Appendix G3

Subgrade Acceptance Forms

Midessa Geomembranes

PHASE 1

FORM A2

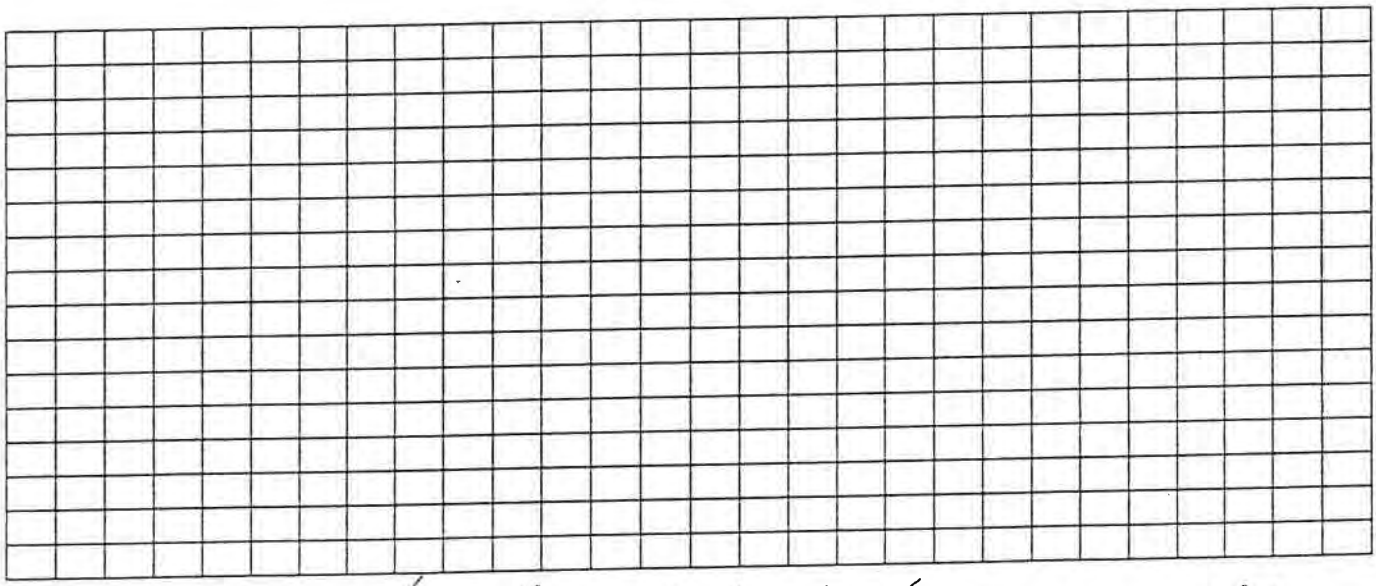
SUBGRADE ACCEPTANCE CERTIFICATE

PROJECT NAME: Modern Plating

LOCATION: Freeport Ill.

PROJECT No:

SKETCH : **PARTIAL ACCEPTANCE** _____ **COMPLETE ACCEPTANCE** ✓



COMMENTS : work still needs to be done around Sump

I, THE INSTALLER'S OFFICIAL REPRESENTATIVE, FIND ACCEPTABLE FOR DEPLOYMENT THE SURFACE CONDITIONS OF THE AREA DESCRIBED ABOVE.

Ruben Velasquez	Ruben Velasquez	QC	7-11-00
NAME	SIGNATURE	TITLE	DATE

Midessa Geomembranes

PHASE 2

FORM A2

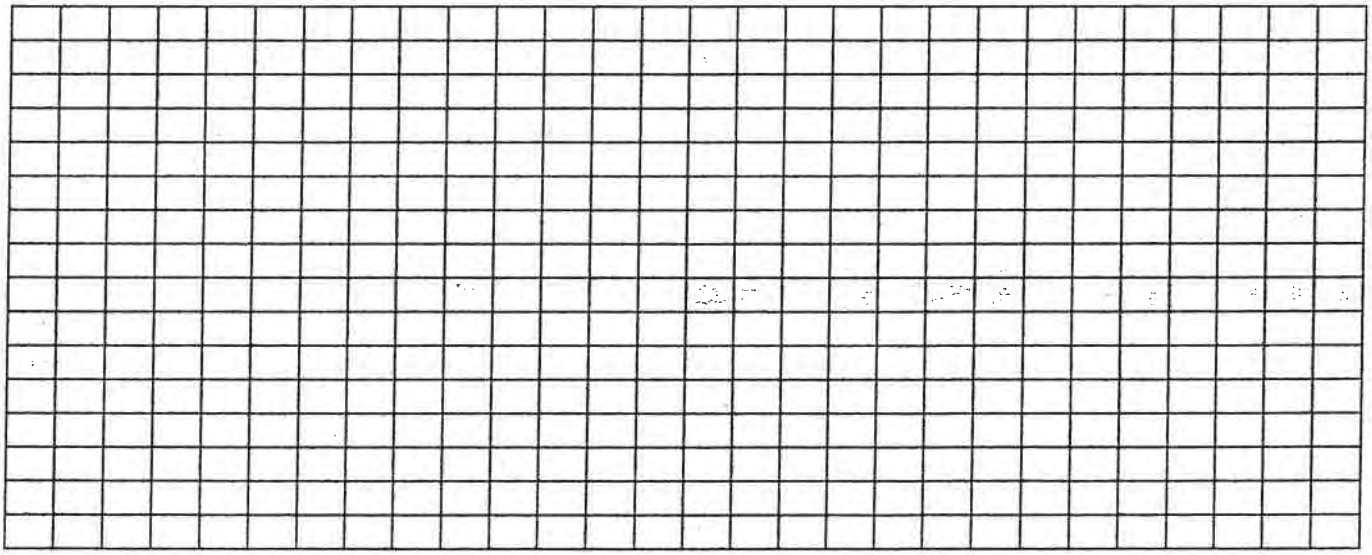
SUBGRADE ACCEPTANCE CERTIFICATE

PROJECT NAME: Modern Plating Facility

LOCATION: Freeport, IL

PROJECT No: _____

SKETCH : **PARTIAL ACCEPTANCE** _____ **COMPLETE ACCEPTANCE** ✓



COMMENTS : _____

I, THE INSTALLER'S OFFICIAL REPRESENTATIVE, FIND ACCEPTABLE FOR DEPLOYMENT THE SURFACE CONDITIONS OF THE AREA DESCRIBED ABOVE.

Benjamin Velazquez	[signature]	Project Manager	10/26/00
NAME	SIGNATURE	TITLE	DATE

Appendix G4

Panel Placement Summary Forms

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP. Page of

Project No: 97M015 Date 7/12/00 Computer Entry By:

Installer: MIDESSA GEOMEMBRANES Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-1	17012-1/60 mil TEX. HDPE	NORTH SLOPE	07:30	68°F/0/LT.	BJS	N	OK	50/22	
P-2	/		07:35					40/	
P-3	/		07:41					40/	
P-4	/		07:47					40/	
P-5	/	WEST SLOPE	07:52					35/	
P-6	/	WEST SLOPE	08:10					55/	
P-7	/	NORTH SLOPE	09:43	↓				45/	
P-8	/		09:52	75°F/5/0				45/	
P-9	/		09:56					45/	
P-10	/		10:02					45/	
P-11	/	↓	10:06					20/15	
P-12	/	EAST SLOPE	10:12					20/15	
P-13	/	↓	10:17	↓				20/	
P-14	17332-1/	EAST SLOPE/ BOTTOM	13:46	80°F/5/0				137/2	
P-15	/	WEST SLOPE	13:54					23/22	
P-16	/	↓	13:58					29/22	
P-17	/	↓	14:10					44/22	
P-18	/	BOTTOM	14:30					16/22	
P-19	/	EAST SLOPE/ BOTTOM	15:40					132/22	
P-20	/	WEST SLOPE/ BOTTOM	16:15					23/22	
P-21	[illegible]	WEST SLOPE/ BOTTOM	16:26	↓				7/22	
P-22	17014-1/ [illegible]	EAST SLOPE	18:34	75°F/0/0	↓	↓	↓	55/22	

FORM EES050 (5/98)

R0014423

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Page of

Project No: 97M015

Date: 7/12/00

Computer Entry By:

Installer: MIDESSA GEOMEMBRANES

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-23	17014-1/60-mil HDPE	WEST SLOPE	18:40	75°F/0/0	BJS	N	OK	20/~~22~~ 19	
P-24	/	↓	18:44	/	/	/	/	19/22	
P-25	/	SOUTH SLOPE	18:46	/	/	/	/	32/22	
P-26	/	/	18:49	/	/	/	/	35/22	
P-27	/	/	18:52	/	/	/	/	38/22	
P-28	/	/	18:56	/	/	/	/	37/22	
P-29	/	↓	19:03	/	/	/	/	39/22	
P-30	/	EAST SLOPE	19:09	/	/	/	/	33/22	
P-31	↓ / ↓	SE SLOPE	19:14	↓	↓	↓	↓	33/21 ↓	

PANEL PLACEMENT SUMMARY

PP-

Project Name: MODERN PLATING CORP. Page: 1 of

Project No: 97M015 Date: 7/14/00 Computer Entry By:

Installer: MIDESSA GEOMEMBRANES Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-32	17318-1/ 60 mil HDPE	NORTH/BOTTOM SOUTH	06:10	70F/0/0	BJS1	N	OK	144/22	
P-33	/		06:15					/	
P-34	/		06:35					/	
P-35	17614-1 ~~17014-1~~		06:58					/	
P-36	17308-1	NORTH SLOPE	07:32					34 /	
P-37	/	EAST SLOPE	07:40	70F/5/0				45 /	
P-38	/		07:49					/	
P-39	/		08:07					/	
P-40	/		08:15					/	
P-41	/		08:30					/	
P-42	/	SOUTH SLOPE	08:37					/	
P-43	/	NORTH SLOPE	08:50					13 /	
P-44	/	EAST SLOPE	08:57					15 /	
P-45	/		09:02	~~78F/10/0~~	JRL			7 /	
P-46	/		10:02	78F/10/0				20 /	
P-47	/	~~SOUTH~~ SLOPE	10:05					3 /	
P-48	/	SW SLOPE	10:13					20 /	
P-49	/	~~SW~~ SLOPE	10:20					18 /	
P-50	17308-1	SW SLOPE	10:45					35 /	
P-51	~~17308-1~~ 17331-1	WEST SLOPE	11:04					15 /	
P-52	17331-1	BOTTOM/NORTH	11:50					73 /	
P-53	17331-1	SOUTH/BOTTOM NORTH	12:00					82 /	

FORM EES050 (5/98)

ROOT1.PCX

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

Page ___ of ___

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-54	17331-1 / 60MIL HDPE	BOTTOM/NW SLOPE	1:20	83°/10/0	MPL	N	OK	36/22	
P-55	17308-1 /	SOUTH SID	1:50					26/22	
P-56	17331-1 /	NORTH SLOPE	1:59					22/22	
P-57	~~17331-1~~ /	NW SLOPE	2:05					8/22	
P-58	17331-1 /	SW SLOPE	2:12					22/22	

FORM EES050 (5/98)

R001426

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP. - PHASE 2

Project No: 97M015

Page ___ of ___

Date: 10/25/00

Installer: MESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp/Wind/ Precip	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-59	17-8-1/60-mil TEX	NORTH SLOPE	09:05	60F/0/MIST	BJS	N	OK	38/22	
P-60	17316-1/		09:38					38/22	
P-61			09:41					39/22	
P-62			09:44					39/22	
P-63			09:46					39/22	
P-64			09:50					34/22	
P-65			09:53					16/22	
P-66		EAST/WEST BOTTOM	12:39	65F/0/0				30/13	
P-67		EAST/WEST BOTTOM	12:45					135/22	
P-68		WEST/BOTTOM	14:27					102/22	
P-69	17305-1/	EAST	15:30					33/22	
P-70		WEST/BOTTOM/EAST	15:35					135/22	
P-71			17:20					135/22	
P-72			18:07	60F/0/0				135/22	

R0001427

PANEL PLACEMENT SUMMARY

PP

Project Name: MODERN PLATING CORP. — PHASE 2

Project No: 97M015

Date: 10/26/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-73	17305-1/60-mil	EAST SLOPE	10:21	70F/0/0	BJS	N	OK	32/22	
P-74	17310-1/	↓	10:55					9/	
P-75	/	SOUTH St.	11:05					13/	
P-76	/		11:10					35/	
P-77	/		11:15					49/	
P-78	/		11:20					49/	
P-79	/		11:31					49/	
P-80	/		11:54					30/	
P-81	↓ / ↓	↓	12:10	↓	↓	↓	↓	20/ ↓	

PANEL PLACEMENT SUMMARY

PP

Project Name: MODERN PLATING CORP - PHASE 2

Page of

Project No: 97MO15

Date: 10/27/00

Computer Entry By:

Installer: M. DESSA

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-82	17310-1/ 60-mil HDPE	NORTH SLOPE	09:20	65°F/5/0	BJS1	N	OK	36/22	
P-83	/		09:22					/	
P-84	/		09:25					/	
P-85	/		09:30					/	
P-86	/		09:32					36/	
P-87	/		09:37					36/	
P-88	/	EAST SLOPE SOUTH END	09:40					36/	
P-89	/		09:45					24/	
P-90	17312-1/	EAST/BOTTOM/WEST	10:25					30/22	
P-91	/		10:38					135/22	
P-92	/		11:00					135/	
P-93	/	WEST SLOPE	12:45					142/	
P-94	/		12:50					25/	
P-95	/		14:20					87/	
P-96	17307-1/	EAST/BOTTOM	14:25					58/	
P-97	/	EAST/BOTTOM/WEST	15:10					140/	
P-98	/	EAST/BOTTOM	16:25					78/	
P-99	/	EAST SLOPE	15:45					35/	
P-100	/	SOUTH SLOPE	15:52					12/	
P-101	/		15:53					35/	
P-102	/		15:59					35/	
P-103	/		16:05					35/	

FORM EES050 (5/98)

R0014429

PANEL PLACEMENT SUMMARY

Project Name: MODERN PLATING CORP - PHASE 2 — PP

Project No: 97M015

Installer: WIDESSA — Date: 10/27/00 — Page ___ of ___

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-104	17307-1 / 60 mil HDPE	SOUTH SLOPE	16:11	60F / 10 / 0	BJS1	N	OK	35 / 22	
P-105	17331-1 /	↓	16:20	↓	↓	↓	↓	57 / 22	
P-106	↓ / ↓	↓	16:36	↓	↓	↓	↓	57 / 22	

Appendix G5

Panel Seaming Summary Forms

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P4/P5	BJS1	70°F	N/A	0/0	30	RV	F0	F1	843	10.2	08:23	08:28	-
P2/P3					50	RV	F0	F1	843	10.2	08:55	09:05	.
P1/P2					50						09:13	09:18	.
P1/P7		↓			50						09:46	09:51	.
P7/P8		75°F			50						09:53	09:57	.
P8/P9					50						09:59	10:05	.
P9/P10					50						10:09	10:12	.
P10/P11					20						10:15	10:18	.
P11/P12											~~10:21~~	~~10:23~~	
P12/P13				5/0	24						~~10:23~~	~~10:27~~	
P5/P6		↓			34						10:23	10:27	.
P3/P6		79°F			18						10:59	11:02	.
P3/P4					33						11:13	11:15	.
P10/P13					30						11:15	11:18	.
P11/P12	↓	↓	↓	↓	25	↓	↓	↓	↓	↓	11:23	11:27	.
P14/P18	BJS1	80°F	N/A	10/0	22	RV	F0	F1	850	10.4	11:27	11:30	.DS-1
P6/P15					20						14:05	14:10	.
P16/P17					29						14:15	14:20	.
P18/P19					16						15:49	15:52	.
P14/P19					135						16:27	16:29	.
P18/P17	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	16:29	16:38	.
											16:40	16:43	.

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P19/P20	BJS1	78°F	N/A	5/0	22	RV	F	F1	850	10.4	16:43	16:45	
P17/P20					22						16:46	16:48	
P15/P16					20						16:48	16:49	
P6/P16					22						16:49		
P3/P17					22								
P18/P2					22								
P1/P16					22								
P7/P14					22								
P8/P14					22								
P9/P14					22								
P10/P14					2								
P13/P14					42							17:09	
P22/P21	BJS1	75°F	N/A	0/0	22	RV	F	F1	850	10.4	18:41	18:43	
P17/P21					18						18:47		
P20/P21					2								
P19/P21					1891								
P19/P22					56							19:03	
P23/P24					19						19:13	19:15	
P25/P26					32						19:16	19:19	
P26/P27					32						19:20	19:23	
P21/P30					35						19:25	19:29	

1000

R0011433

PANEL SEAMING SUMMARY

PS-

Project Name: MODERN PLATING CORP.

Project No: 97M015 Date: 7/12/00 Page of

Installer: MIDESSA GEOMEMBRANES Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P28/P29	BJS1	75°F	N/A	0/0	32	RV	F	F1	850	10.4	19:30	19:34	
P27/P28					32						19:36	19:44	GENERATOR ~~OUT~~ RAN OUT OF GAS
P29/P30					22						19:45	19:47	
P29/P31					19						19:47	19:49	
P23/P25					6						19:54	19:55	
P24/P25					24						19:55	19:58	
P22/P30					33						~~X~~20:00		
P22/P29					22								
P21/P28					~~38~~ 22								
P21/P27					22								
P21/P26					22								
P21/P25					22								
P21/P23					18							20:15	

1497

1603

R001434

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P32/P33	BJS1	70°F	N/A	0/0	144	RV	F	F1	850	10.1	06:41	06:56	
P33/P34											07:00	07:14	
P34/P35											07:21	07:35	
P37/P38				5/0	45						07:52	07:56	
P38/P39											08:00	08:06	
P39/P40											08:15	08:19	
P40/P41											08:35	08:42	STOPPED TO GO OVER PIPE
P36/P43		75°F		10/0	234						08:50	08:52	
P44/P45					22						09:04	09:06	
P37/P44					20						09:33	09:35	
P37/P45					7						09:35	09:36	
P37/P36					34						09:48	09:51	
P43/P44					24						09:51	09:54	
P41/P46					22						10:08	10:11	
P41/P47					3						10:11	10:12	
P35/P42					33						10:52	10:54	
P42/P46					12						10:19	10:21	
P42/P41					26						10:21	10:24	
P35/P40					22						10;54		
P35/39													
P35/38												11:03	

522

635

R0001435

PANEL SEAMING SUMMARY

Project Name: MODERN PLATING CORP. PS -

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES Date: 7/14/00 Page of

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp Setting	Speed Setting	Time: Start	Time: End	Comments
P35/P36	BJSJ	78°F	N/A	10/0	48	RV	F	F1	850	10.1	11:03	11:07	.
P49/P50	↓	↓			33								
P50/P51	↓	85°F			35						11:21	11:24	.
P48/P49	JRL	↓			41						11:51	11:55	.
P32/P48	↓	↓			32						2:37	2:41	.
P52/P53	JRL	85°			76						3:44	3:48	.
P54/P53					25						2:18	2:26	.
P54/P58					14						2:44 ~~2:37~~	2:42	.
P55/P58					23						2:46	2:48	.
P53/P55					26						2:55	2:59	.
P54/P56					22						3:16	3:19	.
P54/P57					12						3:00	3:08	.
P53/P52					29						3:08	3:10	.
P57/P56					16						3:12	3:15	.
P53/P54					22						3:10	3:12	.
P53/P51					22						3:12	3:16	.
P52/P61					22						3:26	3:29	.
P51/P32					52						3:29	3:32	
P60/P32					21						3:34	3:40	.
P51/P32	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	3:40	3:44	.
											3:44	3:46	.

950

1000

1363

R001436

PANEL SEAMING SUMMARY

PS -

Project Name: MPC PHASE 2

Page 1 of

Project No: 97M015

Date: 10-25-00

Computer Entry By:

Installer: MIDWEST

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P59/P60	MJC1	69	74	NO WIND CLOUDY	37	BFV	FUSION	#5	868	650 w/ light mix	2:56	3:00	THESE LENGTHS
P60/P61	MJC1	69	74	CLOUDY TO PARTLY	44/81	BFV	FUSION	#5	860	650	3:45	3:50	WILL BE CUT BACK WHEN
P61/P62	MJC1	~~69~~ 74	74	PC	46/127	BFV	FUSION	#5	860	650	3:53	3:57	P67-TIE IN SEAM IS MADE
P62/P63	MJC1	68/69	74	PC	44/171	BFV	FUSION	#5	860	650	3:59	4:05	
~~P63/P64 P65/P66~~	MJC1	69	74	PC	27/198	BFV	FUSION	#5	860	650	4:07	~~4:10~~ 4:16	
P64/P65 P66	MJC1	69	74	PC	34/232	BFV	FUSION	#5	860	650	4:16	4:20	NORTH EAST CORNER
P63/P66 P64	MJC1	69	74	PC	40/272	BFV	FUSION	#5	860	650	4:23	4:27	
P67/TIE IN	MJC1	69	7.4	PC	140/412	BFV	FUSION	#5	860	650	4:41	4:58	
P67/69,68	MJC1	66.4	66	PC	139/551	BFV	FUSION	#5	860	650	5:17	5:33	1ST DESTRUCTIVE SAMPLE ON THIS SEAM
P68/69	MJC1	67	68	PC	22/573	BFV	FUSION	#5	860	650	5:07	5:10	BUTT SEAM
P69/68/70	MJC1	65	63.7	PC	14/587	BFV	FUSION	#5	860	650	5:41	6:42	LOST POWER ON MACH ON EAST SLOPE
P69/68/70	MJC1	60	60	PC	126/713	BFV	FUSION	#5	860	620	6:15	6:31	RESUMED AFTER DEVICE REPAIRED & TRIAL WELD 4
P70/P71	MJC1	60	60	PC	139/991	BFV	FUSION	#5	866	620	6:35	6:48	
P71/P72	MJC1	60	60	PC	~~DEL~~ 139	BFV	FUSION	#5	860	620	7:03	7:16	WRINKLE REMAIN NEAR SUMP
													STOP ~~SHORT~~
													STRUCT OS SEAM

FORM EES052 (5/98)

R001437

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. — PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P72A/P72B	BJSI	65°F	N/A	0/0	22	BV	F	#5	860	13	09:39	09:42	
P71/P72A	"	"		"	"	"	"	"	"	"	09:50	09:52	
P71/P72B	REM	62°F		0/0	~70'	BV	F	#5	860	13	09:52	10:00	
[illegible]													
P75													
P75/P76	REM	65°F		0/0	19'	RV	F	#5	860	13	11:28	11:30	
P73/P74	REM	65°F		0/0	25'	RV	F	#5	860	13	11:20	11:25	
P76/P77	REM	60°F		5/0	48'	RV	F	#5	860	13	11:02	11:03	
P77/P78	REM	60°F		5/0	49'	RV	F	#5	860	9	11:49	11:54	Occasional very light drizzle
P78/P79	REM	60°F		5/0	48'	RV	F	#5	860	9	12:04	12:11	
P79/P80	REM	60°F		5/0	35'	RV	F	#5	860	9	12:18	12:18	
P80/P81	REM	60°F		5/0	23'	RV	F	#5	860	9	12:22	12:24	
P73/P76	REM	60°F		5/Light	27'	RV	F	#5	860	9	12:39	12:42	Light Rain Starts
P76/P75	REM	60°F		5/Light	20'	RV	F	#5	860	9	12:42	12:44	" Continues
P75/P74	REM	60°F		5/Light	24'	RV	F	#5	860	9	12:45	12:48	" " "
P81/P82	REM	60°F		5/Light	33'						12:58	13:00	Light to Mod Rain
P72B/P73					22'						1:00	1:04	
P74/P75					22'						1:02	1:05	
P72B/P77					22'						1:06	1:07	
P72B/P78					42'						1:14	1:22	Light rain stops
[illegible]													

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PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. — PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P72/TIE	BJSJ	65°F	N/A	10/0	22	RV	F	#5	860	13	17:02		
P76/TIE	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		
P68/TIE													
P67/TIE													
P59/TIE					40							17:25	

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PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P82/P83	BSSI	65°F	N/A	S/O	36	RV	F	#5	860°	676	10:00	10:05	
P82/P87					36						10:06	10:11	
P83/P84					36						10:13	10:18	
P84/P85					36						10:23	10:28	
P85/P86					36						10:37	10:40	
P88/P89					22						10:43	10:45	
P86/P89					15						10:45	10:47	
P90/P91 P88/P92					140						11:04	11:21	
P91/P2					140						11:27	11:41	497
P93/P87					25						13:11	13:13	
P94/P87					10						13:13	13:15	
P90/P89					30						13:17	13:21	
P85/P90					22						13:24	13:26	
P86/P88					24						13:28	13:32	
P84/P90					22						13:33	13:35	
P83/P90					22						13:35	13:37	
P82/P90					22						13:37	13:39	
P90/P93					268						13:41	13:44	700
P95/P96					22						14:37	14:39	
P92/P96					82						14:46	14:53	
P92/P95	↓	↓	↓	↓	58	↓	↓	↓	↓	↓	14:53	14:59	862

PANEL SEAMING SUMMARY

PS-

Project Name: MODERN PLATING CORP. - PHASE 2

Project No: 97M015 Date: 10/27/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P95/P97	BJS1	65°F	N/A	5/0	82	RV	F	#5	860°	676	15:05	15:13	
P96/P97					58						15:25	15:31	1002
P98/P99					32						15:45	15:48	
P100/P101					17						15:57	15:59	
P101/P102					36						16:09	16:12	
P102/P103					36						16:15	16:18	
P103/P98					12						16:20	16:22	
P102/P98					22						16:23	16:25	
P99/P101					30						16:26	16:29	
P99/P100					13						16:29	16:30	
P98/P101					17						16:42	16:43	
P103/P104					36						16:43	16:48	1253
P104/P105					36						16:51	16:54	
P105/P106					36						16:58	17:01	
P97/P98					78						17:04	17:12	
P97/P104					22						17:20	17:22	
P97/P105					22						17:35	17:37	
P97/P106	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	17:37	17:48	
EAST TIE	BJS1	60°F	N/A	0/0	140	RV	F	#5	860°	676	17:54	18:06	

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Appendix G6

Non-Destructive Seam Test Summary Forms

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97M015 Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P4/P5	0-END	BJS1	RRV	26	08:45	26	08:50	0	P			
P2/P3	0-END			35	09:19	34	09:24	1	P			
P1/P2	0-END			32	09:29	31	09:34	1	P			
P1/P7	0-END			31	09:55	30	10:00	1	P			
P7/P8	0-END			32	10:00	31	10:05	1	P			
P8/P9	0-END			31	10:08	29	10:13	2	P			
P9/P10	0-END			32	10:33	32	10:41	0	P			
P12/P13	0-END			30	10:45	28	10:50	2	P			
P10/P11	0-END			~~35~~ 31	11:06	29	11:11	2	P			
P10/P13	0-END			30	13:16	29	13:21	1	P			
P11/P12	0-~~END~~ 21			38	13:15	37	13:20	1	P			
P11/P12	~~0~~ 21-END			—	—	—	—	—	—	7/13/00	P	V-BOX
P3/P6	0-END			35	15:28	33	15:35	2	P			
P3/P4	0-END			30	15:29	27	15:35	3	P			
P5/P6	0-END			30	15:38	30	15:43	0	P			
P6/P15	0-END	↓	↓	~~30~~ 32	15:55	31	16:00	1	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97M015 Date: 7/13/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Air Test: Air Pressure Test: Start Time	Air Test: Air Pressure Test: End PSI	Air Test: Air Pressure Test: End Time	Air Test: Air Pressure Test: Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Vacuum Test: Date Vacuum Tested	Vacuum Test: Vac. Test Results (P/F)	Comments
P16/P17	0-END	BJS1	RRV	30	08:56	30	09:01	0	P			
P23/P24	0-END			30	09:16	28	09:21	2	P			
P25/P26	0-END			32	09:18	30	09:23	2	P			
P26/P27	0-END			30	09:22	30	09:27	0	P			
P27/P28	0-10			35	10:29	33	10:34	2	P			
P28/P29	0-END			30	11:00	29	11:05	1	P			
P29/P31	0-END			31	10:35	30	1040	1	P			
P29/P30	0-END			31	10:35	30	10:40	1	P			
P30/P31	0-END			30	11:36	30	11:41	0	P			
P9/P14	0-END			30	11:18	30	11:23	0	P			
P13/P14	0-END			30	11:37	30	11:42	0	P			
P22/P30	0-END			31	11:35	29	11:40	2	P			
P29/P22	0-END			36	11:45	34	11:50	2	P			
P28/P21	0-END			40	11:46	37	11:51	3	P			
P9/P22	0-END			—	—	—	—	—	—	7/13/00	P	EXTRUDED
P21/P22	0-END			—	—	—	—	—	—	7/13/00	P	↓
P19/P21	0-END			31	13:47	29	13:52	2	P			
P14/P19	0-END			32	13:20	30	13:25	2	P			
P21/P27	0-END			30	14:00	27	14:05	3	P			
P26/P21	0-END			30	14:00	30	14:05	0	P			
P25/P21	0-END	↓	↓	30	14:05	27	14:10	3	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97MD15

Installer: MIDESSA GEOMEMBRANES

Date: 7/13/00

Page of

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P21/P23	O-END	BJS1	RRV	30	14:48	30	14:53	0	P			
P17/P21	O-END			32	14:49	30	14:54	2	P			
P3/P17	O-END			30	14:55	30	15:00	0	P			
P17/P18	O-END			34	15:02	32	15:07	2	P			
P18/P19	O-END			34	15:00	34	15:05	0	P			
P14/P20	O-END			35	15:28	33	15:35	2	P			
P14/P18	O-END			40	15:18	38	15:23	2	P			
P1/P14	O-END			30	15:38	30	15:43	0	P			
P17/P20	O-END			32	15:40	30	15:45	2	P			
P15/P16	O-END			31	15:46	30	15:50	1	P			
P6/P16	O-END			30	15:46	27	15:51	3	P			
P2/P18	O-END			30	15:47	28	15:52	2	P			
P1/P14	O-END			30	16:05	30	16:10	0	P			
P7/P14	O-END			36	16:09	34	16:14	2	P			
P8/P14	O-END			31	16:32	30	16:37	1	P			
P10/P14	O-END			32	16:39	30	16:44	2	P			
P13/P14	O-END			30	16:53	30	16:58	0	P			
P20/P21	O-END			30	16:57	30	17:02	0	P			
P19/P21	O-END			30	17:06	29	17:11	1	P			
P21/P30	O-END			30	17:08	30	17:13	0	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97M015 Date: 7/13/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End						
				PSI	Time	PSI	Time	Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
P23/P25	O-END	BJSI	RRV	30	17:20	28	17:25	2	P			
P24/P25	O-END	↓	↓	30	17:31	29	17:36	1	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: ~~MDP~~ MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P33/P34	0-END	BJSJ	RRV	30	08:15	29	08:20	1	P			
P34/P35	0-~~END~~ 35			30	08:16	28	08:21	2	P			
P34/P35	35-END			30	09:03	30	09:08	0	P			
P37/P38	0-END			32	09:15	31	09:20	1	P			
P38/P39	0-END			32	08:50	31	08:55	1	P			
P39/P40	0-END			33	08:44	33	08:49	0	P			
P44/P45	0-END			32	09:22	30	09:27	2	P			
P37/P45	0-END			31	09:38	30	09:43	1	P			
P40/P41	0-35			30	10:12	28	10:17	2	P			
P46/P47	0-END			30	10:50	30	10:55	0	P			
P41/P47	0-END			33	10:36	30	10:41	3	P			
P41/P46	0-END			33	10:36	30	10:41	3	P			
P42/P46	0-END			32	11:42	30	11:47	2	P			
P41/P42	0-END			38	11:55	35	12:00	3	P			
P48/P49	0-END			32	16:26	31	16:31	1	P			
P49/P50	0-END			33	16:50	33	16:55	0	P			
P53/P55	0-END			31	16:28	28	16:33	3	P			
P52/P53	0-END			30	17:15	29	17:20	1	P			
P50/P51	0-END			30	17:35	30	17:40	0	P			
P55/P58	0-END			36	17:20	33	17:25	3	P			
P5A/P5B	0-END			31	17:~~00~~ 31	31	17:26	0	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES

Date: 7/15/00

Page of

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P32/P51	O-END	BJS	RRV	39	07:08	36	07:13	3	P	~~7/15/00~~		
P50/P32	O-END			—	—	—	—	—	—	7/15/00	P	
P51/P53	O-END			36	07:15	30	07:20	0	P			
P32/P48	O-END			30	07:18	29	07:23	1	P			
P32/P33	O-END			32	07:29	30	07:34	2	P			
P36/P43	O-END			36	08:00	33	08:05	3	P			
P37/P44	O-END			35	08:11	34	08:16	1	P			
P36/P37	O-END			30	08:12	30	08:17	0	P			
P43/P44	O-END			30	08:20	30	08:25	0	P			
P35/P42	O-END			31	08:35	30	08:40	1	P			
P35/P40	O-END			33	09:12	30	09:17	3	P			
P35/P39	O-END			30	09:15	29	09:22	1	P			
P38/P38	O-END			32	09:32	31	09:37	1	P			
P35/P36	O-END			35	09:37	32	09:42	3	P			
P54/P55	O-END			30	09:49	30	09:54	0	P			
P54/P56	O-END			31	10:06	30	10:11	1	P			
P54/P57	O-END			30	10:15	28	10:20	2	P			
P56/P57	O-END			31	10:53	29	10:58	2	P			
P53/P54	O-END			30	10:55	30	11:00	0	P			
P51/P52	O-END	↓	↓	32	11:11	31	11:16	1	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. - PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test					Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				Start		End		Drop (PSI)				
				PSI	Time	PSI	Time					
P62/P63	0-END	BJSI	GG	39	09:55	38	10:00	1	P			
P61/P62	0-END			36	10:04	34	10:09	2	P			
P59/P60	0-END			34	09:57	34	10:02	0	P			
P63/P64	0-END			37	10:11	37	10:16	0	P			
P64/P65	0-END			37	10:16	35	10:21	2	P			
P65/P66	0-END			36	10:20	35	10:25	1	P			
P66/P67	0-END			36	11:30	36	11:35	0	P			
P63/P67	0-END			37	11:30	35	11:35	2	P			
P68/P67	0-END			39	11:46	39	11:51	0	P			
P69/P67	0-END			37	11:51	35	11:56	2	P			
P69/P70	0-12			40	11:55	40	12:00	0	P			
P69/P70	12-END			38	11:55	37	12:00	1	P			
P68/P70	0-END			37	12:04	36	12:09	1	P			
P70/P71	0-END			35	15:00	35	15:05	0	P			
P71/P72B	0-END									10/26/00	P	
P71/P72A	0-END									10/26/00	P	
P60/P61	0-END			38	10:00	37	10:05	1	P			
P68/P69	0-END			35	12:03	35	12:08	0	P			
P72A/P72B	0-END									10/26/00	P	
P75/P76	0-END									↓	P	
P73/P74	0-END									↓	P	

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NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/26/00

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Installer: MIDESSA

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P76/P77	O-END	BJSI	GG							10/26/00	P	
P77/P78	O-END	↓	↓							↓	P	
P78/P79	O-END										P	
P79/P80	O-END										P	
P80/P81	O-END										P	
P73/P76	O-END										P	
P74/P76	O-END										P	
P74/P75	O-END										P	
P72B/P74	O-END										P	
P72A/P78	O-END										P	
P72A/P77	O-END										P	
P72A/P73	O-END										P	
P72/TIE	O-END										P	
P70/TIE	O-END										P	
P68/TIE	O-END										P	
P67/TIE	O-END										P	
P59/TIE	O-END	↓	↓							↓	P	

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NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/27/00

Installer: MIDESSA

Page of

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P80/P87	0-END	BJS1	GG	38	10:55	37	11:00	1	P			
P82/P83	0-END	BJS1	GG	37	10:55	35	11:00	2	P			
P83/P84	0-END	JC71	GG	37	11:05	36	11:10	1	P			
P85/P86	0-END	JC71	GG	44	11:29	41	11:34	3	P			
P86/P88	0-END	JC71	GG							10/27	P	
P88/P89	0-END	JC71	GG	38	11:35	37	11:40	1	P			
P90/P91	0-END	JC71	GG	39	1:06	37	1:11	3	P			
P91/P92	0-END	JC71	GG	36	1:00	34	1:05	2	P			
P87/P94	0-END	JC71	GG	39	1:37	38	1:42	1	P			
P87/P94	0-END	JC71	GG	40	1:45	38	1:50	2	P			
P87/P93	0-END	JC71	GG	35	1:52	33	1:57	2	P			
P89/P90	0-END	JC71	GG	39	2:12	38	2:17	1	P			
P92/P96	0-END	JC71	GG	35	4:05	33	4:10	2	P			
P96/P97	0-END	JC71	GG	37	3:55	35	4:00	2	P			
P98/P99	0-END	JC71	GG	35	5:00	35	5:05	0	P			
P100/P101	0-END	JC71	GG	37	5:00	37	5:05	0	P			
P101/P102	0-END	JC71	GG	39	5:05	37	5:10	2	P			
P102/P103	0-END	JC71	GG	40	5:11	40	5:16	0	P			
P104/P105	0-END	BJS1	GG							10/27	P	
P84/P85	0-END	BJS1	GG	38	11:10	37	11:15	1	P			
P86/P89	0-END	BJS1	GG							10/27	P	

FORM EES051 (5/98)

R001452

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/27/00

Installer: MIDESSA

Page of

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P85/P90	0-END	BJS1	66							10/27/00	P	
P84/P90	↓	↓	↓							↓	P	
P83/P90											P	
P82/P90											P	
P90/P93											P	
P95/P96											P	
P92/P95											P	
P95/P97	↓	↓	↓							↓	P	

53

FORM EES051 (5/98)

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name:

Project No:

Page of

Installer:

Date: 10/28/00

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P97/P98	0-END	BJS1	GG							10/28/00	P	
P98/P103	↓	↓	↓							↓	P	
P98/P102											P	
P99/P101											P	
P99/P100											P	
P98/P104											P	
P103/P104											P	
P105/P105											P	
P97/P104											P	
P97/P105											P	
P97/P106	↓	↓	↓							↓	P	
EAST TIE	0-END	BJS1	GG							10/28/00	P	

Appendix G7

Destructive Seam Sample Summary Forms

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-1	BJS1	P11/P12	1	RV	NE SLOPE	120/	122	117/	120		142	7/13/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/13/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-2	BJS1	P14/P19	F1	RV	BOTTOM	106	103	100	102	99	117	7/15/00		
DS-3	BJS1	P26/P27	F1	RV	SOUTH SLOPE	109	90	98	102	98	118	7/15/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-4	BJS1	P38/P39	F1	RV	EAST SLOPE	93/89	86/84	104	128			7/15/00		
DS-5	BJS1	P33/P34	F1	RV	BOTTOM	109/91	96/98	97	130			7/15/00		
DS-6	BJS1	P50/P51	F1	RV	WEST SLOPE	106/111	101/99	98	126			7/15/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/25/00 – 10/26/00 | Computer Entry By:

Installer: MIDESSA | Computer Entry By: | Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					5 SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-7	MJC1	P67/P68	#5	BV	PHASE2 SECONDARY	99	132	132	141	139	176	10/26/00	P	
DS-8	MJC1	P71/P72	#5	BV	PHASE 2 SECONDARY	107	139	123	134	141	172	10/26/00	P	
DS-9	BJS1	P77/P78	#5	RV	PHASE2 SECONDARY	121	128	143	128	125	124	10/24/00	P	

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP. - PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Computer Entry By: | Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-10	BJS1	P91/P92	#5	RV	P91/P92	144/	135	140/	144	142	172	10/28	P	
DS-11	BJS1	P96/P97	#5	RV	P96/P97	130/	147	137/	147	144	194	10/28	P	
DS-12		P103/P104												
DS-12	BJS1	P103/P104	#5	RV	P103/P104	141/	140	162/	143	147	177	10/28	P	
DS-13	BJS1	P91/TIE	#5	RV	P91/EAST TIE	165/	151	133/	153	140	218	10/28	P	

Appendix G8

Repair Summary Forms

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP.
Project No: 97M015
Installer: MIDESSA GEOMEMBRANES
Date: 7/12/00
Page of
Computer Entry By:
Checked By:

Repair Number	QA Monitor	Oper./Mach	Repair Location (Seam I.D. Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-1	BJS1	RRV/1	P15/P6	PATCH				
R-2	↓	↓	P3/P4/P5/P6	↓	2'x2'	7/13/00	RRV	P
R-3			P6/P15/P16		2'φ	↓	↓	P
R-4			P3/P6/P16	TEE (CAP ON SEAM END FOR AIR CHANNEL)	6"	N/A	N/A	N/A
R-5			P2/P3/P17	↓	6"	↓	↓	↓
R-6			P2/P17/P18		↓			
R-7			P3/P16/P17					
R-8			P2/P14/P18					
R-9			P1/P2/P14					
R-10			P1/P7/P14					
R-11			P7/P8/P14					
R-12			P8/P9/P14					
R-13			P9/P10/P14					
R-14			P10/P13/P14	↓				~~P~~
R-15	↓	↓	P10/P11/P12/P13		↓	↓	↓	~~P~~ ↓
				PATCH	3'x2'	7/13/00	RRV	P

R0014461

LINER REPAIR SUMMARY

Project Name: MODERN PLATING CORP. LR -

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES Date: 7/13/00 Page of

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D. Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-16	BJSI	RRV/EL	P3 TOE	BEAD	12"	7/13/00	RRV	P
R-17			P3 TOP	↓	6"			
R-18			P11/P12	PATCH DS-1	4'x3'	7/13/00	RRV	P
R-19			P11/P12	↓	3'x2'	↓	↓	↓
R-20			P11/P12	↓	2'x1'	↓	↓	↓
R-21			P27/P28/P21	TEE (CAP ON END FOR AIR CHANNEL TEST)	6"	N/A	N/A	N/A
R-22			P21/P22/P28/P29	↓	6"	↓	↓	↓
R-23			P22/P29/P30	↓	6"	↓	↓	↓
R-24			P29/P30/P31	↓	6"	↓	↓	↓
R-25			P23/P24/P25	PATCH	2'x1'	7/13/00	RRV	P
R-26			P21/P23/P25	TEE (CAP ON END FOR AIR CHANNEL TEST)	2"	N/A	N/A	N/A
R-27			P21/P25/P26	↓	6"	↓	↓	↓
R-28			P21/P26/P27	↓	6"	↓	↓	↓
R-29			P26/P27	PATCH DS-3	4'x3'	7/13/00	RRV	P
R-30			P27/P28	↓	2'x1'	↓	↓	P
R-31			P28	↓	1'6	↓	↓	P
R-32			P19/P22	BEAD	6"	↓	↓	P
R-33			P19/P22	↓	4"	↓	↓	P
R-34			P21/P22/P19	TEE (CAP ON END FOR AIR CHANNEL TEST)	6"	NA	N/A	N/A
R-35			P19/P20/P21	↓	6"	↓	↓	↓
R-36			P17/P20/P21	↓	6"	↓	↓	↓
R-37	↓	↓	P17/P18/P20	↓	6"	↓	↓	↓

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDEOSA GEOMEMBRANES

Date: 7/13/00

Page of

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-38	BJSL	RRV/E1	P19/P20/P18	TEE CAP ON SEAM FOR AIR CHANNEL TEST	6"	N/A	N/A	N/A
R-39	↓	↓	P18/P14/P19	↓	↓	↓	↓	↓
R-40			P14/P19	PATCH DS-2	4'x3'			

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP.

