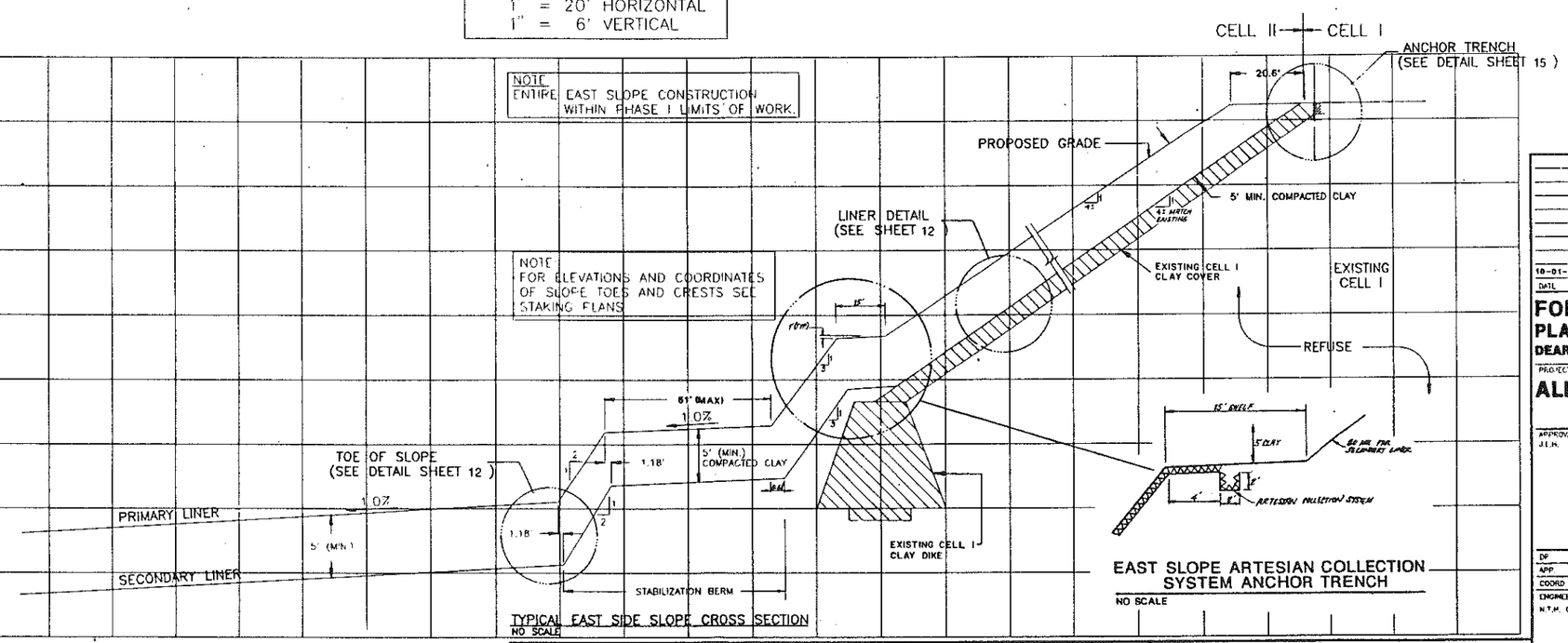
DRAWING NO.
9



NOTE:
FOR ELEVATIONS AND COORDINATES OF SLOPE TOES AND CRESTS SEE STAKING PLANS.

TYPICAL NORTH, SOUTH, & WEST SIDE SLOPE CROSS SECTION
NO SCALE

SCALE:
1" = 20' HORIZONTAL
1" = 6' VERTICAL



NOTE
ENTIRE EAST SLOPE CONSTRUCTION WITHIN PHASE I LIMITS OF WORK.

NOTE
FOR ELEVATIONS AND COORDINATES OF SLOPE TOES AND CRESTS SEE STAKING PLANS

TYPICAL EAST SIDE SLOPE CROSS SECTION
NO SCALE

EAST SLOPE ARTESIAN COLLECTION SYSTEM ANCHOR TRENCH
NO SCALE

M.C.I. JOB No. 90233	DATE: 6-14-91
	SHEET 10 OF 18
REVISIONS:	BY A.D.B
ADD EAST SLOPE 15-FT SHELF 8-1-91	
REVISED PER MDNR COMMENTS 8/91	
	FILE: C90233D2

NTH Consultants, Ltd.
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Professional Engineering and Environmental Services
30133 19th Lodi Drive, Farmington Hills, Michigan 48331 (313) 553-3080
61 Cadillac Square, Suite 2323, Detroit, Michigan 48226 (313) 963-0036
660 Springdale Drive, Suite 200, Exton, Pennsylvania 19341 (215) 524-2300

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Civil, Environmental and Transportation Engineers
Planners, Surveyors
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Ann Arbor, Michigan 48108
313.995.0200 Fax 313.995.0600

DATE	ISSUED FOR	APPRVD
10-01-91	CONSTRUCTION	

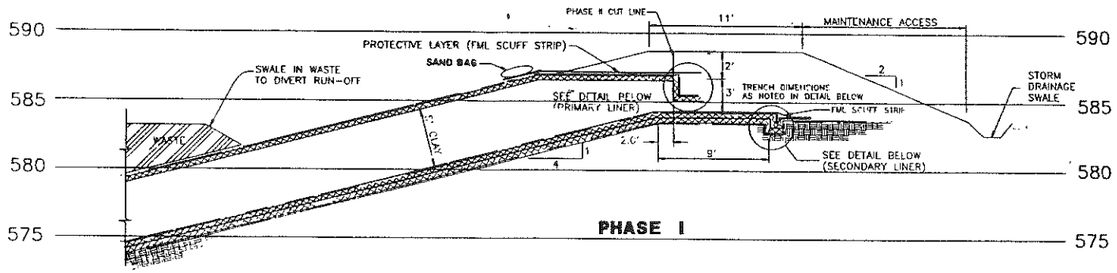
FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

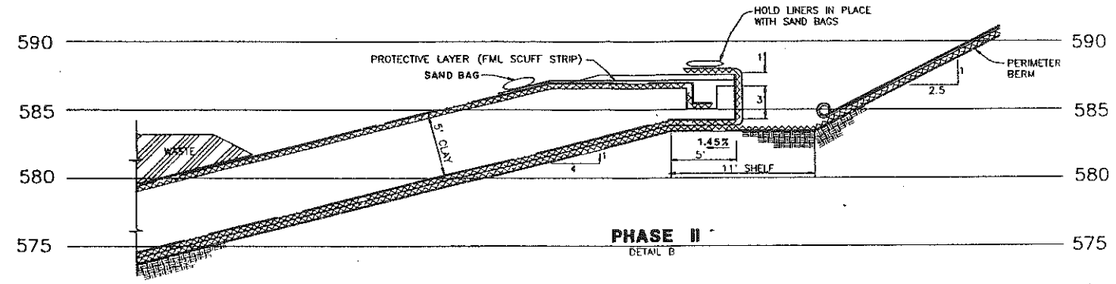
PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

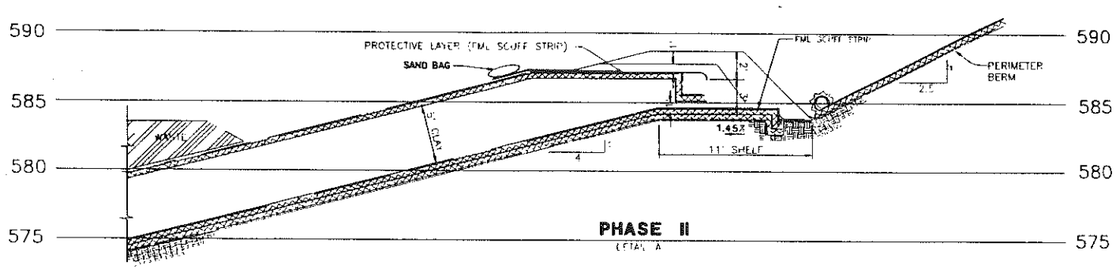
APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO
DATE 10-01-91

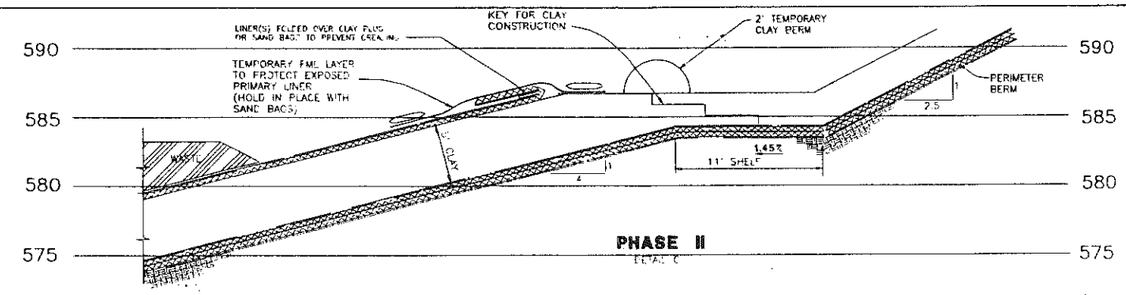
DF D.S./A.D.B. CH. W.R./J.S./M.C. DATE 6-14-91
APP. A.C. APP APP
COORD - PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD

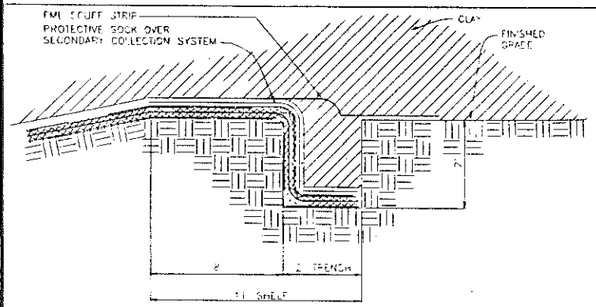
DRAWING TITLE: SIDE SLOPE CROSS SECTONS
DRAWING No: 10





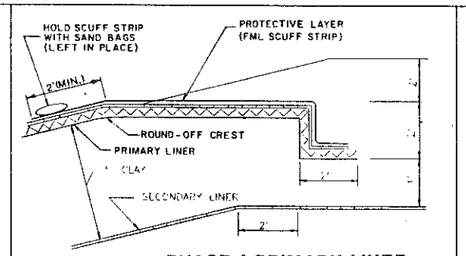






PHASE I SECONDARY LINER ANCHOR TRENCH DETAIL

NO SCALE



PHASE I PRIMARY LINER ANCHOR TRENCH DETAIL

NO SCALE
(AS-BUILT)

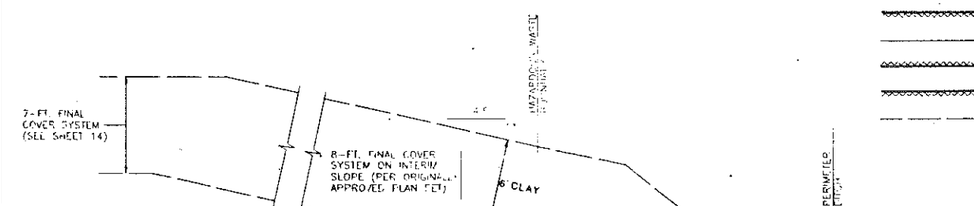
PHASE I CONSTRUCTION SEQUENCE:

1. CONTINUE PHASE I LINER SYSTEM FROM THE LANDFILL BOTTOM TO THE 11' WIDE SHELF ON THE NORTH, WEST AND SOUTH SIDES OF THE LANDFILL AND UP TO THE TOP ON THE EAST SIDE. THE LINER SHALL BE CONTINUOUS AND THE LINER ANCHORED PER DETAIL A.
2. THE EXTERIOR SIDES OF THE 11' SHELF ARE TO BE USED AS A DRAINAGE AREA FOR THE RUNOFF FROM ABOVE THE SHELF. THE SEEPAGE COLLECTION BERM SHALL BE STABILIZED BY MEANS OF SODS AND MULCH TO PREVENT EROSION.
3. THE DRAINAGE ON THE AREA BEHIND THE 11' SHELF TO BE DIRECTED TO THE TWO SWALES INDICATED ON THE LANDFILL PLAN AND FINALLY TO THE OVERALL LANDFILL DRAINAGE SYSTEM.