Project No: 97MO15

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-41	BJSI	FA/F1	P40/P41	PATCH	2'x2'	7/14/00	FA	P
R-42	↓	↓	P42/P47	↓	1'x1'	↓	↓	P
R-43			P35/P36 39		1'x1'			P
R-44			P35/P36/P37/P38	PATCH	1.5'ϕ		FA	P
R-45			P34/P35	PATCH	4'x2'		↓	P
R-46			P35	↓	3'x2'			P
R-47			P41/P42/P46	BEAD	1.5'		FA	P
R-48			P38/P39	PATCH DS-4	4'x3'		BV	P
R-49			P33/P34	↓ DS-5	4'x3'	↓	BV	P
R-50			P32/P33	SEAM	135'	7/15/00	FA	P
R-51			P50/P51 P48/P49/P50/P32	PATCH	~~2'x3'~~			P
R-52			~~P50/P51/P32~~	~~DS-6~~	~~4'x3'~~			P
R-53			P50/P51	↓ DS-6	4'x3'			P
R-54	↓	↓	P32/P52	PATCH	1.5'ϕ	↓	↓	P

LINER REPAIR SUMMARY

LR-

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R55	BJSI		P59/P60/P67	PATCH	2.5'ϕ	10/26	GG	P
R56			P60/P61/P67	TEE				P
R57			P60/P61	PATCH	2'ϕ			P
R58			P61/P62					P
R59			P63/P66/P67	PATCH	2.5'ϕ			P
R60			P64/P65/P66		1'ϕ			P
R61			P65/P66		2.5'ϕ			P
R62			P67/P68	DS-7	6'x2'			P
R63			P69/P70		2'ϕ	10/26	AA	P
R64			P71/P72A				GG	P
R65			P71/P72A				GG	P
R66	REM		P71/P72A	PATCH	2.5'ϕ	10/26	AA	P
R67			P71/P72A	DS-8	3'x5'	10/26	AA	P
R68	REM		P72B/P72A		2'ϕ	10/26	RV	P
R69			P77/P72B/P72A	Tee	2.5'ϕ	10/26	RV	P
R70			P-77/P72B	Patch	2.0'ϕ	10/26	RV	P
R71			P-78/P-77/P-72A	Tee	2.0'ϕ	10/26	RV	F Retest P
R72			P-78/P-77	PATCH	1.5'ϕ	10/26	RV	P
R73			P-72A/P-77	Patch	2'ϕ	10/26	AA	F Retest P
R74			P-72A/P-73/P76/P77	Patch	2'ϕ	10/26	AA	P
R75			P-72A/P-73	Patch	2'ϕ	10/26	AA	F Retest P
R76			P-73/P74/P75	Tee	1.5'ϕ	10/26	AA	F Retest P
R77			P-74/P-75	Tee		10/26	AA	

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP. – PHASE 2 Page of

Project No: 97M015 Date: 10/26/00 Computer Entry By:

Installer: MIDESSA Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R78	REM		P-72 / P-78	DS-9	~2'x5'	10/26	AA	F retest P
R79	REM		P-80 / P-81 / P-72B	TEE	2'Ø	10/26	AA	P
R80	REM		P-81 / P-72B	PATCH	2'Ø	10/26	AA	F retest P
R81	BJSJ		P70 / P71 / TIE	PATCH	1.5'Ø	10/27	GG	P
R82	BJSJ		P59 / P67 / TIE	PATCH	2'x1'	10/27	GG	P

FORM EES049 (5/98)

R001466

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/27/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R83	BJS1	GG	P87/P93/P94	PATCH	1.5'ϕ	10/27/00	GG	P
R84			P84/P85	PATCH	2.5'ϕ			P
R85			P91/P92	DS-10	6'x2'			P
R86			P96/P97	DS-11	6'x2'			P
R87			P97/P98	10' EAST WEST OF TOE	6'x2'			P
R88			P98/P99/P101		2'ϕ			P
R89			P103/P104	MID-SLOPE DS-12	6'x2'			P
R90			P104	MID SLOPE 2' E. OF P105	2'ϕ			P
R91			P97/P105	INT. OF PIPE	2.5'ϕ	10/28		P
R92			P91/P92/TIE		1.5'ϕ			P
R93			P91/TIE	MID PANEL DS-13	6'x2'			P
R94	↓	↓	✱	PIPE BOOT	6'x6'	N/A	↓	P

R001467

Appendix H

Geomembrane Destructive Seam Laboratory Test Results

R001469
MASTER FILE COPY
Scope 97M015 Classification 8350
Copy To KEM, Master File.

Precision Geosynthetic Laboratories

July14, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik: **RE:** Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

By accepting the data and results represented on this report, Client agrees to limit the liability of Precision Geosynthetic Laboratories from Client and all other parties for claims arising out of the use of this data to the cost for the respective test(s) represented in this report, and Client agrees to indemnify and hold harmless Precision Geosynthetic Laboratories from and against all liability in excess of the aforementioned limit.

The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. 000715)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. 000715)

MATERIAL DESCRIPTION: 60 mil Textured HDPE seam

SAMPLED BY: FOTH & VAN DYKE

DATE RECEIVED: July 14, 2000 **DATE REPORTED:** July14, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
DS- 1 P12/ 11	52990

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
Seam Peel Adhesion	ASTM D4437
Bonded Seam Strength	ASTM D4437

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table. Break types are defined as Film- tear bond (FTB) and separation (AD).

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: *FOTH & VAN DYKE*
PROJECT: *Modern Plating / 97M015*
DATE REC'D: *14-Jul-00*

MATERIAL: *60 Mil HDPE*
SEAM TYPE: *Heat Fusion Weld*
PGL JOB #: *G000715*

QC'd By: _____
TEST METHOD: *ASTM D4437*
DATE REPORT: *14-Jul-00*

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 1	52990	164	>50	FTB		1 Outside	135	<10	SE	FTB	
		165	>50	FTB		2 Outside	135	<10	SE	FTB	
		175	>50	FTB		3 Outside	158	<10	SE	FTB	
		173	>50	FTB		4 Outside	151	<10	SE	FTB	
		178	>50	FTB		5 Outside	125	<10	SE	FTB	
						AVG:	141				90
	AVG.	171			120	STD. DEV.	13				
	STD. DEV.	6				1 Inside	139	<10	SE	FTB	
						2 Inside	136	<10	SE	FTB	
						3 Inside	135	<10	SE	FTB	
						4 Inside	120	<10	SE	FTB	
						5 Inside	130	<10	SE	FTB	
						AVG:	132				90
						STD. DEV.	7				

3

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

R001471

Precision Geosynthetic Laboratories

July 17, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik: **RE:** Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

By accepting the data and results represented on this report, Client agrees to limit the liability of Precision Geosynthetic Laboratories from Client and all other parties for claims arising out of the use of this data to the cost for the respective test(s) represented in this report, and Client agrees to indemnify and hold harmless Precision Geosynthetic Laboratories from and against all liability in excess of the aforementioned limit.

The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. J000312)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. J000312)

MATERIAL DESCRIPTION: 60 mil Textured HDPE seam

SAMPLED BY: FOTH & VAN DYKE

DATE RECEIVED: July 17, 2000 **DATE REPORTED:** July 17, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
DS- 2	53722
DS- 3	53723
DS- 4	53724
DS- 5	53725
DS- 6	53726

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
Seam Peel Adhesion	ASTM D4437
Bonded Seam Strength	ASTM D4437

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Tables 1 through 3. The units in which the data are reported are included on the tables. Break types are defined as Film- tear bond (FTB) and separation (AD).

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **17-Jul-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000312**

QC'd By:
TEST METHOD: **ASTM D4437**
DATE REPORT: **17-Jul-00**

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 2	53722	189	>50	FTB		1 Outside	152	<10	SE	FTB	
		187	>50	FTB		2 Outside	134	<10	SE	FTB	
		193	>50	FTB		3 Outside	149	<10	SE	FTB	
		191	>50	FTB		4 Outside	145	<10	SE	FTB	
		190	>50	FTB		5 Outside	158	<10	SE	FTB	
	AVG.	190			120	AVG:	148				90
	STD. DEV.	2				STD. DEV.	9				
						1 Inside	96	<10	SE	FTB	
						2 Inside	126	<10	SE	FTB	
						3 Inside	108	<10	SE	FTB	
						4 Inside	118	<10	SE	FTB	
						5 Inside	113	<10	SE	FTB	
	AVG.	112			90						
	STD. DEV.	11									
DS- 3	53723	169	>50	FTB		1 Outside	140	<10	SE	FTB	
		171	>50	FTB		2 Outside	112	<10	SE	FTB	
		169	>50	FTB		3 Outside	137	<10	SE	FTB	
		171	>50	FTB		4 Outside	121	<10	SE	FTB	
		173	>50	FTB		5 Outside	132	<10	SE	FTB	
	AVG:	171			120	AVG:	128				90
	STD. DEV.	2				STD. DEV.	12				
						1 Inside	128	<10	SE	FTB	
						2 Inside	127	<10	SE	FTB	
						3 Inside	130	<10	SE	FTB	
						4 Inside	133	<10	SE	FTB	
						5 Inside	128	<10	SE	FTB	
	AVG:	129			90						
	STD. DEV.	2									

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

R001474

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **17-Jul-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000312**

QC'd By: _____
TEST METHOD: **ASTM D4437**
DATE REPORT: **17-Jul-00**

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 4	53724	186	>50	FTB		1 Outside	148	<10	SE	FTB	
						2 Outside	134	<10	SE	FTB	
		184	>50	FTB		3 Outside	147	<10	SE	FTB	
						4 Outside	129	<10	SE	FTB	
		183	>50	FTB		5 Outside	131	<10	SE	FTB	
						AVG:	**138**				*90*
		186	>50	FTB		*STD. DEV.*	**9**				
						1 Inside	147	<10	SE	FTB	
		188	>50	FTB		2 Inside	150	<10	SE	FTB	
						3 Inside	***123***	***100***	AD	Non-FTB	
						4 Inside	152	<10	SE	FTB	
						5 Inside	145	<10	SE	FTB	
	AVG.	**185**			*120*	***AVG:***	**143**				*90*
	STD. DEV.	**2**				*STD. DEV.*	**12**				
DS- 5	53725	191	>50	FTB		1 Outside	124	<10	SE	FTB	
						2 Outside	130	<10	SE	FTB	
		187	>50	FTB		3 Outside	***156***	***100***	AD	Non-FTB	
						4 Outside	154	<10	SE	FTB	
		191	>50	FTB		5 Outside	146	<10	SE	FTB	
						AVG:	**142**				*90*
		196	>50	FTB		*STD. DEV.*	**14**				
						1 Inside	***126***	***30***	AD-BRK	FTB	
		191	>50	FTB		2 Inside	***141***	***20***	AD-BRK	FTB	
						3 Inside	***141***	***50***	AD-BRK	FTB	
						4 Inside	149	<10	SE	FTB	
						5 Inside	150	<10	SE	FTB	
	AVG:	**191**			*120*	***AVG:***	**141**				*90*
	STD. DEV.	**3**				*STD. DEV.*	**10**				

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

R001475

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **17-Jul-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000312**

QC'd By:
TEST METHOD: **ASTM D4437**
DATE REPORT: **17-Jul-00**

SAMPLE ID	PGL CONTROL #	SHEAR EVALUATION				PEEL EVALUATION					
		MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 6	53726	189	>50	FTB		1 Outside	108	<10	SE	FTB	
		191	>50	FTB		2 Outside	137	<10	SE	FTB	
		191	>50	FTB		3 Outside	155	<10	SE	FTB	
		188	>50	FTB		4 Outside	144	<10	SE	FTB	
		193	>50	FTB		5 Outside	150	<10	SE	FTB	
	AVG.	190			120	AVG:	139				90
	STD. DEV.	2				STD. DEV.	18				
						1 Inside	148	<10	SE	FTB	
						2 Inside	144	<10	SE	FTB	
						3 Inside	160	<10	SE	FTB	
						4 Inside	160	<10	SE	FTB	
						5 Inside	156	<10	SE	FTB	
						AVG:	154				90
						STD. DEV.	7				

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

Precision Geosynthetic Laboratories

October 31, 2000

cc: Sik Attn: B. Stenul @ 608-238-4633

Post-it® Fax Note 7671	Date 10-31	# of pages ▶ 4
To Marty Cieslik	From JOAM	
Co./Dept. Foth & Van Dyke	Co. PGL	
Phone #	Phone #	
Fax # 608-238-4633	Fax #	

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik:

RE: Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

By accepting the data and results represented on this report, Client agrees to limit the liability of Precision Geosynthetic Laboratories from Client and all other parties for claims arising out of the use of this data to the cost for the respective test(s) represented in this report, and Client agrees to indemnify and hold harmless Precision Geosynthetic Laboratories from and against all liability in excess of the aforementioned limit.

The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

It is a company policy to keep the physical records of each job for 2 years since the receipt of the samples and keep the electronic file for 7 years. ***Failed seam samples are kept for 7 years; good seam samples are disposed after 2 weeks and conformance samples are disposed after 1 month.*** Should you need us to keep them longer, please advise us in writing.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. J000792)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. J000792)

MATERIAL DESCRIPTION: 60 mil HDPE seam

SAMPLED BY: FOTH & VAN DYKE

DATE RECEIVED: October 31, 2000 **DATE REPORTED:** October 31, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
DS- 10 P91/ 92	66351
DS- 11 P96/ 97	66352
DS- 12 P103/ 104	66353
DS- 13 P91/ EAST TIE	66354

TESTS REQUIRED:

DESCRIPTION	TEST METHOD
Seam Peel Adhesion	ASTM D4437
Bonded Seam Strength	ASTM D4437

TEST CONDITIONS: The samples were conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Tables 1 and 2. The units in which the data are reported are included on the tables. Break types are defined as Film- tear bond (FTB) and separation (AD).

PRECISION GEOSYNTHETIC LABORATORIES

CAL-LAP
Initials: #: 013
Date: 10/31/00

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **31-Oct-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000792**

QC'd By:
TEST METHOD: **ASTM D4437**
DATE REPORT: **31-Oct-00**

SHEAR EVALUATION						PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 10 P91/ 92	66351	191	>50	FTB		1 Outside	128	<10	SE	FTB	
		182	>50	FTB		2 Outside	105	<10	SE	FTB	
		169	>50	FTB		3 Outside	146	<10	SE	FTB	
		189	>50	FTB		4 Outside	120	<10	SE	FTB	
		191	>50	FTB		5 Outside	140	<10	SE	FTB	
	AVG.	**184**				**AVG:**	**128**				
	STD. DEV.	**9**			120	STD. DEV.	**16**				90
						1 Inside	140	<10	SE	FTB	
						2 Inside	135	<10	SE	FTB	
						3 Inside	141	<10	SE	FTB	
						4 Inside	134	<10	SE	FTB	
						5 Inside	143	<10	SE	FTB	
						AVG:	**139**				
						STD. DEV.	**4**				90
DS- 11 P96/ 97	66352	182	>50	FTB		1 Outside	145	<10	SE	FTB	
		175	>50	FTB		2 Outside	140	<10	SE	FTB	
		180	>50	FTB		3 Outside	140	<10	SE	FTB	
		186	>50	FTB		4 Outside	132	<10	SE	FTB	
		186	>50	FTB		5 Outside	141	<10	SE	FTB	
	AVG:	**182**				**AVG:**	**140**				
	STD. DEV.	**5**			120	STD. DEV.	**5**				90
						1 Inside	148	<10	SE	FTB	
						2 Inside	147	<10	SE	FTB	
						3 Inside	143	<10	SE	FTB	
						4 Inside	128	<10	SE	FTB	
						5 Inside	135	<10	SE	FTB	
						AVG:	**140**				
						STD. DEV.	**9**				90

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **31-Oct-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000792**

QC'd By:
TEST METHOD: **ASTM D4437**
DATE REPORT: **31-Oct-00**

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 12 P103/ 104	66353	194	>50	FTB		1 Outside	138	<10	SE	FTB	
		175	>50	FTB		2 Outside	125	<10	SE	FTB	
		192	>50	FTB		3 Outside	141	<10	SE	FTB	
		195	>50	FTB		4 Outside	129	<10	SE	FTB	
		194	>50	FTB		5 Outside	141	<10	SE	FTB	
	AVG.	190				AVG:	135				
	STD. DEV.	8			120	STD. DEV.	7				90
						1 Inside	138	<10	SE	FTB	
						2 Inside	139	<10	SE	FTB	
						3 Inside	141	<10	SE	FTB	
						4 Inside	131	<10	SE	FTB	
						5 Inside	141	<10	SE	FTB	
						AVG:	138				
						STD. DEV.	4				90
DS- 13 P91/ EAST TIE	66354	195	>50	FTB		1 Outside	134	<10	SE	FTB	
		181	>50	FTB		2 Outside	133	<10	SE	FTB	
		183	>50	FTB		3 Outside	137	<10	SE	FTB	
		191	>50	FTB		4 Outside	128	<10	SE	FTB	
		193	>50	FTB		5 Outside	137	<10	SE	FTB	
	AVG:	189				AVG:	134				
	STD. DEV.	6			120	STD. DEV.	4				90
						1 Inside	146	<10	SE	FTB	
						2 Inside	132	<10	SE	FTB	
						3 Inside	155	<10	SE	FTB	
						4 Inside	149	<10	SE	FTB	
						5 Inside	160	<10	SE	FTB	
						AVG:	148				
						STD. DEV.	11				90

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision C...

Appendix I

Geocomposite Material Information

I1 - Geocomposite Manufacturer's Information
I2 - Geocomposite Laboratory Test Results

Appendix I1

Geocomposite Manufacturer's Information

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Mr. Benjamin Velasquez
Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764

SUBJECT: Technical Submittal - ETI Geocomposite and Geonet for Modern Plating CAMU Landfill - Freeport, IL

Dear Mr. Velasquez:

The following is a brief outline regarding the Geotextile, Geonet and Geocomposite manufactured by Evergreen Technologies, Incorporated. ETI has more than sixteen years of experience in manufacturing nonwoven geotextiles, geonets and geocomposites. We were the first company to manufacture synthetic drainage geonets and geocomposites and pioneered the system of replacing conventional sand and gravel drainage materials in landfill applications. ETI has sold more than 200,000,000 square feet of drainage products and is the only company producing geonets, geocomposites and geotextiles in one location as a single-source manufacturer

ETI drainage net is a three dimensional polyethylene net structure formed by intersecting strands and providing uniform channels, open area and thickness to assure uniform flow throughout the structure. It is crush resistant and has a low compressibility capable of maintaining high transmissivity under a range of loading conditions. The geonet is manufactured with carbon black to provide ultra-violet stabilization.

ETI drainage composites consist of a three dimensional polyethylene net with a continuous filament, nonwoven, polypropylene, needle-punched geotextile heat bonded to one or both sides of the drainage net core.

ETI Geotextiles are manufactured from one hundred percent polypropylene polymer. During the pre-extrusion heating process, a very effective ultra-violet light stabilizer is thoroughly mixed into the molten polymer. The resulting extruded filament is continuously drawn down from the top of the extrusion tower by an air current traveling at approximately 4 - 6 thousands m/min. During this "draw down" process the fiber is stretched and this results in a sophisticated molecular re-orientation.

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9003 / Fax 334-578-6141

The fiber is then randomly laid out and carried on a conveyor belt into a series of needling machines. Each of these contains literally thousands of barbed needles, which move up and down through the web of fibers causing a complete entanglement. After leaving the last needling machine, the fabric is drawn into a heated stretching chamber. Here it is stretched both in machine and cross machine direction to optimize the isometric properties of the finished geotextile. Finally, the nonwoven geotextile is rolled, packaged and placed in storage ready for shipment. Each stage of the process, from acceptance of polymer to the placing of the product in a storage area location is recorded in a computerized sequence. Every single roll which leaves Evergreen Technologies' production line can be traced back to the details of each segment of its manufacture and each quality assurance test to which samples of its production batch were taken. This unique process allows Evergreen Technologies to produce a variety of needle-free spunbonded, needle-punched, nonwoven geotextiles which currently range from 3 to 28 ounces per square yard (100 to 950 g/m^2).

After a detailed review of the project specifications, ETI finds no discrepancies with the manufacturer's properties, test methods, or test frequencies.

If you have any questions or require any additional information please don't hesitate to contact me directly at 800-984-9784.

Sincerely,

Billy Carruth

Billy Carruth
Technical Representative
Evergreen Technologies, Inc.

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Subject: DC4200AA Product Pre-Certification for Modern Plating CAMU Landfill-Freeport, IL

Dear Mr. Valasquez:

This letter is to certify that DC4200AA is a Geonet Drainage Composite manufactured by Evergreen Technologies, Inc. (ETI). Further, all of the components are manufactured by ETI. The components consist of TG600, a 6-ounce metal-free nonwoven geotextile from a Lot # to be determined, which is bonded to each side of a Geonet (NS1400) from a Lot # to be determined.

DC4200AA meets the minimum properties listed below:

PROPERTY	TEST PROCEDURE	VALUE (1)
Peel Adhesion	ASTM F 904	2 lbs/in
Transmissivity (2)	ASTM D 4716	3.0 $x10^{-5}m^2/sec$

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9003 / Fax 334-578-6141

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Midessa Industrial Vinyl Company
4809 W. 42nd Street
Odessa, TX 79764
Attn: Benjamin Velasquez

Subj: NS1300 Geonet Product Pre-Certification for Modern Plating CAMU Landfill- Freeport, IL

Dear Mr. Valasquez:

This letter certifies that NS1300, a 150 mil geonet shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, Inc. (ETI), meets or exceeds the minimum requirements listed below and was shipped from Lot # to be determined.

PROPERTY	TEST PROCEDURE	VALUE (1)	
Transmissivity (2)	ASTM D 4716	1	$x10^{-4}$ m^2/sec
Carbon Black Content	ASTM D 4218	2-3	%

Resin Information

A minimum 97% virgin polyethylene is used to produce NS1300. Railcar Number to be determined.

PROPERTY	TEST PROCEDURE	VALUE	
Melt Flow Range	**ASTM D 1238**	**1.0**	**g/10 max**
Density Range	**ASTM D 1505**	**.940**	**g/cc**

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9003 / Fax 334-578-6141

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Subject: TG600 Geotextile Product Pre-Certification for Modern Plating CAMU Landfill- Freeport, IL

Dear Mr. Valasquez:

This letter certifies that TG600, a metal-free nonwoven geotextile, shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, meets or exceeds the minimum requirements listed below and was shipped from Lot # to be determined.

PROPERTY	TEST PROCEDURE	VALUE(1)		
Tear Strength	ASTM D 4533	25		lbs
Mullen Burst	ASTM D 3786	130		psi
Grab Strength	ASTM D 4632	80		lbs
Puncture Resistance	ASTM D 4833	25		lbs
A.O.S. (2)	ASTM D 4751	.212-.150	*	mm
		(70-100)	*	US Std Sieve
U.V. Resistance (500 hours)	ASTM D 4355	70		%

(1) Values in weaker principle direction. Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 shall meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Smaller sieve size number represents the maximum average roll value.

* Determined at the time of manufacturing, storage and handling conditions which differ from those found in ASTM D 4873-88 may influence these properties.

Unless noted otherwise, this certification is based on testing conducted by Evergreen Technologies Quality Assurance & Quality Control testing laboratories at the time of manufacturing. Evergreen Technologies issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9003 / Fax 334-578-6141

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Subject: NS1400 Geonet Product Pre-Certification for Modern Plating CAMU Landfill- Freeport, IL

Dear Mr. Valasquez

This letter certifies that NS1400, a 200 mil geonet shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, meets or exceeds the minimum requirements listed below and was shipped from Lot # to be determined.

PROPERTY	TEST PROCEDURE	VALUE(1)
Transmissivity (2)	ASTM D 4716	1 $x10^{-4}$ m^2/sec
Carbon Black Content	ASTM D 4218	2-3 %

Resin Information

A minimum 97% virgin polyethylene is used to produce NS1400. Railcar Number to be determined, HDPE.

PROPERTY	TEST PROCEDURE	VALUE	
Melt Flow Range	**ASTM D 1238**	**1.0**	**g/10 max**
Density	**ASTM D 1505**	**0.940**	**g/cc**

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

EVERGREEN
TECHNOLOGIES, INC.

May 18, 2000

Midessa Industrial Vinyl Company
4809 W. 42nd Street
Odessa, TX 79764
Attn: Benjamin Velasquez

Subj: NS1300 Geonet Product Pre-Certification for Modern Plating CAMU Landfill- Freeport, IL

Dear Mr. Valasquez:

This letter certifies that NS1300, a 150 mil geonet shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, Inc. (ETI), meets or exceeds the minimum requirements listed below and was shipped from Lot # to be determined.

PROPERTY	TEST PROCEDURE	VALUE (1)	
Transmissivity (2)	ASTM D 4716	1	$x10^{-4}$ m^2/sec
Carbon Black Content	ASTM D 4218	2-3	%

Resin Information

A minimum 97% virgin polyethylene is used to produce NS1300. Railcar Number to be determined.

PROPERTY	TEST PROCEDURE	VALUE	
Melt Flow Range	**ASTM D 1238**	**1.0**	**g/10 max**
Density Range	**ASTM D 1505**	**.940**	**g/cc**

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9003 / Fax 334-578-6141

EVERGREEN
TECHNOLOGIES, INC.

GEOCOMPOSITE DC4200/TG600

DC4200/TG600 is a drainage geocomposite made by thermally bonding Evergreen Technologies U.V. stabilized, spunbonded, continuous filament, needlepunched, nonwoven, polypropylene 6 ounce per square yard geotextile to **both** sides of our chemically resistant high density polyethylene **NS1400** geonet core. ETI geocomposites have high compressive strength in order to ensure maximum flow capacity of both liquids and gases under high confining pressures, and exhibit high ply adhesion strengths to ensure performance of the composite as a single unit. Virgin resins used in the production of ETI geonets consist of at least 97% polyethylene with a melt flow range between 0.1 and 1.0 grams per 10 minutes (ASTM D1238), and a density range of 0.932 to 0.970 grams per cubic centimeter (ASTM D1505). The geocomposite is delivered to the jobsite in roll form with each roll having unique identification and QA traceability. **DC4200/TG600** conforms to the property values listed in the tables below.

PROPERTY	TEST METHODS	UNITS	VALUE	SPECIFICATIONS[1]	TEST FREQUENCY
FINISHED GEOCOMPOSITE PROPERTIES					
• Transmissivity[3] nominal pressure = 15000psf; i=1.0	ASTM D 4716 plate/composite/plate	m^2/sec (E-04)	1.0	MARV	200,000 sf (or per project req.)
• Peel Adhesion	ASTM F 904 (modified)[2]	g/in	454	MARV	50,000 sf
• Geotextile overlap at edges and unbonded area		in mm	3.0 75	nominal	
CORE NET PROPERTIES (97% minimum virgin polyethylene resin)					
• MD Tensile	ASTM D 5035	ppi kN/m	48 8.4	MARV	50,000 sf
• Thickness	ASTM D 5199	mil mm	200 5.1	MARV	50,000 sf
• Carbon Black	ASTM D 4218 (or ASTM D 1603)	% weight	2.0	MARV	50,000 sf
GEOTEXTILE PROPERTIES					
• Grab Tensile	ASTM D 4632	lbs N	160 712	MARV	100,000 sf
• AOS	ASTM D 4751	US Std. Sieve mm	70 0.212	MARV	500,000 sf
• Mass/Unit Area	ASTM D 5261	oz/yd^2	6.0	MARV	100,000 sf
• Water Permeability	ASTM D 4491	cm/sec	0.3	MARV	500,000 sf
• Water Flow Rate	ASTM D 4491	gpm/ft^2 m^3/sec/m^2	135 0.08	MARV	500,000 sf
• U.V. Resistance	ASTM G 53	%	70		1 per lot
PACKAGING					
• Roll length	Direct Measure	ft	225	nominal	Each roll
• Roll width	Direct Measure	ft	14	nominal	Each roll
• Roll weight	Direct Measure	lbs	903	typical	Each roll
• Roll diameter	Direct Measure	in	31	typical	Each roll
• Core ID	Direct Measure	in	4	nominal	N/A
• Labeling:	Product code, geotextile type, roll dimensions, finished product lot and roll number.				

Notes

[1] MARV is defined as the one-sided 97.5% confidence limit obtained through long-term data (mean - 2* standard deviations) and represents the minimum allowable sample roll average for each specific test.

[2] Peel adhesion ASTM F 904: 2 inch wide strip. Reported value per specimen is average of all computed points between 1" and 5" of separation.

[3] Transmissivity results reported by Evergreen Technologies, Inc. are based on standard index test conditions. Actual performance is dependent upon site specific conditions. Please contact Evergreen Technologies Technical Service for site specific transmissivity testing.

[4] Geotextile and Core Net component properties are tested prior to the lamination process and cannot be tested on the finished geocomposite product.

ETI

Sales/Technical Service
5775-B Glenridge Drive • Lakeside Center, Suite 450 • Atlanta, Georgia 30328-5363 • 404.250.1290• 404.705.9650 (fax) • 800.984.9784
www.etigeo.com

Manufacturing/Quality Assurance
200 Miller Sellers Drive • Evergreen, Alabama 36401 • (Main Tel.) 334.578.9003 • 334.578.6141 (fax)

QA Direct
334.578.6103 • 334.578.6140 (fax)

EVERGREEN
TECHNOLOGIES, INC.

GEONET NS 1300 / 1400 / 1600

ETI NS Series drainage net is a three dimensional high density polyethylene net structure formed by intersecting strands which provide uniform channels, open area and thickness to assure uniform flow throughout the structure. ETI geonets are crush resistant and have a low compressibility capable of maintaining high transmissivity under a range of loading conditions. The geonet is manufactured with carbon black to provide ultra-violet stabilization. Virgin resins used in the production of ETI geonets consist of at least 97% polyethylene with a melt flow range between 0.1 and 1.0 grams per 10 minutes (ASTM D1238), and a density range of 0.932 to 0.970 grams per cubic centimeter (ASTM D1505). The geonet is delivered to the jobsite in roll form with each roll having unique identification and QA traceability. **NS Series geonets** conform to the property values listed in the tables below:

PROPERTY	TEST METHODS	UNITS	1300	1400	1600	SPECIFICATIONS[1]	TEST FREQUENCY
• Transmissivity[2] nominal pressure = 15,000 psf; i=1.0	ASTM D 4716 plate/net/plate	m^2/sec (E-04)	7	10	14	MARV	200,000 sf (or per project req.)
• Thickness	ASTM D 5199	mil mm	160 4.1	200 5.1	250 6.4	MARV	50,000 sf
• Grab Tensile (MD)	ASTM D 5035	ppi kN/m	35 6.1	48 8.4	91 16.0	MARV	50,000 sf
• Mass/Unit Area	ASTM D 5261	lbs/ft^2 g/m^2	.150 732	.162 830	.258 1260	MARV	50,000 sf
• Carbon Black	ASTM D 4218 (OR ASTM D 1603)	% weight	2.0	2.0	2.0	MARV	50,000 sf
PACKAGING							
• Roll width	direct measure	ft	14	14	14	nominal	Each roll
• Roll length	direct measure	ft	300	300	300	nominal	Each roll
• Roll diameter	direct measure	in	28	30	34	typical	Each roll
• Roll weight	direct measure	lbs	660	795	1,212	typical	Each roll
• Core I.D.	direct measure	in	4	4	4	nominal	N/A
• Labeling:	Product code, roll dimensions, finished product lot and roll number.						

Notes

[1] MARV is defined as the one-sided 97.5% confidence limit obtained through long-term data (mean - 2* standard deviations) and represents the minimum allowable sample roll average for each specific test.

[2] Transmissivity results reported by Evergreen Technologies, Inc. are based on standard index test conditions. Actual performance is dependent upon site specific conditions. Please contact Evergreen Technologies Sales/Technical Service for site specific transmissivity testing.

ETI

Sales/Technical Service
5775-B Glenridge Drive • Lakeside Center, Suite 450 • Atlanta, Georgia 30328-5363 • 404.250.1290• 404.705.9650 (fax) • 800.984.9784
www.etigeo.com

Manufacturing/Quality Assurance
200 Miller Sellers Drive • Evergreen, Alabama 36401 • (Main Tel.) 334.578.9003 • 334.578.6141 (fax)

QA Direct
334.578.6103 • 334.578.6140 (fax)

EVERGREEN
TECHNOLOGIES, INC.

Copy for your records

June 12, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Customer Order # 1858-00, PO# 00.FREEIL, Project: Modern Plating Corp.
TES # 2427, Shipment #s 4677, 4678, and 4686, B/L #s 4668, 4669, and 4677

Dear Mr. Valasquez:

This letter is to certify that DC4200AA is a Geonet Drainage Composite manufactured by Evergreen Technologies, Inc. (ETI). Further, all of the components are manufactured by ETI. The components consist of TG600, a 6-ounce metal-free nonwoven geotextile from Lot # 00069, which is bonded to each side of a Geonet (NS1400) from Lot # 03031.

DC4200AA from Lot # 04022 meets the minimum properties listed below:

PROPERTY	TEST PROCEDURE	VALUE (1)	
Peel Adhesion	ASTM F 904	908	g/in
Transmissivity (2)	ASTM D 4716	3.0	$x10^{-5}m^2/sec$

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-0033 / Fax 334-578-0141

Lot # 04022 Roll Data

Roll Number	Lot Number	Geonet Roll Number	Geonet Lot Number	Textile Roll Number (top)	TOP Lot Number	Textile Roll Number (bottom)	BOTTOM Lot Number	Textile (top)	Textile (bottom)	Item Number
403245	04022	0301376	03031	0011619	00069	0011622	00069	600	600	DC4200AA168225
403283	04022	0301374	03031	0011589	00069	0011587	00069	600	600	DC4200AA168225
403316	04022	0301387	03031	0011623	00069	0011608	00069	600	600	DC4200AA168225
403323	04022	0301383	03031	0011616	00069	0011611	00069	600	600	DC4200AA168225
403324	04022	0301389	03031	0011616	00069	0011611	00069	600	600	DC4200AA168225
403325	04022	0301389	03031	0011616	00069	0011611	00069	600	600	DC4200AA168225
403326	04022	0301389	03031	0011616	00069	0011611	00069	600	600	DC4200AA168225
403327	04022	0301389	03031	0011615	00069	0011611	00069	600	600	DC4200AA168225
403328	04022	0301389	03031	0011615	00069	0011611	00069	600	600	DC4200AA168200
403329	04022	0301390	03031	0011615	00069	0011611	00069	600	600	DC4200AA168225
403330	04022	0301390	03031	0011615	00069	0011628	00069	600	600	DC4200AA168225
403331	04022	0301390	03031	0011615	00069	0011628	00069	600	600	DC4200AA168225
403332	04022	0301390	03031	0011615	00069	0011628	00069	600	600	DC4200AA168225
403333	04022	0301390	03031	0011615	00069	0011628	00069	600	600	DC4200AA168225
403334	04022	0301370	03031	0011615	00069	0011628	00069	600	600	DC4200AA168225
403335	04022	0301370	03031	0011638	00069	0011628	00069	600	600	DC4200AA168225
403336	04022	0301370	03031	0011638	00069	0011628	00069	600	600	DC4200AA168225
403337	04022	0301370	03031	0011638	00069	0011628	00069	600	600	DC4200AA168225
403338	04022	0301370	03031	0011638	00069	0011630	00069	600	600	DC4200AA168155
403339	04022	0301388	03031	0011638	00069	0011630	00069	600	600	DC4200AA168225
403340	04022	0301388	03031	0011638	00069	0011630	00069	600	600	DC4200AA168225
403341	04022	0301388	03031	0011638	00069	0011630	00069	600	600	DC4200AA168225
403342	04022	0301388	03031	0011638	00069	0011630	00069	600	600	DC4200AA168225
403343	04022	0301388	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225

Lot # 04022 Roll Data

Roll Number	Lot Number	Geonet Roll Number	Geonet Lot Number	Textile Roll Number (top)	TOP Lot Number	Textile Roll Number (bottom)	BOTTOM Lot Number	Textile (top)	Textile (bottom)	Item Number
403344	04022	0301392	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225
403345	04022	0301392	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225
403346	04022	0301392	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225
403347	04022	0301392	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225
403348	04022	0301392	03031	0011605	00069	0011630	00069	600	600	DC4200AA168225
403349	04022	0301395	03031	0011583	00069	0011630	00069	600	600	DC4200AA168225
403350	04022	0301395	03031	0011583	00069	0011630	00069	600	600	DC4200AA168225
403351	04022	0301395	03031	0011583	00069	0011630	00069	600	600	DC4200AA168225
403352	04022	0301395	03031	0011583	00069	0011634	00069	600	600	DC4200AA168225
403353	04022	0301395	03031	0011583	00069	0011634	00069	600	600	DC4200AA168225
403354	04022	0301382	00069	0011583	00069	0011634	00069	600	600	DC4200AA168205
403355	04022	0301382	00069	0011583	00069	0011634	00069	600	600	DC4200AA168225
403356	04022	0301382	00069	0011583	00069	0011634	00069	600	600	DC4200AA168225
403357	04022	0301382	00069	0011639	00069	0011634	00069	600	600	DC4200AA168225
403358	04022	0301382	00069	0011639	00069	0011634	00069	600	600	DC4200AA168225
403359	04022	0301394	03031	0011639	00069	0011634	00069	600	600	DC4200AA168225
403360	04022	0301394	03031	0011639	00069	0011648	00069	600	600	DC4200AA168225
403361	04022	0301394	03031	0011639	00069	0011648	00069	600	600	DC4200AA168225
403362	04022	0301394	03031	0011639	00069	0011648	00069	600	600	DC4200AA168225
403363	04022	0301394	03031	0011639	00069	0011648	00069	600	600	DC4200AA168225
403364	04022	0301393	03031	0011639	00069	0011648	00069	600	600	DC4200AA168225
403365	04022	0301393	03031	0011647	00069	0011648	00069	600	600	DC4200AA168225
403366	04022	0301393	03031	0011647	00069	0011648	00069	600	600	DC4200AA168225
403367	04022	0301393	03031	0011647	00069	0011648	00069	600	600	DC4200AA168225

Lot # 04022 Roll Data

Roll Number	Lot Number	Geonet Roll Number	Geonet Lot Number	Textile Roll Number (top)	TOP Lot Number	Textile Roll Number (bottom)	BOTTOM Lot Number	Textile (top)	Textile (bottom)	Item Number
403368	04022	0301393	03031	0011647	00069	0011648	00069	600	600	DC4200AA168225
403369	04022	0301391	03031	0011647	00069	0011636	00069	600	600	DC4200AA168225
403370	04022	0301391	03031	0011647	00069	0011636	00069	600	600	DC4200AA168225
403371	04022	0301391	03031	0011647	00069	0011636	00069	600	600	DC4200AA168225
403373	04022	0301391	03031	0011647	00069	0011636	00069	600	600	DC4200AA168220
403374	04022	0301401	03031	0011637	00069	0011636	00069	600	600	DC4200AA168225

Report Date: 06/12/2000

Grade DC4200AA

Lot Number: 4022

Roll Dim.: 14 ft 0 in X 225 ft

Customer: Midessa

EVERGREEN TECHNOLOGIES INC.
MQA/MQC LABORATORY
EVERGREEN, ALABAMA

REVIEWED BY:
QA DMW 6/20/01
ENGINEER

COMPOSITE TEST ROLLS
LOT SUMMARY

Roll Number	Test Date	Geonet		Top Fabric			Bottom Fabric			Peel Test		TRANSMISSIVITY ASTM D4716 (m2/sec)		
		Roll No.	Lot No.	Roll No.	Lot No.	Product Type	Roll No.	Lot No.	Product Type	Top ASTM F904 (g/in)	Btm ASTM F904 (g/in)	X 10-3	X 10-4	X 10-5
0403245	06/07/2000	301376	03031	0011619	00069	TG600	0011622	00069	TG600	1043.0	1122.0	0.653	6.525	65.250
0403258	06/05/2000	301378	03031	0011621	00069	TG600	0011625	00069	TG600	1115.6	1122.1			
0403273	06/05/2000	301375	03031	0011629	00069	TG600	0115590	00069	TG600	1196.0	1031.0			
0403288	06/05/2000	301381	03031	0011588	00069	TG600	0011606	00069	TG600	963.3	957.0	0.272	2.718	27.180
0403303	06/06/2000	301385	03031	0011586	00069	TG600	0011624	00069	TG600	927.5	971.2			
0403316	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	1453.0	1354.0			
0403319	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	916.3	977.4			
0403320	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	1129.0	936.3			
0403323	06/06/2000	301383	03031	0011616	00069	TG600	0011611	00069	TG600	953.4	1081.0			
0403333	06/06/2000	301390	03031	0011615	00069	TG600	0011628	00069	TG600	1615.0	1147.0			
0403344	06/06/2000	301392	03031	0011605	00069	TG600	0011630	00069	TG600	1008.0	1511.0	0.359	3.588	35.880
0403359	06/07/2000	301394	03031	0011639	00069	TG600	0011634	00069	TG600	1000.0	1255.0			
0403374	06/07/2000	301401	03031	0011637	00069	TG600	0011636	00069	TG600	1133.0	1091.0			
									AVERAGE=	1111.8	1119.7	0.428	4.277	42.770
									STD. DEVIATION=	209.1	168.2	0.199	1.995	19.948

EVERGREEN
TECHNOLOGIES, INC.