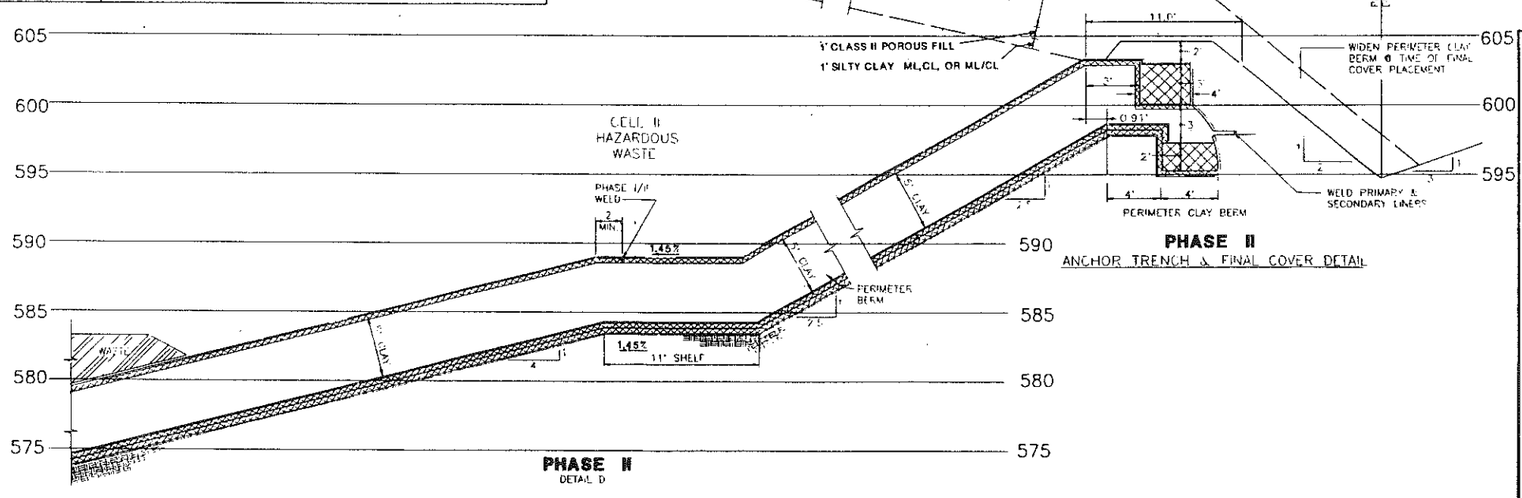
PHASE II CONSTRUCTION SEQUENCE:

1. CONSTRUCT PHASE II PERIMETER BERM. DETAIL A.
2. INSTALL SEEPAGE LAYER, SECONDARY FML, SECONDARY COLLECTION SYSTEM (SCS) FROM THE TOP OF THE PHASE II BERM TO THE PHASE I BERM. DETAIL A.
3. ON TOP OF THE PHASE I BERM REMOVE THE CLAY COVER OVER THE SECONDARY LINER TRENCH AND CUT LINER SYSTEM AT THE ANCHOR TRENCH. DETAIL B.
4. FOLD BACK THE SEEPAGE LAYER, SECONDARY FML AND THE SCS AND TEMPORARILY ANCHOR THEM WITH SAND BAGS. DETAIL B.

   NOTE: AT THIS TIME THE CONTRACTOR WILL BE REQUIRED TO WORK 24 HOURS PER DAY AND TO PROTECT THE WORK AREA WITH TARPS, PLASTIC, ETC. IN THE EVENT OF RAIN. THE TEMPORARY COVERING AT THIS TIME IS TO PROTECT THE SEEPAGE LAYER AND TO PREVENT WATER FROM ENTERING THE SCS.
5. CONNECT THE PHASE I AND II SEEPAGE LAYERS. DETAIL B & C.
6. CONNECT THE PHASE I AND II SECONDARY FML. DETAIL B & C.
7. CONNECT THE PHASE I AND II SCS. DETAIL B & C.
8. CUT THE PRIMARY FML AND LCS AT THE ANCHOR TRENCH AND FOLD BACK INTO itself. ANCHOR WITH SAND BAGS. DETAIL D.
9. REMOVE THE TOP LAYER OF CLAY FROM THE 11' SHELF AND CONTINUE THE PRIMARY LINER BY KEYING IT INTO THE EXISTING CLAY. DETAIL D.
10. FROM CONSTRUCTION OF THE PRIMARY CLAY LINER HAS PROGRESSED ABOVE THE SHELF, CREATE A TEMPORARY 2' SWALE ON THE SHELF TO DIVERT RUNOFF. DETAIL E.
11. CONSTRUCT THE REMAINDER OF THE PRIMARY CLAY LINER. DETAIL D.
12. PLACE THE PRIMARY FML AND LCS AND CONNECT TO THE PHASE I SYSTEM ON LEVEL SHELF. DETAIL D.



PHASE II
ANCHOR TRENCH & FINAL COVER DETAIL



LEGEND

- SECONDARY COLLECTION SYSTEM (GEONET & GEOFABRIC)
- FML - 80 MIL HDPE
- ARTESIAN WATER REMOVAL SYSTEM
- PRIMARY LEACHATE COLLECTION SYSTEM (GEONET/GEOFABRIC)
- FINAL COVER

SCALE: 1" = 5'

0 5 10 15

10-01-91	CONSTRUCTION	
DATE	ISSUED FOR	APPRV

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
ALLEN PARK MICHIGAN

APPROVAL - P.E.O. J.L.K.
FORD PROJECT NO.
DATE 10-01-91

DR.	AFE	CK.	M.K.R./M.K.	DATE	09-14-91
APP.	A.G.	APP.		APP.	
COORD		PROJECT NO.	90233		

ENGINEER-CONTRACTOR
NTH CONSULTANTS, LTD.

DRAWING TITLE
CONSTRUCTION PHASING & SEQUENCING

DRAWING NO. 11

M.C.I. JOB No. 90233	DATE 09-14-91	
REVISIONS:	SHEET 11 OF 18	
ADD LAST SLOPE 15-FT. SHELF F.J.-91	BY: A.D.B.	
REVISED PER MDNR COMMENTS 1/91		
AS-BUILT INFO. 11/1/92	FILE: C8403204	

NTH Consultants, Ltd.
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30911 Mill Stone Drive, Farmington Hills, Michigan 48331 (313) 553-6300
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Planners, Surveyors
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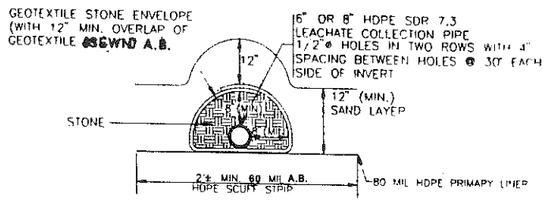
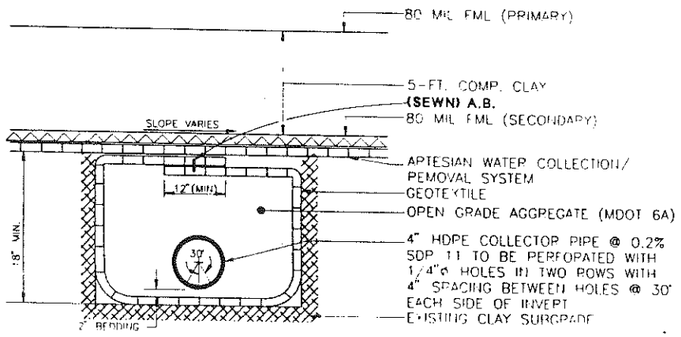
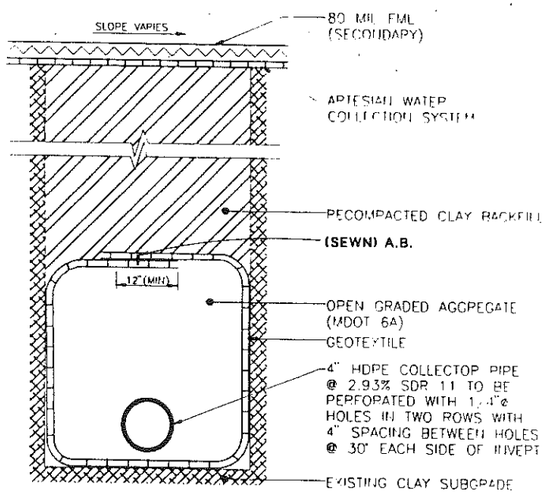
Ann Arbor, Michigan 48108
313.995.0200 Fax 313.996.0080



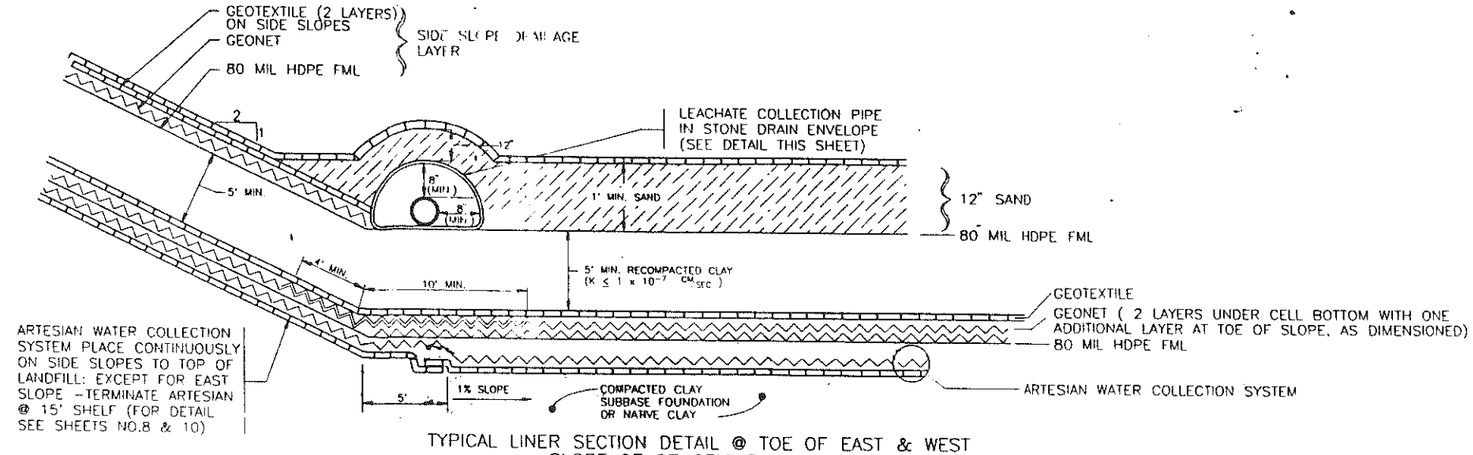
LEACHATE REMOVAL PIPE DETAIL
NOT TO SCALE



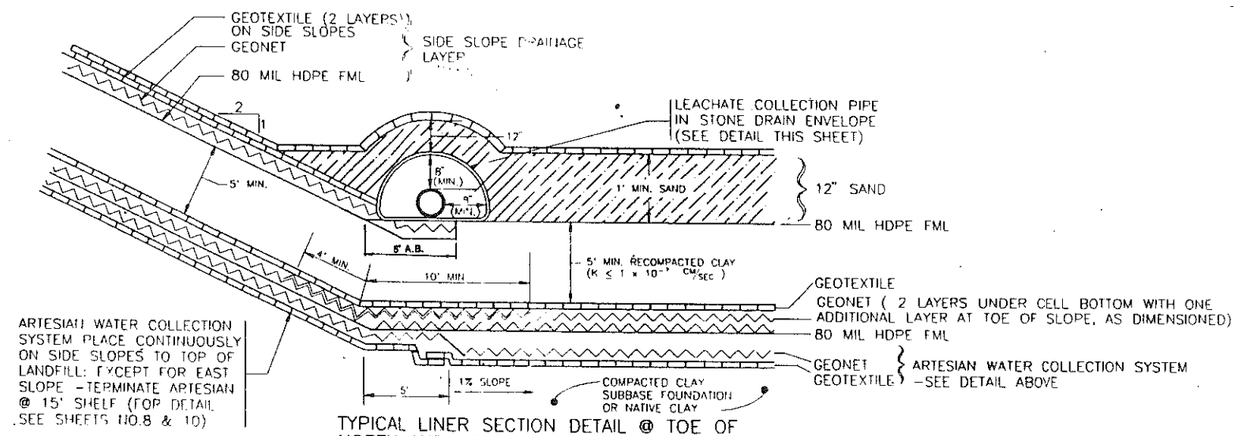
ARTESIAN WATER DRAIN DETAIL
(AT COLLECTION SUMP)
NOT TO SCALE



ARTESIAN WATER DRAIN DETAIL
(FROM COLLECTION SUMP TO BEGINNING OF BORED PIPE)
NOT TO SCALE

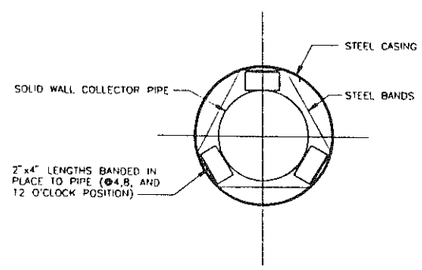


TYPICAL LINER SECTION DETAIL @ TOE OF EAST & WEST SLOPE OF OF CELL BOTTOM
NOT TO SCALE

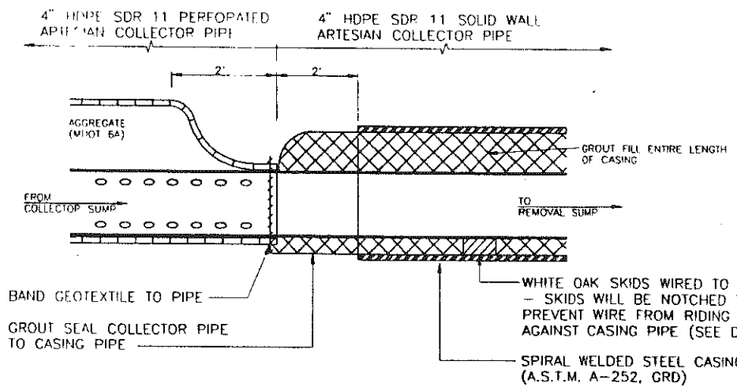


TYPICAL LINER SECTION DETAIL @ TOE OF NORTH AND SOUTH SLOPE OF CELL BOTTOM
NOT TO SCALE

NOTE: SECTION TAKEN AT LOCATION OF 5' ARTESIAN WATER COLLECTION STRIP



CASING INSTALLATION DETAIL
NOT TO SCALE



ARTESIAN WATER DRAIN DETAIL
(@ JACK/BORE CASING)
NOT TO SCALE

M.C.I. JOB No. 90233		DATE: 06-14-91	
		SHEET 12 OF 16	
REVISIONS:		BY: A.D.B.	
ADD EAST SLOPE 15-FT. SHELF	8-1-91		
REVISED PER WDNR COMMENTS	8/91		
REVISED LINER DETAILS	3/11/92		
AS-BUILT INFO.	[illegible]	FILE: C9023302	

NTH Consultants, Ltd.
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20950 19th Trail Drive, Farmington Hills, Michigan 48336 (313) 553-4300
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313.995.0200 Fax 313.995.0509

DATE	ISSUED FOR	APPRVD
10-01-91	CONSTRUCTION	

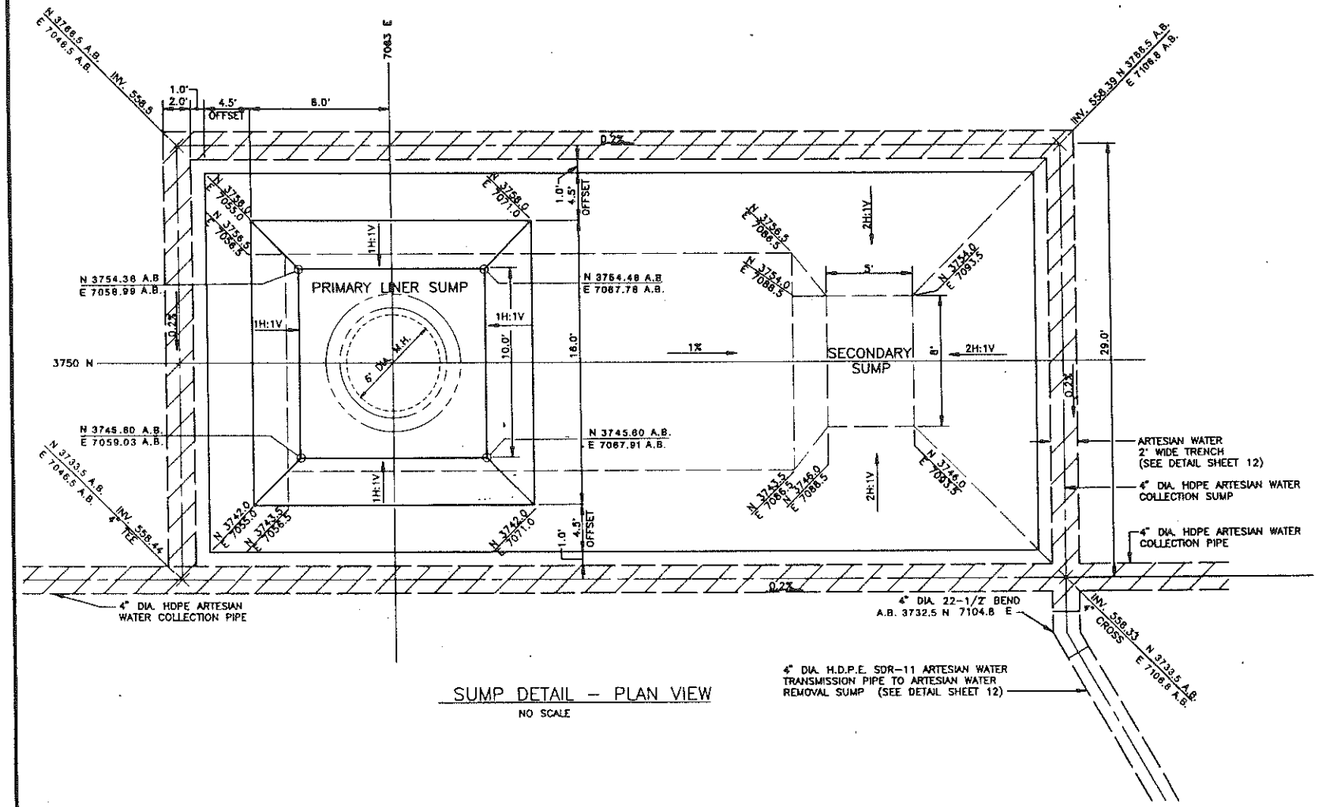
FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO. DATE: 10-01-91

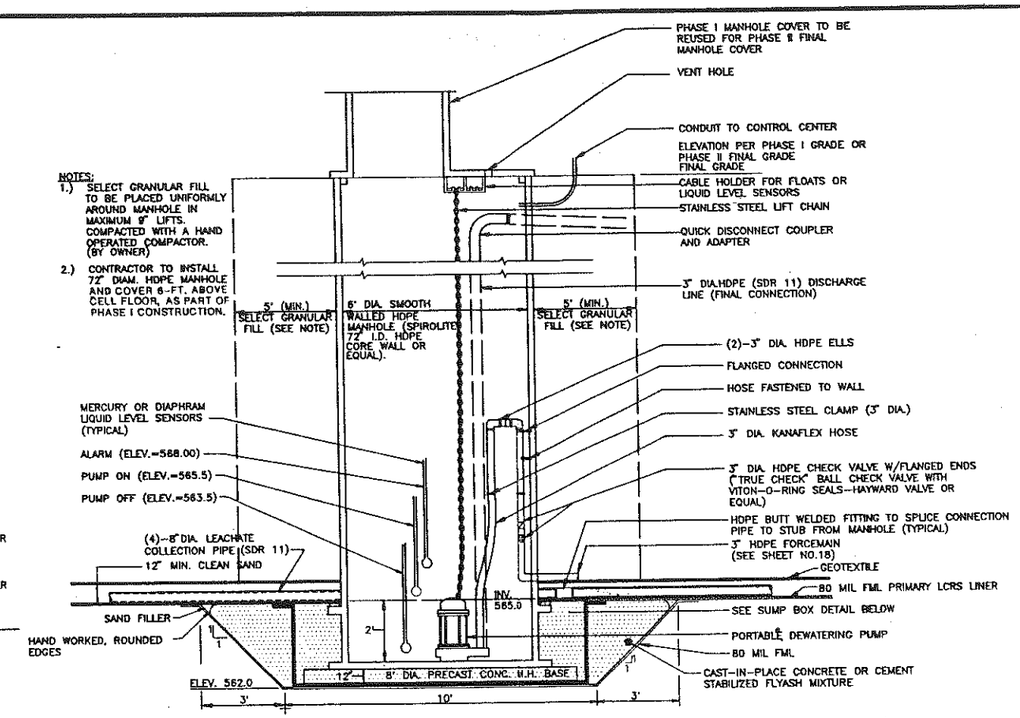
DR. B.S./A.D.B. CH. M.R./J.S./M.C DATE 06-14-91
APP. A.C. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
R.T.H. CONSULTANTS, LTD.