June 12, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Subject: NS1400 Geonet Certificate of Compliance

Customer Order # 1858-00, PO# 00.FREEIL, Project: Modern Plating Corp.
TES # 2427, Shipment #s 4677, 4678, and 4686, B/L #s 4668, 4669, and 4677

Dear Mr. Valasquez

This letter certifies that NS1400, a 200 mil geonet shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, meets or exceeds the minimum requirements listed below and was shipped from Lot # 03031.

PROPERTY	TEST PROCEDURE	VALUE(1)
Transmissivity (2)	ASTM D 4716	1 $x10^{-4}$ m^2/sec
Carbon Black Content	ASTM D 4218	2-3 %

Resin Information

A minimum 97% virgin polyethylene is used to produce NS1400. Railcar Number ECUX-880709, HDPE.

PROPERTY	TEST PROCEDURE	VALUE	
Melt Flow Range	ASTM D 1238	0.1-1.0	g/10 max
Density	ASTM D 1505	0.940	g/cc

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel 334-578-0033 Fax 334-578-6141

Report Date: 06/12/2000 Time: 12:40:02
Product Type: NS1400 BLACK
Lot Number: 3031
Dimension: 14 ft 0 in X 115 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA DMSN 6/13/24
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
301365	06/04/2000	72.4	23.8	0.2031	249.90	2.54	15.378	0.9530
301370	06/04/2000	62.4	15.4	0.1914	237.30	2.78		0.9580
301373	06/04/2000	57.3	20.3	0.1803	229.80	2.57		0.9560
301376	06/04/2000	61.2	20.4	0.1819	228.30	2.38	13.924	0.9480
301379	06/05/2000	61.8	19.3	0.1819	232.20	2.48		0.9490
301382	06/05/2000	63.4	20.3	0.1807	227.00	2.65		0.9520
301385	06/05/2000	63.9	17.1	0.1727	221.30	2.72		0.9530
301388	06/05/2000	64.8	18.8	0.1814	230.30	2.87	17.360	0.9530
301391	06/06/2000	66.7	22.5	0.1817	228.40	2.88		0.9560
301394	06/06/2000	65.4	22.3	0.1868	228.90	2.61		0.9530
301396	06/06/2000	109.7	37.5	0.2924	320.10	2.76	22.184	0.9550
301397	06/06/2000	104.7	34.3	0.2926	325.00	2.24		0.9530
301400	06/06/2000	61.7	16.2	0.1809	244.10	2.45	17.749	0.9450
301403	06/07/2000	60.3	21.4	0.1785	242.50	2.53		0.9450
Average =		69.7	22.1	0.1990	246.08	2.60	17.319	0.952 ✓
Standard Deviation =		16.3	6.3	0.0402	33.31		3.128	0.004

Transmissivity tested at 15,000 psf, gradient = 1.0, configuration = p/sample/p 10-4 m2/sec, 15 minutes seating time.

L7

R001498

REVIEWED BY:
QA
ENGINEER

Evergreen Technologies
Quality Control Laboratory
Evergreen, Alabama

Railcar Number	Melt Flow Index ASTM D 1238 PROCEDURE B AUTOMATIC Conditions: Test Temp 190 C / 2.16 kg (formerly Condition E) g/10 min	Density ASTM D 1505 g/cc
ECUX 880709	.700	.960

EVERGREEN
TECHNOLOGIES, INC.

June 12, 2000

Midessa Industrial Vinyl Company
4809 W. 42nd Street
Odessa, TX 79764
Attn: Benjamin Velasquez

Subj: NS1300 Geonet Certificate of Compliance

Customer Order # 1858-00, PO# 00.FREEIL, Project: Modern Plating Corp.
TES # 2427, Shipment # 4677, B/L # 4669

Dear Mr. Valasquez:

This letter certifies that NS1300, a 150 mil geonet shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, Inc. (ETI), meets or exceeds the minimum requirements listed below and was shipped from Lot #s 93161 and 03019.

PROPERTY	TEST PROCEDURE	VALUE (1)	
Transmissivity (2)	ASTM D 4716	1	$x10^{-4}$ m^2/sec
Carbon Black Content	ASTM D 4218	2-3	%

Resin Information

A minimum 97% virgin polyethylene is used to produce NS1300. Railcar Numbers ECUX-880963 and ACFX-58529.

PROPERTY	TEST PROCEDURE	VALUE	
Melt Flow Range	ASTM D 1238	0.1-1.0	g/10 max
Density Range	ASTM D 1505	.940	g/cc

(1) Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 which meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Transmissivity test parameters were set at gradient of 1.0, pressure load of 15,000 pounds per square foot (psf), with a configuration of metal plate / sample / metal plate, 15 minutes seating time.

This certification is based on testing conducted by ETI Quality Assurance & Quality Control testing laboratory at the time of manufacturing. ETI issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

ETI

5883 Glenridge Drive / Suite 200 / Atlanta, Georgia 30328
Tel. 800-984-9784 / Fax 404-705-9650

200 Miller Sellers Drive / Evergreen, Alabama 36401
Tel. 334-578-9001 / Fax 334-578-6141

Report Date: 06/12/2000 Time: 14:22:29
Product Type: NS1400 BLACK
Lot Number: 93161
Dimension: 14 ft 0 in X 1150 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
9305424	09/22/1999	45.1	20.0	0.1524	205.70	4.96	12.800	0.9500
Average =		45.1	20.0	0.1524	205.70	4.96	12.800	0.950
Standard Deviation =		.0	.0	0.0000	.00		.000	0.000

Report Date: 06/12/2000 Time: 13:57:21
Product Type: NS1300 BLACK
Lot Number: 3019
Dimension: 14 ft 0 in X 300 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
300879	04/19/2000	57.1	21.7	0.1812	238.90	2.60	15.920	0.9520
300883	04/19/2000			0.1672				
300887	04/19/2000	57.7	13.7	0.1598	213.00	2.60		0.9540
300898	04/19/2000	52.5	16.0	0.1684	209.80	2.60		0.9530
300909	04/20/2000	52.5	18.3	0.1590	209.10	2.60		0.9540
300920	04/20/2000	61.7	16.6	0.1556	203.90	2.42	16.340	0.9550
300930	05/18/2000			0.1533				
300931	04/20/2000	54.2	16.0	0.1554	205.60	2.30		0.9550
300941	04/20/2000	61.1	17.7	0.1815	229.60	2.40		0.9550
Average =		56.7	17.1	0.1646	215.70	2.50	16.130	0.954
Standard Deviation =		3.8	2.5	0.0108	13.28		.297	0.001

REVIEWED BY:
QA
ENGINEER

Evergreen Technologies
Quality Control Laboratory
Evergreen, Alabama

Melt Flow Index
ASTM D 1238
PROCEDURE B AUTOMATIC
Conditions: Test Temp 190 C / 2.16 kg (formerly Condition E)

Density
ASTM D 150

Railcar Number	g/10 min	g/cc
ECUX 880963	.700	.964
ACFX 58529	.350	.953

EVERGREEN
TECHNOLOGIES, INC.

June 12, 2000

Midessa Industrial Vinyl Co.
4809 W. 42nd Street
Odessa, TX 79764
Attn: Mr. Benjamin Velasquez

Subject: TG600 Nonwoven Geotextile Certificate of Compliance

Customer Order # 1858-00, PO# 00.FREEIL, Project: Modern Plating Corp.
TES # 2427, Shipment #s 4677, 4678, and 4686, B/L #s 4668, 4669, and 4677

Dear Mr. Valasquez:

This letter certifies that TG600, a metal-free nonwoven geotextile, shipped from Evergreen, Alabama, manufactured by Evergreen Technologies, meets or exceeds the minimum requirements listed below and was shipped from Lot 00069 to be determined.

PROPERTY	TEST PROCEDURE	VALUE(1)	
Tear Strength	ASTM D 4533	25	lbs
Mullen Burst	ASTM D 3786	130	psi
Grab Strength	ASTM D 4632	80	lbs
Puncture Resistance	ASTM D 4833	25	lbs
A.O.S. (2)	ASTM D 4751	.212-.150 *	mm
		(70-100) *	US Std Sieve
U.V. Resistance (500 hours)	ASTM D 4355	70	%

(1) Values in weaker principle direction. Unless noted otherwise, these values represent minimum average roll values (i.e. test results from any sampled roll in a lot, tested in accordance with ASTM D 4759-88 shall meet or exceed the minimum values listed with a 97.7% level of confidence).

(2) Smaller sieve size number represents the maximum average roll value.

* Determined at the time of manufacturing, storage and handling conditions which differ from those found in ASTM D 4873-88 may influence these properties.

Unless noted otherwise, this certification is based on testing conducted by Evergreen Technologies Quality Assurance & Quality Control testing laboratories at the time of manufacturing. Evergreen Technologies issues this letter of certification to indicate our commitment to providing our customers with a quality product which will meet or exceed the minimum average roll values in accordance with the applicable American Society for Testing and Materials (ASTM) test method.

Respectfully,

Jonathan McCulley
QA / QC Supervisor

Product Grade: TG600
Lot Number: 69
Color: BLACK
Roll Dimensions: 15ft 4in x 1860ft

Evergreen Technologies Inc.
QA/QC Laboratory
Evergreen, Alabama

Nonwoven Test
Rolls
Lot Summary

Reviewed By:
QA: DMW
Engineer:

Roll No.	Test Date	Weight ASTM D5261 (oz/yd2)	Grab Tensile/Elongation ASTM D4632 M.D. Tens. (lbs)	M.D. Elong (%)	C.D. Tens. (lbs)	C.D. Elong (%)	M. Burst ASTM D3786 (psi)	Puncture Resistance ASTM D4833 (lbs)	Trap.Tear ASTM D4533 MD (lbs)	Trap.Tear ASTM D4533 CD (lbs)	Thickness ASTM D5199 (mils)	Hydraulic Tests ASTM D4491 Permit. (sec-1)	Hydraulic Tests ASTM D4491 Perm.(Kv) (cm/sec)	Water Flow (gpm/ft2)	A.O.S. ASTM D4751 (mm)
11581	06/02/2000	6.6	227.3	141.5	227.2	55.6	396.6	89.7	119.9	100.6	89	2.65	0.602	202.5	0.193
11584	06/02/2000	6.5	228.1	171.0	231.2	64.8	436.5	92.5	108.2	95.1	90				
11586	06/02/2000	6.5													
11587	06/02/2000	6.7	223.6	159.0	234.5	66.3	411.9	100.5	94.2	88.9	86				
11591	06/02/2000	6.3	219.0	160.5	232.6	61.5	394.1	92.3	96.5	85.4	81				
11594	06/02/2000	6.7	230.2	174.7	239.0	63.4	409.5	96.9	83.2	86.6	83				
11597	06/02/2000	6.6	220.3	192.0	212.2	68.4	426.5	95.8	120.9	135.6	85	2.62	0.655	202.3	0.192
11600	06/02/2000	6.6	218.7	149.5	219.6	57.3	415.6	92.1	101.3	107.1	91	2.78	0.688	208.2	0.201
11603	06/02/2000	6.7	216.0	141.2	226.6	57.8	412.7	99.5	126.6	128.2	92				
11604	06/02/2000	6.4													
11606	06/02/2000	6.6	198.9	132.4	232.3	57.9	403.8	96.6	93.8	103.1	93				
11609	06/03/2000	6.5	211.9	135.8	217.6	54.8	403.8	97.5	98.2	101.0	93				
11612	06/03/2000	6.4	223.4	142.4	246.6	60.4	498.1								
11613	06/03/2000	6.4													
11614	06/03/2000	6.2													
11615	06/03/2000	6.5	207.8	131.8	209.8	55.1	453.0	95.7	94.5	91.2	94	2.93	0.713	219.1	0.194
11616	06/03/2000	6.7	232.9	143.3	219.6	62.3	401.6	98.7	96.4	87.1	88	2.73	0.622	204.5	0.200
11619	06/03/2000	6.5	217.6	162.2	242.4	65.6	494.5	95.7	120.1	101.0	94				
11620	06/03/2000	6.7													
11622	06/03/2000	6.6	221.8	182.2	235.4	59.9	462.7	99.5	92.5	107.3	92				
11625	06/04/2000	6.7	219.7	143.8	231.0	56.2	477.8	92.5	125.0	104.7	91				
11628	06/04/2000	6.5	206.9	134.4	217.7	56.8	475.0	93.9	106.3	116.8	93	3.07	0.740	229.7	0.188
11631	06/04/2000	6.6	212.5	140.1	223.4	59.1	447.5	97.8	84.7	95.0	86				
11634	06/04/2000	6.4	209.3	143.3	231.1	56.1	472.5	96.7	74.7	80.8	83				
11637	06/04/2000	6.5	225.0	150.9	211.7	60.3	454.5	94.0	88.2	82.6	85				
11641	06/04/2000	6.8	214.9	157.6	254.9	68.8	497.6	103.8	124.0	118.5	99	2.65	0.660	198.0	0.212
11644	06/05/2000	6.7	230.8	168.8	232.9	62.3	471.7								
11646	06/05/2000	6.4	226.2	140.3	215.2	57.3	468.4	95.1	128.7	116.5	94				
11649	06/05/2000	6.5	205.5	137.3	225.9	60.8	464.2								
11651	06/05/2000	6.6	218.7	139.1	224.5	54.7	475.8	104.0	102.8	99.2	88				
											92	2.40	0.538	179.4	0.210
	Average =	6.5	218.7	151.0	227.8	60.1	445.0	96.4	103.7	101.5	89.7	2.73	0.652	205.5	0.199
	Standard Deviation =	.1	8.7	16.4	11.2	4.2	34.6	3.7	15.8	14.7	4.5	.20	0.065	14.8	0.009

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier	Trailer No.	Date	Shipment No.	Bill of Lading No.
L&L TRUCKING LLTR	1812	06/09/2000	4677	4669

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From:	To:
Shipper (Origin) EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN, AL 36401	Cosignee MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: **0001858-00** Customer Purchase Order: **0** Job Number:

TES/TET#: **TMP#:** **Freight Terms:** PPD

Order Comments TES-2427 / TMP #
PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTACT BENJAMIN AT 915-530-3055.

Bill of Lading Comments

No. Pkgs	Kind of Package, Description of Articles, Special Marks and Exceptions		Weight
1	DC4200AA168155	DC4200/ 6oz/6oz 14x155 2,170ft2	645
21	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	19,656
1	NS1300168280	NS1300 14x280 3,920ft2	756
4	NS1300168300	NS1300 14x300 4,200ft2	3,240
27	**Total Pkgs**	**Total Weight**	24,297 lbs

Cosignee Signature **Delivery Date**

REMIT C.O.D. TO: C.O.D. Amt$ **C.O.D Fee:** ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

_____ (Signature of Cosignor)

Freight charges are PREPAID unless marked collect. **Check box if charges are Collect.** ☐

This is to certify that the above named materials are property classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.
200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401
Permanent post office address of shipper

Shipper, Per Russell Corbin Agent, Per Rocke Benton

Evergreen Technologies, Inc.

Packing List

9-Jun-00 14:19:26

Customer MID010

MIDESSA INDUSTRIAL VINYL CO

Ship To: MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Order Number 0001858-00 PO Number: 0

Shipment Number: 4677

Line	Roll Number	Lot Number	Product Code
1	0300883	03019	NS1300168300
2	0300884	03019	NS1300168300
3	0300885	03019	NS1300168300
4	0300886	03019	NS1300168300
5	0403316	04022	DC4200AA168225
6	0403324	04022	DC4200AA168225
7	0403325	04022	DC4200AA168225
8	0403326	04022	DC4200AA168225
9	0403327	04022	DC4200AA168225
10	0403332	04022	DC4200AA168225
11	0403338	04022	DC4200AA168155
12	0403339	04022	DC4200AA168225
13	0403344	04022	DC4200AA168225
14	0403345	04022	DC4200AA168225
15	0403346	04022	DC4200AA168225
16	0403347	04022	DC4200AA168225
17	0403348	04022	DC4200AA168225
18	0403349	04022	DC4200AA168225
19	0403350	04022	DC4200AA168225
20	0403351	04022	DC4200AA168225
21	0403358	04022	DC4200AA168225
22	0403359	04022	DC4200AA168225
23	0403362	04022	DC4200AA168225
24	0403365	04022	DC4200AA168225
25	0403366	04022	DC4200AA168225
26	0403367	04022	DC4200AA168225
27	9305424	93161	NS1300168280

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier		Trailer No.	Date	Shipment No.	Bill of Lading No.
SAS SASSY TRUCKING		130	06/09/2000	4678 R001508	4668

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possesion of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From: Shipper (Origin)	EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN, AL 36401
To: Cosignee	MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: 0001858-00 Customer Purchase Order: 0 Job Number:

TES/TET#: TMP#: Freight Terms: PPD

Order Comments: TES-2427 / TMP #
PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTACT BENJAMIN AT 915-530-3055.

Bill of Lading Comments:

No. Pkgs	Kind of Package, Description of Articles, Special Marks and Exceptions		Weight
1	DC4200AA168200	DC4200/ 6oz/6oz 14x200 2,800ft2	832
1	DC4200AA168205	DC4200/6oz/6oz 14x205 2,870ft2	853
25	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	23,400
27	Total Pkgs	Total Weight	25,085 lb

Cosignee Signature: Delivery Date:

REMIT C.O.D. TO: C.O.D. Amt$ C.O.D Fee: ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

(Signature of Cosignor)

Freight charges are PREPAID unless marked collect. Check box if charges are Collect. ☐

This is to certify that the above named materials are property classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.
200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401
Permanent post office address of shipper

Shipper, Per Russell Cox Agent, Per J Hilbert

Evergreen Technologies, Inc.
Packing List

9-Jun-00 *13:57:26*

Order Number 0001858-00 *PO Number:* 0
Shipment Number: 4678

Customer MID010
Ship To: MIDESSA INDUSTRIAL VINYL CO
MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Line	Roll Number	Lot Number	Product Code
1	0403323	04022	DC4200AA168225
2	0403328	04022	DC4200AA168200
3	0403329	04022	DC4200AA168225
4	0403330	04022	DC4200AA168225
5	0403331	04022	DC4200AA168225
6	0403333	04022	DC4200AA168225
7	0403334	04022	DC4200AA168225
8	0403335	04022	DC4200AA168225
9	0403336	04022	DC4200AA168225
10	0403337	04022	DC4200AA168225
11	0403340	04022	DC4200AA168225
12	0403341	04022	DC4200AA168225
13	0403342	04022	DC4200AA168225
14	0403343	04022	DC4200AA168225
15	0403352	04022	DC4200AA168225
16	0403353	04022	DC4200AA168205
17	0403354	04022	DC4200AA168225
18	0403355	04022	DC4200AA168225
19	0403356	04022	DC4200AA168225
20	0403357	04022	DC4200AA168225
21	0403361	04022	DC4200AA168225
22	0403363	04022	DC4200AA168225
23	0403364	04022	DC4200AA168225
24	0403368	04022	DC4200AA168225
25	0403369	04022	DC4200AA168225
26	0403370	04022	DC4200AA168225
27	0403371	04022	DC4200AA168225

R001510

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier	Trailer No.	Date	Shipment No.	Bill of Lading No.
BOYD BROTHERS TRANSPORTATION BOYD	48930	06/12/2000	4686	4677

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From:	To:
Shipper (Origin) EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN, AL 36401	Cosignee MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: 0001858-00 Customer Purchase Order: 0 Job Number:

TES/TET#: TMP#: Freight Terms: PPA

Order Comments: TES-2427 / TMP # PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTACT BENJAMIN AT 915-530-3055.

Bill of Lading Comments:

No. Pkgs	Kind of Package, Description of Articles, Special Marks and Exceptions		Weight
1	DC4200AA168220	DC4200/ 6oz/6oz 14x220 3,080ft2	915
4	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	3,744
5	Total Pkgs	Total Weight	4,659 lb

Cosignee Signature

Delivery Date

REMIT C.O.D. TO:

C.O.D. Amt$

C.O.D Fee: ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

(Signature of Cosignor)

Freight charges are PREPAID unless marked collect.

Check box if charges are Collect. ☐

This is to certify that the above named materials are properly classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.

200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401 Shipper, Per Agent, Per

Permanent post office address of shipper

Evergreen Technologies, Inc.
Packing List

R001511

12-Jun-00 *13:21:08*

Customer MID010

MIDESSA INDUSTRIAL VINYL CO

Ship To: MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Order Number 0001858-00 *PO Number:* 0

Shipment Number: 4686

Line	Roll Number	Lot Number	Product Code
1	0403245	04022	DC4200AA168225
2	0403283	04022	DC4200AA168225
3	0403360	04022	DC4200AA168225
4	0403373	04022	DC4200AA168220
5	0403374	04022	DC4200AA168225

Appendix I2

Geocomposite Laboratory Test Results

Precision Geosynthetic Laboratories

July 7, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik: **RE:** Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

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The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. 000639)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. 000639)

MATERIAL DESCRIPTION: Geonet

SAMPLED BY: FOTH & VAN DYKE

DATE RECEIVED: July 3, 2000 **DATE REPORTED:** July 7, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Geonet-PH1-1	52675

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
ASTM D1505	Density
ASTM D1603	Carbon Black Content
ASTM D1238, *Cond. 190°C/2.16 kg*	Melt Flow Index
ASTM D4716	Transmissivity

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table.

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

TABLE 1.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received : **7/3/00**
Date Reported: **7/7/00**
Client Sample ID : **Geonet-PH1-1**
Material Description: **Geonet**

QC'd by: _____
PGL Job No. : **000639**
PGL Control No. : **52675**

		SPECIMENS												
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
METHOD	**DESCRIPTION**													
ASTM D1505	Density (grams/ $cm.^3$)													
		0.9585	0.9585	0.9585								0.9585	0.0000	*0.90 min.*
ASTM D1238	Melt Flow Index (grams/ 10 minutes)													
		0.796	0.798	0.793								0.796	0.003	*1.0 max.*
ASTM D1603	Carbon Black Content (percent)													
		2.40	2.35									2.38	0.04	*2-3 range*
ASTM D4716	Transmissivity ($x10^{-4}$ m^2/sec) *(Normal Pressure: 14.5 psi; Gradient: 0.1; Seating Time: 1 hour)*													
	MD	65.94	65.01									65.48	0.66	*$1x10^{-4}$*

MD - MACHINE DIRECTION

Precision Geosynthetic Laboratories

P

Precision Geosynthetic Laboratories
1742 West Katella, Suite #4, Orange, California 92867
Tel No. (714) 744-4599

INVOICE

NO : 114186

To: FOTH & VAN DYKE

Date: 07/11/00

406 Science Drive
Madison, WI 53711

Customer No.: 5588

Job Number: G000639

Attn: Mr. Marty Cieslik

DESCRIPTION : (1) Geonet.

Project Name : MODERN PLATING CORP.

Quote No. : Q00G0107

Client PO/PR # :

No. of SAMPLES	TEST	DESCRIPTION	TAT	SURCHARGE	UNIT PRICE	TOTAL PRICE
1	D1505	DENSITY	R		8.00	8.00
1	D1603	CARBON BLACK CONTENT	R		19.00	19.00
1	D1238	MELT FLOW INDEX	R		25.00	25.00
1	D4716N	TRANSMISSIVITY(NET)D4716MD-1G1L	R		80.00	80.00
					TOTAL	132.00

We Appreciate Your Business!

Precision Geosynthetic Laboratories

July 7, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik: **RE:** Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

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If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. 000641)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. 000641)

MATERIAL DESCRIPTION: Double Sided Geocomposite

SAMPLED BY: FOTH & VAN DYKE

DATE RECEIVED: July 3, 2000 **DATE REPORTED:** July 7, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Geocomp-PH1-1 Roll 0403363 Lot 04022	52677

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
ASTM D413, *Method A*	Ply Bond Adhesion
ASTM D4716	Transmissivity

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table.

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

TABLE 1.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received: **7/3/00**
Date Reported: **7/7/00**
Client Sample ID: **Geocomp-PH1-1 Roll 0403363 Lot 04022**
Material Description: **Double Sided Geocomposite**

QC'd By: _____
PGL Job No.: **000641**
PGL Control No.: **52677**

		SPECIMENS												
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
METHOD	**DESCRIPTION**													
ASTM D4716	Transmissivity ($x10^{-5}$ m^2/sec) *(Normal Pressure: 14.5 psi; Gradient: 0.1; Seating Time: 1 hour)*													
	MD	51.10	52.20									51.65	0.78	$3x10^{-5}$
ASTM D413	Ply Bond Adhesion (lbs/ in.- width)													
Method A	*MD*	2.0	2.3	3.0	2.0	2.1						2.3	0.4	2.0
	TD	3.5	3.5	3.0	2.5	2.0						2.9	0.7	

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MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

Precision Geosynthetic Laboratories

R001519

P

Precision Geosynthetic Laboratories
1742 West Katella, Suite #4, Orange, California 92867
Tel. No. (714) 532-4599

INVOICE

To: FOTH & VAN DYKE

406 Science Drive
Madison, WI 53711

Attn: Mr. Marty Cieslik

NO : 114192

Date: 07/11/00

Customer No.: 5588

Job Number: G000641

DESCRIPTION : (1) Geocomposite.

Project Name : MODERN PLATING CORP.

Client PO/PR # :

Quote No. : Q00G0107

No. of SAMPLES	TEST	DESCRIPTION	TAT	SURCHARGE	UNIT PRICE	TOTAL PRICE
1	D413P	PLY ADHESION (MD/TD)	R		35.00	35.00
1	D4716N	TRANSMISSIVITY(NET)D4716MD-1G1L	R		80.00	80.00
				TOTAL		115.00

We Appreciate Your Business!

CLIENT

Precision Geosynthetic Laboratories

October 18, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik:

RE: Modern Plating / 97M015

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

It should be noted that the test specimen and test sample used for this report was believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimens that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

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The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

It is a company policy to keep the physical records of each job for 2 years since the receipt of the samples and keep the electronic file for 7 years. ***Failed seam samples are kept for 7 years; good seam samples are disposed after 2 weeks and conformance samples are disposed after 1 month.*** Should you need us to keep them longer, please advise us in writing.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. 001350)

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. 001350)

MATERIAL DESCRIPTION: Geonet

SAMPLED BY: FOTH & VAN DYKE OF MADISON

DATE RECEIVED: October 17, 2000 **DATE REPORTED:** October 18, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Geonet-2 Roll 9305424	57513

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
ASTM D1505	Density
ASTM D1603	Carbon Black Content
ASTM D1238, *Cond. 190°C/2.16 kg*	Melt Flow Index
ASTM D4716	Transmissivity

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table.

PRECISION GEOSYNTHETIC LABORATORIES

GAI-LAP
Initials: # 013
Date: 10/18/00

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

TABLE 1.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received : **10/17/00**
Date Reported: **10/18/00**
Client Sample ID : **Geonet-2 Roll 9305424**
Material Description: **Geonet**

QC'd by: _____
PGL Job No. : **001350**
PGL Control No. : **57513**

		SPECIMENS												
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
METHOD	**DESCRIPTION**													
ASTM D1505	Density (grams/ $cm.^3$)													
		0.9564	0.9561	0.9561								0.9562	0.0002	*0.90 min.*
ASTM D1238	Melt Flow Index (grams/ 10 minutes)													
		0.356	0.369	0.369								0.365	0.007	*1.0 max.*
ASTM D1603	Carbon Black Content (percent)													
		2.52	2.61									2.57	0.06	*2-3 range*
ASTM D4716	Transmissivity ($x10^{-4}$ m^2/sec) *(Normal Pressure: 14.5 psi; Gradient: 0.1; Seating Time: 1 hour)*													
	MD	58.66	59.94									59.30	0.91	*$1x10^{-4}$*

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MD - MACHINE DIRECTION

Precision Geosynthetic Laboratories

R001523

Precision Geosynthetic Laboratories
1160 North Gilbert Street
Anaheim, CA 92801
(800-522-4599)

PROJECT NAME / PROJECT NUMBER: MODERN PLATING CORP. / 97M015

PROJECT LOCATION: FREEPORT, IL

GEOMEMBRANE TESTING

SAMPLE ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015/ D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 ____ (Die C)	Puncture D4833 /101CM2006	Melt Flow Index ASTM D1238, cond E	Dimensional Stability ASTM D1204	Low Temp. Brittleness D746/ D1790	NCTL ASTM D5397 Hours ____	Other ASTM ____

NONWOVEN OR WOVEN GEOTEXTILE TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3786 ____	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs ____) ASTM D4355	Other ASTM ____	Other ASTM ____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASTM D5261 or D3776	Melt Flow Index ASTM D1238, cond E	Peel ASTM D413, F904 or GRI-GC7	Transmissivity * ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2
GEOCOMPOSITE - 2										57512		
(ROLL [illegible]03283)						X	X					
GEONET - 2		X	X		X		X					
(ROLL 9305424)												

CH# 9* 57513

* Transmissivity Test Parameters: Normal Load:_____ Gradient:_____ Seating Time:_____ Boundary Condition:_____

GCL TESTING

SAMPLE ID	Thickness ASTM D5199	Mass Per Area ASTM D5993	Grab Tensile ASTM D4632	Peel Strength ASTM D6496	Moisture Content ASTM D4643 or D2216	Hydraulic Conductivity ASTM D5084	Index Flux ASTM D5887	Swell Index ASTM D5890	Fluid Loss ASTM D5891	Internal Shear Strength ASTM D6243	Other ASTM ____	Other ASTM ____

SEND REPORT TO:
Name: MARTY CIESLIK
Company: FOTH & VANDYKE
Address: 486 SCIENCE DR. STE 400 MADISON, WI 53703
Phone: (608) 238-4761
Fax: (608) 238-4633
e-mail: mcieslik@foth.com

FIELD CONTACT:
Name: BRIAN STANUL
Pager: N/A
Mobil: (608) 576-1635
Phone: (608) 238-4633
Fax: (608) 238-4633
e-mail: bstanul@foth.com

Released by:
Name: BRIAN STANUL
Date/Time: 10/16/00

Received by:
Name:
PGL
Date/Time: 10/17

Shipped Via:
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Other

Precision Geosynthetic Laboratories

October 18, 2000

Mr. Marty Cieslik
FOTH & VAN DYKE
406 Science Drive
Madison, WI 53711

Dear Mr. Cieslik: **RE:** Modern Plating / 97M015

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Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

Enclosure: (Job No. 001349)

Precision Geosynthetic Laboratories

CLIENT: FOTH & VAN DYKE
PROJECT: Modern Plating / 97M015

VERIFICATION OF MATERIAL PROPERTIES
(PGL Job No. 001349)

MATERIAL DESCRIPTION: Double Sided Geocomposite

SAMPLED BY: FOTH & VAN DYKE OF MADISON

DATE RECEIVED: October 17, 2000 **DATE REPORTED:** October 18, 2000

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Geocomposite-2 Roll 0403283	57512

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
ASTM D413, *Method A*	Ply Bond Adhesion
ASTM D4716	Transmissivity

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 22 ± 2°C (71.6 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table.

PRECISION GEOSYNTHETIC LABORATORIES

GAI-LAP #: 013
Initials: [illegible]
Date: 10/18/00

Edith Pintor
Quality Assurance

Cora B. Queja
Vice President

1160 North Gilbert Street, Anaheim, CA 92801, Tel # 714-520-9631, Fax # 714-520-9637

TABLE 1.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received: **10/17/00**
Date Reported: **10/18/00**
Client Sample ID: **Geocomposite-2 Roll 0403283**
Material Description: **Double Sided Geocomposite**

QC'd By: _____
PGL Job No. : **001349**
PGL Control No. : **57512**

		SPECIMENS												
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
METHOD	**DESCRIPTION**													
ASTM D4716	Transmissivity ($x10^{-5}$ m^2/sec) *(Normal Pressure: 14.5 psi; Gradient: 0.1; Seating Time: 1 hour)*													
	MD	67.33	70.02									68.68	1.90	$3x10^{-5}$
ASTM D413 Method A	Ply Bond Adhesion (lbs/ in.- width)													
	MD	2.2	1.7	2.9	3.8	3.5						2.8	0.9	*2.0*
	TD	3.0	2.8	4.2	3.5	2.8						3.3	0.6	

46

MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

Precision Geosynthetic Laboratories

R001527

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Precision Geosynthetic Laboratories
1160 North Gilbert Street
Anaheim, CA 92801
(800-522-4599)

PROJECT NAME / PROJECT NUMBER: MODERN PLATING CORP. / 97M015

PROJECT LOCATION: FREEPORT, IL

GEOMEMBRANE TESTING

SAMPLE ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015/ D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 ____ (Die C)	Puncture D4833 /101CM2065	Melt Flow Index ASTM D1238, cond E	Dimensional Stability ASTM D1204	Low Temp. Brittleness D746/ D1790	NCTL ASTM D5397 Hours ____	Other ASTM ____

NONWOVEN OR WOVEN GEOTEXTILE TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3778	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs ____) ASTM D4355	Other ASTM ____	Other ASTM ____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

SAMPLE ID	Thickness ASTM D5168 or D1777	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASTM D5261 or D3776	Melt Flow Index ASTM D1238, cond E	Peel ASTM D413, F904 or GRI-GC7	Transmissivity* ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2
GEOCOMPOSITE - 2						X	X			57512		
(ROLL D4103283)												
GEONET - 2		X	X		X		X					
(ROLL 9305424)												

* Transmissivity Test Parameters: Normal Load:_____ Gradient:_____ Seating Time:_____ Boundary Condition:_____

GCL TESTING

SAMPLE ID	Thickness ASTM D5199	Mass Per Area ASTM D5993	Grab Tensile ASTM D4632	Peel Strength ASTM D6496	Moisture Content ASTM D4643 or D2216	Hydraulic Conductivity ASTM D5084	Index Flux ASTM D5887	Swell Index ASTM D5890	Fluid Loss ASTM D5891	Internal Shear Strength ASTM D6243	Other ASTM ____	Other ASTM ____

SEND REPORT TO:
Name: MARTY CIESLIK
Company: FOTH & VANDYKE
Address: 406 SCIENCE DR. STE 400 MADISON, WI 53703
Phone: (608) 238-4761
Fax: (608) 238-4633
e-mail: mcieslik@foth.com

FIELD CONTACT:
Name: BRIAN STANUL
Pager: N/A
Mobil: (608) 576-1635
Phone: (608) 238-4633
Fax: (608) 238-4633
e-mail: bstanul@foth.com

Released by:
Name: BRIAN STANUL
Date/Time: 10/16/00

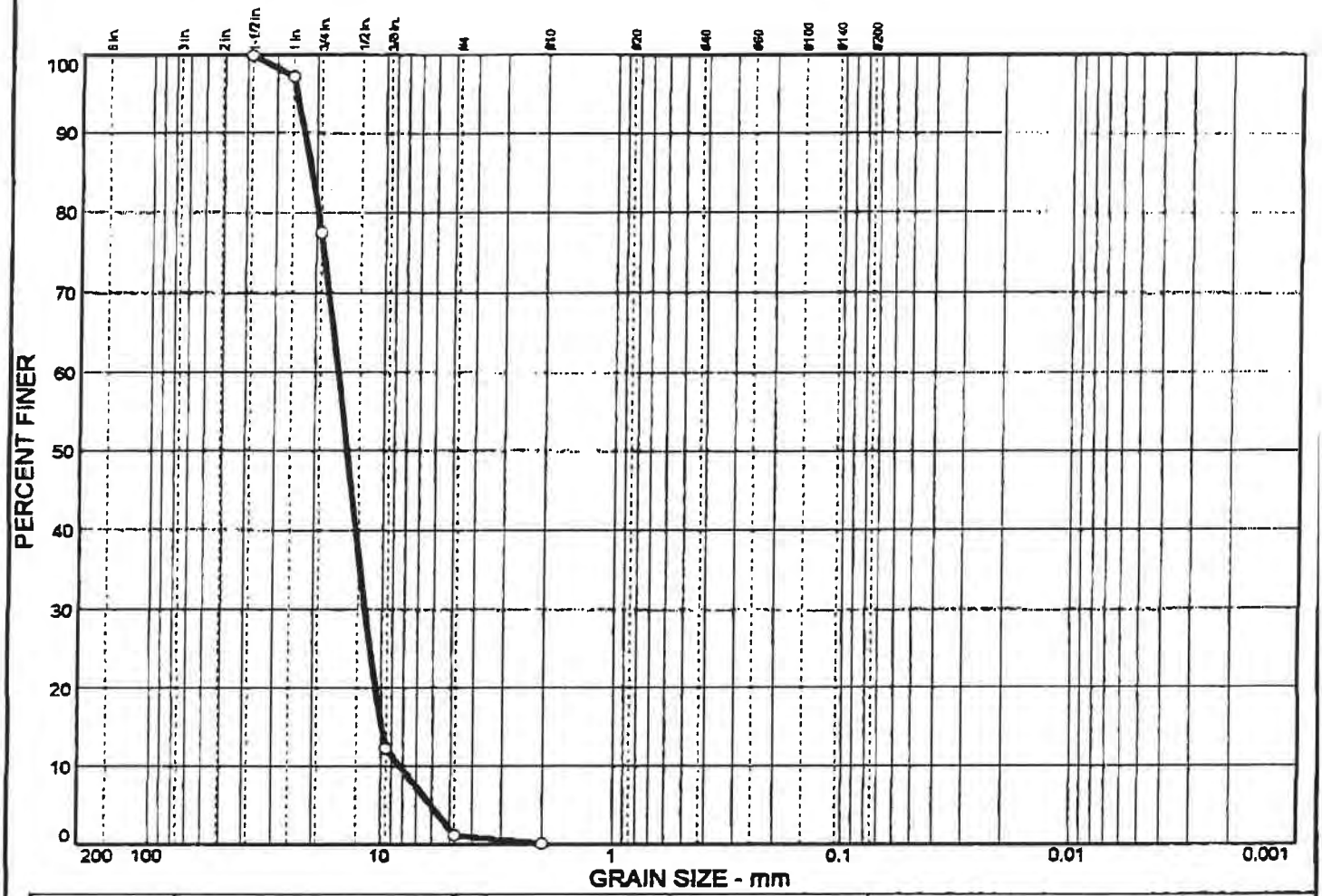
Received by:
Name:
PGL
Date/Time: 10/17

Shipped Via:
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Others

Appendix J

Granular Material Laboratory Test Results - Leachate Transfer/Leak Detection System

PARTICLE SIZE DISTRIBUTION TEST REPORT



	% COBBLES	% GRAVEL		% SAND			% FINES	
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
○	0.0	22.6	76.3				1.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			21.0	15.8	14.4	11.8	9.92	8.26	1.07	1.92

MATERIAL DESCRIPTION	USCS	AASHTO
○ Light Brown Gravel, trace Sand	GP	A-1-a

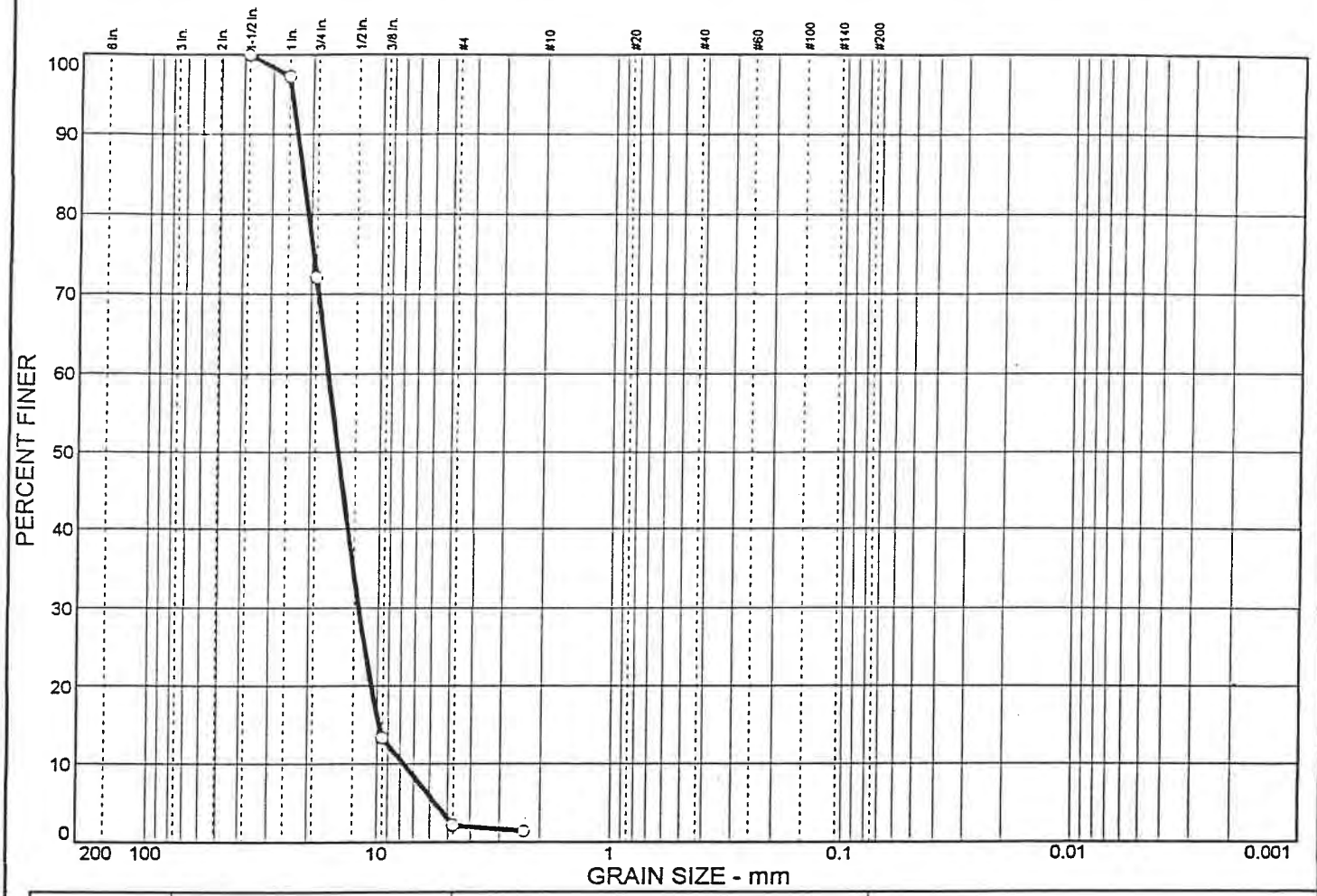
Project No. 5M-0004006 **Client:** Foth & Van Dyke
Project: Modern Plating Corporation
Freeport, Illinois
○ **Location:** Imported

Remarks:
○ Sample No. 5MS-00064
MPC- Stone- 1
Date 7/13/00

PARTICLE SIZE DISTRIBUTION TEST REPORT

GILES ENGINEERING ASSOC., INC.

PARTICLE SIZE DISTRIBUTION TEST REPORT



	% COBBLES	% GRAVEL		% SAND			% FINES	
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
○	0.0	27.9	69.9			2.2		

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			22.0	16.8	15.1	12.1	9.82	7.75	1.13	2.16

MATERIAL DESCRIPTION	USCS	AASHTO
○ Poorly graded gravel	GP	

Project No. 5M-0004006 **Client:** Foth & Van Dyke

Project: Modern Plating Corporation

Freeport, Illinois

○ **Location:** MPC-Stone-2

Remarks:

○ Sample No: 5MS-00103

PARTICLE SIZE DISTRIBUTION TEST REPORT

GILES ENGINEERING ASSOC., INC.

Appendix K

Manufacturer's Information - Leachate Transfer/Leak Detection System

Appendix K1

Leachate Transfer/Leak Detection System

Foth & Van Dyke
consultants · engineers · scientists

Client MODERN PLATING CORP. Scope I.D. R001534M015
Project CAMU LANDFILL CONSTRUCTION Page 1 of 1
Prepared by BJS1 Date: 5/9/01

HDPE PIPE
~~Sanitary Sewer~~
Low Pressure Air Test Results

Owner: MODERN PLATING CORP. **Contractor:** TERRA ENGR. & CONST.

Engr. Reprentative: _____ **Street:** N/A

Date	Location	Length	Time Required Table 5	Start Test Pressure	End Test Pressure	Passed P	Failed F	Actual Time
4/2/01	PUMP BLDG TO WWTP BLDG	15'	5 min	5 psi	5 psi	X		5 min
4/2/01	WWTP BLDG TO CYANIDE TANK	50'	5 min	5 psi	5 psi	X		5 min

EXAMPLE: *8" diameter sewer 360 ft. In length with the water table 4.0 ft. Above the top of pipe - conduct test - from Table 5 note that 360 ft. Of 8" requires 3 mins. 47 seconds for air loss from 3.5 p.s.i. to 2.5 p.s.i.; 4 ft. Of water table at 0.43 = 1.72 p.s.i. 3.5 + 1.72 = 5.22. After pressure has leveled off, reduce to 5.22 p.s.i. and record time required to reduce to 4.22 p.s.i.; if passed, so indicate; if failed, register time.*

PLEXCO®
Performance Pipe Division - Chevron Chemical Company LLC
1050 IL Route 83, Suite 200 • Bensenville, IL 60106
Phone: 630-350-3758 Fax: 630-350-2704

February 19, 1999

FORRER SUPPLY COMPANY
N117 W18388 Fulton Drive
Germantown, WI 53022

This letter has been prepared at your request, concerning PLEXCO HDPE pipe and fittings.

PLEXCO pipe and fittings are manufactured from PPI listed PE3408 HDPE resins. These resins have a minimum cell classification of PE345444C when classified in accordance with ASTM D3350. These resins are extra high molecular weight, high density polyethylene resins which meet the requirements of Type III, Class C, Category 5, Grade P34 pipe grade materials in accordance with ASTM D1248-84. (ASTM D1248 no longer pertains to pipe grade resins and its reference in future specifications should be removed. It has been included here for historical perspective only.) PLEXCO has a Plastic Pipe Institute (PPI) recommended hydrostatic basis of 1600 psi at 23° C based on TR3 as derived from ASTM D2837 test methods.

The dimensional characteristics and pressure capabilities of PLEXCO are established in accordance with ASTM F714-94 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter. This standard is marked in the print line on each pipe.

Sincerely,

Lee Mizell
Municipal Products Manager

LM:dmd

SHOP DRAWING REVIEW
RECEIVED FROM CONTRACTOR - DATE
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS.
NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.
☐ NO EXCEPTIONS TAKEN
☐ MAKE CORRECTIONS NOTED
☐ AMEND AND RESUBMIT
☐ REJECTED - SEE REMARKS
RECEIVED BY: DATE:

Forrer Supply Co., Inc.
W194 N11811 McCormick Drive
P.O. Box 220
Germantown, WI 53022-0220
(414) 255-3030 Fax (414) 255-4064

Table 4-1 **ASTM D 3350 Properties and Cell Classification Limits**

Property	*Test Method*	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Density, gm/cm³	D 1505	Unspecified	0.910 - 0.925	0.926 - 0.940	0.941 - 0.955	>0.955	—	—	Specify Value
Melt Index, gm/10 min.	D 1238	Unspecified	>1.0	1.0 - 0.4	<0.4 - 0.15	<0.15	(a)	(b)	Specify Value
Flexural Modulus, MPa (1000 psi)	D 790	Unspecified	< 138 (<20)	138 - <276 (20 - <40)	276 - <552 (40 - <80)	552 - <758 (80 - <110)	758 - <1103 (110 - <160)	>1103 (>160)	Specify Value
Tensile Strength, MPa (1000 psi)	D 638	Unspecified	<15 (<2.2)	15 - <18 (2.2 - <2.6)	18 - <21 (2.6 - <3.0)	21 - <24 (3.0 - <3.5)	24 - <28 (3.5 - <4.0)	>28 (>4.0)	Specify Value
Slow Crack Growth Resistance (c)									
1. ESCR a. Test Condition b. Test Duration c. Failure, max, %	D 1693	Unspecified	A 48 50	B 24 50	C 192 20	C 600 20	—	—	Specify Value
2. PENT (hours) Molded plaque, 80°C, 2.4 MPa, Notch depth Table 1 F 1473	F 1473	Unspecified	0.1	1	3	10	30	100	Specify Value
Hydrostatic Design Basis, MPa (psi)	D 2837	NPR (d)	5.52 (800)	6.89 (1000)	8.62 (1250)	11.03 (1600)			
		A	B	C	D	E			
Color & UV Stabilizer	D 3350	Natural	Color	Black with min. 2% carbon black	Natural with UV Stabilizer	Color with UV Stabilizer			

(a): Classify materials having a melt index less than 0.15 (Cell 4) as Cell 5 only if they have a flow rate not greater than 4.0g/10 min when tested in accordance with Test Method D 1238, Condition 190/21.6.

(b): Classify materials having a melt index less than 0.15 (Cell 4) as Cell 6 only if they have a flow rate not greater than 0.30 g/10 min when tested in accordance with Test Method D 1238, Condition 310/21.5.

(c): Slow Crack Growth Resistance is classified using either ESCR per D 1693 or PENT per F 1473, but not both. Where there are cell values for ESCR per D 1693 and for PENT per F 1473, equivalency of material performance between D 1693 and F 1473 is not implied.

(d): NPR = Not Pressure Rated

PIPE

PE 3408 Industrial Piping System
Pipe Data and Pressure Ratings — Bulletin No. 301

Chevron Plexco

(Pipe weights are calculated in accordance with PPI TR-7)
Average inside diameter calculated for minimum wall plus 6%.

Pressure Ratings are for water at 73°F. For other fluids and service temperatures ratings may differ, refer to Application Note No. 6 Chemical and Environmental Considerations.

Pressure Rating		100 psi DR 17.0			80 psi DR 21.0			65 psi DR 26.0			50 psi DR 32.5			40 psi DR 41.0			
IPS* Pipe Size	Nominal OD (in.)	Minimum Wall (in.)	Average ID (in.)	Weight LB/FT	Minimum Wall (in.)	Average ID (in.)	Weight LB/FT	Minimum Wall (in.)	Average ID (in.)	Weight LB/FT	Minimum Wall (in.)	Average ID (in.)	Weight LB/FT	Minimum Wall (in.)	Average ID (in.)	Weight LB/FT	IPS* Pipe Size
1¼"																	1¼"
1½"																	1½"
2"	2.375	0.140	2.078	0.43													2"
3"	3.500	0.206	3.063	0.93													3"
4"	4.500	0.265	3.938	1.54	0.214	4.046	1.26										4"
5⅛"	5.375	0.316	4.705	2.20	0.256	4.832	1.80	0.207	4.936	1.47							5⅛"
5"	5.563	0.327	4.870	2.35	0.265	5.001	1.93	0.214	5.109	1.58							5"
6"	6.625	0.390	5.798	3.34	0.315	5.957	2.73	0.255	6.084	2.23	0.204	6.193	1.80				6"
7⅛"	7.125	0.419	6.237	3.86	0.339	6.406	3.16	0.274	6.544	2.58	0.219	6.661	2.08				7⅛"
8"	8.625	0.507	7.550	5.65	0.411	7.754	4.64	0.332	7.921	3.79	0.265	8.063	3.05				8"
10"	10.750	0.632	9.410	6.78	0.512	9.665	7.21	0.413	9.874	5.87	0.331	10.048	4.75				10"
12"	12.750	0.750	11.160	12.36	0.607	11.463	10.13	0.490	11.711	8.26	0.392	11.919	6.67				12"
13⅜"	13.375	0.787	11.707	13.60	0.637	12.025	11.15	0.514	12.285	9.09	0.412	12.502	7.35				13⅜"
14"	14.000	0.824	12.253	14.91	0.667	12.586	12.22	0.538	12.859	9.96	0.431	13.086	8.05				14"
16"	16.000	0.941	14.005	19.46	0.762	14.385	15.97	0.615	14.696	13.02	0.492	14.957	10.51				16"
18"	18.000	1.059	15.755	24.65	0.857	16.183	20.19	0.692	16.533	16.48	0.554	16.826	13.29				18"
20"	20.000	1.176	17.507	30.42	0.952	17.982	24.92	0.769	18.370	20.34	0.615	18.696	16.41				20"
22"	22.000	1.294	19.257	36.81	1.048	19.776	30.19	0.846	20.206	24.62	0.677	20.565	19.87				22"
24"	24.000	1.412	21.007	43.82	1.143	21.577	35.92	0.923	22.043	29.29	0.738	22.435	23.62				24"
†26"	26.000	1.529	22.759	51.40	1.238	23.375	42.13	1.000	23.880	34.39	0.800	24.304	27.74				†26"
†28"	28.000	1.647	24.508	59.62	1.333	25.174	48.86	1.077	25.717	39.89	0.862	26.173	32.20				†28"
†30"	30.000	1.765	26.258	68.45	1.429	26.971	56.13	1.154	27.554	45.78	0.923	28.043	36.92	0.732	28.448	29.50	†30"
†32"	32.000	1.882	28.010	77.86	1.524	28.769	63.83	1.231	29.390	52.10	0.985	29.912	42.04	0.780	30.346	33.53	†32"
†34"	34.000	2.000	29.760	87.91	1.619	30.568	72.06	1.308	31.227	58.79	1.046	31.782	47.44	0.829	32.243	37.87	†34"
†36"	36.000	2.118	31.510	98.56	1.714	32.366	80.78	1.385	33.064	65.93	1.108	33.651	53.18	0.878	34.139	42.47	†36"
†42"	42.000				2.000	37.760	109.97	1.615	38.576	89.71	1.292	39.261	72.40	1.024	39.829	57.74	†42"
†48"	48.000				2.286	43.154	143.64	1.846	44.086	117.20	1.477	44.869	94.58	1.171	45.517	75.48	†48"
†54"	54.000				2.571	48.549	181.74	2.077	49.597	148.35	1.662	50.477	119.72	1.317	51.208	95.52	†54"

* Industrial PE (polyethylene) pipe sizes are identified by IPS (iron pipe size) diameters which designate the nominal diameter for 12" IPS AND SMALLER PIPE, AND O.D. (outside diameter) for 14" IPS and larger pipe.

PLEXCO can produce to specialized pipe dimensions. Check with your PLEXCO sales office for availability of dimensions not listed.
† SUBJECT TO MINIMUM ORDER QUANTITIES, AND AVAILABILITY OF TOOLING.

Rev. 3/93

Chevron Plexco

Standards & Specifications: B-4
Factory Mutual Approved PLEXCO PE 3408 High Density Polyethylene Pipe and Fittings

MODEL SPECIFICATION FOR FACTORY MUTUAL APPROVED PLEXCO PE 3408 HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS

1 General Terms and Conditions

1.1 Scope. This specification covers requirements for Factory Mutual Approved PLEXCO PE3408 high density polyethylene pipe and fittings for underground fire main applications. All work shall be performed in accordance with these specifications.

1.2 Engineered and Approved Plans. Underground fire main construction shall be performed in accordance with engineered construction plans for the work prepared under the direction of a Professional Engineer.

1.3 Referenced Standards. All standard specifications, i.e., Federal, ANSI, ASTM, etc., made a portion of these Specifications by reference, shall be the latest edition and revision thereof.

1.4 Licenses and Permits. All underground fire main construction work shall be performed by a licensed and bonded General Contractor. All necessary permits shall be secured by the Contractor before commencing construction.

1.5 Inspections. All work shall be inspected by an Authorized Representative of the Customer who shall have the authority to halt construction if, in his opinion, these specifications or standard construction practices are not being followed. Whenever any portion of these specifications is violated, the Project Engineer or his Authorized Representative, shall, by written notice, order further construction to cease until all deficiencies are corrected. A copy of the order shall be filed with the Contractor's license application for future review. If the deficiencies are not corrected, performance shall be required of the Contractor's surety.

1.6 Warranty and Acceptance. The Contractor shall warrant all work to be free from defects in workmanship and materials for a period of [one year] from the date of completion of all construction. If work meets these specifications, a letter of acceptance, subject to the [one year] warranty period, shall be given at the time of completion. A final acceptance letter shall be given upon final inspection at the

dimensions and ring tensile strength.

2.5.1 Fire Main Service Identification. Permanent identification shall be provided by co-extruding four equally spaced red stripes into the pipe outside surface. The striping material shall be the same material as the pipe material except for color. Stripes printed on the pipe outside surface shall not be acceptable.

2.6 Potable Water & Fire Main Pipe. Potable water and fire main pipe shall be Factory Mutual Approved and NSF Approved, and shall be marked with the Factory Mutual diamond logo and the NSF-pw logo. Pipe shall be [Class 150 or Class 200] PLEXCO BLUESTRIPE-FM™ polyethylene pipe. Each production lot of pipe shall be tested for (from material or pipe) melt index, density, % carbon (from pipe), dimensions and ring tensile strength.

2.6.1 Potable Water & Fire Main Service Identification. Permanent identification shall be provided by co-extruding four equally spaced blue stripes into the pipe outside surface. The striping material shall be the same material as the pipe material except for color. Stripes printed on the pipe outside surface shall not be acceptable.

2.7 Polyethylene Fittings. Polyethylene fittings shall be molded or fabricated by the pipe manufacturer, shall be Factory Mutual Approved, and shall be marked with the Factory Mutual diamond logo. Fittings 16" IPS and larger shall have directional outlets fitted for flange connections.

2.8 Polyethylene Flange Adapters. Flange adapters shall be Factory Mutual Approved, and marked with the FM Diamond logo. Flange adapters shall have sufficient through-bore length to be clamped in a butt fusion joining machine without the use of a stub-end holder. The sealing surface of the flange adapter shall be machined with a series of small v-shaped grooves to restrain the gasket against blow-out.

2.9 Back-up Rings & Flange Bolts. Class 150 flange adapters shall be fitted with ANSI Class 125 back-up rings. Class 200 flange adapters shall be fitted with ANSI Class 150 back-up rings. The back-up ring bore shall be chamfered or radiused to provide clearance for the flange adapter radius. Flange bolts and nuts shall be Grade 5 or higher.

2.10 Manufacturer's Quality Control. The pipe and fitting manufacturer shall have and established quality control program responsible for inspecting incoming and outgoing materials. Incoming polyethylene materials shall be inspected for density, melt flow rate, and contamination. The cell classification properties of incoming material shall be certified by the supplier, and verified by Manufacturer's Quality

Control. Incoming materials shall be approved by Quality Control before processing into finished goods.

Outgoing materials shall be checked for diameter, wall thickness, length, straightness, roundness, concentricity, toe-in, inside and outside surface finish, markings, and end cut. Quality control shall verify production checks, and test for density, melt flow rate, carbon content and dispersion, hoop tensile strength and ductility. X-ray inspection shall be used to inspect molded fittings for voids, and knit line strength shall be tested. All fabricated fittings shall be inspected for joint quality and alignment.

2.10.1 Permanent Records. The Manufacturer shall maintain permanent QC and QA records.

2.11 Compliance Tests. Manufacturer's inspection and testing of the materials. In case of conflict with Manufacturer's certifications, the Contractor, Project Engineer, or Customer may request retesting by the Manufacturer or have retests performed by an outside testing service. All retesting shall be at the requestor's expense, and shall be performed in accordance with the Specifications.

3 Joining

3.1 Heat Fusion Joining. Joints between plain end pipes and fittings shall be made by butt fusion using only procedures that are recommended by the pipe and fitting Manufacturer. The Contractor shall ensure that persons making heat fusion joints have received training in the Manufacturer's recommended procedure. The Contractor shall maintain records of trained personnel, and shall certify that training was received not more than 12 months before commencing construction. External and internal beads shall not be removed.

3.1.1 Heat Fusion Training Services. Upon request, the Manufacturer shall provide assistance in the Manufacturer's recommended butt fusion and saddle fusion procedures to the Contractor's installation personnel, and to inspectors representing the Customer.

3.1.2 Butt Fusion of Unlike Wall Thicknesses. Butt fusion shall be performed between pipe ends, or pipe ends and fitting outlets of like Class. Butt fusion joining between Class 150 and Class 200 shall not be permitted. Transitions between Class 150 and Class 200 shall be made with flange connections.

3.2 Mechanical Joining. Polyethylene pipe and fittings may be joined together or to other materials by means of flanged connections (flange adapters and back-up rings). Mechanical couplings and external joint restraints shall not be used.

Chevron Plexco

Standards & Specifications: B-4
Factory Mutual Approved PLEXCO PE 3408 High Density Polyethylene Pipe and Fittings

4 Installation [See *Plexco/Spirolite Engineering Manual 3. System Installation.*]

4.1 General. The Manufacturer shall package products for shipment in a manner suitable for safe transport by commercial carrier. When delivered, a receiving inspection shall be performed, and any shipping damage shall be reported to the Manufacturer within 7 days. Installation shall be in accordance with Manufacturer's recommendations, and this specification.

4.2 Excavation. Trench excavations shall conform to the plans and drawings, as otherwise authorized in writing by the Project Engineer or his Approved Representative, and in accordance with all applicable codes. Excess groundwater shall be removed by the Contractor. Where necessary, trench walls shall be shored or reinforced, and all necessary precautions shall be taken to ensure a safe working environment.

4.3 Large Diameter Fabricated Fittings. Fabricated directional fittings 16" IPS and larger shall be butt fused to the end of a pipe. The flanged directional outlet connections shall be made up in the trench.

4.4 Flange Installation. Flange connections shall be installed in accordance with the Manufacturer's recommended procedure. Flange faces shall be centered and aligned to each other before assembling and tightening bolts. In no case shall the flange bolts be used to draw the flanges into alignment. Bolt threads shall be lubricated, and flat washers shall be fitted under the flange nuts. Bolts shall be evenly tightened according to the tightening pattern and torque step recommendations of the Manufacturer. At least 1 hour after initial assembly, flange connections shall be re-tightened following the tightening pattern and torque step recommendations of the Manufacturer. The final tightening torque shall be as recommended by the Manufacturer.

4.5 Foundation & Bedding. Pipe shall be laid on grade and on a stable foundation. Unstable or mucky trench bottom soils shall be removed, and a 6" foundation or bedding of compacted Class I material shall be installed to pipe bottom grade. Excess groundwater shall be removed from the trench before laying the foundation or bedding and the pipe. A trench cut in rock or stony soil shall be excavated to 6" below pipe bottom grade, and brought back to grade with compacted Class I bedding. All ledge rock, boulders and large stones shall be removed.

4.6 Pipe Handling. When lifting with slings, only wide fabric choker slings capable of safely carrying the load, shall be used to lift, move, or lower pipe and fittings. Wire rope or chain shall not be used.

Supercedes all previous issues

Chevron Plexco®

Standards & Specifications: B-4
Factory Mutual Approved PLEXCO PE 3408 High Density Polyethylene Pipe and Fittings

4.7 Backfilling. Pipe embedment backfill shall be Class I or II material placed and compacted to at least 90% Standard Proctor Density in 6" lifts to at least 6" above the pipe crown.

4.8 Final Backfilling. Final backfill shall be placed and compacted to finished grade. Native soils may be used provided they are free from debris, stones, boulders, clumps, frozen clods or the like larger than 8" in their largest dimension.

5 Testing.

5.1 Butt Fusion Testing. On every day butt fusions are to be made, the first fusion of the day shall be a trial fusion. The trial fusion shall be allowed to cool completely, then fusion test straps shall be cut out. The test strap shall be 12" (min) or 30 times the wall thickness in length with the fusion in the center, and 1" (min) or 1.5 times the wall thickness in width. Bend the test strap until the ends of the strap touch. If the fusion fails at the joint, a new trial fusion shall be made, cooled completely and tested. Butt fusion of pipe to be installed shall not commence until a trial fusion has passed the bent strap test.

5.2 Leak Testing. Leak testing shall be conducted in accordance with Plexco Application Note No. 8, System Testing, and shall be hydrostatic testing only. Pneumatic pressure testing shall not be used.

MADISON office Copy
file 13,000

EPG Companies Inc.

SUBMITTAL

(Revised 7/00)

FOR

SHOP DRAWING REVIEW

RECEIVED FROM CONTRACTOR - DATE

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS.
NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.

- [x] NO EXCEPTIONS TAKEN
- [ ] MAKE CORRECTIONS NOTED
- [ ] AMEND AND RESUBMIT
- [ ] REJECTED - SEE REMARKS

FOTH & VAN DYKE

REVIEWED BY: _____ DATE: 7/25/00

TERRA Engineering
Modern Plating

Job # 00-4886

EPG Companies Inc.

Submittal Index

TERRA Engineering – Modern Plating

Job #00-4886

Bulletin	1055	Equipment List
Bulletin	0090	Engineer's Specifications EPG's L975PT PumpMaster™
Form	117	Attachment to Bulletin 0090
Drawing	05046	L975PT Control Panel Schematics (Revised)
Drawing		Panel Layout
Bulletin	0121a	EPG LevelMaster™ Submersible Level Sensors System
Drawing	5050	1 ¼" S.S. Flow Sensor with Flanged Ends
Bulletin	1010b	E-Series Liquid Flow Sensor
Bulletin	0170b	Flow Meter Operation
Bulletin	0360b	Engineer's Specifications Flow Meter System
Page		The Gorman-Rupp Self Priming Centrifugal Basic Pump
Bulletin	0200c	Limited Warranty

EPG Companies Inc.

List of Equipment

TERRA Engineering – Modern Plating

EPG Job # 00-4886

1 ea.	L975PT PumpMaster control panel to operate two(2) 1HP 230VAC 1∅ motors independently. Includes two (2) LevelMaster level control systems, two (2) level control test circuits, three (3) flow meters, intrinsically safe, intrinsically safe combustible gas alarm circuit, 115VAC combustible gas alarm power supply, fuse protected, intrinsically safe combustible gas alarm light, Macurco 451D-1-BR combustible gas alarm, remote mounted, and top mounted alarm light. NEMA 4 enclosure.
2 ea.	PT 95x100 Submersible Level Sensor, 100' lead.
3 ea.	EP125 Stainless steel, 1 ¼" x 12" stainless steel flow sensor adapter with 1 ¼" flange ends.
2 ea.	Gorman – Rupp, self priming, centrifugal, stainless steel pump Model 11 ½ A22-B with 1HP 230VAC 1∅ EXP motor. Includes base, belts, belt guard, and sheaves.

ENGINEER'S SPECIFICATIONS

EPG'S L975 PT PumpMaster™

1Ø CONTROL PANEL

Furnish one EPG Companies Inc., U.L. listed, L975 PT control panel to operate two or more pump motors and auxiliary equipment in manual or automatic mode. The panel will be NEMA type 4 or 4X.

Enclosures shall come equipped with an inner door, stainless steel drip shield and tamper resistant latch. The NEMA 4 enclosures are finished with polyester urethane paint. The NEMA 4X enclosures can be either stainless steel or non-metallic.

The control system will operate from a __230__ Volt, __60__ Hertz, 1 phase power supply. Pump control components will be sized to operate pump motor of specified horsepower.

The control panel shall include the following as standard features:

* Main __30__ Amp Disconnect Switch with Door Interlock: Shall prevent opening of panel while power is on.
* Control Transformer: Transformer with fused primary to isolate control circuits from power circuit and for easier and safer field wiring of accessories. It shall lower incoming voltage to 120 Volts.
* Heater with Adjustable Thermostat: To promote even distribution of heat and elimination of hot spots and condensation. Heater unit shall be mounted in space between the sub-panel and the back of the enclosure and provide a minimum of __200__ inches square of heating area.
* Corrosion Inhibitor Emitter: Inclusion of an industrial corrosion inhibitor emitter that shall protect internal components of control panel from severe corrosion for up to one year.
* Lightning Arrestor: Shall be connected, metal to metal, to well water strata.

The control panel shall include the following as standard features for each pump motor:

* LevelMaster™ Level Controls: The LevelMaster shall be mounted on the inner door. Meter shall provide digital read-out and have the capability to monitor and maintain pumping operations and at least two other level signals. Level controls shall be accurate to within 0.1 inch.
* Motor Protection: To be provided by 2 ea. 250 Volt, __12__ Amp dual element fuses and internal thermal overloads.
* Motor Contactors: The motor contactors will be sized to the motor horsepower.
* "Hand-Off-Auto" Selector Switches: Allows manual or automatic operation. The selector switch shall be heavy duty, oil tight and NEMA 4 rated, mounted on the inner door.
* Running Lights: Indicates energization of motor circuit. Light shall be heavy duty, oil tight, NEMA 4 rated with voltage surge supression built in to prolong lamp life.
* Motor Start Winding Control with Start Capacitors and Start Winding Relay: Capacitor is used to start motor. Relay is used to remove startwinding from circuit when motor reaches operating speed.
* Terminal Strip: Provides ease in connection of external components.
* For options see specification sheets.

The EPG submersible pressure transmitter level sensor shall have a range of 0 to __11.5__ feet with a 4 to 20 MA output signal. Transmitter construction shall be stainless steel body, stainless steel diaphragm and Viton seals with chemical resistant signal cable. The transmitter circuit shall be protected by intrinsically safe barriers.

MULTIPLE SYSTEM

This system is designed to operate two or more pumps upon changes in liquid level as sensed by the submersible pressure transmitter. The pump or pumps will continue to run until the selected level is reached. If liquid level changes beyond set points, a high and/or low level will be annunciated.

EPG Companies Inc.

ATTACHMENT TO BULLETIN 0090

ENGINEER'S SPECIFICATION
EPG L975PT Controller
1Ø Control Panel

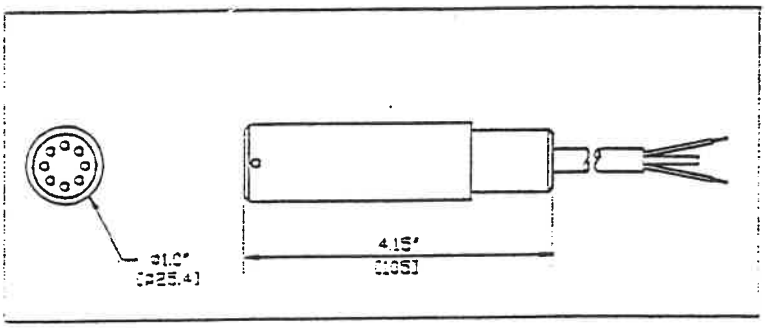
EPG Job # 00-4886

These controllers include the following optional features:

* Two (2) LevelMaster level control systems.
* Two (2) level control test circuits.
* Three (3) flow meters, intrinsically safe.
* Intrinsically safe combustible gas alarm circuit.
* 115VAC combustible gas alarm power supply, fuse protected.
* Intrinsically safe combustible gas alarm light.
* Macurco 4S1D-1-BR combustible gas alarm, remote mounted.
* Top mounted alarm light.

EPG Companies Inc.

EPG LEVELMASTER™ SUBMERSIBLE LEVEL SENSOR SYSTEM



GENERAL FEATURES

* **Ease of Installation**
  LevelMaster is designed specifically to work with the EPG SurePump™, but it's durability, accuracy and weight make it the logical choice for stand alone applications. The chemical resistant lead wire contains a vent tube for atmospheric pressure compensation.

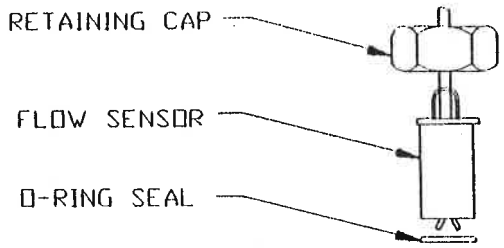
* **Ranges Available**
  0 to 5 through 0-50 PSIG models are available.
  Please call for special needs.

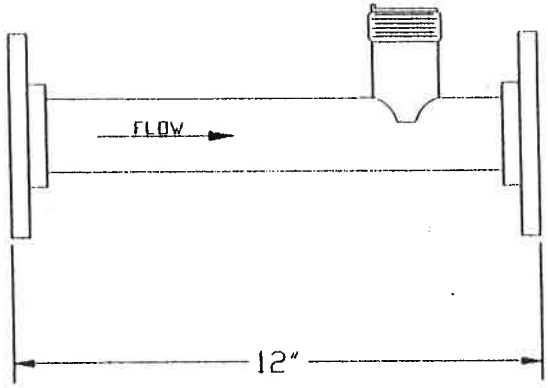
TRANSMITTER FEATURES:

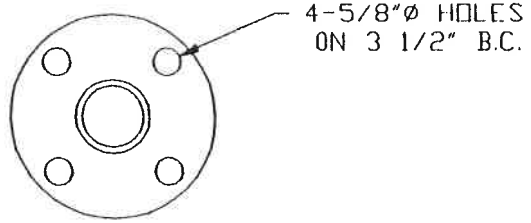
* **Accuracy**
  LevelMaster has built-in temperature compensation as well as precise calibration giving an accuracy of ±1.0%. at ambient temperature and a combined repeatability and hysteresis error of ±.125%.

* **Fully Submersible**
  LevelMaster transmitter is fully submersible in any liquid compatible with 316 stainless steel and the chemical resistant polyurethane cable jacket. LevelMaster sensor is designed for submergence at depths greater than operating level without sustaining damage. For more severe service consult the factory.

* **Superior Noise Immunity**
  Designed for heavy duty use in hostile environments, LevelMaster gives outstanding noise immunity. Unlike transducers, whose signals may be distorted by outside interference, the LevelMaster utilizes a conditioned compensated 4-20mA output to maximize signal strength and accuracy. The sensor also features a shielded lead to help prevent signal disruption from outside sources.







17

* NOTICE *

THIS DRAWING IS THE PROPERTY OF EPG COMPANIES FOR REFERENCE ONLY.

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES			
DECIMAL .06	NO	DATE	BY	1 1/4" S.S.FLOW SENSOR W/FLG'D. ENDS			
FRACTIONAL 1/16	1			DESIGN C.A.S.	SCALE 1/4"=1"	MATERIAL	
ANGULAR 1°	2			DRAWN C.A.S.	DATE 06/20/00	DRAWING NO. 05050-0000C	
	3			CHK'D	APP'D		
	4						
	5						

R001549

Flow Meter Operation

EPG's meter system is an 8 digit Flow Rate/Totalizer. The meter counts pulses from a flow sensor and converts this information into flow rate and total flow.

The flowmeter uses programmed scaling factors and the pulses from the flow sensor to determine flow rate and flow total. The scaling factors used are dependent upon the inside pipe diameter of the flow sensor mount. Table 1 lists the various scaling factors used for the different diameter pipes.

Pipe Size	C SCALER	R SCALER
0.75"	.01848	1.1087
1.00	.02995	1.7971
1.25	.04812	2.8870
1.50	.07061	4.2367
2.00	.11628	6.9767
2.50	.16594	9.9567
3.00	.25622	15.373
4.00	.44122	26.473
6.00	1.00111	60.067
8.00	1.73389	104.03

Table 1. Flow Meter Default Settings

The meter features menu driven programming to simplify meter set-up. The meter stores parameters entered into non-volatile memory. This memory retains the parameters even when power to the panel is shut off. Figure 1 shows the meter display and keypad and gives a brief description of each key's function.

Tables 2 and 3 show the keystroke operations necessary to change scale parameters and "Reset Key" enable/disable function.

EPG Companies Inc.

Flow meter setup procedures for scalers

STEP NO.	ACTION
1	Press **Run/PGM** to exit "Run" mode.
2	Press **ENT** to enter "Program" mode.
3	Press ▬ to scroll through main menu. Find "Program Scalers" on the meter display.
4	Press **SEL** to enter "SCALERS" menu.
5	Press ▬ to scroll the "SCALERS" menu and bring up the "C SCALER" option on the meter display.
6	Press **SEL** to select the "C SCALER" and begin operation on the left most digit of the "C SCALER" value. Use the + and ▪ keys to increase or decrease the digit to achieve the desired number. Press **SEL** to enter this digit and move to the next digit. Repeat this step until the meter displays the desired value for the "C SCALER"
7	Press **ENT** to enter the "C SCALER " value into non-volatile memory.
8	Press ▬ to display the "C DEC PT" option. Use the **SEL** key to select the last dash on the right as displayed on the meter. Use the **HELP/.** key to place the decimal point to the right of this position (decimal point will not be visible).
9	Press **ENT** to enter this selection into memory.
10	Press ▬ to bring up the "R SCALER" option on the meter display.
11	Press **SEL** to select the "R SCALER" and begin operation on the left most digit of the "R SCALER" value. Use the + and ▪ keys to increase or decrease the digit to achieve the desired number. Press **SEL** to enter this digit and move to the next digit. Repeat this step until the desired value for the "R SCALER" is in the meter display. Also use the **SEL** and **HELP/.** Keys to position the decimal point to the desired position.
12	Press **ENT** to enter this value into the non-volatile memory.
13	Press ▬ to display the "R DEC PT" option. Use the **SEL** key to select the last dash on the right as displayed on the meter. Use the **HELP/.** key to place the decimal point to the right of this position (decimal point will not be visible).
14	Press **ENT** to enter this selection into non-volatile memory.
15	Press **EXIT** to exit "Program" mode.
16	Press **RUN/PGM** to enter "Run" mode.

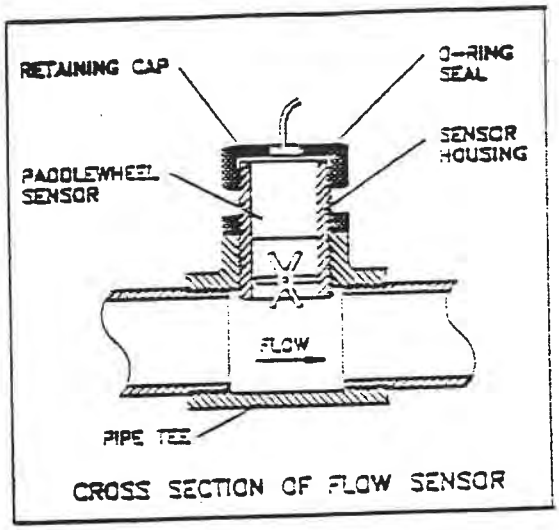
Table 2. Flow Meter Scaler Sequence

EPG Companies Inc. May 1995

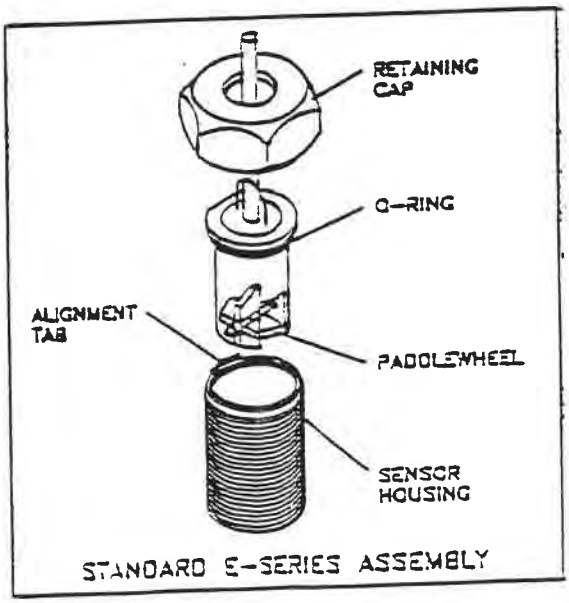
E-Series Liquid Flow Sensor

LIQUID FLOW SENSOR

* Low cost
* High reliability
* Wide range
  2 - 10,000 GPM
* Patented 6 blade
  Non-magnetic design
* Available in DELRIN or KYNAR
* One paddlewheel fits ALL SIZES
* Transmits up to 1000 feet without the need for additional amplifiers
* Direct logic pulse output
* Flow velocities range of 1.5 to 27 fps
* Operating pressure up to 200 PSIG
* Liquid temperatures to 250°F
* 2 Year Warranty
* High sensitivity
* Pipe sizes from
  ¾" - 14"



CROSS SECTION OF FLOW SENSOR



STANDARD E-SERIES ASSEMBLY

One major problem with most paddlewheel flow-sensors having magnets in the paddles is that metal particles tend to stick to the magnets. The collecting material then causes a change in the flow characteristics in the paddle. To eliminate this problem, EPG Companies flow sensors use a special axle and dual magnet drum design. This takes the magnets out of the paddles. By using the dual magnetic drum design (rapidly changing polarity) this, along with fluid velocity, causes the metallic particles to drop off into the flow and be swept away.

ENGINEER'S SPECIFICATIONS
FLOW METER SYSTEM

Furnish one EPG Companies Inc. metering system to register product flow and record totalized flow rate.

The metering system shall operate from a 115 Volt, 60 Hertz single phase power supply.

The sensor shall have as standard features:

* Dual Magnets: Sensor shall utilize a dual magnet drum design to assure unimpeded operation of the paddlewheel.
* Special Mount: The sensor shall be installed using a special mount to maximize system accuracy.
* Line sizes available in ¾" to 14" diameter pipes for recommended flow velocities between 1.5 and 27 fps.
* Sensor shall be linear with a repeatability factor of ±.5%.
* For best results flow velocity for any given pipe size should be between 1.5 and 27 fps.

The flow meter shall include as standard features:

* Flow Totalizer: Meter shall include a bi-directional, eight digit flow rate and recording totalizer.
* Programmability: Meter shall be front panel programmable for ease of calibration to line size and change in units.
* Non-Volatile Memory: Meter shall include a non-volatile memory to retain programmed settings and totalized flow when power is disconnected.
* LCD Display: Meter shall display flow and totalized rates using an eight digit ¾" high display.
* Menu Driven Programming: Meter programming shall be menu driven to simplify setup.
* Temperature Range: Shall maintain full function in temperatures between 0° and 55° C. Low temperature range can be extended with optional meter heater.
* Scaling is available in a variety of engineering units.
* Options

Operations:

To record and display flow rate and totalized flow rate in customer selected units.

C D

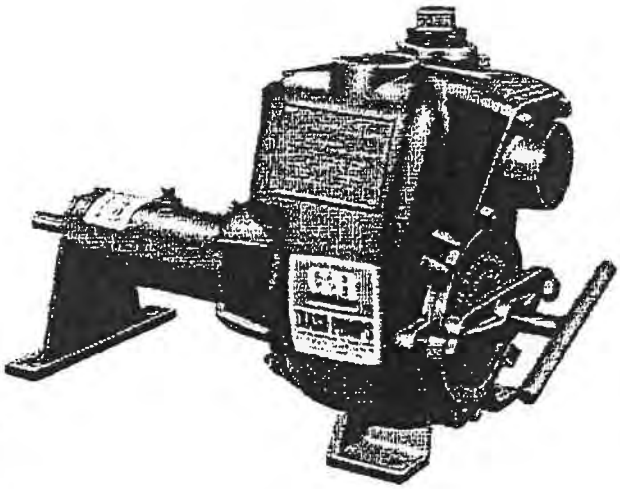
Self Priming Centrifugal
Basic Pump
Model 11½ A9-B, 11½ A10-B, 11½ A22-B
Size 1½" x 1½"

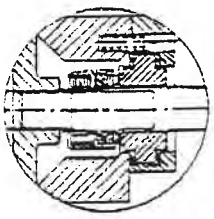
PUMP SPECIFICATIONS

Size : 1½" x 1½" NPT - Female
Casing: Stainless Steel No. CF8M (316)
(Maximum Operating Pressure 65 lbs.)
Impeller: Open Type, 2 Vanes, Stainless Steel No. CF8M (316)
(Handles 1" Dia Spherical Solids)
Impeller Shaft: Stainless Steel No. 316
Wear Plate; Replaceable: Stainless Steel No. 316
Cover Plate; Removable: Stainless Steel No. CF8M (316) 8.5 lbs.
Pedestal: Gray Iron No. 30
Seal Plate: Stainless Steel No. 316
Shaft Sleeve: Stainless Steel No. 304 (Model 11½A9-B, 11½A22-B)
Shaft Sleeve: Stainless Steel No. 316 (Model 11½A10-B)
Flap Valve: Stainless Steel No. 316, Asbestos
Radial Bearing: Ball Type
Thrust Bearing: Ball Type
Bearing Lubrication: Grease
Flange: Stainless Steel No. CF8M (316)
Gaskets: Asbestos
Hardware; Internal Wetted: Stainless Steel No. 316
Hardware; External: Stainless Steel No. 316 Std. Plated Steel

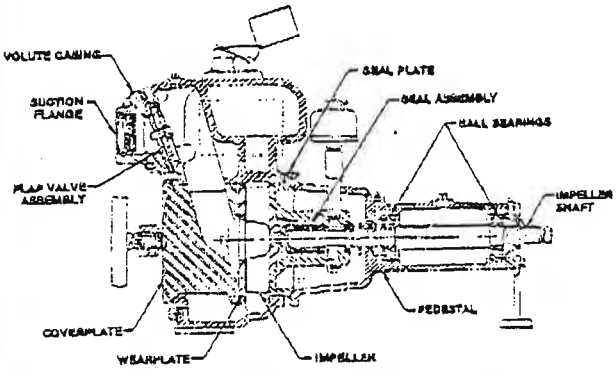
PUMP MODEL	SEAL	MAX.(1) OPER. PRESS.	MAX.(2) TEMP. °F.	MAX. V-BELT SPEED
11½A9-B	MECH. SELF-LUBE	65 LBS.	160 °F	3450
11½A10-B	PACKING	65 LBS.	212 °F	3450
11½A22-B	MECH. OIL-LUBE	65 LBS.	160 °F	3450

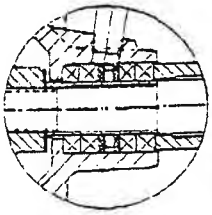
(1) It is recommended that Gorman-Rupp be contacted for approval on conditions above those noted.
(2) * Consult factory for applications with liquids in excess of temperatures indicated.