DRAWING TITLE: DETAILS
DRAWING NO. 12



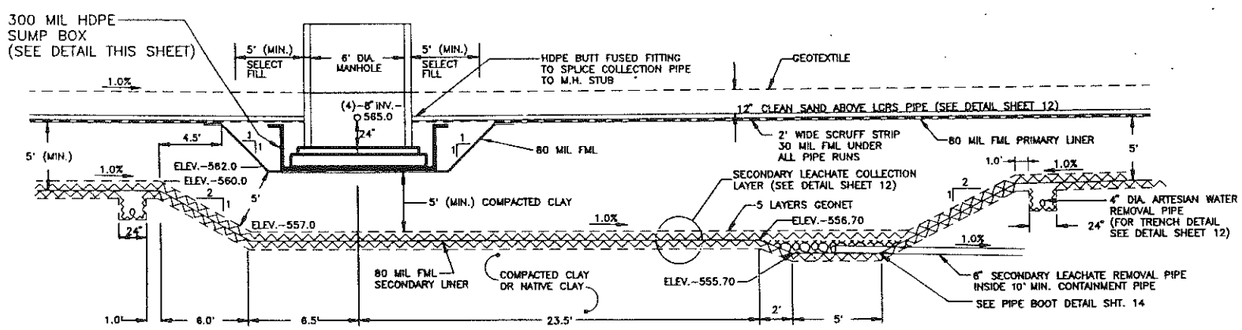
SUMP DETAIL – PLAN VIEW

NO SCALE



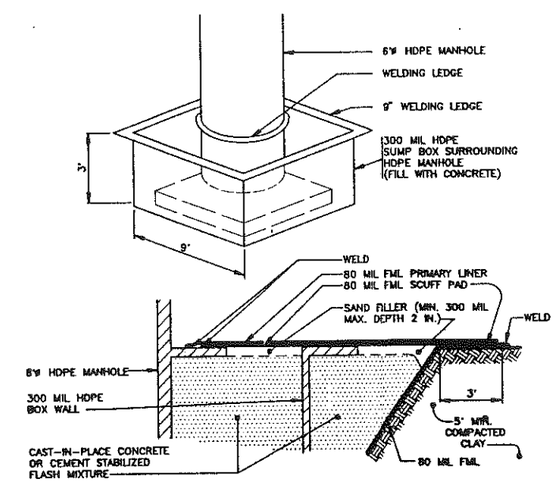
TYPICAL LEACHATE MANHOLE DETAIL

NOT TO SCALE



SUMP DETAIL – PROFILE VIEW

NO SCALE



300 MIL HDPE SUMP BOX DETAIL

NOT TO SCALE

M.C.I. JOB No.	90233
DATE:	6-14-91
SHEET	13 OF 18
BY:	A.D.B.
REVISIONS:	
ADD EAST SLOPE 15 FT. BHOLF	6-1-91
REVISED PER MDNR COMMENTS	6/91
AS-BUILT INFO.	7/18/03
FILE:	C9023302

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Ann Arbor, Michigan 48108
313.995.0800 Fax 313.995.0599

DATE	ISSUED FOR	APPRVD
10-01-91	CONSTRUCTION	

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

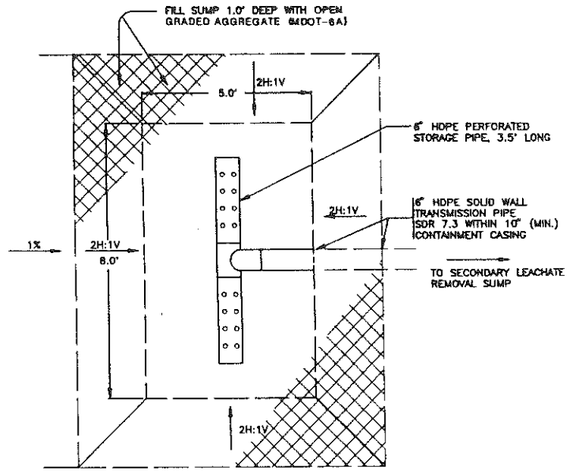
PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

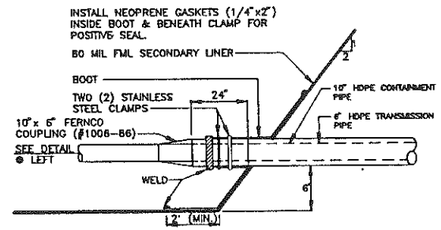
APPROVAL – P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR D.S./A.D.B. CH. M.R./J.S./M.C DATE 6-14-91
APP. A.G. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

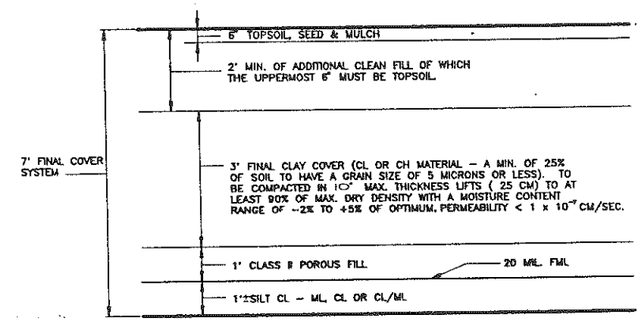
DRAWING TITLE
DETAILS

DRAWING NO.
13

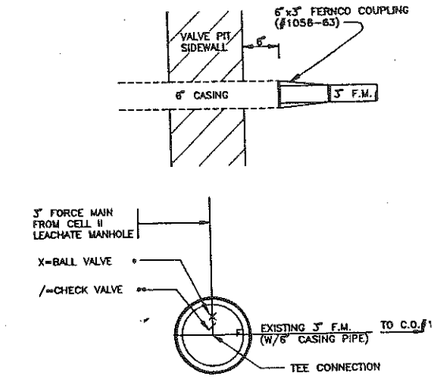




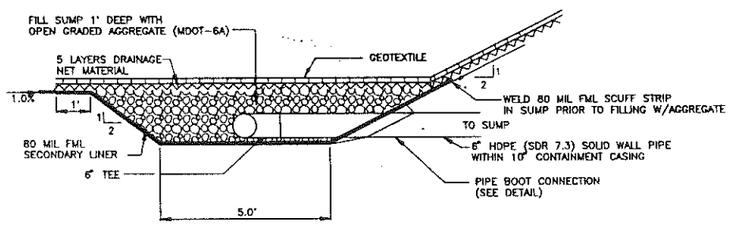
TYPICAL PIPE BOOT DETAIL
NOT TO SCALE



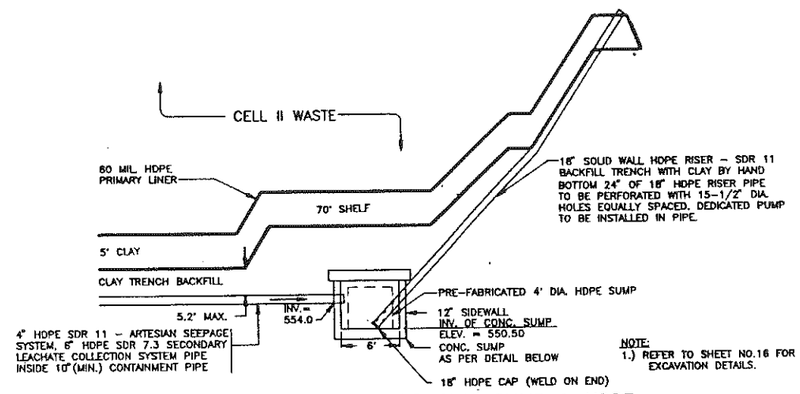
FINAL COVER DETAIL
NOT TO SCALE



PLAN VIEW
6-FT. DIA. LEACHATE PUMPING VALVE PIT NO.1
NOT TO SCALE

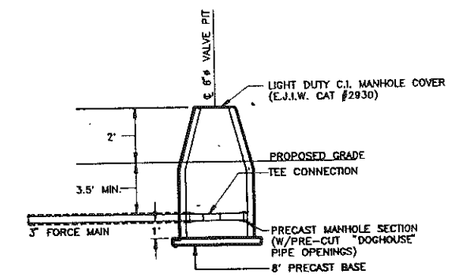


PLAN & PROFILE OF SECONDARY LEACHATE COLLECTION SUMP
NOT TO SCALE



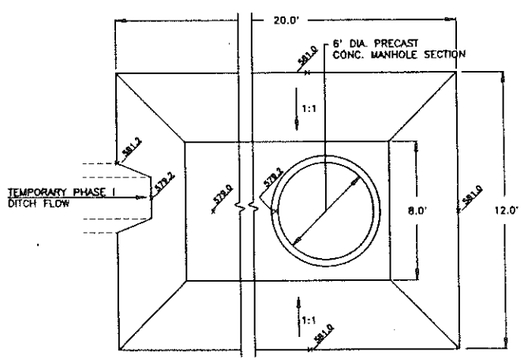
NOTE:
1.) REFER TO SHEET NO.16 FOR EXCAVATION DETAILS.

PRECAST CONCRETE REMOVAL SUMP & HDPE DRAIN & RISER PIPE INSTALLATION
(FOR BOTH SECONDARY LEACHATE & ARTESIAN SEEPAGE SYSTEMS
NOT TO SCALE

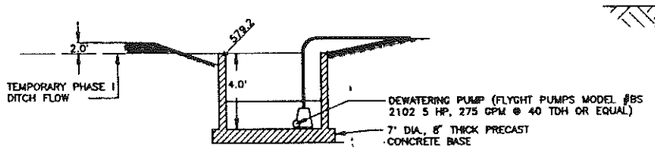


PROFILE VIEW
6 FT. DIA. LEACHATE PUMPING VALVE PIT NO.1
NOT TO SCALE

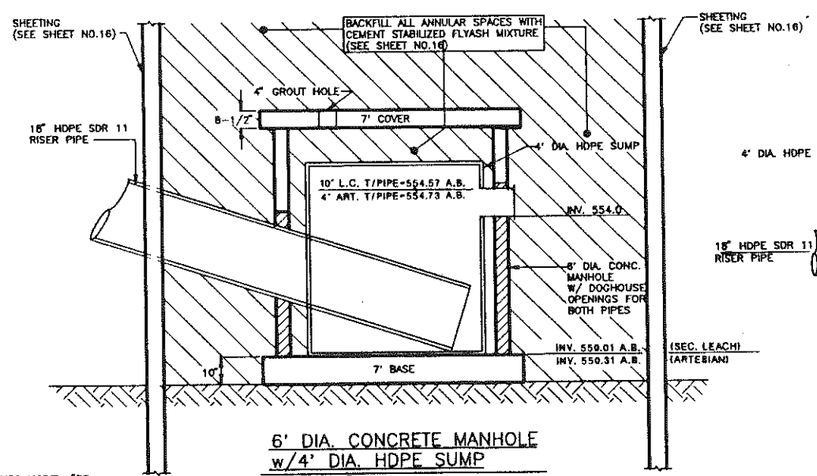
- "SAFE BLOCK" TRUE UNION BALL VALVE WITH VITON O-RING SEALS (MANUF. – "HAYWARD VALVE" OR EQUAL)
- "TRUE CHECK" BALL CHECK VALVE WITH WITH VITON O-RING SEALS (MANUF. – "HAYWARD VALVE" OR EQUAL)



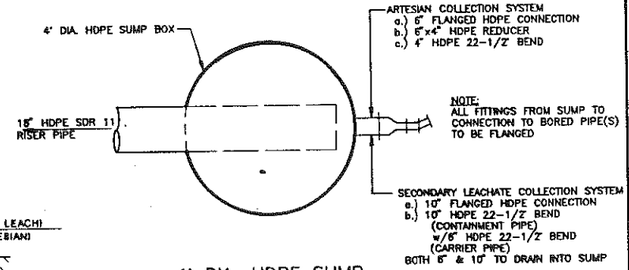
(PLAN VIEW – NOT TO SCALE)



PLAN AND PROFILE OF
PHASE I STORM WATER COLLECTION SUMP
NOT TO SCALE



6' DIA. CONCRETE MANHOLE
w/4' DIA. HDPE SUMP
NOT TO SCALE



4' DIA. HDPE SUMP
PLAN VIEW
NOT TO SCALE

M.C.I. JOB No. **90233**		DATE: 06-14-91	
		SHEET 14 OF 18	
REVISIONS:		BY: A.D.B.	
ADD EAST SLOPE 15-FT. SHELF	8-1-91		
REVISED FOR MDNR COMMENTS	8/91		
REVISED FINAL COVER DETAIL	3-92		
AS-BUILT INFO	[illegible]	FILE: CP023302	

NTH Consultants, Ltd.
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30955 Hills Tech Drive, Farmington Hills, Michigan 48331 (313) 553-4300
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10-01-91	CONSTRUCTION	
DATE	ISSUED FOR	APPRVD

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN **MICHIGAN**

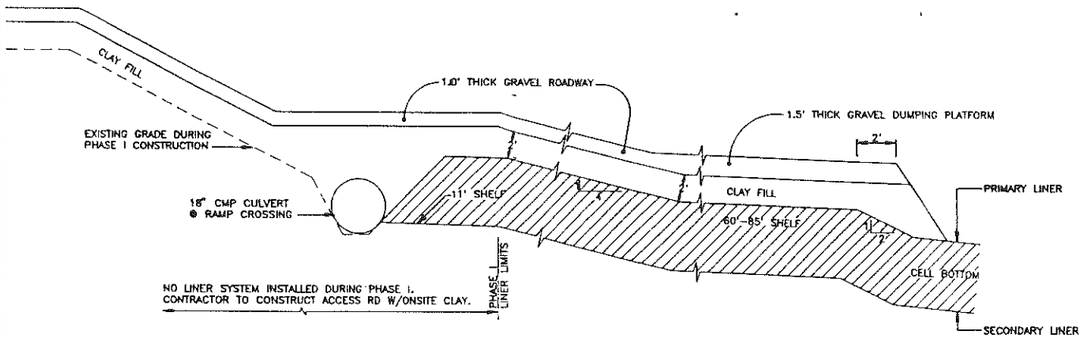
PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

APPROVAL – P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR D.S./A.O.B. CH. M.R./J.S./M.C DATE 06-14-91
APP. A.C. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

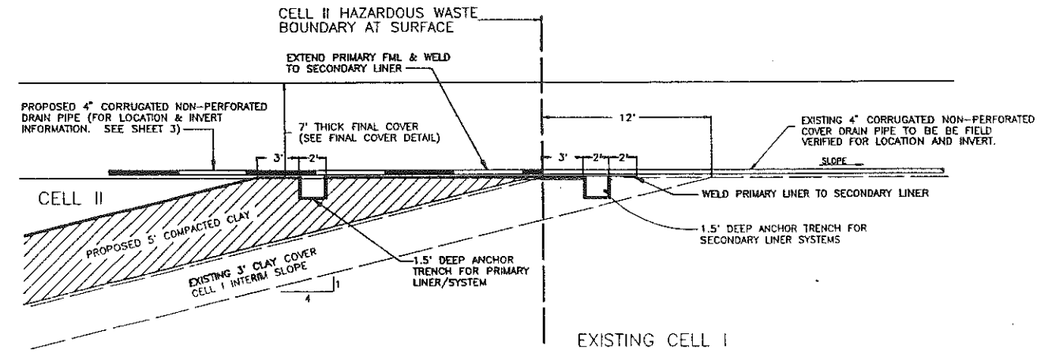
DRAWING TITLE
DETAILS

DRAWING NO.
14



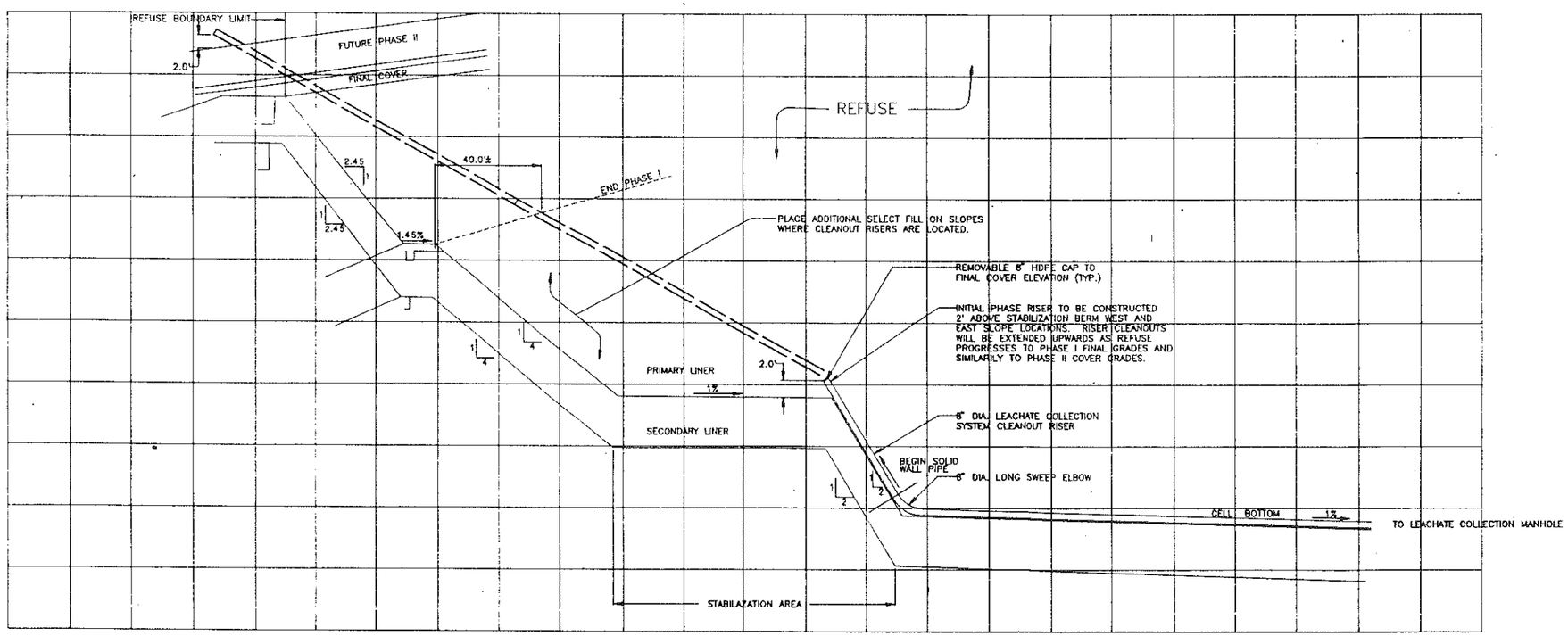
SIDEWALL SECTION THROUGH PHASE I FINAL ACCESS RAMP

SCALE: 1" = 5'



ANCHOR TRENCH AT CELL I/CELL II INTERFACE (PHASE I CONSTRUCTION)

SCALE: 1" = 5'



TYPICAL RISER PIPE CLEANOUT DETAIL (@ 3750 N)

NOT TO SCALE

M.C.I. JOB No. 90233	DATE: 06-14-91
	SHEET 15 OF 16
REVISIONS:	BY: A.D.B.
ADD EAST SLOPE 15-FT. SHELF 8/1/91	
REVISED PER MDNR COMMENTS 8/91	
	FILE: C9023302

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Civil, Environmental and Transportation Engineers Planners, Surveyors
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Ann Arbor, Michigan 48108
313.995.0800 Fax 313.995.0599

DATE	ISSUED FOR	APPRVD
10-01-91	CONSTRUCTION	

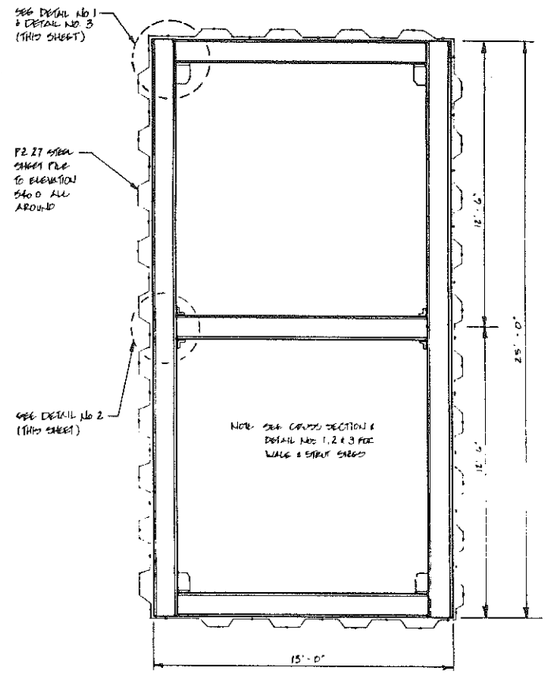
FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II
MICHIGAN

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR D.S./A.D.B. CH. M.R./J.S./M.C DATE 05-21-91
APP. A.C. APP. APP.
COORD. PROJECT NO. 90233
ENGINEER-CONTRACTOR
N.T.H. CONSULTANTS, LTD.