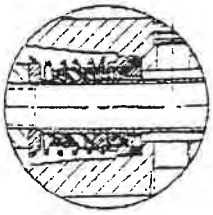


SEAL MODEL 11½A9-B
Type 9. Mechanical Self-Lubricated.
Rotating Face is Carbon.
Stationary Face is Ceramic.
Elastomers are Teflon
Cage and Spring are Stainless Steel.



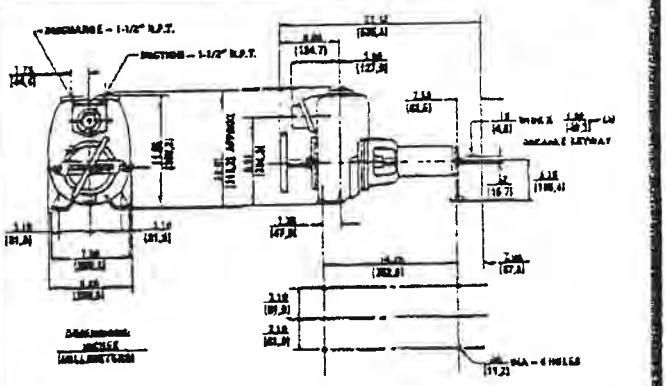


SEAL MODEL 11½A10-B
Packing is Teflon.
Split Gland is Stainless Steel.
Lantern Ring is Teflon.

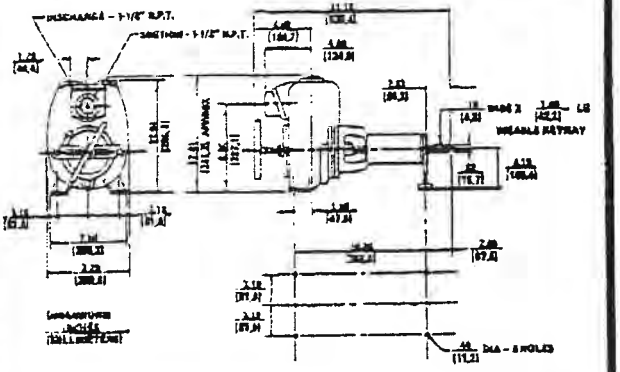


SEAL MODEL 11½A22-B
Mechanical Oil-Lubricated Double Floating, Self-Aligning. Rotating and Stationary Faces are Tungsten Titanium Carbide. Elastomers are Viton. Cage and Spring are Stainless Steel.

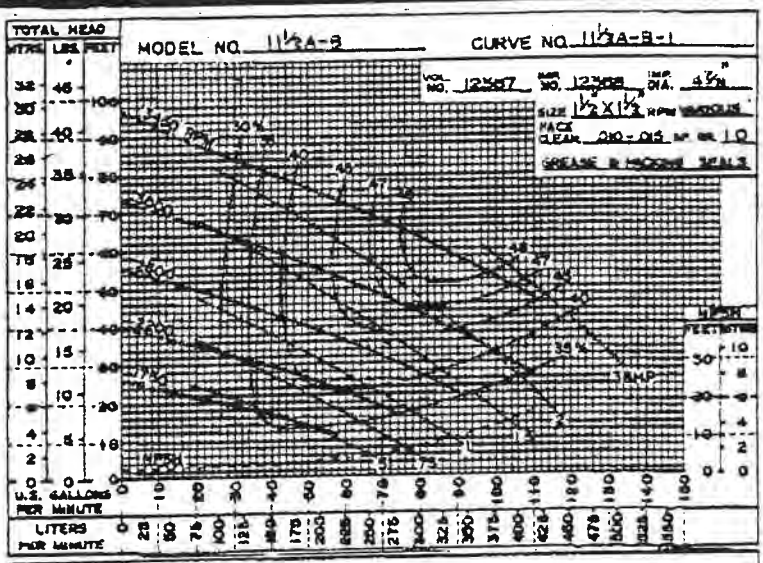
Specification Data	OVERALL DIMENSIONS and WEIGHTS APPROXIMATE	NET WEIGHT: 75 POUNDS SHIPPING WEIGHT: 90 POUNDS EXPORT CRATE SIZE: 3.9 CUBIC FEET
SECTION 55, PAGE 104		

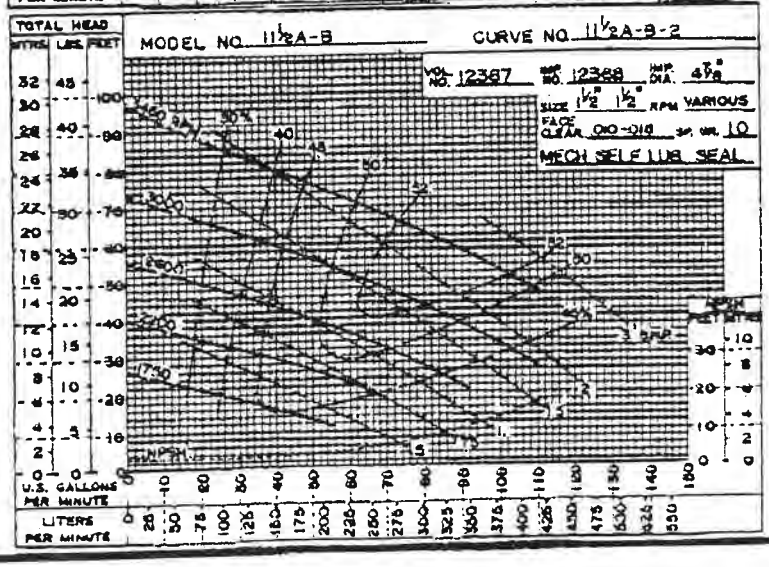


For Models: 11½A9-B, 11½A10-B



For Model: 11½A22-B





THE GORMAN-RUPP COMPANY • MANSFIELD, OHIO

GORMAN-RUPP OF CANADA LIMITED • ST. THOMAS, ONTARIO, CANADA

LIMITED WARRANTY

This agreement shall be deemed to have been entered into in the State of Minnesota, and shall be construed in accordance with the laws of the State of Minnesota, including Minnesota's enactment of the Uniform Commercial Code. Buyer hereby stipulates and agrees that Hennepin County, Minnesota shall be the proper jurisdiction for adjudicating all claims and controversies arising from this agreement.

Products manufactured by EPG Companies Inc. are warranted for a period of 12 months from date of installation or eighteen (18) months from date of manufacture* to be free from defects of materials and workmanship. It is expressly agreed that the exclusive remedy under this warranty is limited solely to the repair or replacement, at the sole discretion of EPG, of the part that failed. The cost of labor for any field repairs is not covered by this warranty. EPG Companies will not be liable for any damage or wear due to abnormal conditions or improper installation.

Products not manufactured by EPG Companies Inc. are covered by the original manufacturer's warranty, which EPG Companies passes through to the purchaser. The actual manufacturer will make warranty determination.

To have a defective part repaired or replaced, you must return the defective product to EPG Companies. Please call (800) 443-7426 or (612) 424-2613 to obtain a Return Goods Authorization (RGA) number. Send defective product (freight prepaid) with RGA #, description of installation, installation data and failure date to EPG Companies Inc., 19900 County Rd. 81, Maple Grove, MN 55311.

EPG Companies will not be held liable for any incidental or consequential damages, losses or expenses incurred from installation, use or any other reason. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF EITHER FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY, WHICH EXTEND BEYOND THOSE SPECIFICALLY LISTED HERE.

If equipment is to be stored for a period greater than six months, proper storage precautions must be taken if the warranty is to be maintained. Please call EPG Companies for specific requirements regarding product storage.

The following is a partial list of items, which will void the warranty:

- Opening the motor for any reason.
- Using undersized electrical wire.
- Making unauthorized circuit changes. Please call EPG Companies before making any changes.
- Operating a three phase submersible motor from single phase power through a phase converter unless 3-leg ambient-compensated quick trip overload protectors are used and complete details are sent in writing to EPG Companies.

* To qualify for the delayed installation warranty you must contact EPG Companies Inc., at (800) 443-7426 or (763) 424-2613 within 60 days of purchase.

Appendix K2

Pump Building

R001558

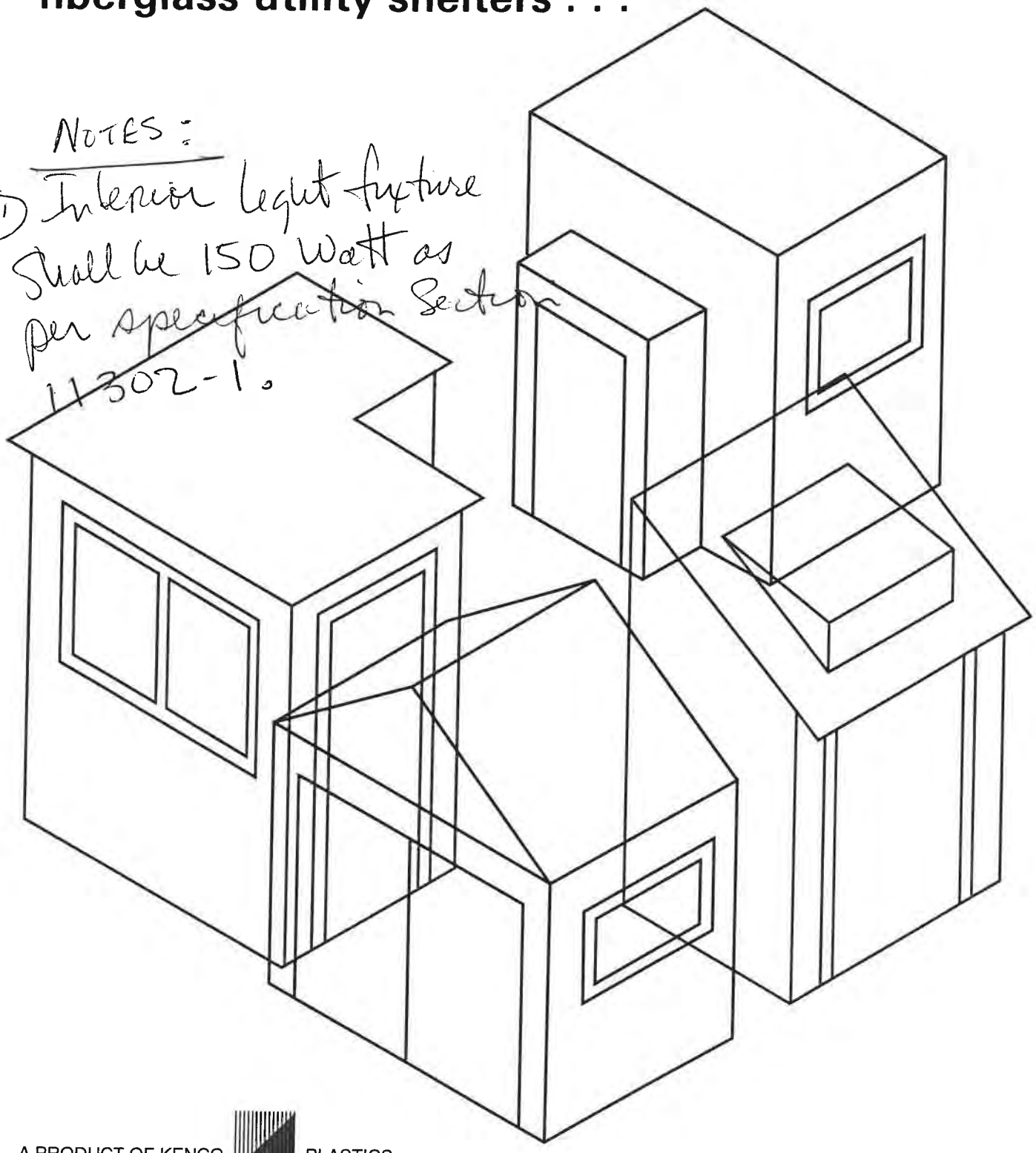
MADison office Copy
file 13,000

KEN-SHELTER®

All-weather insulated fiberglass utility shelters . . .

NOTES:

① Interior light fixture shall be 150 Watt as per specification Section 11302-1.



A PRODUCT OF KENCO PLASTICS

KEN-SHELTER®

All-weather fiberglass utility shelters.

KEN-SHELTER® applications include: chlorination and sampling equipment buildings, monitoring stations, pump and valve enclosures, analyzer shelters, laboratory buildings, electronic equipment houses, control buildings, office facilities at remote jobsites, etc., etc. KEN-SHELTERS are specifically designed to protect expensive instrumentation and equipment from most any type of environment.

DESIGN—The unique design and panel construction of the KEN-SHELTER® allows for an unlimited variety of sizes and floor plans. Each panel is fabricated with fiberglass reinforced polyester sheets laid over a structural wooden framework which is insulated with 1½'' polyurethane foam. Thermal conductivity (K-factor) is a maximum of .14 BTU/hr/ft²/F/in. (min. R value of 10.9), (max. U value of .092). See drawings #KD-0030-C1 and KD-0031-C1 for standard construction details.

CORROSION RESISTANT—Each panel is sealed with PVC capping around its perimeter. All standard hardware is non-corrosive. Various coatings are available for optional equipment if corrosion is a concern. The excellent insulating characteristics of urethane foam and protective characteristics of fiberglass make the KEN-SHELTER® a wise choice for housing your equipment.

MAINTENANCE—Each KEN-SHELTER® requires minimum maintenance or service as the color is impigmented throughout the thickness of the fiberglass sheets. The sheets contain an ultraviolet stabilizer to retard discoloration.

QUICK INSTALLATION—All buildings are factory assembled and inspected before shipment. Units may be shipped assembled to reduce installation time or knocked down to reduce freight costs. In either case, each building is specifically designed for quick installation. Also, our mid-American location helps decrease shipping costs.

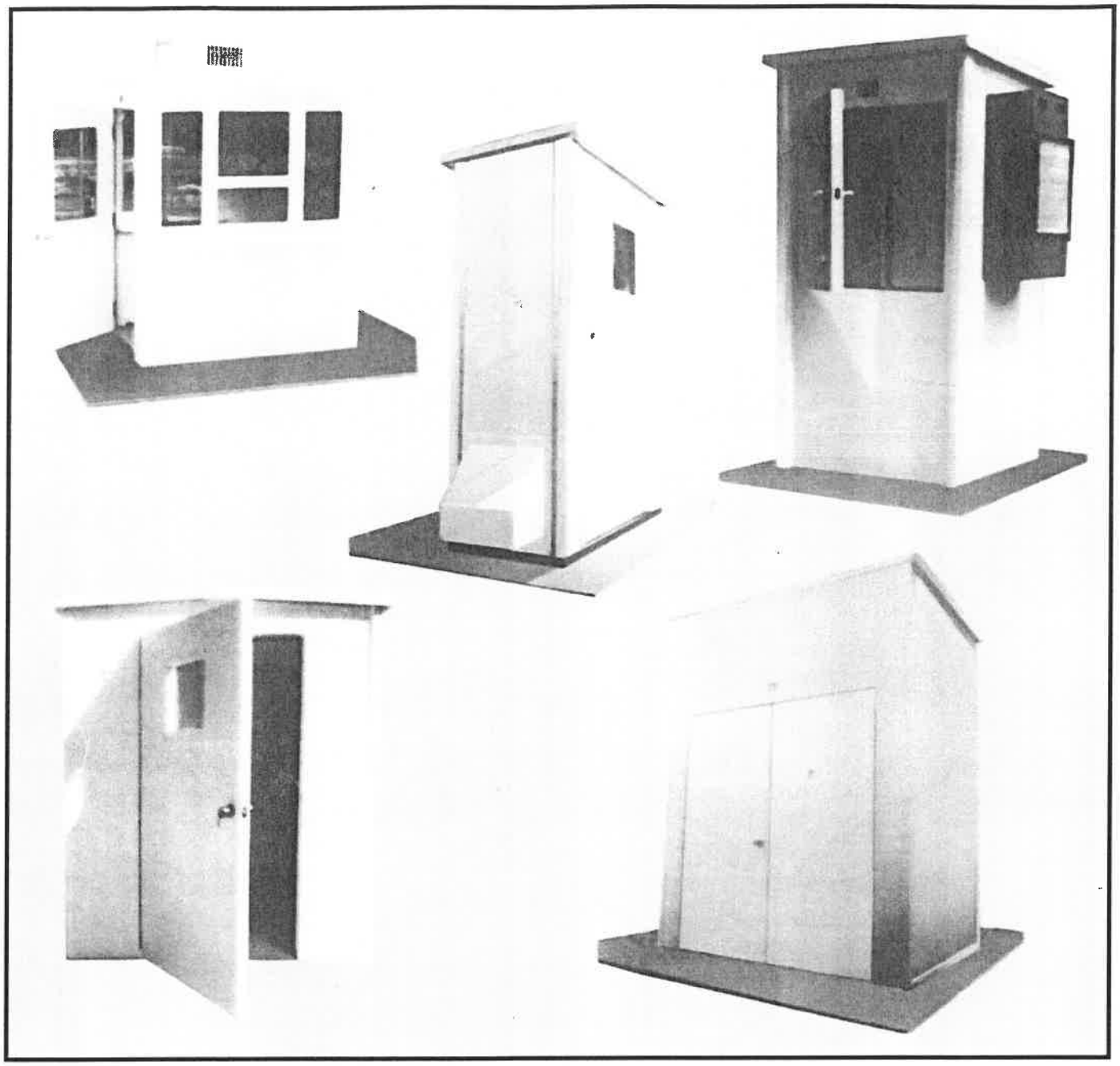
KENCO PLASTICS COMPANY, INC.
Kenco Plastics, a division of Dole Refrigerating Company, has been one of the leading specialists in the design and manufacture of fiberglass products for over 30 years. In addition to shelters, we fabricate Parshall and Palmer Bowlus Flumes.

KEN-SHELTER® Features:
- Corrosion resistant fiberglass reinforced polyester construction
- 1½'' foamed-in-place polyurethane foam insulation (closed cell), K-factor ≤ .14, R-value ≥ 10.9
- Virtually maintenance free. . .impigmented color
- Standard color white (colors other than white at additional cost and construction time)
- Available with peaked or sloped roof
- Shipped factory assembled or knocked-down
- Fabricated to withstand 125 MPH wind loads and 30 PSF snow loads
- Unique construction allows for many variations in shelter size and design

Standard Equipment:
- 3'0'' x 6'4'' opening-in-clear flush fitting insulated fiberglass door with integral FRP frame
- Full length stainless steel piano door hinge
- Neoprene sponge door seal gasket
- Keyed stainless steel cylindrical lockset
- Stainless steel threshold with neoprene gasket
- ½" x 2" Neoprene base mounting gasket
- Stainless steel mounting flanges prepunched on 6" centers for ½" diameter anchor bolts
- Four (4) cadmium plated lifting eyes

Optional Equipment:
- Exhaust fans
- Louvered air intake vents
- Screened FRP outside vent covers
- Heaters
- Air conditioners
- Light fixtures - fluorescent and incandescent
- Duplex outlet receptacles
- Door activated micro switches
- Circuit breaker panels and fuse boxes
- PVC, EMT and rigid galvanized conduit for wiring of electrical items
- Windows— 12"x16"x¼" Lexan door windows
  Stationary ¼" Lexan wall windows
  Sliding acrylic wall windows
  Tempered & laminate glass available
- Additional doors, larger doors, and double doors
- Panic hardware
- Door closers
- Interior wall partitions
- FRP floors and shelving
- Vapor-tight electrical equipment
- Explosion proof electrical equipment
- Flame resistant and special chemical resistant fiberglass

Other optional equipment and engineering assistance available upon request.



KEN-SHELTER® . . .

made to virtually any size . . . any floor plan . . . for many special uses.

KEN-SHELTER®'s unique panel construction allows for an unlimited variety of sizes and floor plans . . . able to accommodate a wide range of optional equipment.

KEN-SHELTER®'s are now being used in these industries: Oil, Steel, Chemical (safety showers), Chemical Equipment Waste Management, Instrumentation, Paper, Rubber, Power and Telephone.

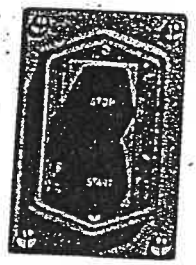
4C-10 DSD Cover and Device Sub-Assemblies

CROUSE-HINDS®

Cl. I, Div. 1, Groups C,D ♦
Cl. I, Div. 2, Groups B,C,D
Cl. II, Div. 1, Groups E,F,G
Cl. II, Div. 2, Groups F,G
Cl. III
NEMA 3,7B(Div. 2)CD,9EFG

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations


DSD918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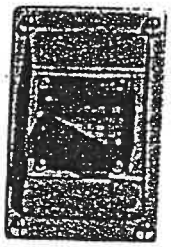
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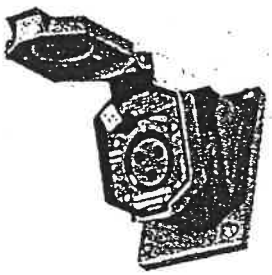
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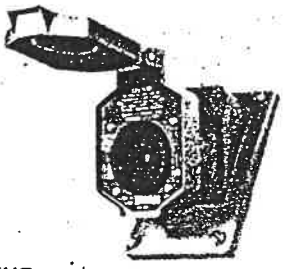

ENR5201

For use with EDSCM modular control device bodies listed on catalog page 4C-7.

Front Operated Pushbutton Stations
600 VAC Heavy Duty

Number of Cover Buttons	Normal Position	Diagram	Cat. #§
1	1 Circuit Universal		DSD918
1	2 Circuits Universal		DSD919
	2 Circuits 1 Open - A 1 Closed - B	A B	DSD920**
2	2 Circuits Universal		DSD921
2	2 Circuits 1 Open - A 1 Closed - B Start-Stop unless otherwise specified	A B	DSD922**

Front Operated General Use Snap Switch

Style	Amperes 120 VAC	277 VAC	Cat. #
1-Pole	20	20	DSD933‡
2-Pole	20	20	DSD934‡
3-Pole	♦ ♦	♦ ♦	DSD935*
3-Way	20	20	DSD936‡
4-Way	20	20	DSD937‡
1-Pole	30	30	DSD939*
2-Pole	30	30	DSD940*
3-Way	30	30	DSD941*

* Cannot be factory sealed.

♦ ♦ 16 Amp., 125V.
10 Amp., 250V.

** Two universal contact blocks, must be wired as two circuits with one normally open and one normally closed.

‡ To order a comparable factory sealed cover for EDS, EDSC, EDSCM21 and the bottom gang of EDSCM33 and EDSCM63 bodies, add suffix S697.

Delayed Action Receptacles
Factory Sealed

Rating	Cat. #
20 A, 1 HP, 125-250 VAC 60 Hertz 20 A, 18 VDC	CPS152R (2 wire, 3 pole)
30 A, 1½ HP, 125-250 VAC 60 Hertz; 7 A, ½ HP, 480 VAC, 60 Hertz	CPS532R (2 wire, 3 pole)
30 A, 3 HP, 125-250 VAC 60 Hertz; 7A, 1 HP, 480 VAC, 60 Hertz	CPS732R (3 wire, 4 pole)

General Purpose, Dead Front, Factory Sealed

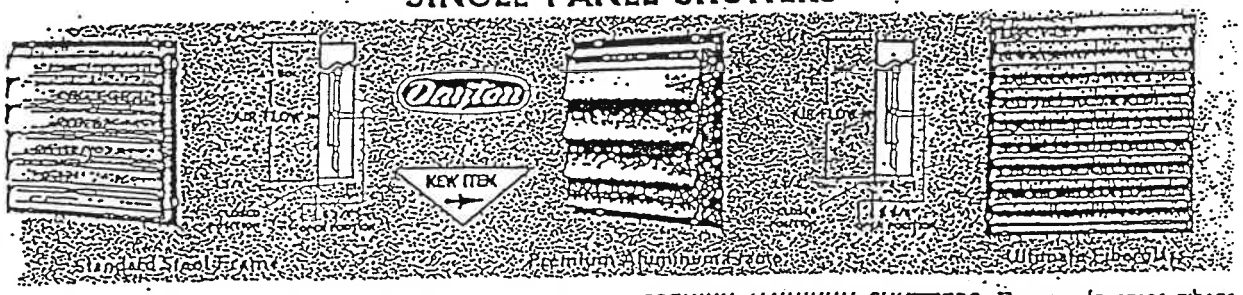
Rating	Cat. #	NEMA Config.
20 A, 125 VAC	ENR5201	5-20R
20 A, 250 VAC	ENR6202	6-20R

♦ When a CPS receptacle cover device is used, the assembly meets requirements for Class I, Groups C and D areas only.

§ Specify marking required for external pushbuttons or nylon rocker handles. Standard markings available, heat stamped in external pushbuttons, are as follows:

START	OFF	RESET	LIGHT ON
STOP	RUN	TRIP	HAND
ON	JOG	TEST	AUTOMATIC
EMERGENCY	OPEN	DOWN	RAISE
FORWARD	CLOSE	IN	LOWER
REVERSE	UP	OUT	

SINGLE PANEL-SHUTTERS



- Precision built shutters for direct or belt-driven exhaust fans
- Vanes open when fan comes on, close when air flow stops
- Counter-balanced, steel reinforced vanes felted for quiet operation
- Tie rod attached to vanes on fan side
- 9/32" Diameter mounting holes

STANDARD STEEL FRAME SHUTTERS. For normal applications. Mill finish aluminum vanes with stainless steel rivets. 19 ga welded steel frame, 3"D with 1¼" flange. Gray enamel finish.

PREMIUM ALUMINUM SHUTTERS. For use in areas where corrosion may be a problem such as poultry houses and barns. Aluminum vanes have white polyester enamel finish and stainless steel rivets. 16 gauge extruded aluminum frame, 3" D with 1½" flange.

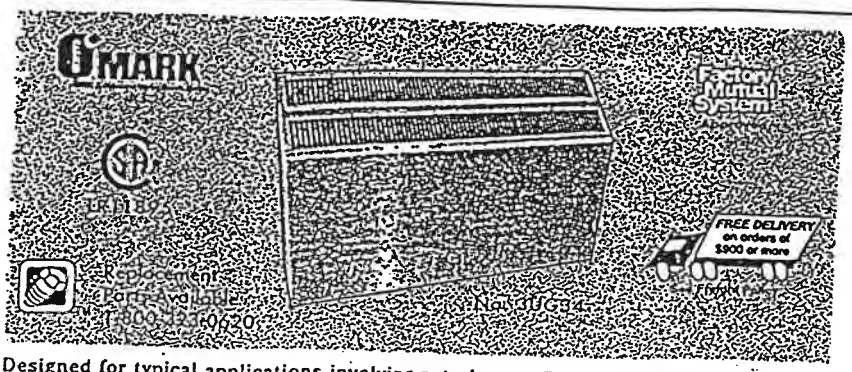
ULTIMATE HEAVY-DUTY FIBERGLASS SHUTTERS. 5-year warranty. For use in areas where corrosion is a known problem such as chemical plants, poultry and swine confinement operations, and anywhere a rugged, noncorrosive shutter is required. Made of heavy duty fiberglass with stainless steel pins and bearings at pivot points. 3" frame and 1/8" thick tie rod.

Fan Dia	Frame Opening Req'd "A"	STANDARD STEEL FRAME Stock No.	PREMIUM ALUMINUM FRAME Stock No.	ALL FIBERGLASS SHUTTERS Stock No.	Shpg. Wt.
10"	10½" Sq	2CS26	4CS55	+5C210	3.1
12	12½	1C742	4CS56	+5C211	4.0
16	16½	1C743	4CS57	+5C212	6.0
18	18½	1C744	4CS58	+5C213	7.0
20	20½	1C745	4CS59	+5C214	8.0
24	24½	1C746	3C308	+5C215	10.0
30	30½	1C055	3C309	+5C216	13.0
36	36½	4CS21	3C310	+5C217	15.0

"SHALL INCLUDE FRP VENT COVER"

HEATING EQUIPMENT

HAZARDOUS LOCATION ELECTRIC CONVECTION HEATERS



Certified for use in Class 1, Groups B, C and D, Division 1 and 2 atmosphere having ignition temperature code ratings down to 392°F (200°C, T3)

- **Sloped top cabinet prevents objects from being set on top and restricting airflow**
- **Easily mounted with brackets provided for wall installation**
- **Heavy gauge steel with epoxy paint finish for excellent corrosion resistance**

Designed for typical applications involving petroleum refineries and gasoline storage and dispensing areas, industrial firms that use flammable liquids in dip tanks for parts cleaning, petrochemical companies manufacturing chemicals, dry cleaning plants, utility and natural gas plants, aircraft hangers, fueling areas, and many other hazardous areas covered by these classifications.

A built-in automatic reset thermal limit for overtemperature protection. Contactors, where required, will be supplied by customer. Can be operated by a non explosion-resistant thermostat if the stat is in an area remote from the hazardous location.

Element—High quality, long-life finned tubular elements with high grade resistance wire embedded in MGO, centered in a heavy gauge diameter sheath with 1⅛" diameter fins.

Terminal Box—Explosion proof stainless steel terminal box included, with provision for rigid metallic conduit entry and ease of wiring.

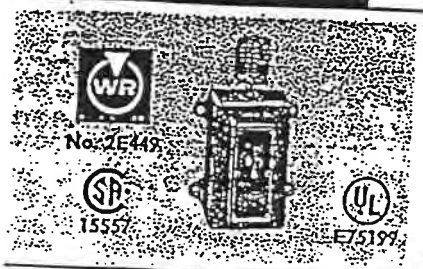
Clearance—Must be installed a minimum of 8" from the floor to provide sufficient area for air flow into the bottom of the heater.

HAZARDOUS LOCATION ELECTRIC CONVECTION HEATERS

Voltage	Output BtuH	Wattage	Phase	Amps	Number of Elements	Cabinet Size H x L x D (In.)	QMark Model	Stock No.	Shpg. Wt.
T3 Temperature Rating (392° F)									
208	6140	1800	1	8.7	3	23 x 39 x 8	ICG18081A-N	3UG34	
240	6140	1800	1	7.5	3	23 x 39 x 8	ICG18041A-N	3UG33	65.0
									65.0
T2A Temperature Rating (536° F)									
208	12,280	3600	1	17.4	3	23 x 39 x 8	ICG36081A-N	3UG37	
240	12,280	3600	1	15.0	3	23 x 39 x 8	ICG36041A-N	3UG35	65.0
480	12,280	3600	3	4.4	3	23 x 39 x 8	ICG36043A-N	3UG36	65.0
									65.0
T2 Temperature Rating (572° F)									
480	25,590	7500	3	9.1	3	23 x 67.5 x 8	ICG75043A-N	3UG38	165.0

HVAC CONTROLS

LINE VOLTAGE AND FAN COIL THERMOSTATS



HAZARDOUS LOCATION THERMOSTAT

APPLICATIONS: For controlling heating systems in explosive environments

FEATURES:

- 7/32" thick cast aluminum housing
- Coiled hydraulic sensing element
- 1/2" Female pipe thread in bottom of case
- UL Listed (E75199); Class I, Group D; Class II Group E, F and G
- CSA Certified (15557)

MOUNTING: Flush

Inductive		Noninductive		Switch Type	Switch Action	Temp. Range	Diff. (fixed)	Dimensions, In. H	W	D	White-Rodgers Model	Stock No.	List	Each	Shpg. Wt.
120VAC	240VAC	120VAC	240VAC												
14A	7A	25A	20A	SPST	Open on Rise	40-90°F	3°F	9	5⅜	4¾	2A20-2	2E449.			4.6

CLASS I — Equipment does not have surface operating temperature in excess of the ignition temperature of the specific gas or vapor.

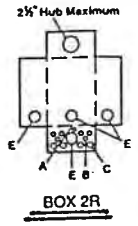
DIVISION I — A location in which ignitable concentrations of flammable material exist under normal operating conditions.

GROUP D — Atmospheres such as but not limited to acetone, alcohol, gasoline, lacquer solvent vapors, natural gas, propane or other gases or vapors of equivalent hazard.

Main Lugs – Rainproof

Order QO, QOT, QO-GFI and QO-PL Circuit Breakers From Pages 1-4 and 1-5.

Mains Rating Amps.	Spaces	▲Max. Number Single Pole Circuits	Max. Number of Tandem Circuit Breakers		Load Center Box & Interior Catalog Number	Load Center Box & Interior Price	Main Wire Size AWG/kcmil Al	Main Wire Size AWG/kcmil Cu	Equipment Ground Bar Kit (Order Separately) Catalog Number	Equipment Ground Bar Kit (Order Separately) Price	Box. No. See Page 1-13
SINGLE PHASE											
1 Phase 3 Wire — 120/240Vac — UL Listed											
Fixed Mains — Factory Installed Main Lugs — 10,000 RMS Sym. Amperes Short Circuit Current Rating											
40	2	2	0		QO2L40RB‡‡		#12-#6	#14-#6	PK3GTA-1		1R
70	2	4	2		QO2-4L70RB‡‡		#12-#3	#14-#4	PK4GTA		1R
100	6 8	12 16	6 8		QO6-12L100RB QO6-16L100RB		#8-#1		PK7GTA PK7GTA		2R 2R
100	6 8	12 16	6 8		QO6-12L100RBCU QO6-16L100RBCU		#8-#1		PK7GTA PK7GTA		2R 2R
Convertible Mains — Factory Installed Main Lugs — 65,000 RMS Sym. Amperes Maximum Short Circuit Current◇★											
QOM1 Main Frame Size — Convertible to Main Breaker — Copper Bus											
125	12 12 16 24	12 24 24 24	0 12 8 0		QO12L125RB QO12-24L125RB QO16-24L125RB QO24L125RB		#4-2/0		PK9GTA PK15GTA PK15GTA PK15GTA		3R 3R 3R 4R
QOM2 Main Frame Size — Convertible to Main Breaker — Copper Bus											
150	30	30	0		QO30L150RB		#4-250		PK18GTA		5R
200	12 30 30	12 30 40	0 0 10		QO12L200RB QO30L200RB QO30-40L200RB		#4-250		PK9GTA PK18GTA PK23GTA		5R 5R 5R
225	42	42	0		QO42L225RB		#4-300		PK23GTA		6R



BOX 2R

Knockout Information & Enclosure Dimensions

Rainproof

Symbol	Knockouts A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	W	X
Conduit Size	½	½	½	½	½	¾	1	1	1¼	1½	2	1¼	1¼	2½	¾	1	1½
	...	...	¾	¾	¾	1	1¼	1¼	1½	2	2½	1½	1½	3	1	1¼	2
	...	...	...	1	1	1¼	1½	2	2	2½	3	2	2	3½	...	1½	2½
	...	...	...	...	1¼	1½	2	2½	2½	3	3½	2½	2½	4	...	2	3
	...	...	...	...	...	...	...	...	...	...	...	3	3	...	...	2½	3½
	...	...	...	...	...	...	...	...	...	...	...	3½	...	...	3	4	

DIMENSIONS

Box. No.	W	H	D
1R	4.88	9.38	4.00
2R	8.88	12.65	4.27
3R	14.25	18.96	4.52
4R	14.25	22.10	4.52
5R	14.25	29.90	4.52
6R	14.25	38.02	4.52
7R	14.25	18.96	4.52
8R	14.25	22.10	4.52

QO® CIRCUIT BREAKERS

WITH VISI-TRIP INDICATOR FOR QO CIRCUIT BREAKER LOAD CENTERS

PLUG-ON CIRCUIT BREAKERS

QO One Pole

1 Space Required

Ampere▲ Rating	One Pole — 120/240V. ac Catalog Number
10,000 AMPERES RMS — UL Listed Interrupting Rating	
10	QO110
15	▲◆QO115
15	‡▲◆QO115HM
20	▲◆QO120
20	‡▲◆QO120HM
25	◆QO125
30	◆QO130

MANUFACTURERS OF THE KEN-SHELTER

KENCO PLASTICS COMPANY, INC.

P.O. BOX 39 • NECEDAH, WISCONSIN 54646-0039
TELEPHONE (608) 565-2203 • FAX: (608) 565-7747

INSTALLATION INSTRUCTIONS FOR ASSEMBLED KEN-SHELTERS

1. REMOVE ALL CRATING FROM BUILDING.

2. ATTACH 1/2" X 2" NEOPRENE GASKET SUPPLIED WITH BUILDING TO BOTTOM EDGES OF PANELS, FLUSH WITH OUTSIDE SURFACE. IF YOUR BUILDING HAS AN OPTIONAL FLOOR THIS STEP IS OMITTED.

3. SET BUILDING ON FOUNDATION. IF LIFTING BUILDING VIA THE LIFTING EYES IN ROOF, USE SPREADER BARS TO MAINTAIN A VERTICAL LIFT.

4. SHIM, SQUARE AND ALIGN BUILDING AS NECESSARY FOR PROPER DOOR ALIGNMENT PRIOR TO INSTALLATION OF ANCHOR BOLTS.

5. INSTALL ANCHOR BOLTS - SEE NOTES NO. 1-3.

6. (OPTIONAL) RUN A BEAD OF RTV WHITE SILICONE ALL AROUND BUILDING'S EXTERIOR AND INTERIOR BASE PERIMETER - SILICONE TO BE BY OTHERS.

7. INSTALL ST.ST. THRESHOLD (FASTENERS ARE NOT PROVIDED-RECOMMEND USING PLASTIC ANCHORS WITH #10 X 1" TRUSSHEAD SCREWS). HOLES ARE PREDRILLED IN THRESHOLD FOR SCREWS. SILICONE UNDER THRESHOLD PRIOR TO INSTALLING SCREWS.

NOTES:

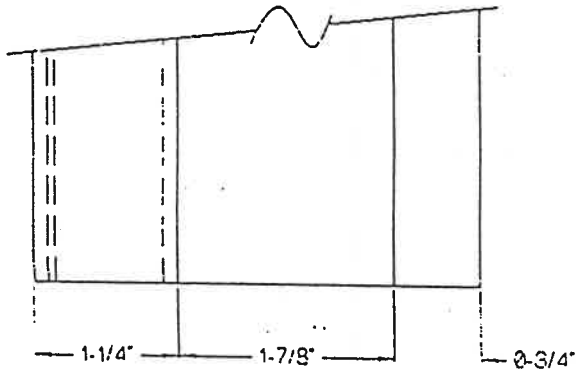
1. KENCO DOES NOT RECOMMEND PREDRILLING HOLES IN FOUNDATION PRIOR TO RECEIPT OF BUILDING OR USING PRESET ANCHOR BOLTS.

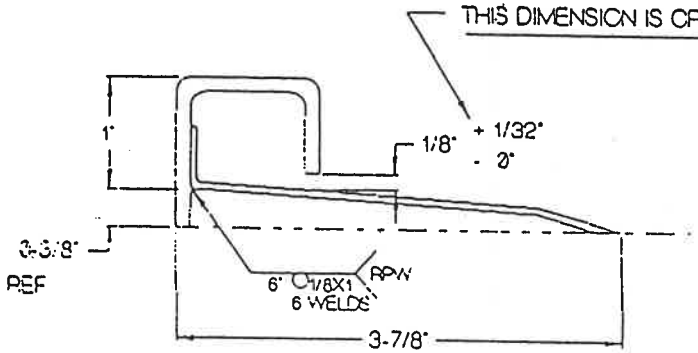
2. ANCHOR BOLTS TO BE PROVIDED BY OTHERS.

3. KENCO RECOMMENDS 1/2" DIAMETER X 3-1/2" LONG STAINLESS STEEL EXPANSION TYPE ANCHOR BOLTS (5-1/2" LONG ON BUILDINGS WITH AN OPTIONAL FLOOR).

4. THE DOOR'S LOCKSET MAY BE PACKAGED SEPARATELY TO PREVENT DAMAGE DURING SHIPMENT. INSTALL LOCKSET PER MANUFACTURER'S INSTRUCTIONS. SILICONE AROUND LOCKSET TO SEAL-BOTH ON DOOR'S INTERIOR AND EXTERIOR. TO AVOID DAMAGE TO LOCKSET, PUSH IN DOOR TO RELEASE TENSION FROM GASKET PRIOR TO TURNING KNOB.

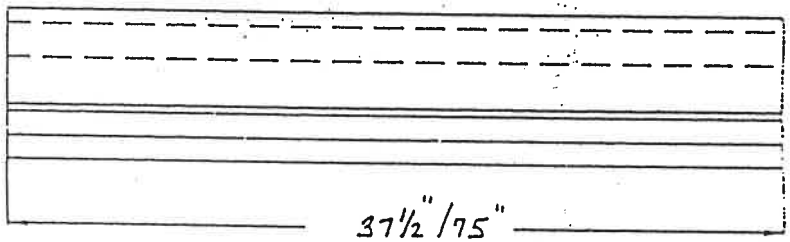
5. IF YOUR BUILDING IS PROVIDED WITH FRP OUTSIDE VENT COVERS FOR EXHAUST AND/OR INTAKE APPLICATIONS AND THESE COVERS ARE NOT ATTACHED TO THE BUILDING - USE THE KENCO SUPPLIED NYLON DRIVE RIVETS TO FASTEN LOUVER(S) ON BUILDING'S EXTERIOR, THEN CAREFULLY SILICONE AROUND OUTSIDE EDGE OF FLANGE. USE MASKING TAPE AROUND PERIMETER (OF BUILDING'S EXTERIOR WALL AND COVER'S FLANGE) TO PROVIDE A GOOD APPEARANCE.





MATERIAL: TYPE 304 STAINLESS STEEL, 12 GAUGE + ALUMINUM

NEOPRENE GASKET NOT SHOWN--SEE DRAWING # KD-0030-C1



3'-0" SINGLE + 6'-0" DOUBLE DOOR ASSY'S.