DRAWING TITLE: DETAILS
DRAWING NO. 15



PLAN VIEW @ ELEVATIONS 566.0, 561.5, 556.0 & 551.0

SCALE 1" = 3'-0"

CONSTRUCTION SEQUENCE

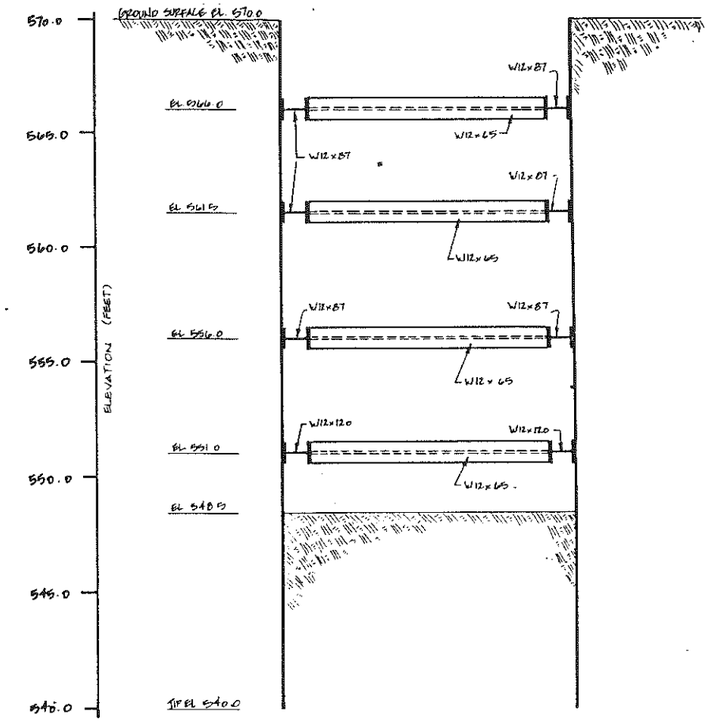
1. Drive PZ-27 sheeting to Elevation 540.0 as shown.
2. Excavate and install bracing in stages as detailed below. Excavate locally as necessary to make required connections.

Excavate No Deeper Than:	Install Bracing At:
565.0	566.0
560.5	561.5
555.0	556.0
550.0	551.0

3. Excavate to Elevation 548.5 and install working mudmat within excavation.
4. Install suitably sized steel sleeves utilizing jacking techniques from the braced excavation. Jack sleeve along the alignments required for installation of the (2) 18" HDPE outgoing conduits and the 4" and 6/10" HDPE incoming conduits. Jacking methods and plan must be submitted for Engineer approval prior to the start of construction. At a point where the required depth of the HDPE line is 10 feet or less, the contractor has the option of installing the HDPE using open cut with trench box techniques.
5. Install artesian and leachate collection sump structures within braced excavation as required by the Contract Documents.
6. Cut horizontally through all penetrated sheeting sections above HPDE penetration so that upper portion of sheeting may be removed if necessary following backfill of the shaft.
7. Backfill excavation following sump construction with cement stabilized flyash mixture to elevation 565.0
8. Remove sheeting above elevation 565.0 and backfill existing excavation with clay (~~temporarily~~ per specification)

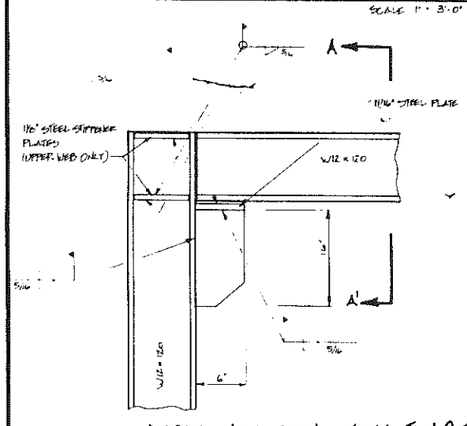
GENERAL NOTES

1. All steel to be ASTM Grade A-36.
2. All welds to be made with E70 electrodes.
3. Provide personnel barriers around shaft at the ground surface in accordance with MIOSHA Standards.



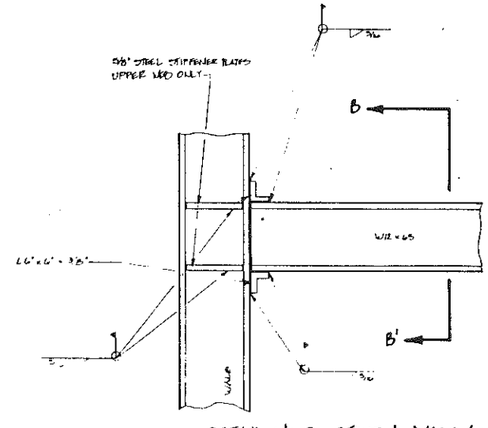
EXCAVATION CROSS SECTION

SCALE 1" = 3'-0"



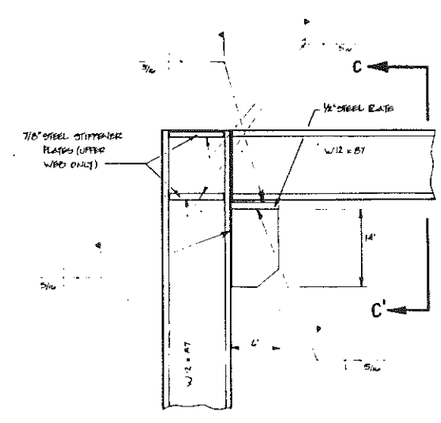
DETAIL NO. 1 CORNER CONNECTION @ EL 551.0

NOT TO SCALE



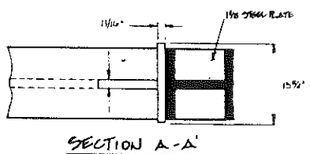
DETAIL NO. 2 STRUT to WALE CONNECTION

NOT TO SCALE



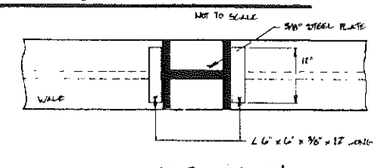
DETAIL NO. 3 CORNER CONNECTION @ EL. 556.0, 561.5, 566.0

NOT TO SCALE



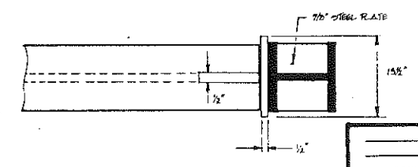
SECTION A-A'

NOT TO SCALE



SECTION B-B'

NOT TO SCALE



SECTION C-C'

NOT TO SCALE

DATE	ISSUED FOR
10-01-91	CONSTRUCTION

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT

APPROVAL – P.E.O. J.L.H.

FORD PROJECT NO.
DATE 10-01-91

DR LJOB(NTH) CK FK(NTH) DATE 8-14-91
APP. APP. APP.
COORD. PROJECT NO. 90233

ENGINEER–CONTRACTOR
N.T.H. CONSULTANTS, LTD.

DRAWING TITLE
SECONDARY LEACHATE & ARTESIAN REMOVAL
SUMP BRACED EXCAVATION DETAILS

DRAWING NO. 16

JOB No 90233

REVISIONS
ADD VERT BRACE 8-27-91 8-1-91
REVISED PER MDNR COMMENTS 8/91

DATE: 8-14-91
SHEET 15 OF 18
BY:

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MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers Planners, Surveyors
3815 Plaza Drive
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313.995.0200 Fax 313.995.0599

PROJECT DESCRIPTION:

PROVIDE ELECTRICAL POWER TO 2 PUMP SYSTEMS, ONE OF 15 HORSEPOWER AND TWO OF 5 HP, OPERATING AT A SITE REMOTE FROM THE ELECTRICAL POWER SOURCE.

15 HP LEACHATE COLLECTION PUMP - CONTROL PANEL, FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR (WITH PROVISION FOR POWERING A HEAT TRACE TAPE FOR APPROXIMATELY 300 FT OF EXPOSED PIPE). THE CONTROL PANEL WILL BE A NEMA 4 STAINLESS STEEL.

5 HP ARTESIAN COLLECTION PUMP - CONTROL PANEL FURNISHED BY THE PUMP VENDOR WITH INSTALLATION AND WIRING BY THE ELECTRICAL CONTRACTOR.

5 HP SECONDARY LEACHATE COLLECTION PUMP - CONTROL PANEL FURNISHED BY THE PUMP VENDOR WITH INSTALLATION AND WIRING BY THE ELECTRICAL CONTRACTOR. NOTE: THE PUMP VENDOR WILL INSTALL HIS PUMP IN ALL CASES WITH WIRING OF FURNISHED CONTROL PANELS AND THEIR INSTALLATION BY THE ELECTRICAL CONTRACTOR.

THIS CONTRACTOR WILL PROVIDE CONDUIT, WIRE, NECESSARY CONTROLS, AND ALL LABOR AND MISCELLANEOUS MATERIAL TO COMPLETELY INSTALL PUMPS FOR THESE DRAWINGS AND SPECIFICATIONS. POWER FOR THIS EQUIPMENT WILL BE OBTAINED FROM THE EXISTING ELECTRICAL DISTRIBUTION SOURCE ON SITE. THERE IS EXISTING A DISTRIBUTION PANEL (PP-2) LOCATED APPROXIMATELY 450 FT FROM THE PROPOSED LOCATION OF THE THREE CONTROL PANELS. PP-2 WILL BE USED TO PROVIDE POWER FOR THIS SYSTEM. POWER FOR THIS PANEL (PP-2) IS OBTAINED FROM THE WHEEL WASH BUILDING. THE WHEEL WASH BUILDING IS LOCATED APPROXIMATELY 1700 FEET FROM PP-2. THIS POWER SOURCE IS 480 VOLTS, THREE PHASE.

PRINCIPAL TASKS TO ACCOMPLISH THIS PROJECT ARE AS FOLLOW:

1. TAP EXISTING FUSED DISCONNECTS AND PROVIDE FUSING AND CONDUCTORS FROM EXISTING PANEL (PP-2) TO THE CONTROL SITE FOR THE THREE MOTORS. CONDUIT WILL BE SCHEDULE 40 WITH CONDUCTORS AND BURIED AS SHOWN -- MINIMUM DEPTH OF 36" WITH PERMANENT 3" ETL PIPE MARKERS FOR ROUTE A MINIMUM OF EVERY 200' OR AT EVERY CHANGE IN DIRECTION.

2. PROVIDE AND INSTALL A NEW CONCRETE SPLICE BOX ACCESSIBLE TO THE THREE CONTROL PANELS TO BE INSTALLED. SEE THE DETAIL FOR THIS SPLICE BOX.

3. TAP THE POWER CONDUCTORS SUPPLIED TO THIS JUNCTION BOX AND WIRE TO EACH CONTROL PANEL AS SHOWN.

4. THE INSTALLER OF THE TWO 2-HP PUMPS WILL WIRE WIRE POWER AND CONTROL TO HIS CONTROL PANEL - INSTALLED AND POWER PROVIDED BY BY THE ELECTRICAL CONTRACTOR.

5. THE ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING AND CONTROL FOR THE 15 HP PUMP AND THESE WIRES SHALL BE OF A LENGTH AND NUMBER AS SHOWN ON THE DETAIL WIRING DIAGRAM FOR THIS INSTALLATION.

6. THE "IN CHAMBER" FLOAT SENSORS FOR 15 HP PUMP SHALL BE INSTALLED AT HEIGHTS DIRECTED BY THE ON SITE ENGINEERING STAFF. THE CONTROL CABLES SHALL BE BROUGHT BACK TO THE "MOVABLE" JUNCTION BOX ADJACENT TO THE WELL HEAD -- ALSO THE POWER CONDUCTORS FOR THE PUMP SHALL BE TERMINATED INTO THIS SAME BOX. CONDUCTORS SHALL BE AS DETAILED ON THE DRAWING.

WIRING FROM THE INSTALLED PUMP TO THIS MOVABLE JUNCTION BOX SHALL BE HANGINGS AND SHALL BE APPROXIMATELY 50 FT IN LENGTH TO ALLOW FOR HEIGHT CHANGES IN THE MAN-HOLE AS THE WASTE SITE MATURES.

WIRING FROM THE MOVABLE JUNCTION BOX TO THE CONTROL PANEL SHALL TERMINATE IN TWIST LOCK PLUGS AND RECEPTACLES (NEMA L-14-30P).

7. THE CONTROL PANEL FURNISHED BY THE ELECTRICAL CONTRACTOR FOR THE 15 HP PUMP SHALL ALSO INCORPORATE THE CIRCUITS (2 -30 AMP 277 VOLT BREAKERS) AND ASSOCIATED WIRING TO PROVIDE 100 FEET OF HEAT TAPE. THIS CONTRACTOR SHALL PURCHASE THE HEAT TAPE AND INSTALL AT THE DIRECTION OF THE SITE ENGINEERING STAFF.

WIRING CONSIDERATIONS RECOMMENDED TO SUPPLIER:

1. THE 15 HP LEACHATE COLLECTION PUMP AND IT'S ASSOCIATED "IN MAN-HOLE" CONTROL FLOATS WILL BE INSTALLED AND SUPPLIED BY THE PUMP VENDOR AND ALL OTHER CONTROLS AND FINAL WIRING WILL BE BY THE ELECTRICAL CONTRACTOR.

2. THE 5 HP SECONDARY LEACHATE COLLECTION PUMP AND CONTROL PANEL WILL BE FURNISHED BY THE PUMP VENDOR. THE ELECTRICAL CONTRACTOR WILL INSTALL THE CONTROL PANEL AND PROVIDE THE POWER WIRING AND CONNECTION OF POWER AND CONTROL LEADS BROUGHT TO THE LOCATION OF THE CONTROL BY THE PUMP VENDOR.

3. THE 5 HP ARTESIAN COLLECTION PUMP AND CONTROL PANEL WILL BE FURNISHED BY THE PUMP VENDOR. THE ELECTRICAL CONTRACTOR WILL INSTALL THE CONTROL PANEL AND PROVIDE THE POWER WIRING AND CONNECTION OF POWER AND CONTROL LEADS BROUGHT TO THE LOCATION OF THE CONTROL BY THE PUMP VENDOR.

3. THIS CONTRACTOR WILL FURNISH THE HAND-HOLE JUNCTION BOX, MOUNTING OF CONTROL PANELS, THE CONTROL PANEL FOR THE 15 HP LEACHATE COLLECTION PUMP, SPLICE BOX FOR THE LEACHATE COLLECTION PUMP, HEAT TAPE, ALL UNDERGROUND CONDUIT, ALL FUSING AS REQUIRED, AND CONDUCTORS.

4. THE CONTROLLER FOR THE 15 HP LEACHATE COLLECTION PUMP WILL INCLUDE AN ALARM LIGHT (RED); A MAIN DISCONNECT, BREAKERS FOR CONTROL POWER, AN UP RIZED CONTROL TRANSFORMER (2000 VA), SECONDARY BREAKERS (3) FOR POWER TO THE CONTROL CIRCUIT AND HEAT TAPE CIRCUITS, MANUAL-OFF-AUTOMATIC CONTROL SWITCH, STARTER, AND PROVISION FOR ACCEPTING PUMP START, STOP AND ALARM SIGNALS FROM SUMP FLOATS.

5. THE SPLICE BOX SHALL HAVE PLANNED TWIST LOCK INLETS FOR THE 4-CONDUCTOR CONTROL CABLES AND ONE 4-CONDUCTOR POWER CABLE. THERE IS TO BE A MOUNTED CAUTION LIGHT (YELLOW) TO INDICATE THAT THE BOX HAS POWER. ALL OTHER CONNECTIONS TO THIS SPLICE BOX (PUMP TO SPLICE BOX) SHALL BE ACCOMPLISHED WITH LIQUID TIGHT-STRAIN RELIEF FEED-THRU CONNECTORS.

6. ALL CONDUCTORS WHICH WILL BE EXPOSED SHALL BE RHH-RHW-USE WATER WELL PUMP CABLE FOR WATER POWER WHICH HAS AN OUTER WRAP SHIELD ALL CONDUCTORS. THIS WILL BE USED FROM THE CONTROLLER OF ALL PUMPS TO THE PUMPS -- IT WILL ALSO BE USED FROM THE CONTROL OF THE LEACHATE PUMP TO IT'S SPLICE BOX AND FROM THE SPLICE BOX TO THE PUMP.

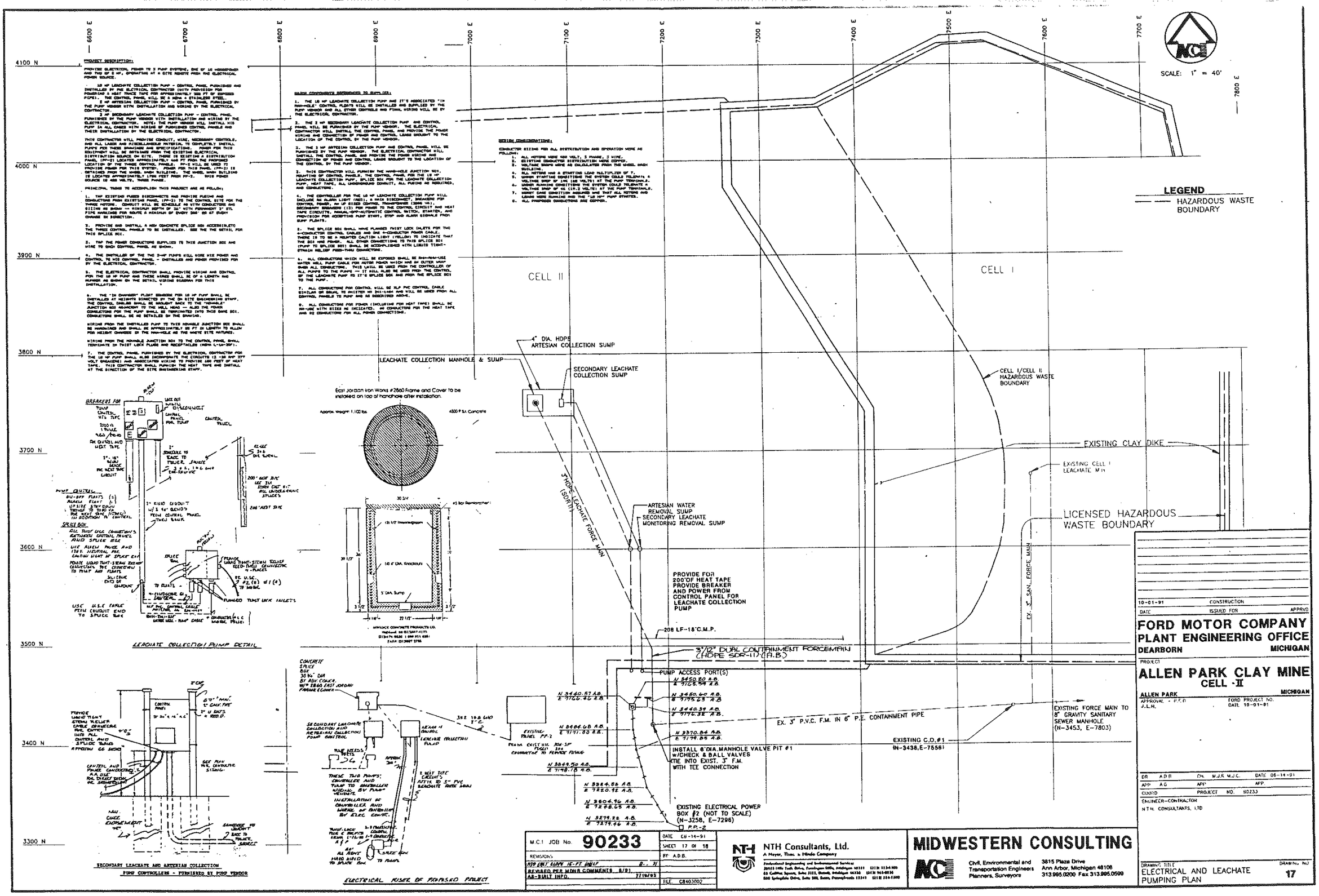
7. ALL CONDUCTORS FOR CONTROL WILL BE XLP PVC CONTROL CABLE SIMILAR OR EQUAL TO AMPHENOL NO 241-1404 AND WILL BE USED FROM ALL CONTROLS TO PUMP AND AS DESCRIBED ABOVE.

8. ALL CONDUCTORS FOR POWER (INCLUDING FOR HEAT TAPE) SHALL BE RH-USE WITH SIZES AS INDICATED. NO CONDUCTORS FOR THE HEAT TAPE AND NO CONDUCTORS FOR ALL POWER CONNECTIONS.

SYSTEM CONSIDERATIONS:

CONDUCTOR SIZING FOR ALL DISTRIBUTION AND OPERATION WERE AS FOLLOWS:

1. ALL MOTORS WERE 480 VOLT, 3 PHASE, 3 WIRE.
2. EXISTING CONDUCTOR DISTRIBUTION WERE COPPER.
3. VOLTAGE DROPS WERE CALCULATED FROM THE WHEEL WASH BUILDING.
4. ALL MOTORS HAD A STARTING LOAD MULTIPLIER OF 7.
5. UNDER STARTING CONDITIONS THE SYSTEM COULD TOLERATE A VOLTAGE DROP OF 10% (48 VOLTS) AT THE PUMP TERMINALS.
6. UNDER RUNNING CONDITIONS THE SYSTEM COULD TOLERATE A VOLTAGE DROP OF 6% (19.2 VOLTS) AT THE PUMP TERMINALS.
7. WORST CASE CONDITION ASSUMES WHE THAT ALL MOTORS AND LOADS WERE RUNNING AND THE "10 HP" PUMP STARTED.
8. ALL PROPERGS CONDUCTORS ARE COPPER.