KENCO PLASTICS COMPANY, INC.
P.O. BOX 50
STATE HWY. 21
NECEDAH, WI 54646
PHONE: 608-565-2283 FAX: 608-565-7747

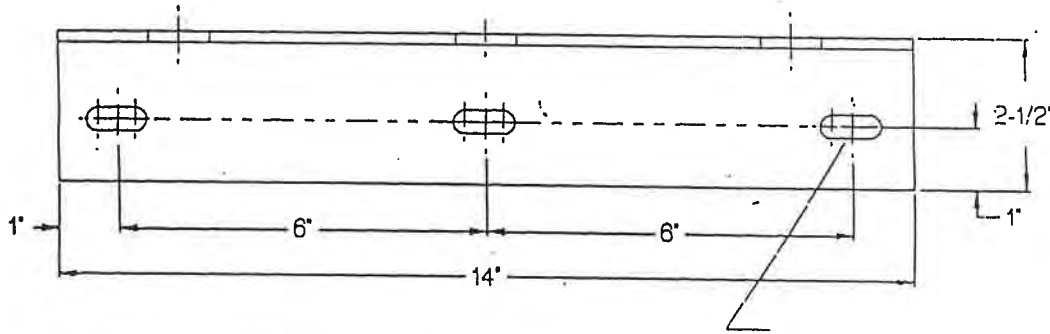
TITLE: THRESHOLD DETAIL FOR KEN-SHELTERS

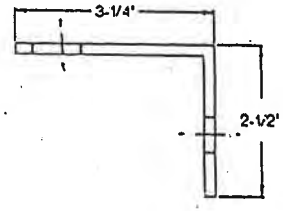
DATE: 10/96 REV

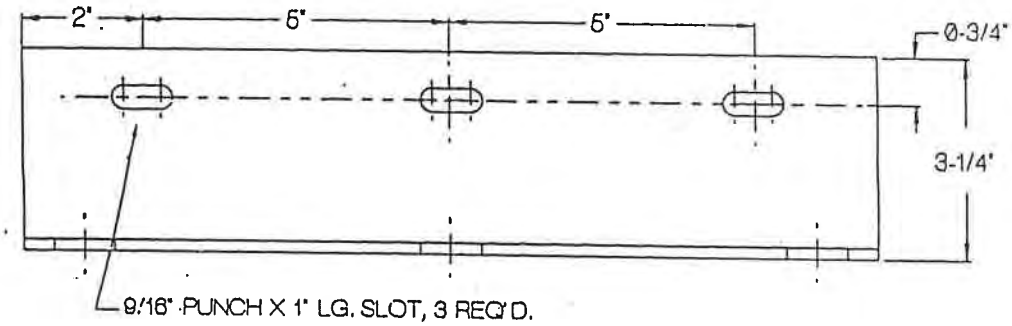
DRAWING NO. Th-278-A1.31

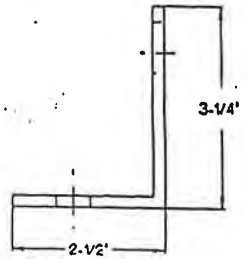
SCALE: N.T.S.

DRAWN:









NOTE: 2-1/2" SIDE MOUNTED TO FLOOR.

MATERIAL: TYPE 304 STAINLESS STEEL, 12 GAUGE

KENCO PLASTICS COMPANY, INC.
P.O. BOX 39
STATE HWY. 21
NECEDAH, WI 54646
PHONE: 608-565-2293 FAX: 608-565-7747

TITLE:	DATE:
ANGLE BRACKET MOUNTING FLANGE FOR KEN-SHELTERS	7-29-93
SCALE: N.T.S. / DRBY: DAS	DRAWING NO: KX-0003-B2

Standard sizes, overall exterior dimensions are shown below. Standard height is 7'4" sloping to 7'0" at eaves or low end (7'2" inside at peak or high end sloping to 6'10"). Buildings can be fabricated to nonstandard dimensions with minimal cost increase.

Standard Sizes:

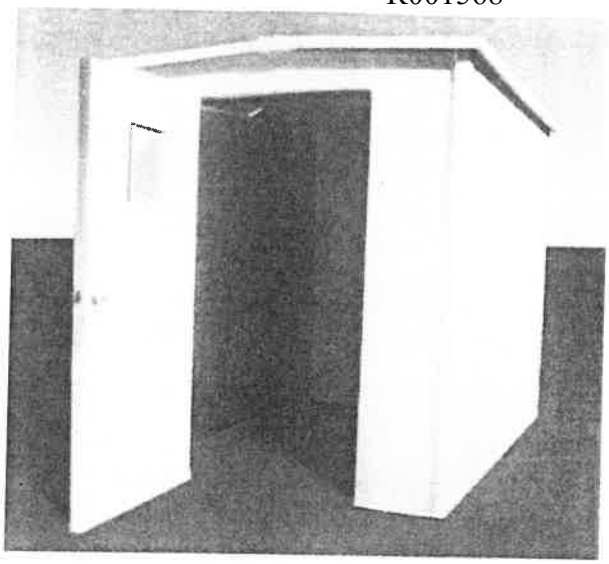
Width (*1) X Depth (feet x feet)	Basic Building Weight (Lbs.)	Assembled Bldg w/skid & crating (Lbs.)	Knocked-Down Crated Bldg. (Lbs.)
4 x 4	390	440	490
4 x 6	485	540	600
4 x 8	570	630	695
4 x 10	675	740	810
4 x 12	765	835	915
4 x 14	870	950	1030
4 x 16	965	1055	1140
6 x 4	485	540	600
6 x 6	585	645	710
6 x 8	680	790	815
6 x 10	790	860	940
6 x 12	890	965	1050
6 x 14	1000	1085	1175
6 x 16	1095	1190	1280
8 x 4	565	625	690
8 x 6	675	740	810
8 x 8	770	(*2) 845	920
8 x 10	880	(*2) 965	1040
8 x 12	1125	(*2) 1220	1300
8 x 14	1250	(*2) 1350	1485
8 x 16	1475	(*2) 1585	1775
10 x 4	670	735	805
10 x 6	785	860	935
10 x 8	880	(*2) 965	1040
10 x 10	1140	(*3)	1335
10 x 12	1290	(*3)	1495
10 x 14	1440	(*3)	1660
10 x 16	1675	(*3)	1910
12 x 4	760	835	910
12 x 6	885	970	1045
12 x 8	990	(*2) 1090	1165
12 x 10	1265	(*3)	1470
12 x 12	1405	(*3)	1625
12 x 14	1565	(*3)	1795
12 x 16	1805	(*3)	2050
14 x 4	865	950	1025
14 x 6	995	1085	1170
14 x 8	1200	(*2) 1300	1420
14 x 10	1390	(*3)	1610
14 x 12	1540	(*3)	1770
14 x 14	1705	(*3)	1950
14 x 16	1960	(*3)	2220
16 x 4	965	1060	1140
16 x 6	1095	1200	1280
16 x 8	1220	(*2) 1335	1420
16 x 10	1515	(*3)	1750
16 x 12	1675	(*3)	1920
16 x 14	1965	(*3)	2225

*1. Typically door is located in width.

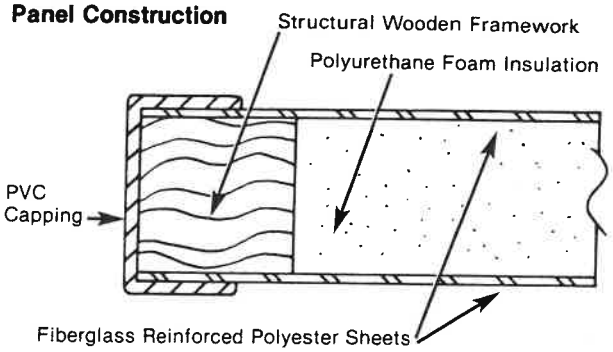
*2. For shipping assembled via common carrier it is necessary to decrease the 8'0" dimension to 7'4".

*3. Kenco does not recommend shipping assembled due to substantial freight costs.

Write or call our sales department today for additional information and pricing.



KEN-SHELTER®
Panel Construction



Equipment Description and Sample Specifications:

The contractor shall furnish and install (quantity) fiberglass reinforced polyester KEN-SHELTER®(S) as shown on the plans and in accordance with these specifications. The shelter shall have the following overall exterior dimensions: (width)X(depth)X(height) with ( ) sloped or ( ) peaked roof. Shelter shall be shipped ( ) assembled or ( ) knocked down. Shelter shall include stainless steel mounting flanges, prepunched on 6" centers for ½" diameter anchor bolts. Shelter to be insululated with 1½" foamed-in-place polyurethane (2 pounds per cubic foot in density). Thermal conductivity of shelter (K-factor) to be maximum .14BTU/hr/ft²/°F/in. Flush door to be ( ) 3'0"X6'4" standard or ( ) __X__, open-in-clear, and shall be provided with a continuous stainless steel piano hinge, stainless steel cylindrical lockset, plated safety stop chain, neoprene door seal gasket and stainless steel threshold. All door hardware to be non-corrosive. Shelter shall be ( ) white or ( ) with color impigmented through the fiberglass. Four cadmium plated lifting eyes provided on roof. Optional equipment shall include:

KENCO PLASTICS COMPANY, INC.
State Highway 21
P.O. Box 39
Necedah, Wisconsin 54646
Phone (608) 565-2203
FAX (608) 565-7747

KENCO 9/99 PRINTED IN U.S.A.

GL-2

A-51 Incandescent Explosion-Proof Lighting Fixtures: Factory Sealed.

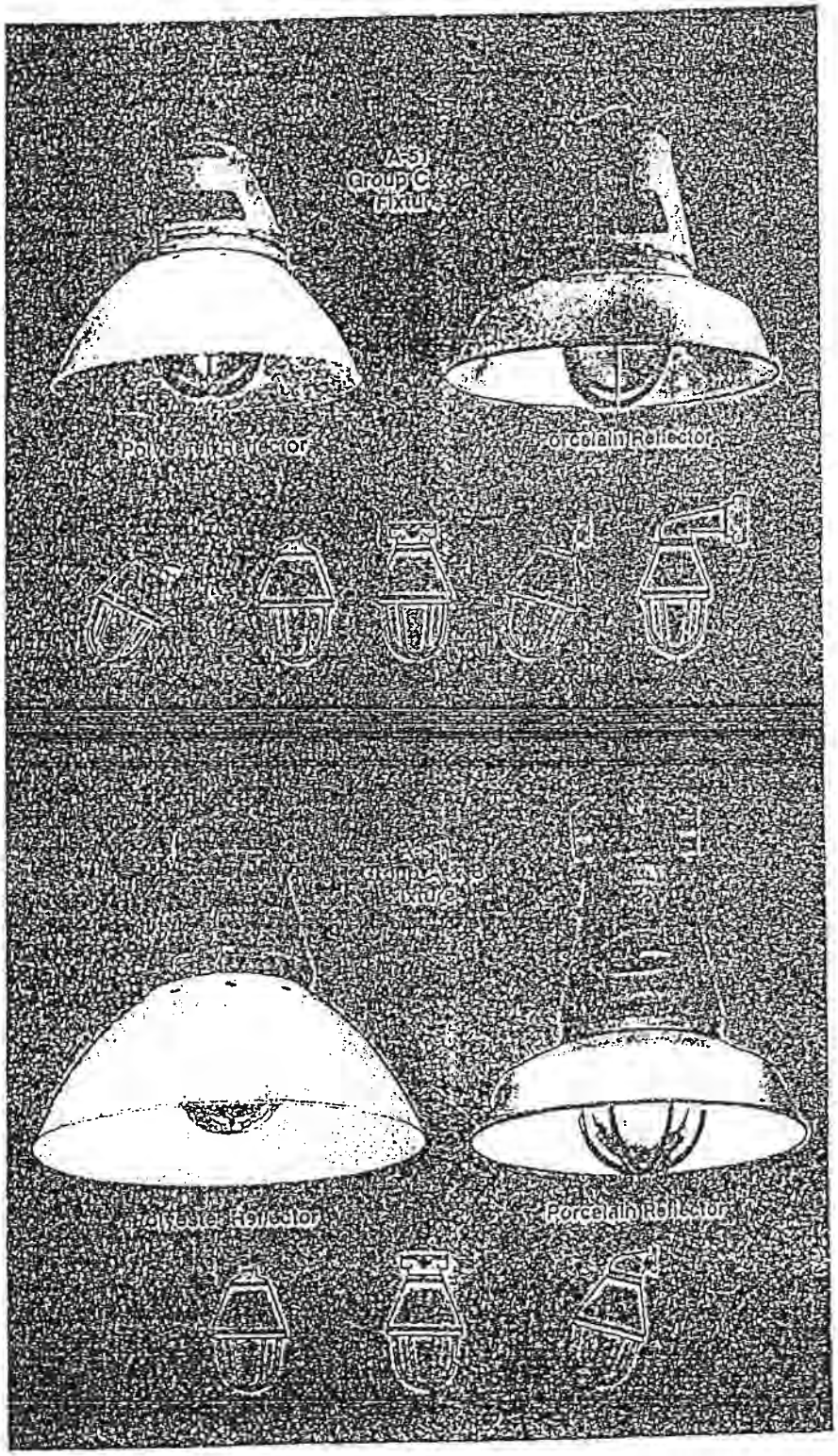
Suitable for Use in Wet Locations.
UNILETS® for Use with Threaded Metal Conduit.

Applications

- A-51 Series incandescent Class I, Groups A, B, C and D; Class II, E, F and G applications (see listings and area suitability chart).
- Ideal for use in chemical and petrochemical plants and in other heavy process areas where ignitable vapors, dust, moisture and corrosive atmospheres may be present.
- Suitable for use in wet locations.
- Wide range of wattages—60 thru 500 watt incandescent lamps.
- Choice of units with or without guard as well as choice of porcelain or polyester reflectors.
- Choice of mountings—pendant, ceiling, stanchion, long bracket and short bracket.
- Porcelain reflectors for standard applications and fiberglass reinforced polyester reflectors for installations where fixture is subject to exceptionally severe corrosive atmospheres. High bay reflector for installations where mounting height from work plane ranges from 20 to 30 feet.
- Class I, Groups A and B fixtures have special UL approved sintered metal flame arrester.

Features

- All A-51 fixtures are factory sealed—no external sealing fittings are required.
- New high temp phenolic connection block in mounting hood has rugged leaf spring contacts—loosen two screws, rotate and remove for quick wiring.
- Safe, easy servicing or relamping without disconnecting any wiring. "Wireless" fixture unit easily threads off mounting hood for convenient servicing or for immediate exchange with "stand-by" unit.
- Engineered for safety—five full threads are always engaged in an approved explosion-proof method. Safe even if current is accidentally left on, because arcing, if any, is safely confined to the interior.
- All joints are flame tight.



Appleton® ELECTRIC COMPANY

1701 W. Wellington Ave.
Chicago, Illinois 60657

Class I, Div. 1 and 2, Groups C,D
Class II, Div. 1 and 2, Groups E,F,G*
Class III

UL 57, UL 844 Listed

A-51 Incandescent Explosion-Proof Lighting Fixtures: Factory Sealed.

Suitable for Use in Wet Locations. Two-Coat Epoxy Finish.

U.S. Pat. 3,170,750 Pat. Can. 1968

Type	Hub Size (Inches)	Catalog Number
Pendant One hub, rigid or flexible mounting.		
60-100 Watt (AAU-1N) A-21	1/2 3/4 1	AP1050 AP1075 AP10100
150-300 Watt (AAU-15N) A-23 PS-25	1/2 3/4 1	AP1550 AP1575 AP15100
200-300 Watt (AAU-2N) PS-30	1/2 3/4 1	AP2050 AP2075 AP20100
300-500 Watt (AAU-5N) PS-35	1/2 3/4 1	AP5050 AP5075 AP50100

Type	Hub Size (Inches)	Catalog Number
Ceiling Four hubs and three close-up plugs		
60-100 Watt (AAU-1N) A-21	1/2 3/4 1	AC1050 AC1075 AC10100
150-300 Watt (AAU-15N) A-23 PS-25	1/2 3/4 1	AC1550 AC1575 AC15100
200-300 Watt (AAU-2N) PS-30	1/2 3/4 1	AC2050 AC2075 AC20100
300-500 Watt (AAU-5N) PS-35	1/2 3/4 1	AC5050 AC5075 AC50100

Type	Hub Size (Inches)	Catalog Number
25° Stanchion One hub		
60-100 Watt (AAU-1N) A-21	1-1/2•	AN10150
150-300 Watt (AAU-15N) A-23 PS-25	1-1/2•	AN15150
200-300 Watt (AAU-2N) PS-30	1-1/2•	AN20150
300-500 Watt (AAU-5N) PS-35	1-1/2•	AN50150

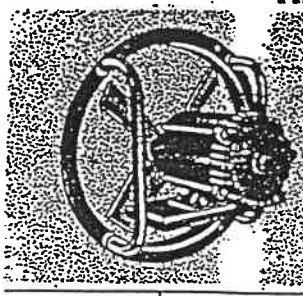
*For specific classified area suitability of each fixture listed, see table on page 4. •1-1/2" tapped hub furnished with a 1-1/2" to 1-1/4" reducer.

Discount Schedule UD
Refer to Pricing Index for price, weight and standard package

Appleton Electric Company

1701 W. Wellington Ave.
Chicago, Illinois 60657

HAZARDOUS LOCATION EXHAUST FANS



Dayton

- 12" to 30" cast aluminum fan blades with hazardous location motors
- For many flammable, explosive vapors or gas environments

Exhaust fans handle many atmospheres containing flammable, explosive vapors or gases. Air deliveries specified below are based on standard test codes of AMCA. Has spark resistant cast aluminum fan blade.

Powered by 1725 RPM, 115V, 60 Hz totally enclosed, hazardous location, ball bearing, split-phase motor, except No. 4C371 and No. 3C772 which have a 115/230V, 60 Hz, capacitor motor. All models have automatic reset thermal protection. Motors only are UL Listed, (E62643) for Class I, Group D and Class II, Groups E, F, and G hazardous locations. Not for use in other hazardous locations or where motor will accumulate paint residue. Built into heavy steel frame with ample mounting holes.

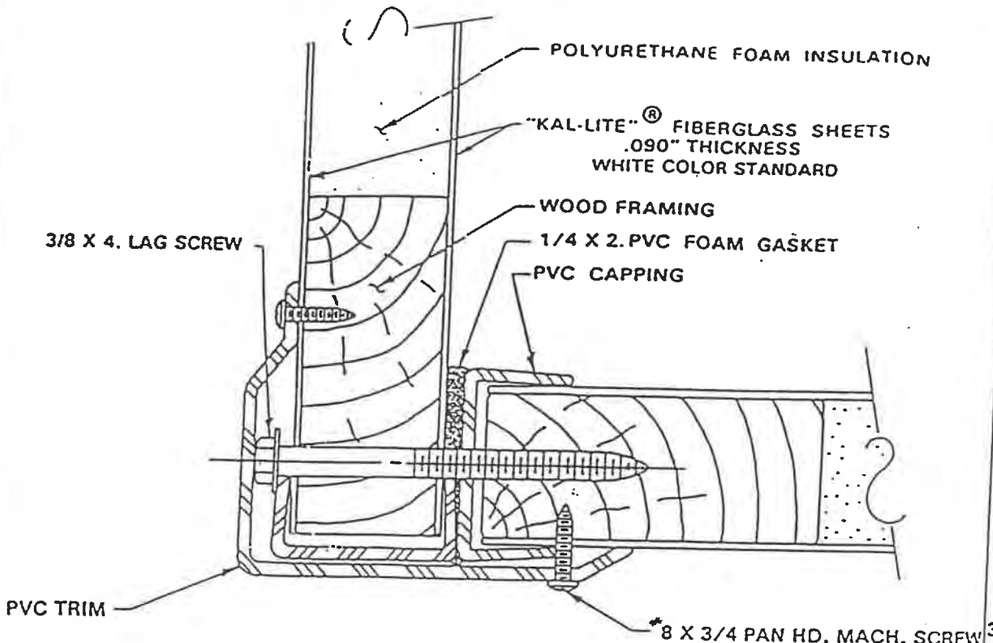
For intake guards complying with OSHA regulations see Index under Guards, Fan. Fan shipped assembled.

Blade Dia.	No. Blades	CFM AIR DELIVERY Free Air	1/8" SP	1/4" SP	3/8" SP	Motor HP	Full-Load Amps	Volts 60 Hz	Dia. Opening Required	Stock No.	List	Each	Shpg. Wt.
12"	4	855	645	330	175	1/4	4.5	115	13½"	4C020			38.0
16	4	2000	1640	1260	750	1/4	4.5	115	17½	4C369			42.0
18	4	2210	1810	1300	800	1/4	4.5	115	19½	4C370			42.0
20	4	2475	1860	1350	850	1/4	4.5	115	21½	2C963			45.0
24	4	3535	2520	1720	1000	1/3	6.4	115	25½	2C856			47.0
24	4	4265	3320	2480	2200	1/2	8.6	115/230	25½	4C371			50.0
30	6	7185	6000	5000	3500	3/4	7.6	115/230	31½	3C772			48.0

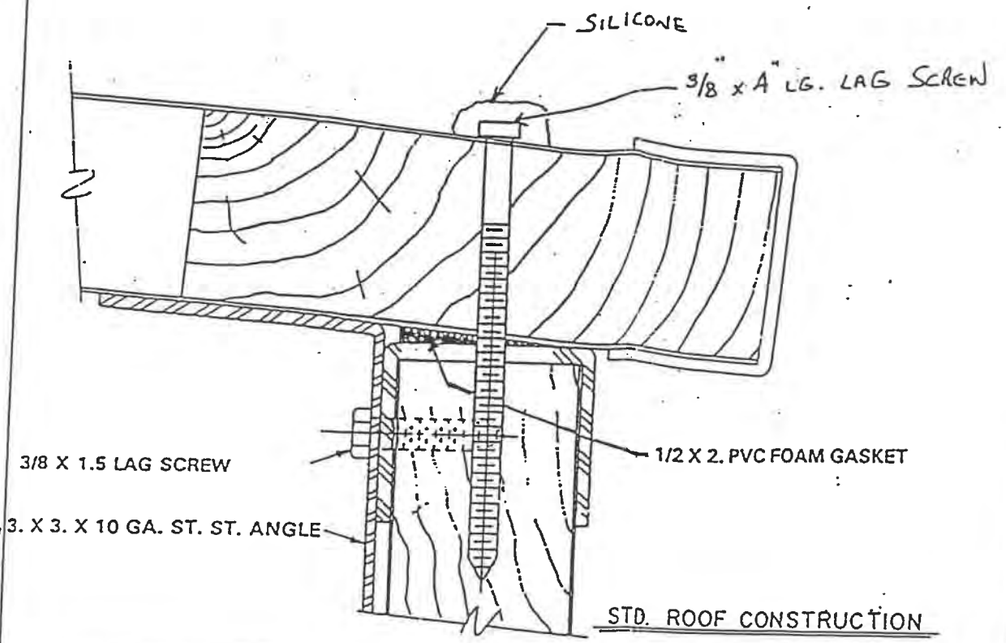
CONDUIT BOX for HAZARDOUS LOCATION FAN MOTORS

For use on the hazardous location fan motors above. Has hole for self-tapping grounding screw. Easily installed. UL Listed. Gray finish. No. 4X788. Shpg. wt. 1.6 lbs. Each.....

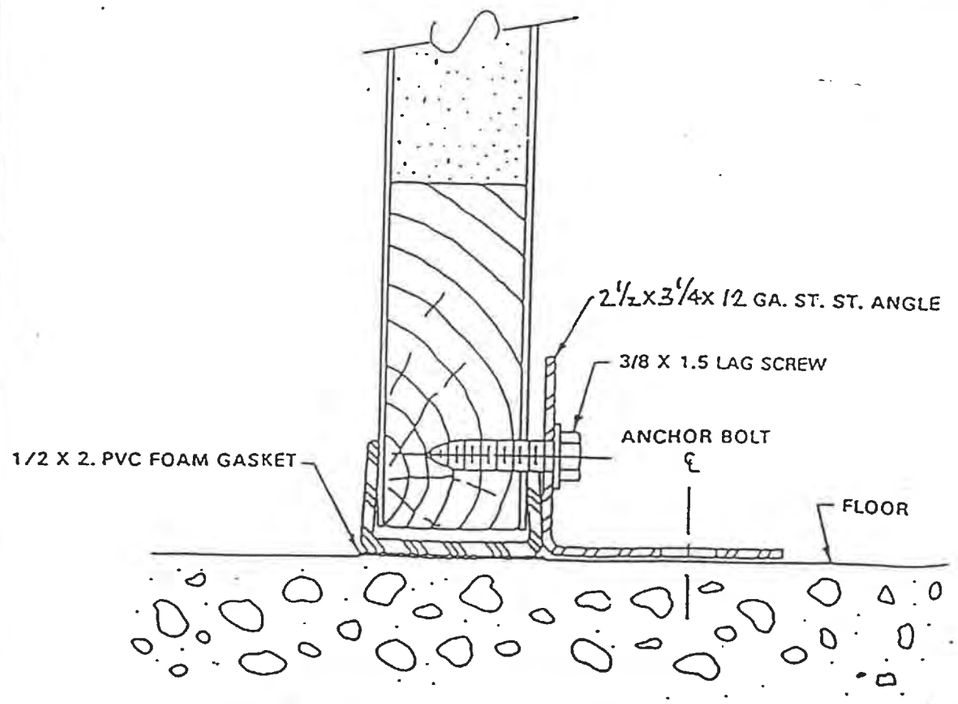
"SHALL INCLUDE EXT. FRP VENT COVER."



STD. CORNER CONSTRUCTION

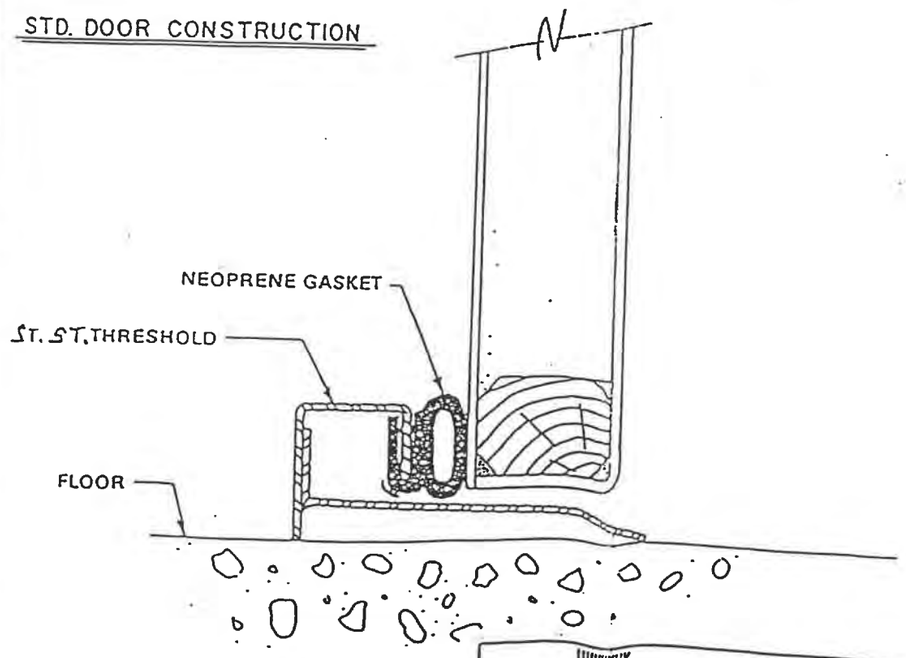


STD. ROOF CONSTRUCTION



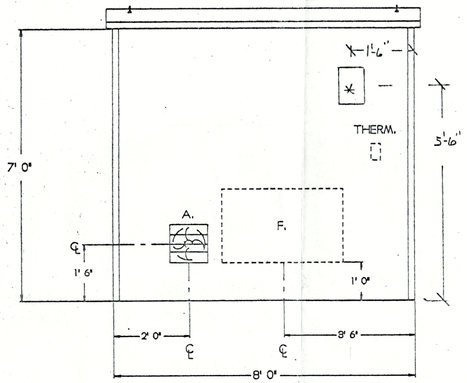
STD.. ANCHORING CONSTRUCTION

STD. DOOR CONSTRUCTION

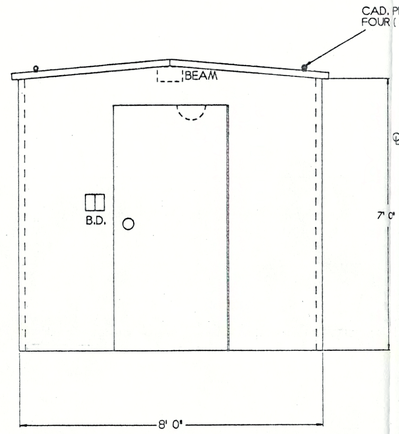


KENCO PLASTICS COMPANY, INC.
State Highway 21
Necedah, Wisconsin 54646
Phone (608)565-2203

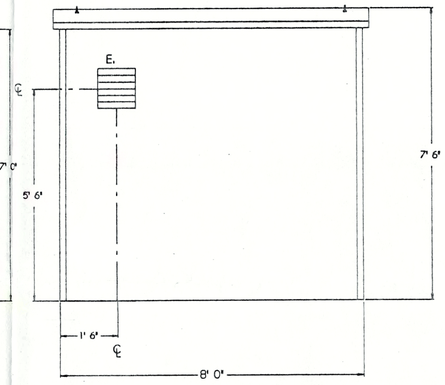
KD-0030-C1		8-1-88



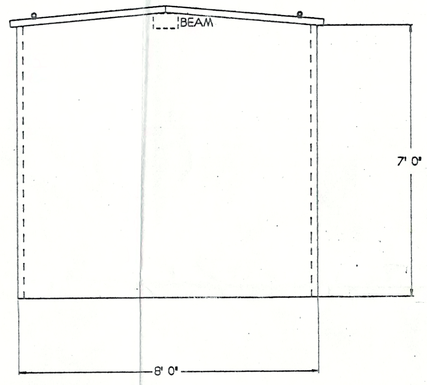
LEFT SIDE ELEVATION



FRONT ELEVATION



RIGHT SIDE ELEVATION



BACK ELEVATION

ACCESSORIES TO INCLUDE:

A. (1) 12" DIAMETER EXPLOSION PROOF EXHAUST FAN, 855 CFM FREE AIR, MOUNTED ON AN AUTOMATIC SHUTTER AND AN INTAKE GUARD WITH A SCREENED FRP OUTSIDE VENT COVER. FAN IS DAYTON BRAND, STOCK NO.4C020.

B. (1) EXTERIOR, 20 AMP, WEATHERTIGHT TOGGLE SWITCH FOR MANUAL CONTROL OF EXHAUST FAN. SHALL BE EXPLOSION PROOF - CROUSE HINDS MODEL # DSD933.

C. (1) 100 WATT, INTERIOR INCANDESCENT, EXPLOSION PROOF LIGHT FIXTURE, CEILING MOUNT, APPLETON MODEL NO. AC1075 - CLASS 1 - DIV 1 & 2

D. (1) EXTERIOR, 20 AMP, WEATHERTIGHT TOGGLE SWITCH FOR MANUAL CONTROL OF LIGHT FIXTURE. SHALL BE EXPLOSION PROOF - CROUSE HINDS MODEL # DSD933.

E. (1) 12" X 12" FIBERGLASS GRAVITY OPERATED AIR INTAKE VENT WITH A SCREENED FRP OUTSIDE VENT COVER. VENT IS DAYTON BRAND STOCK NO.5C211.

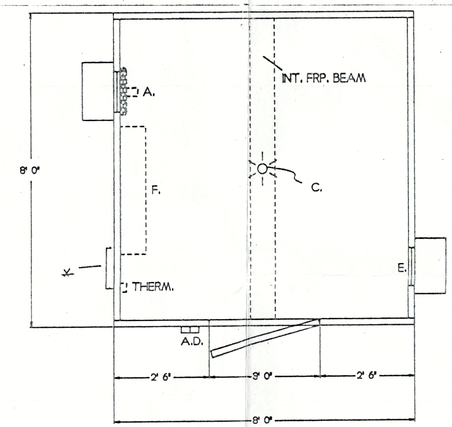
F. (1) 1800 WATT, 6140 BTUH, 240 VOLT, WALL MOUNTED, EXPLOSION PROOF ELECTRIC CONVECTION HEATER, Q-MARK MODEL NO. ICG18041A-N. SHALL INCLUDE REMOTE EXPLOSION PROOF THERMOSTAT, WHITE ROGERS MODEL NO. 2A20-2.

X. (1) EXTERIOR 100 AMP, 120/240 VOLT, SINGLE PHASE, 3-WIRE, (8) SPACE "WEATHERPROOF LOAD CENTER 150 # QO8-ML1100 B. WITH (3) 20 AMP BREAKERS # QO120.

G. THE SUPPLY AND INSTALLATION OF ALL CONDUIT, WIRING, ETC, TO BE BY ELECTRICAL CONTRACTOR.

NOTES:

1. FOR STANDARD CONSTRUCTION DETAILS, FEATURES, ETC., SEE KEN-SHELTER BROCHURE AND DRAWINGS NO. KD-0030-C1 AND KD-0031-C1.
2. ALL ELEVATION DRAWINGS ARE SHOWN AS OUTSIDE VIEWS.
3. BUILDING INSULATED WITH 1-1/2" THICK POLYURETHANE FOAM, 2#/CU.FT. DENSITY, K-FACTOR = .14, R-VALUE = 10.91.
4. ROOF TO BE PEAKED, HAVE A 2" OVERHANG ALL AROUND AND SHALL BE PROVIDED WITH FOUR (4) CADMIUM PLATED LIFTING EYES.
5. COLOR OF BUILDING TO BE STANDARD ~~BROWN~~ WHITE
6. BUILDING SHALL INCLUDE ONE STANDARD 3'-0" WIDE X 6'-4" HIGH (O.I.C.) FRP FLUSH-FITTING SINGLE DOOR COMPLETE WITH THE FOLLOWING ITEMS:
   a. CONTINUOUS STAINLESS STEEL PIANO HINGE.
   b. PLATED SAFETY STOP CHAIN.
   c. KEYED STAINLESS STEEL CYLINDRICAL LOCKSET.
   d. NEOPRENE DOOR SEAL GASKET (WEATHER-STRIPPING).
   e. ALUMINUM THRESHOLD WITH NEOPRENE GASKET.
7. ALL DOOR HARDWARE AND FASTENERS TO BE NON-CORROSIVE.
8. BUILDING SHALL BE SHIPPED FULLY ASSEMBLED.
9. ASSEMBLY/INSTALLATION INSTRUCTIONS, AND NEOPRENE BASE MOUNTING GASKET SHALL BE FURNISHED WITH BUILDING.
10. ANCHOR BOLTS TO BE SUPPLIED AND INSTALLED BY OTHERS.



PLAN VIEW

c/o: MODERN PLATING
FREEPORT, ILL.

SYM.	DATE	NAME	DESCRIPTION OF REVISION

KENCO
PHONE: (608) 605-2283
FAX: (608) 605-7747
PLASTIC COMPANY, INC.
P.O. BOX 39
STATE HIGHWAY 21
NECEDAH, WISCONSIN 54646

TITLE: TERRA ENG.

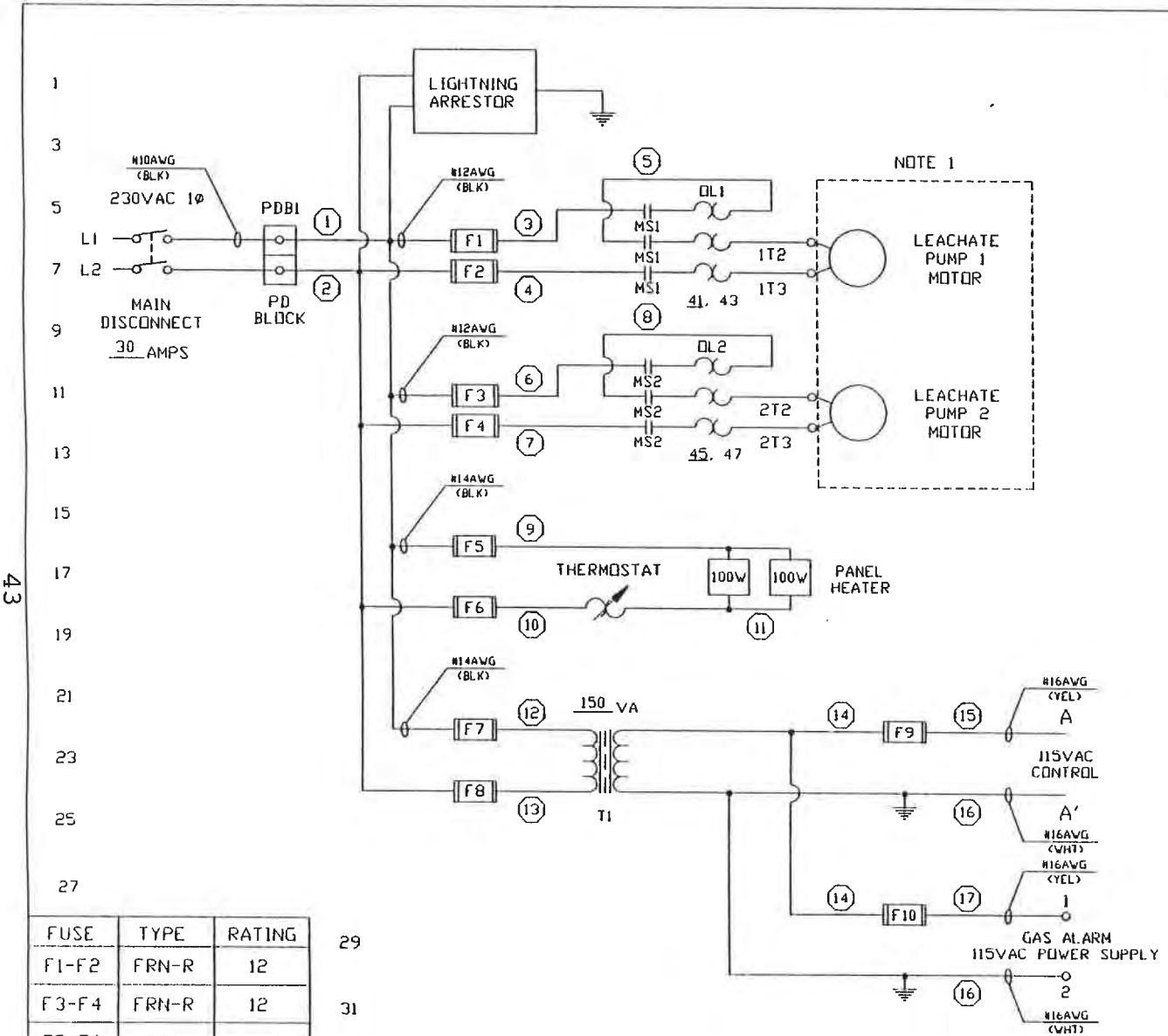
SCALE: 1/2" = 1'0" DRW. BY A.H.

DATE: 6-14-00

DRAWING NO. K.S-5653

Appendix K3

Electrical Drawings



MOTOR	HP	VOLTAGE	FLA	FUSE SIZE
LEACHATE PUMP 1	1	230	8.2	12
LEACHATE PUMP 2	1	230	8.2	12

FIELD WIRING TERMINALS

LINE

L1, L2 — 230VAC 1ø 60HZ, 21.11 AMPS

⏚ — GROUND

LOAD (230VAC)

1T2, 1T3, GND — LEACHATE PUMP 1 MOTOR

2T2, 2T3, GND — LEACHATE PUMP 2 MOTOR

LOAD (115VAC)

A — L1
B — N
C — GND
— EXTERNAL ALARM WARNING LIGHT

FUSE	TYPE	RATING
F1-F2	FRN-R	12
F3-F4	FRN-R	12
F5-F6	BBS	1-1/2
F7-F8	FNM	8/10
F9	FNM	1
F10	MDL	1/4
F11	MDL	1-1/4

NOTE 1. NOT PART OF CONTROLLER
2. REFERENCE INSTALLATION OF INTRINSICALLY SAFE INSTRUMENT SYSTEMS IN CLASS 1 HAZARDOUS LOCATIONS, ANSI/ISA-RP 12.6-1987, SECTION 4.5.4

JOB No. 00-4886

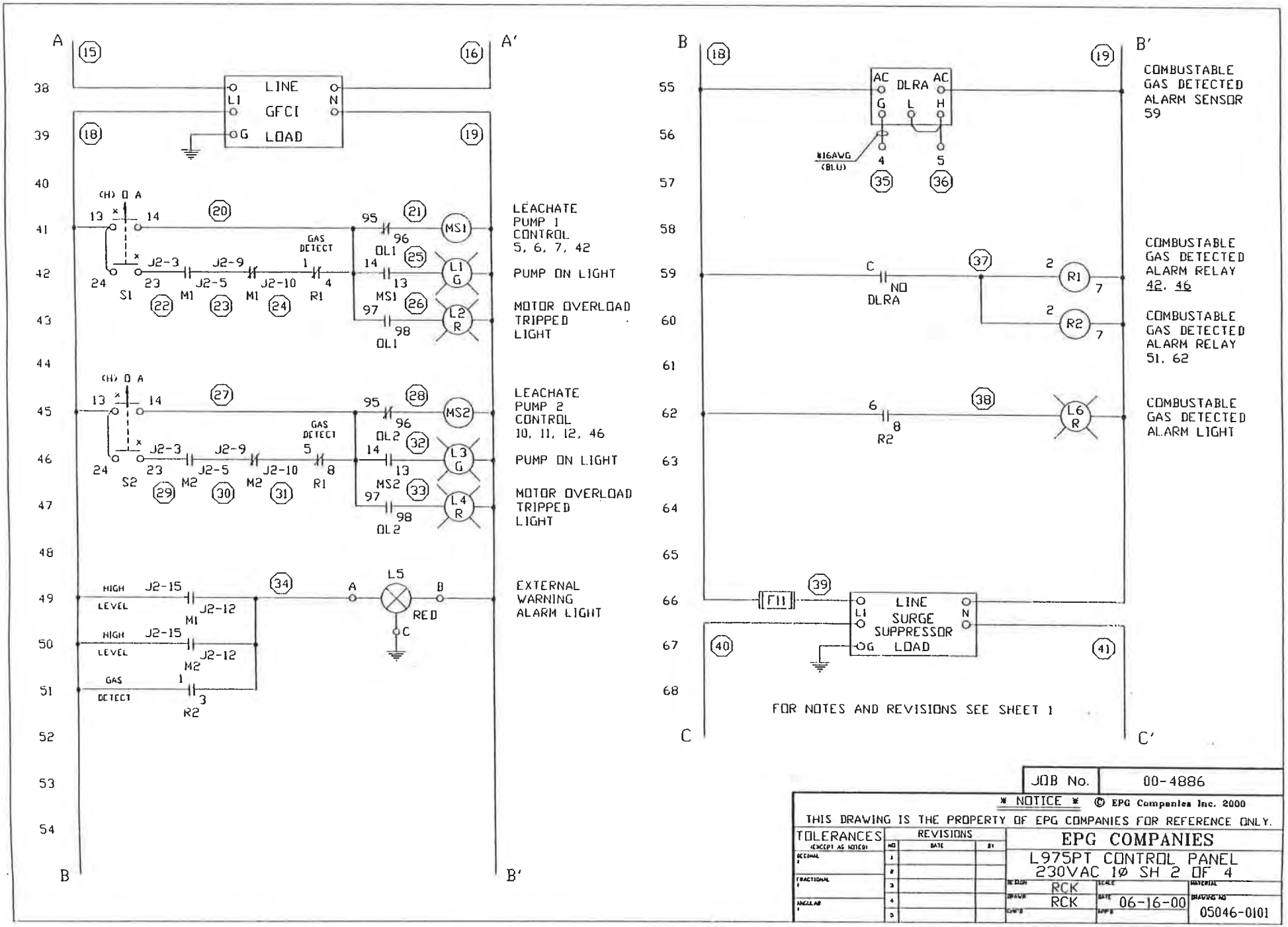
TOLERANCES (EXCEPT AS NOTED) DECIMAL FRACTIONAL ANGULAR

REVISIONS

NO	DATE	BY
1		
2		
3		
4		
5		

EPG COMPANIES
L975PT CONTROL PANEL
230VAC 1ø SH 1 OF 4

DESIGN RCK
DRAWN RCK
DATE 06-15-00
CHK'D
APP'D
SCALE
MATERIAL
DRAWING NO 05046-0100



JOB No.	00-4886

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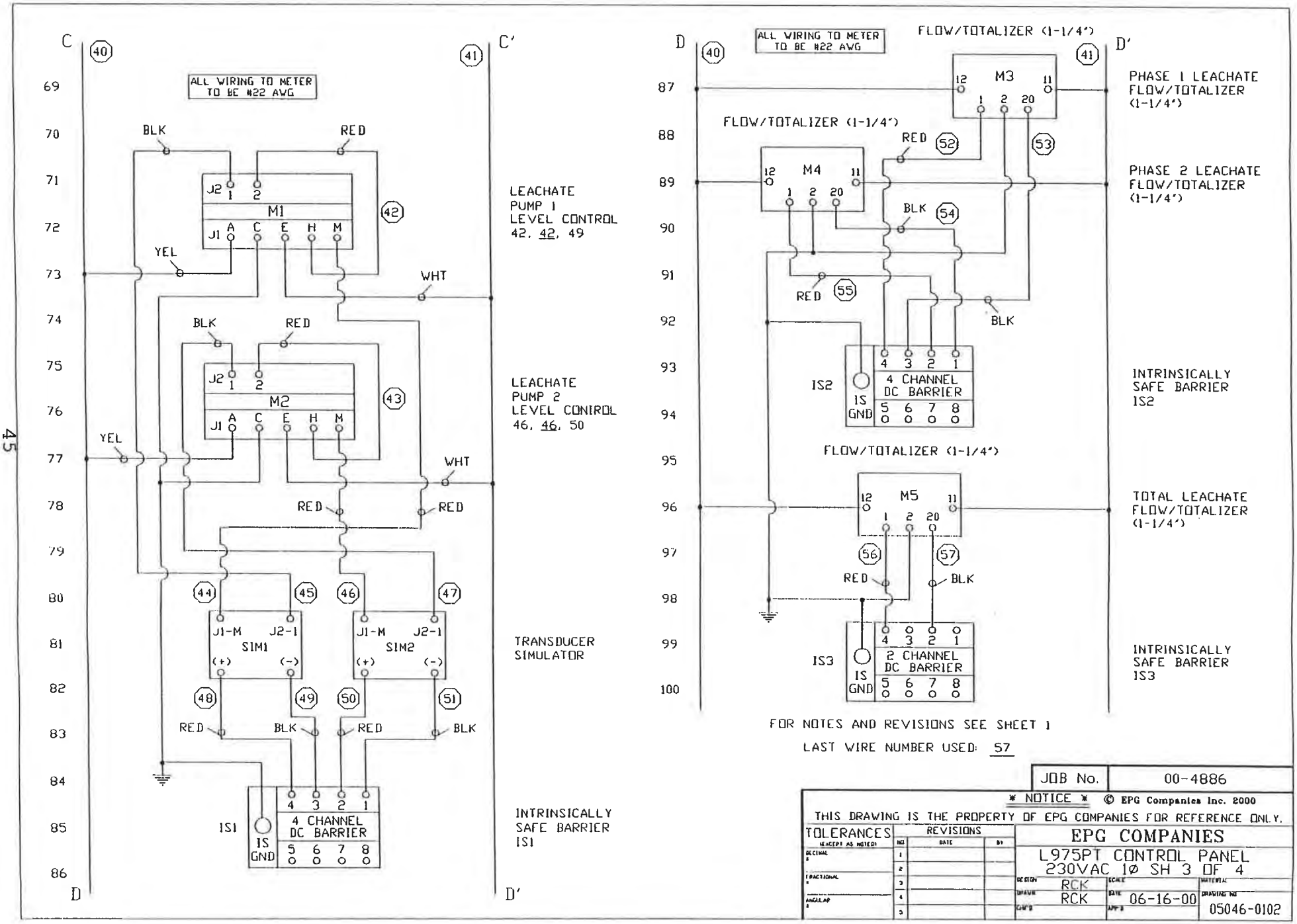
TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES
DECIMAL	NO	DATE	BY	L975PT CONTROL PANEL 230VAC 1Ø SH 2 OF 4
FRACTIONAL				DESIGN RCK
ANGULAR				DRAWN RCK DATE 06-16-00
				DRAWING NO 05046-0101


ALL WIRING TO METER TO BE #22 AWG
LEACHATE PUMP 1 LEVEL CONTROL 42, 42, 49
LEACHATE PUMP 2 LEVEL CONIROL 46, 46, 50
TRANSDUCER SIMULATOR
INTRINSICALLY SAFE BARRIER IS1
FLOW/TOTALIZER (1-1/4")
PHASE 1 LEACHATE FLOW/TOTALIZER (1-1/4")
PHASE 2 LEACHATE FLOW/TOTALIZER (1-1/4")
INTRINSICALLY SAFE BARRIER IS2
TOTAL LEACHATE FLOW/TOTALIZER (1-1/4")
INTRINSICALLY SAFE BARRIER IS3
4 CHANNEL DC BARRIER
2 CHANNEL DC BARRIER
FOR NOTES AND REVISIONS SEE SHEET 1
LAST WIRE NUMBER USED: 57
JOB No. 00-4886
NOTICE © EPG Companies Inc. 2000
THIS DRAWING IS THE PROPERTY OF EPG COMPANIES FOR REFERENCE ONLY.
EPG COMPANIES
L975PT CONTROL PANEL
230VAC 1Ø SH 3 OF 4
RCK
06-16-00
05046-0102

45

R001577

FIELD WIRING TERMINALS

GAS DETECTOR - 115VAC POWER SUPPLY

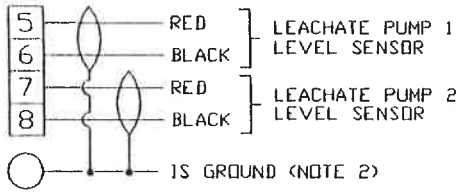
1	— WHITE	COMBUSTABLE GAS DETECTOR 115VAC POWER SUPPLY
2	— WHITE	
3	— SPARE	

GAS DETECTOR OUTPUT CONTACT - INTRINSICALLY SAFE

4	— CLEAR	COMBUSTABLE GAS DETECTOR GAS DETECTED RELAY OUTOUT CONTACT (N/O)
5	— CLEAR	
6	— SPARE	

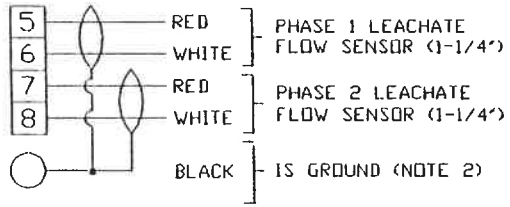
SENSORS (INTRINSICALLY SAFE BARRIER)

IS1



SENSORS (INTRINSICALLY SAFE BARRIER)

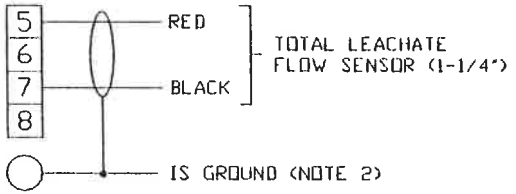
IS2



FIELD WIRING TERMINALS

SENSOR (INTRINSICALLY SAFE BARRIER)

IS3



FOR NOTES AND REVISIONS SEE SHEET 1

JOB No.	00-4886

TOLERANCES (EXCEPT AS NOTED)
DECIMAL
FRACTIONAL
ANGULAR

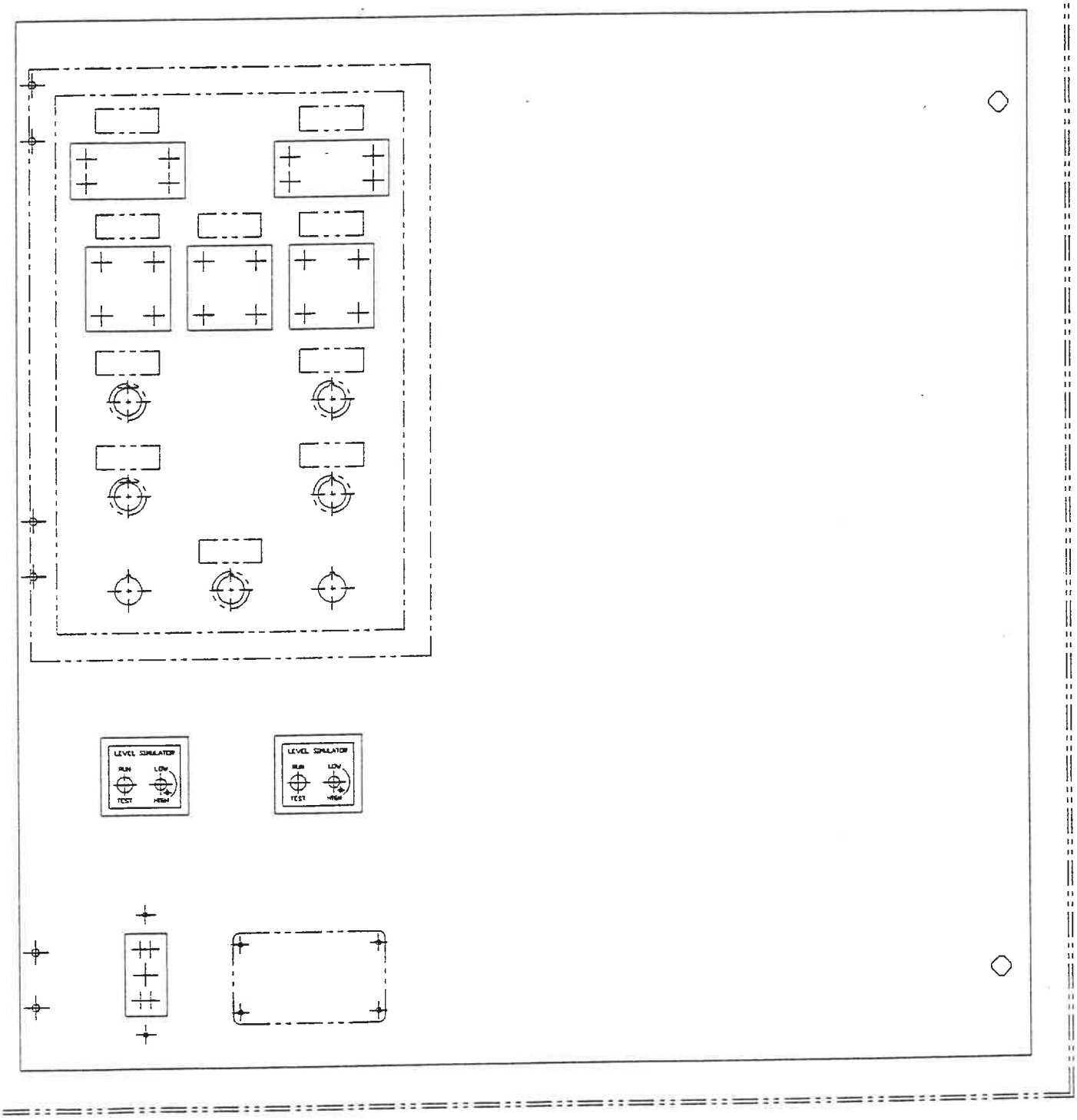
REVISIONS

NO	DATE	BY
1		
2		
3		
4		
5		

EPG COMPANIES

L975PT CONTROL PANEL
230VAC 1Ø SH 4 OF 4

DESIGN	RCK	SCALE	MATERIAL
DRAWN	RCK	DATE 06-16-00	DRAWING NO 05046-0103
CHK'D		APP'D	

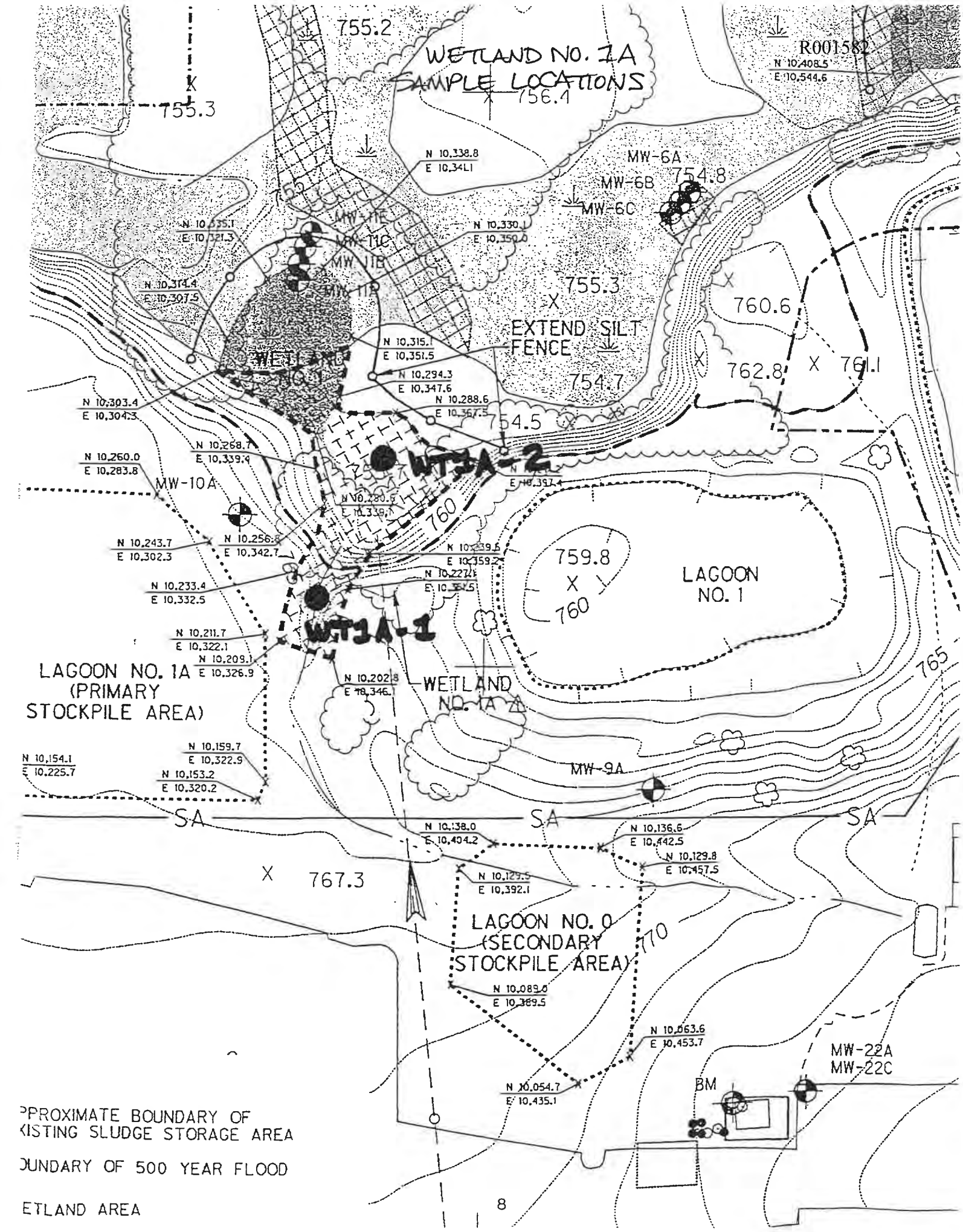

LEVEL SIMULATOR
RUN
LOW
TEST
HIGH
LEVEL SIMULATOR
RUN
LOW
TEST
HIGH

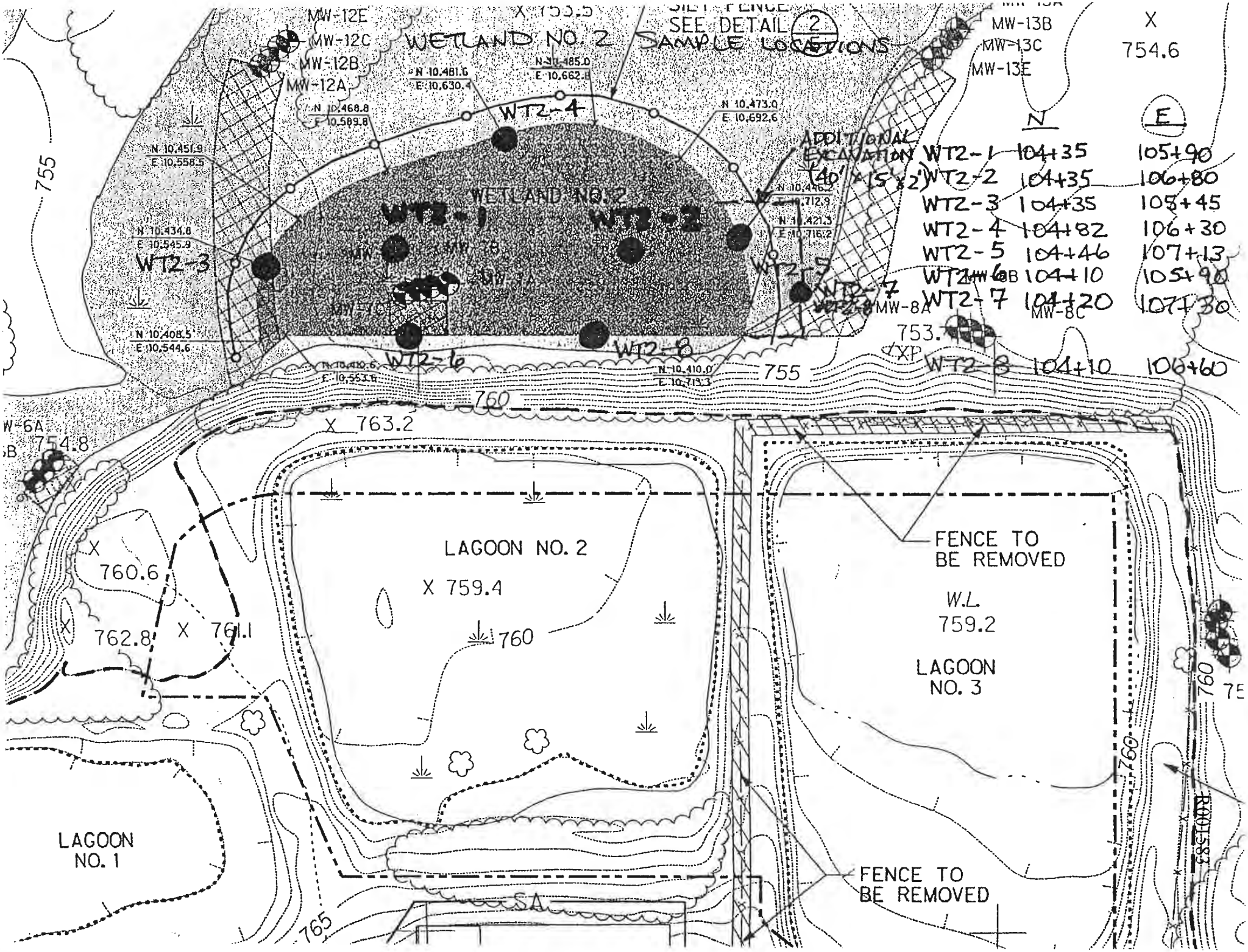
Appendix L

Soil Confirmation Test Results

Appendix L1

Sample Location Maps


WETLAND NO. 1A
SAMPLE LOCATIONS
R001582
N 10,408.5
E 10,544.6
755.2
755.3
756.1
N 10,338.8
E 10,341
MW-6A
MW-6B
MW-6C
754.8
N 10,335.1
E 10,321.3
MW-1E
MW-1C
MW-1B
MW-1A
N 10,330.1
E 10,350.0
N 10,314.4
E 10,307.5
755.3
760.6
EXTEND SILT
FENCE
762.8
761
N 10,315.1
E 10,351.5
N 10,294.3
E 10,347.6
754.7
N 10,303.4
E 10,304.3
N 10,288.6
E 10,367.5
754.5
N 10,268.7
E 10,339.4
WT1A-2
N 10,260.0
E 10,283.8
MW-10A
N 10,280.5
E 10,338.1
760
N 10,243.7
E 10,302.3
N 10,256.8
E 10,342.7
759.8
LAGOON
NO. 1
760
N 10,233.4
E 10,332.5
WT1A-1
N 10,211.7
E 10,322.1
N 10,209.1
E 10,326.9
LAGOON NO. 1A
(PRIMARY
STOCKPILE AREA)
N 10,202.8
E 78,346.1
WETLAND
NO. 1A
765
N 10,159.7
E 10,322.9
N 10,154.1
E 10,225.7
N 10,153.2
E 10,320.2
MW-9A
SA
SA
SA
N 10,138.0
E 10,404.2
N 10,136.6
E 10,442.5
N 10,129.8
E 10,457.5
767.3
N 10,129.5
E 10,392.1
LAGOON NO. 0
(SECONDARY
STOCKPILE AREA)
770
N 10,089.0
E 10,389.5
N 10,063.6
E 10,453.7
MW-22A
MW-22C
BM
N 10,054.7
E 10,435.1
PPROXIMATE BOUNDARY OF
KISTING SLUDGE STORAGE AREA
OUNDARY OF 500 YEAR FLOOD
ETLAND AREA
8

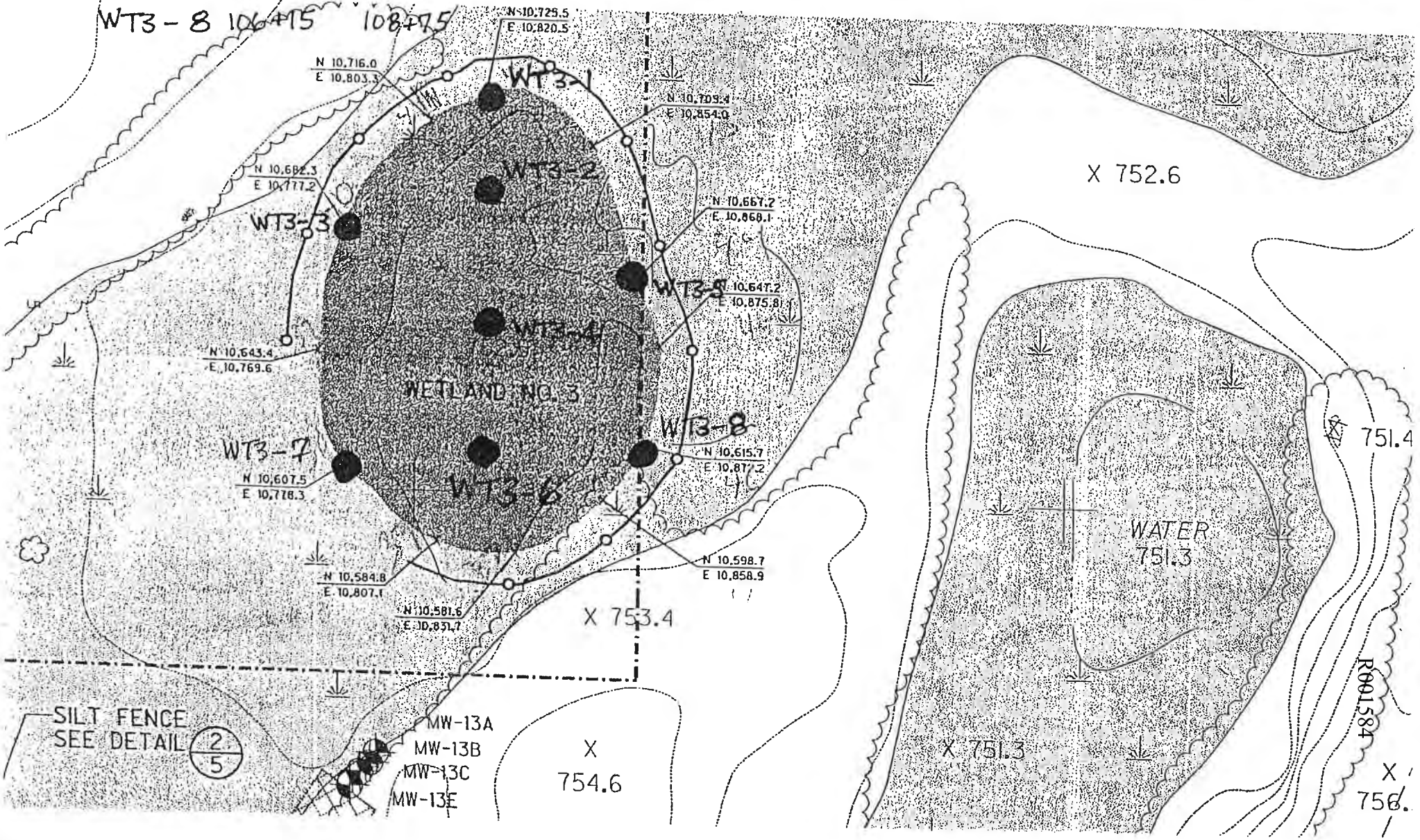


ADDITIONAL EXCAVATION (40' x 15' x 2')

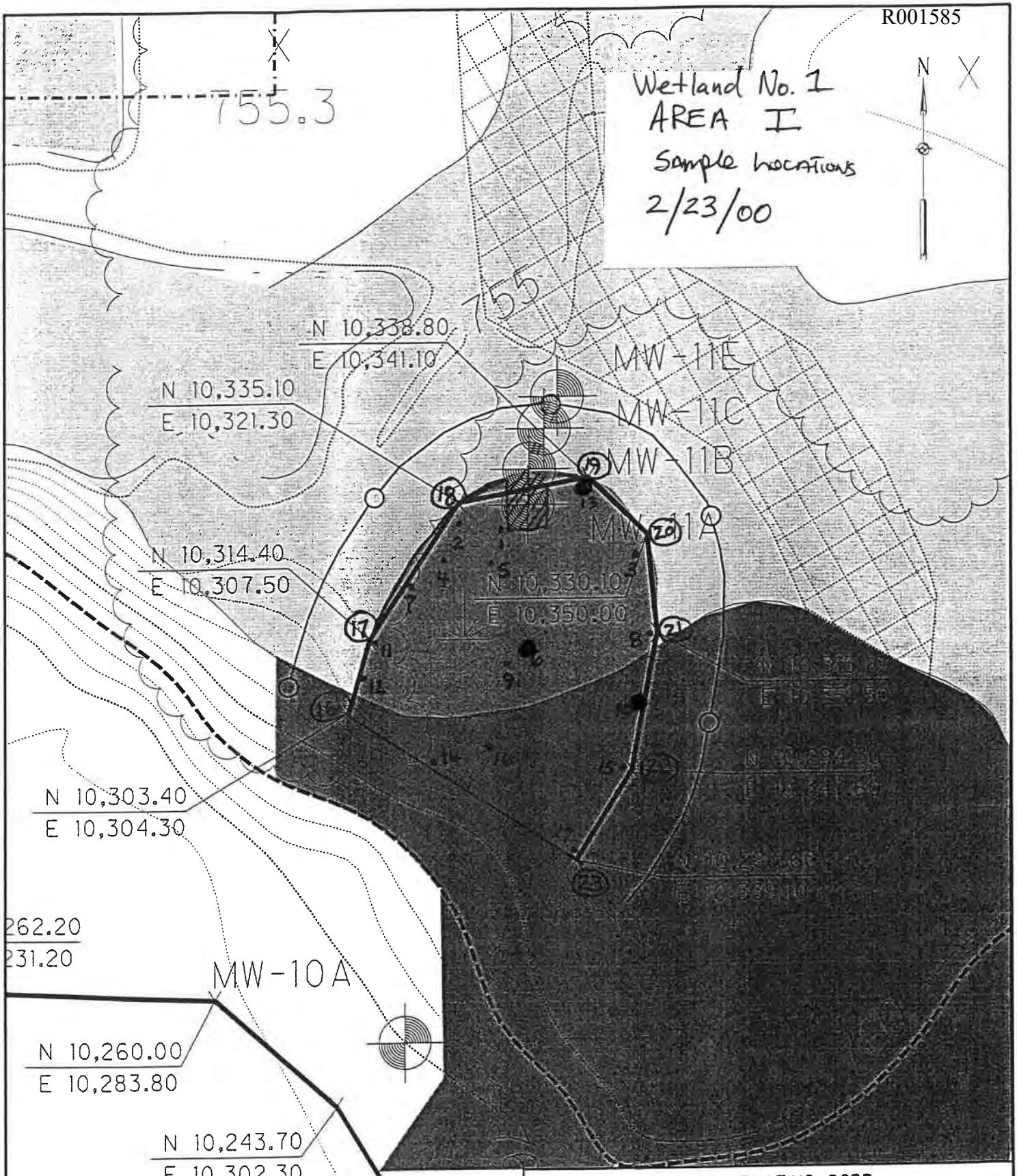
	N	E
WT2-1	104+35	105+90
WT2-2	104+35	106+80
WT2-3	104+35	105+45
WT2-4	104+82	106+30
WT2-5	104+46	107+13
WT2-6	104+10	105+90
WT2-7	104+20	107+30
WT2-8	104+10	106+60

WT3-1	107+25	108+20
WT3-2	107+00	108+20
WT3-3	106+82	107+77
WT3-4	106+50	108+25
WT3-5	106+67	108+68
WT3-6	106+10	108+20
WT3-7	106+10	107+75
WT3-8	106+15	108+75

WETLAND NO. 3 SAMPLE LOCATIONS



R001585



MODERN PLATING CORP.

FIGURE A

A

A

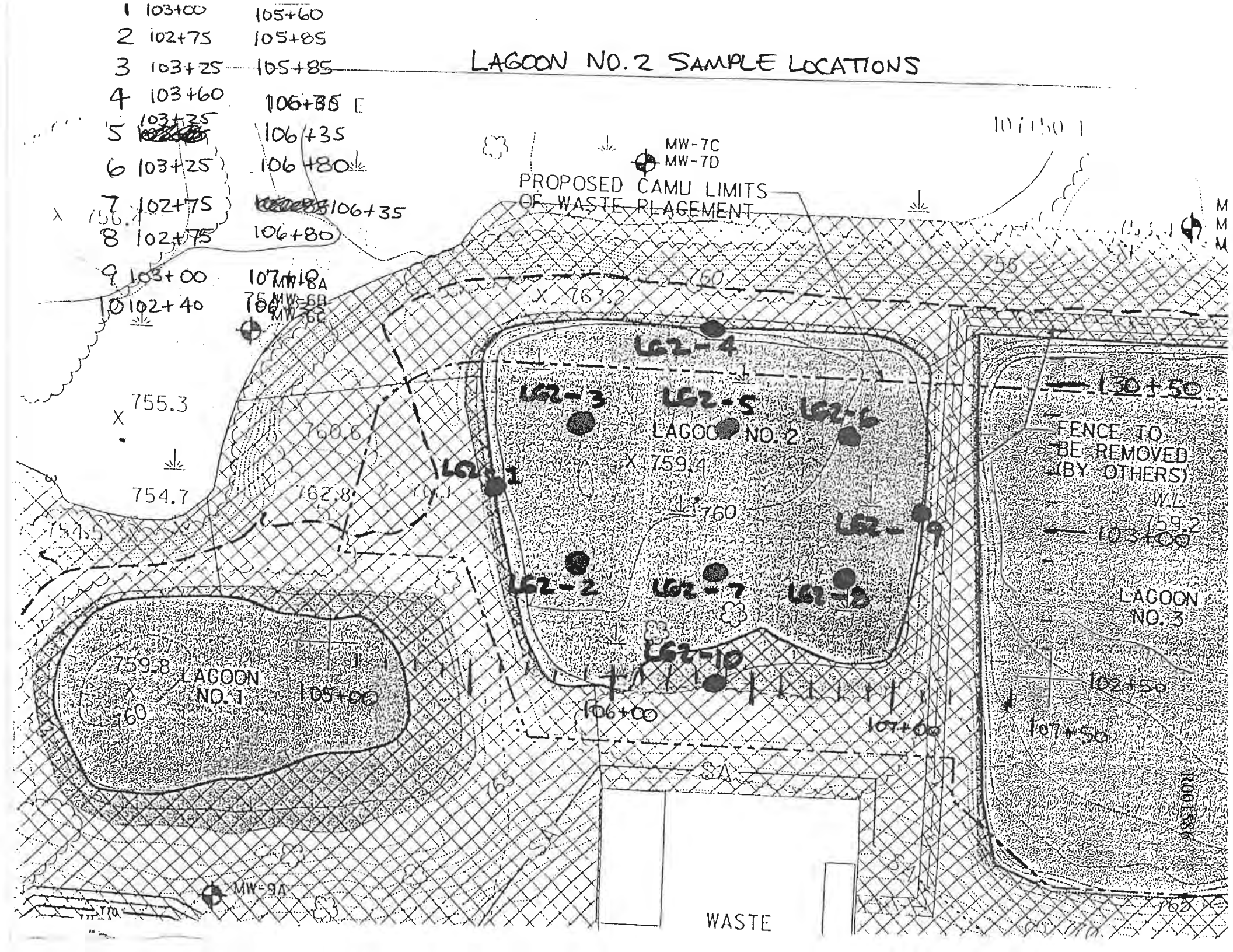
Scale: 0 10' 20'

Date: FEBRUARY, 2000

Prepared By: Foth & Van Dyke | By: 97M015 | JOW

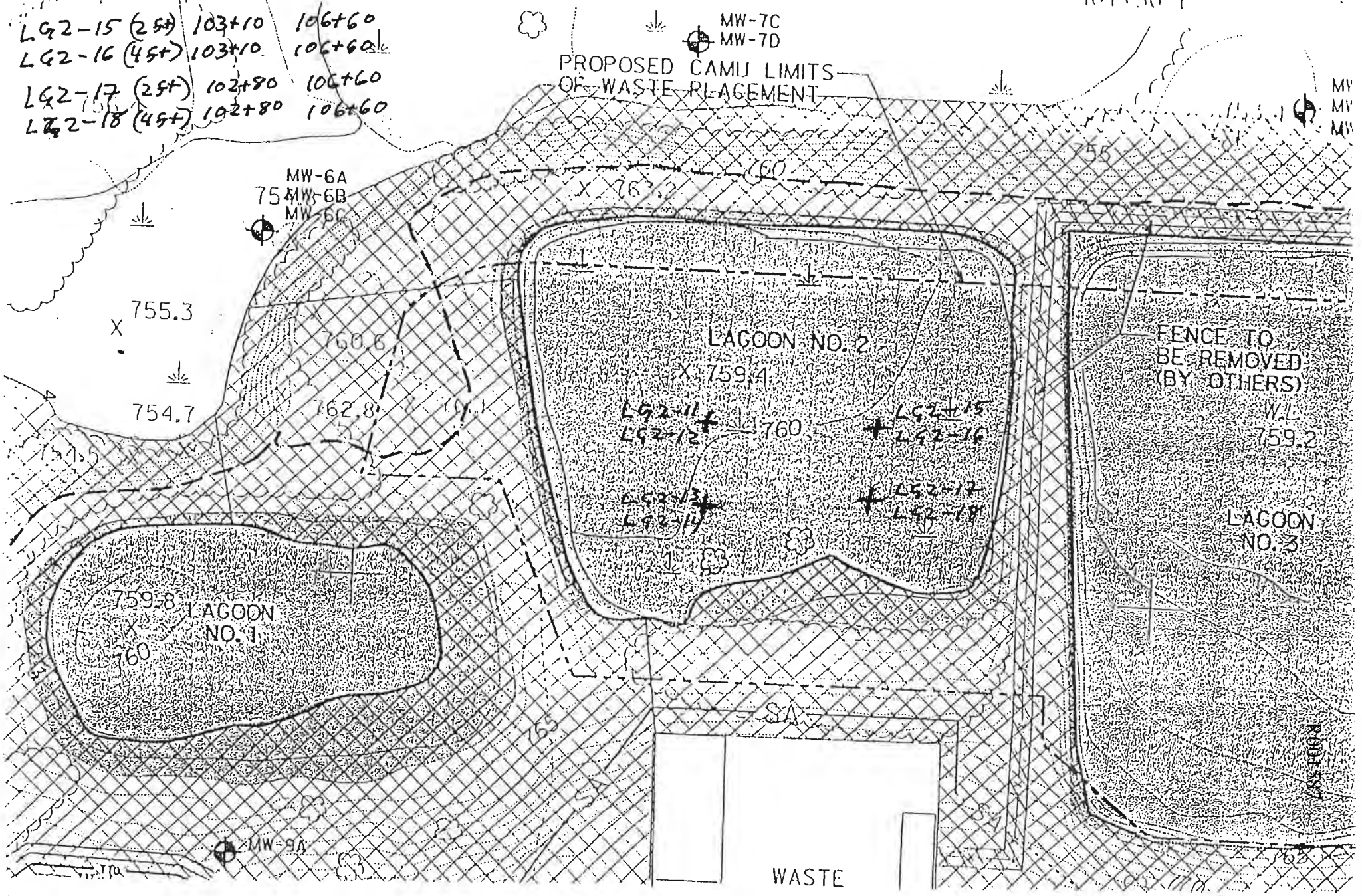
L:\97m015\constr-00\0m04f1.dgn 02/24/2000 03:45:24

LAGOON NO.2 SAMPLE LOCATIONS

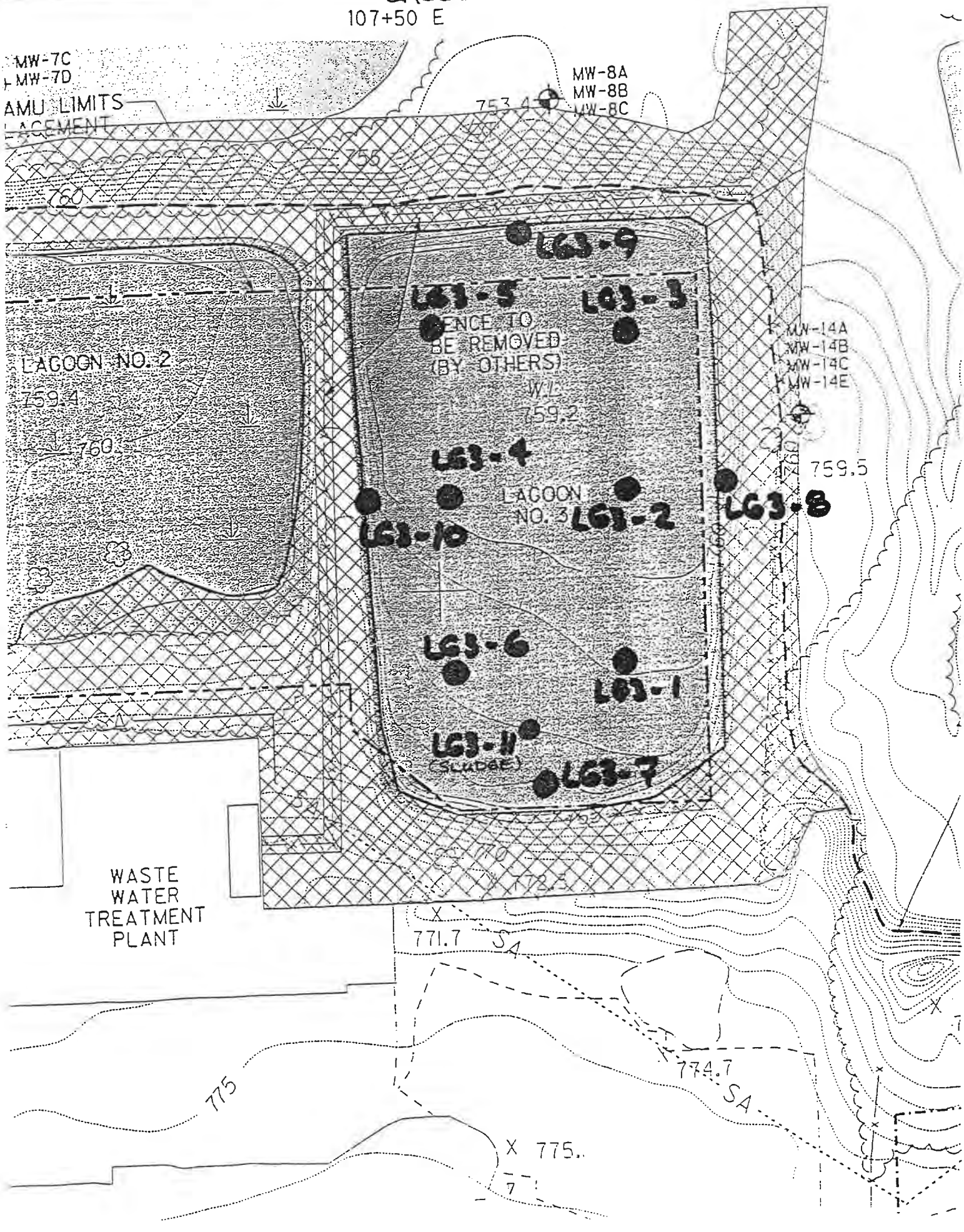


LG2-11 (2ft) 10310 106+10
LG2-12 (4ft) 103+10 106+10
LG2-13 (2ft) 102+80 106+10
LG2-14 (4ft) 102+80 106+10
LG2-15 (2ft) 103+10 106+60
LG2-16 (4ft) 103+10 106+60
LG2-17 (2ft) 102+80 106+60
LG2-18 (4ft) 102+80 106+60

SOIL SAMPLING BELOW LAGOON NO 2
Sludge 2 & 4 feet below
6/2/00



LAGOON NO. 3 SAMPLE LOCATIONS



(28) 11/17/00 97M015

07:45 – BJS1 on site. Terra loads Lagoon No. 1A sludge into Phase 2.