M.C.I. JOB No.	90233
REVISIONS	
ADD FIRST FLOOR IE-FT SHEET	8-. 91
REVISED PER MDNR COMMENTS 8/8/	
AS-BUILT INFO.	7/19/93
DATE	06-14-91
SHEET	17 OF 18
BY	A.D.B.
FILE	C8403002

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10-01-91 CONSTRUCTION
DATE ISSUED FOR APPRVD

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL -II

ALLEN PARK MICHIGAN
APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO.
DATE 10-01-91

DR A.D.B. CH. M.J.R. M.J.C. DATE 06-14-91
APP A.G. APP APP
CODED PROJECT NO. 90233
ENGINEER-CONTRACTOR
NTH CONSULTANTS, LTD

DRAWING TITLE
ELECTRICAL AND LEACHATE PUMPING PLAN

DRAWING NO.
17

DIVIDER BERM CONSTRUCTION SEQUENCE

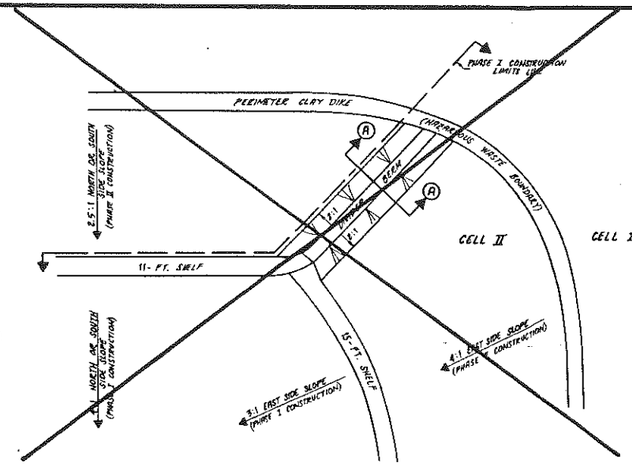
THE BERM IS LOCATED AT THE S.E AND N.E. CORNERS OF THE CELL AND IS INTENDED TO CONTAIN LEACHATE FROM THE EAST SLOPE OF THE PHASE I CONSTRUCTION WITHIN THE PHASE I LIMITS.

DURING PHASE I CONSTRUCTION THE BERM IS TO BE INSTALLED IN THE FOLLOWING MANNER:

1. GRADE THE AREA OF THE BERM TO THE SECONDARY LINER GRADE.
2. INSTALL THE SECONDARY FML, SECONDARY COLLECTION SYSTEM, AND THE SCUFF STRIP IN ACCORDANCE WITH SECTION A-A. THE ANCHOR TRENCH FOR THE SECONDARY LINER ON THE PHASE I 11 FT SHELF IS CONTINUOUS WITH THE ANCHOR TRENCH FOR THE DIVIDER BERM.
3. INSTALL THE PRIMARY CLAY LINER AND THE ADDITIONAL LINER 3 FT OF CLAY PER SECTION A-A.
4. INSTALL THE PRIMARY FML LINER AND THE LEACHATE COLLECTION SYSTEM PER SECTION A-A.
5. PLACE THE SOIL OVER THE PRIMARY LINER WEST OF THE BERM TO ANCHOR THE LINER.

PHASE II CONSTRUCTION:

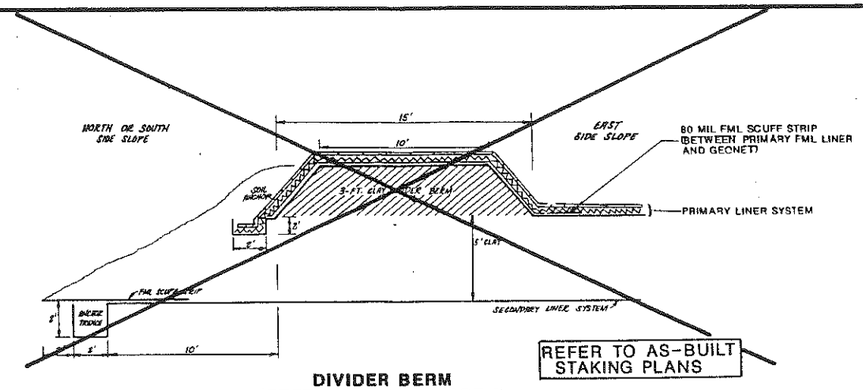
1. CONSTRUCT THE PHASE II SECONDARY CLAY LINER
2. REMOVE THE SOIL ANCHOR OVER THE PHASE I PRIMARY LINER.
3. FOLD THE PRIMARY LINER BACK OVER ON TO THE DIVIDER BERM.
4. EXPOSE THE SECONDARY LINER AND SECONDARY COLLECTION SYSTEM INSTALLED DURING PHASE I.
5. INSTALL THE SECONDARY LINER AND SECONDARY COLLECTION SYSTEM AND CONNECT TO THE PHASE I LINER AND COLLECTION SYSTEM.
6. INSTALL THE PRIMARY CLAY LINER KEYING INTO THE PRIMARY CLAY LINER INSTALLED DURING PHASE I.
7. INSTALL THE PRIMARY LINER AND THE LEACHATE COLLECTION SYSTEM CONNECTING THEM TO THE LINER AND SYSTEM INSTALLED DURING PHASE I.



PHASE I SIDEWALL DIVIDER BERM
@ N.E. & S.E. CORNER OF EAST SIDE SLOPE

NO SCALE

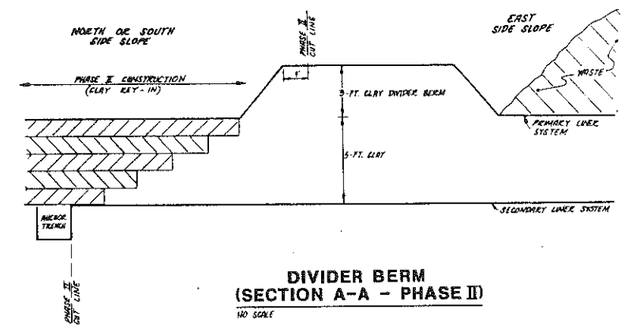
REFER TO AS-BUILT STAKING PLANS



DIVIDER BERM
(SECTION A-A - PHASE I)

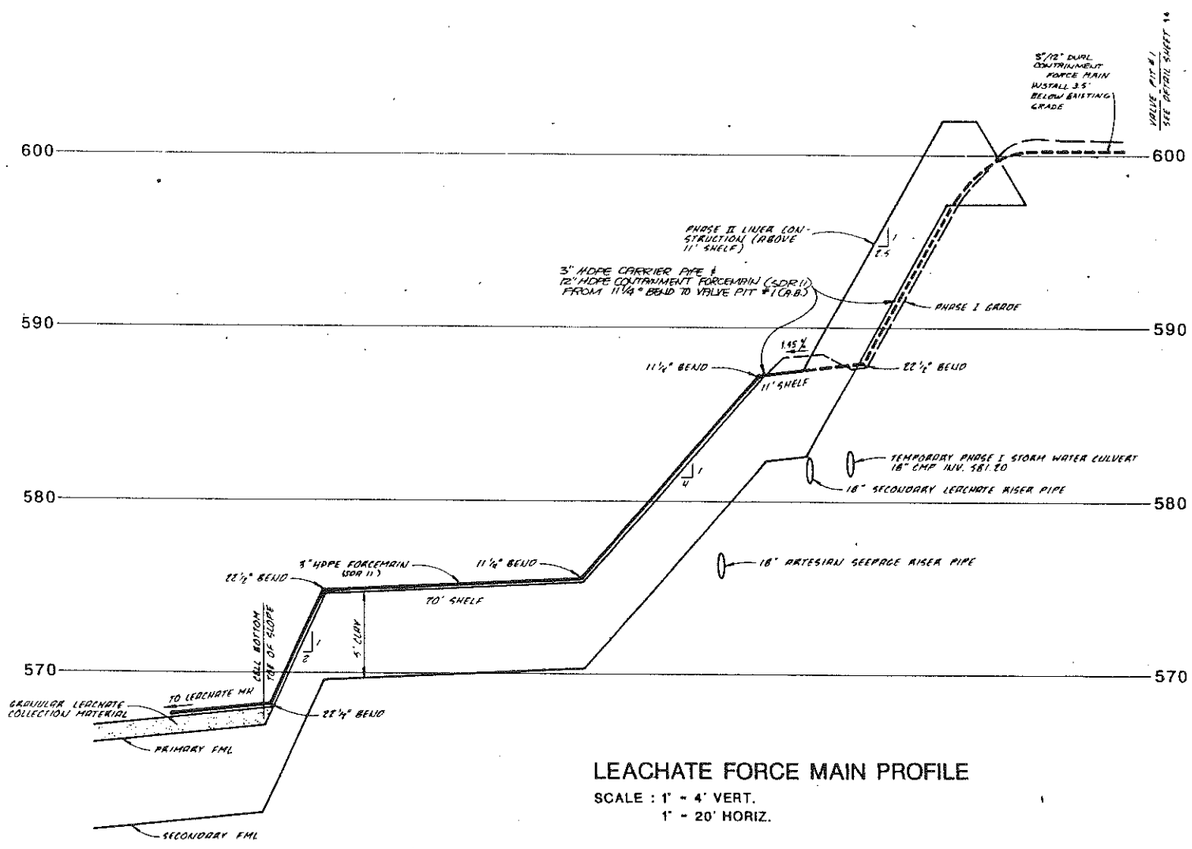
NO SCALE

REFER TO AS-BUILT STAKING PLANS



DIVIDER BERM
(SECTION A-A - PHASE II)

NO SCALE



LEACHATE FORCE MAIN PROFILE

SCALE : 1" = 4' VERT.
1" = 20' HORIZ.

10-01-91	CONSTRUCTION
DATE	ISSUED FOR

FORD MOTOR COMPANY
PLANT ENGINEERING OFFICE
DEARBORN · MICHIGAN

PROJECT
ALLEN PARK CLAY MINE
CELL II

APPROVAL - P.E.O. J.L.H.
FORD PROJECT NO. DATE 10-01-91

DR JER	CH. MJR	DATE 08-14-91	
APP. A.G.	APP.	APP.	
COORD.	PROJECT NO. 90233		

ENGINEER-CONTRACTOR

JOB No 90233	DATE: 8-14-91
REVISIONS	SHEET 18 OF 18
ADD EAST SLOPE (5-FT. BERM) 8-1-91	BY
REVISED PER WORK COMMENTS 8/91	
RE-9 VOLT. INFO. 7/15/93	

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DRAWING TITLE
DETAILS

DRAWING NO.
18