08:50 – A new fluid is. Terra fixes dozer.

09:20 – Crane moves sludge in Phase 2.

09:50 – Dozer fixed. Terra resumes loading sludge.

12:00 – Lunch

12:30 – Terra resumes loading Lagoon No. 1A sludge into Phase 2.

13:05 – BJS1 collects soil samples from Lagoon No. 1A.

14:36 – D6 Dozer to Lagoon 1A to clean lagoon bottom

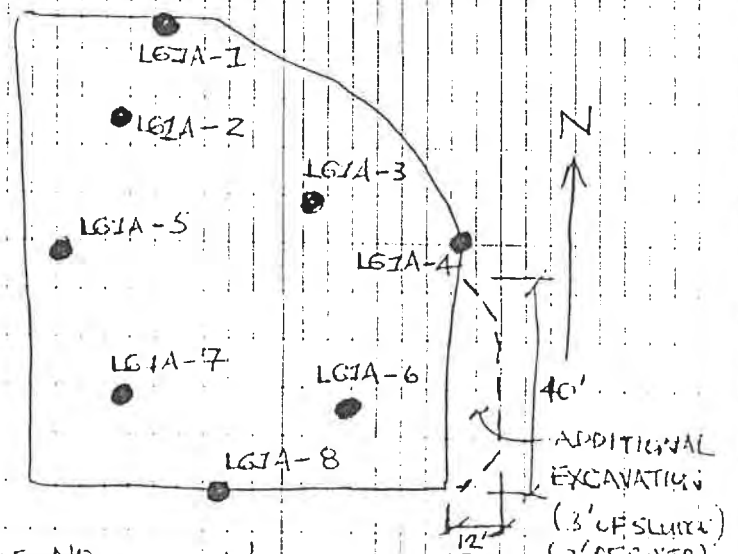
14:45 – Backhoe removes topsoil from Lagoon No. 1A east berm.

14:50 – Backhoe excavates residual sludge on east side of Lagoon No. 1A. Sludge extended to Wetland No. 1A ditch.

15:10 – BJS1 collects soil sample in Lagoon No 1A.

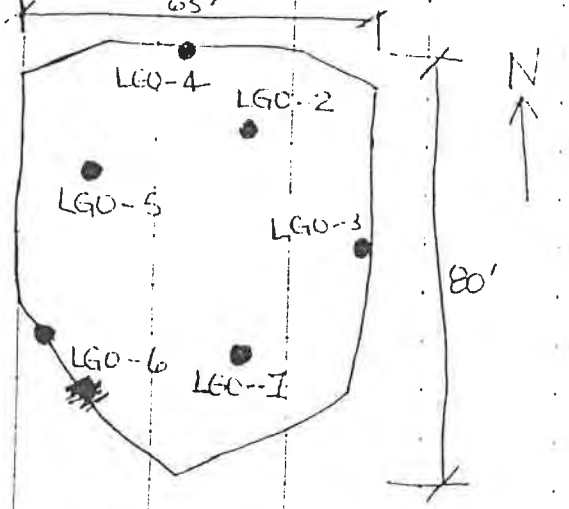
11/17/00 97M015 (29)

LAGOON NO. 1A
SAMPLE LOCATIONS



SAMPLE NO.	N	E	DEPTH
LG1A-1	102+60	102+60	3'
LG1A-2	102+45	102+40	5'
LG1A-3	102+25	102+80	5'
LG1A-4	102+10	103+25	3'
LG1A-5	102+10	102+30	5'
LG1A-6	101+70	103+00	5'
LG1A-7	101+70	102+40	5'
LG1A-8	101+50	102+70	3'

LAGOON NO. 0 SAMPLE LOCATIONS



SAMPLE NO.	DEPTH	N	E
LGO-1	20'	100+65	104+35
LGO-2	20'	101+20	104+35
LGO-3	10'	101+00	104+60
LGO-4	10'	101+35	104+20
LGO-5	20'	101+10	104+10
LGO-6	10'	100+85	103+10

14:45- Crane resumes moving sludge in Phase 2.

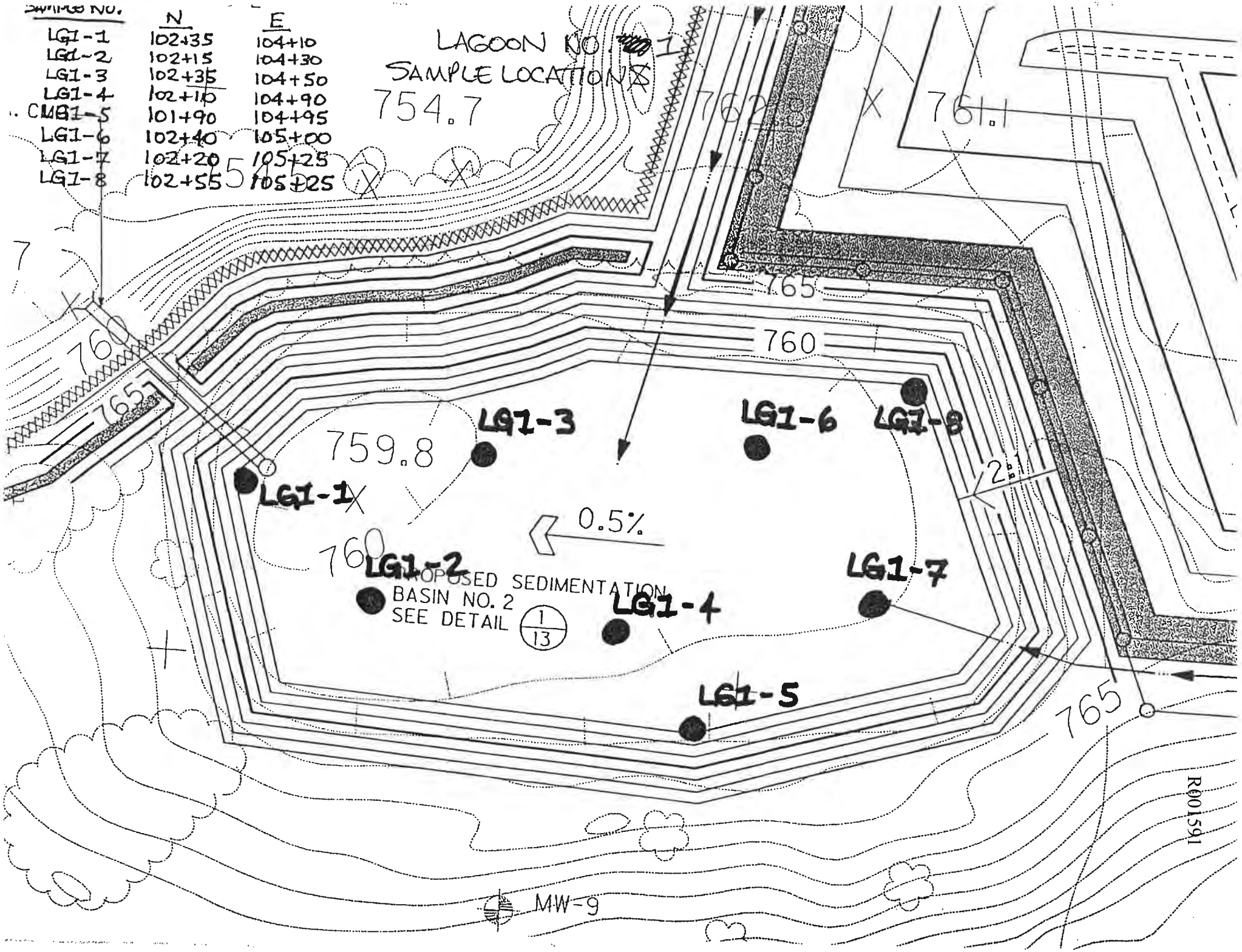
15:15- Backhoe resumes Lagoon No. 0 excavation.

15:55- Sludge removed from Lagoon No. 0 ~~[illegible]~~ sidewalls. Terra steps hauling to scrapers - parking lot.

16:00 Backhoe loads Wetland No. 2 soil stockpile into Phase 1

16:25 Terra steps.

Brian Stanek


LAGOON NO. 1
SAMPLE LOCATIONS
LG1-1 102+35 104+10
LG1-2 102+15 104+30
LG1-3 102+35 104+50
LG1-4 102+10 104+90
LG1-5 101+90 104+95
LG1-6 102+40 105+00
LG1-7 102+20 105+25
LG1-8 102+55 105+25
754.7
762.8
761.1
765
760
759.8
LG1-3
LG1-6
LG1-8
LG1-1
0.5%
LG1-2
PROPOSED SEDIMENTATION BASIN NO. 2
SEE DETAIL 1/13
LG1-4
LG1-7
LG1-5
MW-9
R001591

Appendix L2

Laboratory Reports

ison Office & Laboratory
5 Science Drive
Madison, WI 53711
608-232-3300 • Fax: 608-233-0502
1-888-5-ENCHEM

ENCHEM INC.

Corporate Office & Laboratory
1795 Industrial Drive
Green Bay, WI 54302
920-469-2436 • Fax: 920-469-8827
1-800-7-ENCHEM

- Analytical Report -

Project Name : MODERN PLATING
Project Number : 97M015

Client : FOTH & VAN DYKE
Report Date : 2/25/00
WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
900618-001	MP-I-6-2.5	2/23/00			
900618-002	MP-I-10-2.5	2/23/00			
900618-003	MP-I-13-2.5	2/23/00			

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Approval Signature

2.25.00
Date

Madison Office & Laboratory
25 Science Drive
Madison, WI 53711
608-232-3300 • Fax: 608-233-0502
1-888-5-ENCHEM

ENCHEM INC.

Corporate Office & Laboratory
1795 Industrial Drive
Green Bay, WI 54302
920-469-2436 • Fax: 920-469-8827
1-800-7-ENCHEM

- Analytical Report -

Project Name :	MODERN PLATING	**Submitter :**	FOTH & VAN DYKE
Project Number :	97M015	**Report Date :**	2/25/00
Field ID :	MP-I-6-2.5	**Collection Date :**	2/23/00
Lab Sample Number :	900618-001	**Matrix Type :**	SOIL
Lab Project Number :	900618	**WI DNR LAB ID :**	113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Cadmium	0.73	0.13	mg/kg		2/24/00	SW846 3051	SW846 6010B
Solids, percent	75.0		%		2/25/00	SM 2540G M	SM 2540G M

All soil results are reported on a dry weight basis unless otherwise noted.

Madison Office & Laboratory
625 Science Drive
Madison, WI 53711
608-232-3300 • Fax: 608-233-0502
1-888-5-ENCHEM

ENCHEM INC.

Corporate Office & Laboratory
1795 Bond Ridge Road
Green Bay, WI 54302
920-469-2436 • Fax: 920-469-8827
1-800-7-ENCHEM

- Analytical Report -

Project Name : MODERN PLATING
Project Number : 97M015
Field ID : MP-I-10-2.5
Lab Sample Number : 900618-002
Lab Project Number : 900618

Submitter : FOTH & VAN DYKE
Report Date : 2/25/00
Collection Date : 2/23/00
Matrix Type : SOIL
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Cadmium	2.7	0.14	mg/kg		2/24/00	SW846 3051	SW846 6010B
Solids, percent	72.4		%		2/25/00	SM 2540G M	SM 2540G M

All soil results are reported on a dry weight basis unless otherwise noted.

Madison Office & Laboratory
5 Science Drive
Madison, WI 53711
608-232-3300 • Fax: 608-233-0502
1-888-5-ENCHEM

ENCHEM INC.

Corporate Office & Laboratory
1445 Memorial Drive
Green Bay, WI 54302
920-469-2436 • Fax: 920-469-8827
1-800-7-ENCHEM

- Analytical Report -

Project Name : MODERN PLATING
Project Number : 97M015
Field ID : MP-I-13-2.5
Lab Sample Number : 900618-003
Lab Project Number : 900618

Submitter : FOTH & VAN DYKE
Report Date : 2/25/00
Collection Date : 2/23/00
Matrix Type : SOIL
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Cadmium	56	0.16	mg/kg		2/24/00	SW846 3051	SW846 6010B
Solids, percent	61.9		%		2/25/00	SM 2540G M	SM 2540G M

All soil results are reported on a dry weight basis unless otherwise noted.

(Please Print Legibly)

Company Name: FOTH & VAN DYKE

Branch or Location: GREEN BAY, WI

Project Contact: RON MEISTER

Telephone: 920-497-2500

Project Number: 97M015

Project Name: MODERN PLATING

Project State: ILLINOIS

Sampled By (Print): REP

Data Package Options (please circle if requested)

QC Summary	Surcharge	Site-Specific QC Required?
EnChem Level II	Std. Delivery	Yes No
EnChem Level III	10% (min. $50)	(If yes, indicate QC sample and submit triplicate volume.)
EnChem Level IV	25% (min. $100)	

EN CHEM INC.

1241 Bellevue St., Suite 9
Green Bay, WI 54302
920-469-2436 • 1-800-736-2436
FAX 920-469-8827

525 Science Drive
Madison, WI 53711
608-232-3300 • 1-888-536-2436
FAX: 608-233-0502

1423 N. 8th Street, Suite 122
Superior, WI 54880
715-392-5844 • 1-800-837-8238
FAX 715-392-5843

CHAIN OF CUSTODY

56936

Page _____ of _____

P.O. # _____ Quote # _____

Mail Report To: _____

Company: _____

Address: _____

Invoice To: _____

Company: _____

Address: _____

Mail Invoice To: _____

*Preservation Codes: A=None B=HCL C=H2SO4 D=HN03 E=EnCore F=Methanol G=NaOH

ANALYSES REQUESTED: Cadmium

FILTERED? (YES/NO)

PRESERVATION (CODE)*

LABORATORY ID (Lab Use Only)	FIELD ID	COLLECTION DATE	COLLECTION TIME		MATRIX	COMMENTS	TOTAL BOTTLES (Lab Use Only)
	MP-I-6-2.5	2/23/00	0945	X	S	24 Hr TURN	
	MP-I-10-2.5		1100	X			
	MP-I-13-2.5		1140	X			

COPY

Turnaround Time Requested (TAT)

(circle): Std (10 Bus. Days) Rush

(Rush TAT subject to approval/surcharge)

Quick Turn Number: _____

Date Needed: _____

Transmit Rush Results by (circle): Phone Fax

Phone #: _____

Fax #: _____

Samples on HOLD are subject to special pricing and release of liability

Std. TAT	Surcharge
1 day	3.0x
2 day	2.0x
3 day	1.5x
4 day	1.4x
5 day	1.3x

Matrix Codes: W=Water S=Soil A=Air C=Charcoal B=Biota Sl=Sludge

Relinquished By:	Date/Time:	Received By:	Date/Time:
Ron Peppie	2/24/00 - 1205		2-24-00 12:05
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

En Chem Project No.

Sample Receipt Temp:

Sample Receipt pH (Wet/Metals)

Custody Seal

R001597

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/02/2000

Job Number: 00.05605

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Modern Plating (97M015)

Sample Number	Sample Description	Date Taken	Date Received
582219	LG2-10 (N102+40,E106+35)	05/30/2000	05/31/2000
582220	LG2-3 (N103+25,E105+85)	05/30/2000	05/31/2000
582221	LG2-2 (N102+75,E105+85)	05/30/2000	05/31/2000
582222	LG2-1 (N103+00,E105+60)	05/31/2000	05/31/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:
Mary Pearson
Mary Pearson
Project Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/02/2000

Sample No. : 582219

Job No.: 00.05605

Sample Description: LG2-10 (N102+40,E106+35)
Modern Plating (97M015)

Date Taken: 05/30/2000
Time Taken: 15:30

Date Received: 05/31/2000
Time Received: 15:15

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	86.0		mg/kg dw	0.34	06/01/2000	jrr	SW 9012A
Solids, Total	73.5		%	0.1	06/01/2000	pjf	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	06/02/2000	jtt	SW 6010B
Cadmium, ICP	1,170		mg/kg dw	0.68	06/02/2000	jtt	SW 6010B
Lead, ICP	45		mg/kg dw	5.4	06/02/2000	jtt	SW 6010B
Nickel, ICP	1,010		mg/kg dw	3.4	06/02/2000	jtt	SW 6010B
Zinc, ICP	10,700		mg/kg dw	1.4	06/02/2000	jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/02/2000

Sample No. : 582220

Job No.: 00.05605

Sample Description: LG2-3 (N103+25,E105+85)
Modern Plating (97M015)

Date Taken: 05/30/2000
Time Taken: 15:45

Date Received: 05/31/2000
Time Received: 15:15

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1,700		mg/kg dw	1.5	06/01/2000	jrr	SW 9012A
Solids, Total	16.9		%	0.1	06/01/2000	pjf	SM 2540
Arsenic, ICP	<59		mg/kg dw	59	06/02/2000	jtt	SW 6010B
Cadmium, ICP	11,200		mg/kg dw	3.0	06/02/2000	jtt	SW 6010B
Lead, ICP	140		mg/kg dw	24	06/02/2000	jtt	SW 6010B
Nickel, ICP	13,400		mg/kg dw	15	06/02/2000	jtt	SW 6010B
Zinc, ICP	88,800		mg/kg dw	5.9	06/02/2000	jtt	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/02/2000

Sample No. : 582221

Job No.: 00.05605

Sample Description: LG2-2 (N102+75,E105+85)
Modern Plating (97M015)

Date Taken: 05/30/2000
Time Taken: 16:15

Date Received: 05/31/2000
Time Received: 15:15

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	3,000		mg/kg dw	1.7	06/01/2000	jrr	SW 9012A
Solids, Total	14.9		%	0.1	06/01/2000	pjf	SM 2540
Arsenic, ICP	<67		mg/kg dw	67	06/02/2000	jtt	SW 6010B
Cadmium, ICP	12,800		mg/kg dw	3.4	06/02/2000	jtt	SW 6010B
Lead, ICP	210		mg/kg dw	27	06/02/2000	jtt	SW 6010B
Nickel, ICP	18,100		mg/kg dw	17	06/02/2000	jtt	SW 6010B
Zinc, ICP	114,000		mg/kg dw	6.7	06/02/2000	jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/02/2000

Sample No. : 582222

Job No.: 00.05605

Sample Description: LG2-1 (N103+00,E105+60)
Modern Plating (97M015)

Date Taken: 05/31/2000
Time Taken: 07:50

Date Received: 05/31/2000
Time Received: 15:15

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.64		mg/kg dw	0.32	06/01/2000	jrr	SW 9012A
Solids, Total	77.5		%	0.1	06/01/2000	pjf	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	06/02/2000	jtt	SW 6010B
Cadmium, ICP	21		mg/kg dw	0.65	06/02/2000	jtt	SW 6010B
Lead, ICP	25		mg/kg dw	5.2	06/02/2000	jtt	SW 6010B
Nickel, ICP	155		mg/kg dw	3.2	06/02/2000	jtt	SW 6010B
Zinc, ICP	181		mg/kg dw	1.3	06/02/2000	jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica Bartlett Division
TestAmerica INCORPORATED

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

CHAIN OF CUSTODY RECORD

TestAmerica INCORPORATED

602 Commerce Drive / Watertown, WI 53094
Phone: (920) 261-1660 / Fax: (920) 261-8120

COMPANY: Foth & Van Dyke
ADDRESS: 2737 S. Ridge Rd., Green Bay, WI 54307
PHONE: (920) 497-2500 FAX: (920) 497-8516
PROJECT DESCRIPTION/NO.: Modern Plating (97M015)
PROJECT MANAGER: Ron Meister

REPORT TO: Ron Meister
INVOICE TO: Foth & Van Dyke

P.O. NO.:
QUOTE NO.:

SAMPLED BY: Brian Stamul
NAME

NAME

Fax Results?____ QC w/Results?____

Which regulations apply?
NPDES/Wastewater____ RCRA____ UST____
Drinking Water____ Other____ None____

DATE	TIME	SAMPLE ID/DESCRIPTION	FILTERED	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	NONE	METHANOL	OTHER	ANALYSES: CYANIDE	ARSENIC	CADMIUM	LEAD	NICKEL	ZINC	COMMENTS
5/31/00	15:30	LG2-10 (N102+40, E106+35)			2						2			X	X	X	X	X	X	
↓	15:45	LG2-3 (N103+25, E105+85)			2						2			X	X	X	X	X	X	
↓	16:15	LG2-2 (N102+75, E105+85)			2						2			X	X	X	X	X	X	
5/31/00	07:50	LG2-1 (N103+00, E105+60)			2						2			X	X	X	X	X	X	

24

LAB USE ONLY

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO — VOLATILES FREE OF HEADSPACE? YES / NO N/A — BOTTLES SUPPLIED BY LAB? YES / NO — TEMPERATURE UPON RECEIPT: Sent w/ice °C

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
Brian Stamul	5/31/00	09:00	Karl Burdick 5/31 0900	Karl Burdick	5/31	1244	B R Johnson

METHOD OF SHIPMENT:
TestAmerica Courier _____
Client _____
Common Carrier _____

REMARKS:
B R Johnson 5-31 15 15
* 24-HOUR TURN AROUND TIME *
K. Walton 1515
Actual Samp temp 10°C 5/31

R001604

MASTER FILE COPY
Scope 97M015 Classification 10,500
Copy To REM

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/01/2000

Job Number: 00.05497

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Modern Plating (97M015)

Sample Number	Sample Description	Date Taken	Date Received
581843	LG2-9 (N103+00, E107+10)	05/26/2000	05/26/2000
581844	LG2-6 (N103+25, E106+80)	05/26/2000	05/26/2000
581845	LG2-5 (N103+25, E106+35)	05/26/2000	05/26/2000
581846	LG2-8 (N102+75, E106+80)	05/26/2000	05/26/2000
581847	LG2-7 (N102+75, E106+35)	05/26/2000	05/26/2000
581848	LG2-4 (N103+60, E106+35)	05/26/2000	05/26/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson
Project Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/01/2000

Sample No. : 581843

Job No.: 00.05497

Sample Description: LG2-9 (N103+00, E107+10)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 08:50

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.86		mg/kg dw	0.28	05/31/2000	jrr	SW 9012A
Solids, Total	88.3		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	<11		mg/kg dw	11	05/30/2000	kdw	SW 6010B
Cadmium, ICP	294		mg/kg dw	0.57	05/30/2000	kdw	SW 6010B
Lead, ICP	16		mg/kg dw	4.5	05/30/2000	kdw	SW 6010B
Nickel, ICP	193		mg/kg dw	2.8	05/30/2000	kdw	SW 6010B
Zinc, ICP	906		mg/kg dw	1.1	05/30/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/01/2000

Sample No. : 581844

Job No.: 00.05497

Sample Description: LG2-6 (N103+25, E106+80)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 09:05

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	646		mg/kg dw	1.3	05/31/2000	jrr	SW 9012A
Solids, Total	19.8		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	51		mg/kg dw	51	05/30/2000	kdw	SW 6010B
Cadmium, ICP	10,600		mg/kg dw	2.5	05/30/2000	kdw	SW 6010B
Lead, ICP	110		mg/kg dw	20	05/30/2000	kdw	SW 6010B
Nickel, ICP	13,100		mg/kg dw	13	05/30/2000	kdw	SW 6010B
Zinc, ICP	75,800		mg/kg dw	5.1	05/30/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
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2737 S. Ridge Road
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Green Bay, WI 54307

06/01/2000

Sample No. : 581845

Job No.: 00.05497

Sample Description: LG2-5 (N103+25, E106+35)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 09:10

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	3,710		mg/kg dw	1.6	05/31/2000	jrr	SW 9012A
Solids, Total	16.0		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	62		mg/kg dw	62	05/30/2000	kdw	SW 6010B
Cadmium, ICP	12,500		mg/kg dw	3.1	05/30/2000	kdw	SW 6010B
Lead, ICP	430		mg/kg dw	25	05/30/2000	kdw	SW 6010B
Nickel, ICP	21,900		mg/kg dw	16	05/30/2000	kdw	SW 6010B
Zinc, ICP	106,000		mg/kg dw	6.2	05/30/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
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2737 S. Ridge Road
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Green Bay, WI 54307

06/01/2000

Sample No. : 581846

Job No.: 00.05497

Sample Description: LG2-8 (N102+75, E106+80)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 08:20

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	896		mg/kg dw	1.1	06/01/2000	jrr	SW 9012A
Solids, Total	22.2		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	<45		mg/kg dw	45	05/30/2000	kdw	SW 6010B
Cadmium, ICP	14,400		mg/kg dw	2.3	05/30/2000	kdw	SW 6010B
Lead, ICP	120		mg/kg dw	18	05/30/2000	kdw	SW 6010B
Nickel, ICP	18,000		mg/kg dw	11	05/30/2000	kdw	SW 6010B
Zinc, ICP	81,100		mg/kg dw	4.5	05/30/2000	kdw	SW 6010B

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Mr. Ron Meister
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2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/01/2000

Sample No. : 581847

Job No.: 00.05497

Sample Description: LG2-7 (N102+75, E106+35)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 09:35

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1,300		mg/kg dw	1.3	05/31/2000	jrr	SW 9012A
Solids, Total	19.8		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	<51		mg/kg dw	51	05/30/2000	kdw	SW 6010B
Cadmium, ICP	14,100		mg/kg dw	2.5	05/30/2000	kdw	SW 6010B
Lead, ICP	140		mg/kg dw	20	05/30/2000	kdw	SW 6010B
Nickel, ICP	18,700		mg/kg dw	13	05/30/2000	kdw	SW 6010B
Zinc, ICP	80,800		mg/kg dw	5.1	05/30/2000	kdw	SW 6010B

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Mr. Ron Meister
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2737 S. Ridge Road
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06/01/2000

Sample No. : 581848

Job No.: 00.05497

Sample Description: LG2-4 (N103+60, E106+35)
Modern Plating (97M015)

Date Taken: 05/26/2000
Time Taken: 10:00

Date Received: 05/26/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.17		mg/kg dw	0.26	05/31/2000	jrr	SW 9012A
Solids, Total	98.0		%	0.1	05/27/2000	pjf	SM 2540
Arsenic, ICP	<10		mg/kg dw	10	05/30/2000	kdw	SW 6010B
Cadmium, ICP	14		mg/kg dw	0.51	05/30/2000	kdw	SW 6010B
Lead, ICP	163		mg/kg dw	4.1	05/30/2000	kdw	SW 6010B
Nickel, ICP	30		mg/kg dw	2.6	05/30/2000	kdw	SW 6010B
Zinc, ICP	95		mg/kg dw	1.0	05/30/2000	kdw	SW 6010B

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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602 Commerce Drive / Watertown, WI 53094
Phone: (920) 261-1660 / Fax: (920) 261-8120

CHAIN OF CUSTODY RECORD

COMPANY FOTH & VAN DYKE
ADDRESS 2737 S. RIDGE RD, GREEN BAY, WI 54307
PHONE (920) 497-2500 FAX (920) 497-8516
PROJECT DESCRIPTION/NO. MODERN PLATING (97M015)
PROJECT MANAGER RON MEISTER

REPORT TO: RON MEISTER
INVOICE TO: FOTH & VAN DYKE
P.O. NO.:
QUOTE NO.:

SAMPLED BY:
NAME BRIAN STANUL
NAME

Fax Results? X QC w/Results? X

Which regulations apply?
NPDES/Wastewater ____ RCRA X UST ____
Drinking Water ____ Other ____ None ____

DATE	TIME	SAMPLE ID/DESCRIPTION	FILTERED	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	NONE	METHANOL	OTHER	ANALYSES: CN (CYANIDE)	ARSENIC	CADMIUM	LEAD	NICKEL	ZINC	COMMENTS
5/26/00	08:55	LG2-9 (N103+00, E107+10)			2						2			X	X	X	X	X	X	
	09:05	LG2-6 (N103+25, E106+80)			2						2			X	X	X	X	X	X	
	09:10	LG2-5 (N103+25, E106+35)			2						2			X	X	X	X	X	X	
	09:20	LG2-8 (N102+75, E106+80)			2						2			X	X	X	X	X	X	
	09:35	LG2-7 (N102+75, E106+35)			2						2			X	X	X	X	X	X	
	10:00	LG2-4 (N103+60, E106+35)			2						2			X	X	X	X	X	X	

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO

LAB USE ONLY
VOLATILES FREE OF HEADSPACE? YES / NO N/A
BOTTLES SUPPLIED BY LAB? YES / NO
TEMPERATURE UPON RECEIPT: 1 °C on ice

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
Brian J. Stanul	5/26/00	11:30	C. Henry	C. Henry	5/26	1300	P. Meriel

METHOD OF SHIPMENT:
TestAmerica Courier ____
Client ____
Common Carrier ____

REMARKS:
* 24-HOUR TURN AROUND *

R001613

MASTER FILE COPY
Scope 97M015 Classification 8351
Copy To REM

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Job Number: 00.05706

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Modern Plating (97M015)

Sample Number	Sample Description	Date Taken	Date Received
582515	LG2-11	06/02/2000	06/02/2000
582516	LG2-12	06/02/2000	06/02/2000
582517	LG2-13	06/02/2000	06/02/2000
582518	LG2-14	06/02/2000	06/02/2000
582519	LG2-15	06/02/2000	06/02/2000
582520	LG2-16	06/02/2000	06/02/2000
582521	LG2-17	06/02/2000	06/02/2000
582522	LG2-18	06/02/2000	06/02/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson
Project Manager

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Sample No. : 582515

Job No.: 00.05706

Sample Description: LG2-11
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:10

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	2,830		mg/kg dw	1.7	06/07/2000	jrr	SW 9012A
Solids, Total	15.0		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<67		mg/kg dw	67	06/06/2000	kdw	SW 6010B
Cadmium, ICP	10,000		mg/kg dw	3.3	06/06/2000	kdw	SW 6010B
Lead, ICP	310		mg/kg dw	27	06/06/2000	kdw	SW 6010B
Nickel, ICP	12,700		mg/kg dw	17	06/06/2000	kdw	SW 6010B
Zinc, ICP	153,000		mg/kg dw	6.7	06/06/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Sample No. : 582516

Job No.: 00.05706

Sample Description: LG2-12
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:12

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.74		mg/kg dw	0.33	06/07/2000	jrr	SW 9012A
Solids, Total	75.9		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	06/06/2000	kdw	SW 6010B
Cadmium, ICP	1.8		mg/kg dw	0.66	06/06/2000	kdw	SW 6010B
Lead, ICP	16		mg/kg dw	5.3	06/06/2000	kdw	SW 6010B
Nickel, ICP	18		mg/kg dw	3.3	06/06/2000	kdw	SW 6010B
Zinc, ICP	110		mg/kg dw	1.3	06/06/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
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Green Bay, WI 54307

06/07/2000

Sample No. : 582517

Job No.: 00.05706

Sample Description: LG2-13
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:14

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	2,100		mg/kg dw	1.4	06/07/2000	jrr	SW 9012A
Solids, Total	18.5		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<54		mg/kg dw	54	06/06/2000	kdw	SW 6010B
Cadmium, ICP	9,190		mg/kg dw	2.7	06/06/2000	kdw	SW 6010B
Lead, ICP	160	iec	mg/kg dw	22	06/06/2000	kdw	SW 6010B
Nickel, ICP	11,400		mg/kg dw	14	06/06/2000	kdw	SW 6010B
Zinc, ICP	7,570		mg/kg dw	5.4	06/06/2000	kdw	SW 6010B

iec: Elevated reporting limit due to interelement interferences.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000
Sample No. : 582518
Job No.: 00.05706

Sample Description: LG2-14
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:16

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.34		mg/kg dw	0.34	06/07/2000	jrr	SW 9012A
Solids, Total	72.9		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	06/06/2000	kdw	SW 6010B
Cadmium, ICP	2.1		mg/kg dw	0.69	06/06/2000	kdw	SW 6010B
Lead, ICP	16		mg/kg dw	5.5	06/06/2000	kdw	SW 6010B
Nickel, ICP	25		mg/kg dw	3.4	06/06/2000	kdw	SW 6010B
Zinc, ICP	100		mg/kg dw	1.4	06/06/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
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2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Sample No. : 582519

Job No.: 00.05706

Sample Description: LG2-15
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:18

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	4,280		mg/kg dw	1.7	06/07/2000	jrr	SW 9012A
Solids, Total	14.7		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	75		mg/kg dw	68	06/06/2000	kdw	SW 6010B
Cadmium, ICP	14,300		mg/kg dw	3.4	06/06/2000	kdw	SW 6010B
Lead, ICP	460		mg/kg dw	27	06/06/2000	kdw	SW 6010B
Nickel, ICP	17,700		mg/kg dw	17	06/06/2000	kdw	SW 6010B
Zinc, ICP	109,000		mg/kg dw	6.8	06/06/2000	kdw	SW 6010B

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Green Bay, WI 54307

06/07/2000

Sample No. : 582520

Job No.: 00.05706

Sample Description: LG2-16
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:20

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.33		mg/kg dw	0.33	06/07/2000	jrr	SW 9012A
Solids, Total	76.3		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	06/06/2000	kdw	SW 6010B
Cadmium, ICP	9.8		mg/kg dw	0.66	06/06/2000	kdw	SW 6010B
Lead, ICP	14		mg/kg dw	5.2	06/06/2000	kdw	SW 6010B
Nickel, ICP	33		mg/kg dw	3.3	06/06/2000	kdw	SW 6010B
Zinc, ICP	170		mg/kg dw	1.3	06/06/2000	kdw	SW 6010B

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Mr. Ron Meister
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2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Sample No. : 582521

Job No.: 00.05706

Sample Description: LG2-17
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:22

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	841		mg/kg dw	1.1	06/07/2000	jrr	SW 9012A
Solids, Total	23.3		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<43		mg/kg dw	43	06/06/2000	kdw	SW 6010B
Cadmium, ICP	9,440		mg/kg dw	2.1	06/06/2000	kdw	SW 6010B
Lead, ICP	180		mg/kg dw	17	06/06/2000	kdw	SW 6010B
Nickel, ICP	13,300		mg/kg dw	11	06/06/2000	kdw	SW 6010B
Zinc, ICP	68,700		mg/kg dw	4.3	06/06/2000	kdw	SW 6010B

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2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

06/07/2000

Sample No. : 582522

Job No.: 00.05706

Sample Description: LG2-18
Modern Plating (97M015)

Date Taken: 06/02/2000
Time Taken: 09:25

Date Received: 06/02/2000
Time Received: 12:55

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.52		mg/kg dw	0.32	06/07/2000	jrr	SW 9012A
Solids, Total	77.4		%	0.1	06/05/2000	pjf	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	06/06/2000	kdw	SW 6010B
Cadmium, ICP	6.6		mg/kg dw	0.65	06/06/2000	kdw	SW 6010B
Lead, ICP	9.6		mg/kg dw	5.2	06/06/2000	kdw	SW 6010B
Nickel, ICP	27		mg/kg dw	3.2	06/06/2000	kdw	SW 6010B
Zinc, ICP	130		mg/kg dw	1.3	06/06/2000	kdw	SW 6010B

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TestAmerica, Bartlett Division

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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CHAIN OF CUSTODY RECORD

TestAmerica INCORPORATED

602 Commerce Drive / Watertown, WI 53094
Phone: (920) 261-1660 / Fax: (920) 261-8120

COMPANY: FOTH + VAN DYKE
ADDRESS: 2737 S. RIDGE Rd. GREEN BAY, WI 54307
PHONE: (920) 497-2500 FAX: (920) 497-8516
PROJECT DESCRIPTION/NO.: MODERN PLATING 97M015
PROJECT MANAGER: RON MEISTER

REPORT TO: ROM MEISTER
INVOICE TO: FOTH + VAN DYKE
P.O. NO.:
QUOTE NO.:

SAMPLED BY:
NAME
NAME

Fax Results?____ QC w/Results?____
Which regulations apply?
NPDES/Wastewater____ RCRA____ UST____
Drinking Water____ Other____ None____

DATE	TIME	SAMPLE ID/DESCRIPTION	FILTERED	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	NONE	METHANOL	OTHER	ANALYSES: CYANIDE	ARSENIC	CADMIUM	LEAD	NICKEL	ZINC					COMMENTS
6/2/00	9:10	LG2-11			1						1			X	X	X	X	X	X					
	9:12	LG2-12			1						1			X	X	X	X	X	X					
	9:14	LG2-13			1						1			X	X	X	X	X	X					
	9:16	LG2-14			1						1			X	X	X	X	X	X					
	9:18	LG2-15			1						1			X	X	X	X	X	X					
44	9:20	LG2-16			1						1			X	X	X	X	X	X					
	9:22	LG2-17			1						1			X	X	X	X	X	X					
↓	9:25	LG2-18			1						1			X	X	X	X	X	X					

Actual Sample Temp 11°C

LAB USE ONLY

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO VOLATILES FREE OF HEADSPACE? YES / NO BOTTLES SUPPLIED BY LAB? YES / NO TEMPERATURE UPON RECEIPT: on ice

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
Marton J Conlin	6/2/00	12:55			6/2/00	1255	K. Walton

METHOD OF SHIPMENT:
TestAmerica Courier _____
Client _____
Common Carrier _____

REMARKS:
24 HOUR TURN AROUND
TESTING TO BE PERFORMED ON MONDAY 6/5/00

R001624

TestAmerica INCORPORATED

MASTER FILE COPY
Scope 97M015 Classification 8351
Copy To REM, MasterFiles

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/20/2000

Job Number: 00.07627

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Modern Plating; 97M015

Sample Number	Sample Description	Date Taken	Date Received
589101	CV-1 (West Sideslope)	07/18/2000	07/18/2000
589102	CV-2 (North Bottom)	07/18/2000	07/18/2000
589103	CV-3 (East Sideslope)	07/18/2000	07/18/2000
589104	CV-4 (South Bottom)	07/18/2000	07/18/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson
Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/20/2000

Sample No. : 589101

Job No.: 00.07627

Sample Description: CV-1 (West Sideslope)
Modern Plating; 97M015

Date Taken: 07/18/2000
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 07/18/2000
Time Received: 13:10
WDNR Cert. No. 999447130

Parameter	Result	Flag	Units	Date Analyzed	Reporting Limit	Analyst	Batch No. Prep/Run	Analytical Method
Cyanide, total	18		mg/kg dw	07/20/2000	0.28	jrr	746	SW 9012A
Solids, Total	88.0		%	07/20/2000	0.1	kmt	3687	SM 2540
Arsenic, ICP	<11		mg/kg dw	07/20/2000	11	kdw	1696 2941	SW 6010B
Cadmium, ICP	5.1		mg/kg dw	07/20/2000	0.57	kdw	1696 3053	SW 6010B
Chromium, ICP	43		mg/kg dw	07/20/2000	2.3	kdw	1696 3036	SW 6010B
Lead, ICP	50		mg/kg dw	07/20/2000	4.5	kdw	1696 3282	SW 6010B
Nickel, ICP	34		mg/kg dw	07/20/2000	2.8	kdw	1696 2976	SW 6010B
Zinc, ICP	182		mg/kg dw	07/20/2000	1.1	kdw	1696 3035	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/20/2000

Sample No. : 589102

Job No.: 00.07627

Sample Description: CV-2 (North Bottom)
Modern Plating; 97M015

Date Taken: 07/18/2000
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 07/18/2000
Time Received: 13:10
WDNR Cert. No. 999447130

Parameter	Result	Flag	Units	Date Analyzed	Reporting Limit	Analyst	Batch No. Prep/Run	Analytical Method
Cyanide, total	19		mg/kg dw	07/20/2000	0.28	jrr	746	SW 9012A
Solids, Total	87.9		%	07/20/2000	0.1	kmt	3687	SM 2540
Arsenic, ICP	<11		mg/kg dw	07/20/2000	11	kdw	1696 2941	SW 6010B
Cadmium, ICP	5.0		mg/kg dw	07/20/2000	0.57	kdw	1696 3053	SW 6010B
Chromium, ICP	51		mg/kg dw	07/20/2000	2.3	kdw	1696 3036	SW 6010B
Lead, ICP	27		mg/kg dw	07/20/2000	4.6	kdw	1696 3282	SW 6010B
Nickel, ICP	31		mg/kg dw	07/20/2000	2.8	kdw	1696 2976	SW 6010B
Zinc, ICP	100		mg/kg dw	07/20/2000	1.1	kdw	1696 3035	SW 6010B

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TestAmerica
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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/20/2000

Sample No. : 589103

Job No.: 00.07627

Sample Description: CV-3 (East Sideslope)
Modern Plating; 97M015

Date Taken: 07/18/2000
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 07/18/2000
Time Received: 13:10
WDNR Cert. No. 999447130

Parameter	Result	Flag	Units	Date Analyzed	Reporting Limit	Analyst	Batch No. Prep/Run	Analytical Method
Cyanide, total	0.39		mg/kg dw	07/20/2000	0.28	jrr	746	SW 9012A
Solids, Total	88.0		%	07/20/2000	0.1	kmt	3687	SM 2540
Arsenic, ICP	<11		mg/kg dw	07/20/2000	11	kdw	1696 2941	SW 6010B
Cadmium, ICP	1.2		mg/kg dw	07/20/2000	0.57	kdw	1696 3053	SW 6010B
Chromium, ICP	34		mg/kg dw	07/20/2000	2.3	kdw	1696 3036	SW 6010B
Lead, ICP	19		mg/kg dw	07/20/2000	4.5	kdw	1696 3282	SW 6010B
Nickel, ICP	22		mg/kg dw	07/20/2000	2.8	kdw	1696 2976	SW 6010B
Zinc, ICP	61		mg/kg dw	07/20/2000	1.1	kdw	1696 3035	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/20/2000

Sample No. : 589104

Job No.: 00.07627

Sample Description: CV-4 (South Bottom)
Modern Plating; 97M015

Date Taken: 07/18/2000
Time Taken: 10:40
IEPA Cert. No. 100221

Date Received: 07/18/2000
Time Received: 13:10
WDNR Cert. No. 999447130

Parameter	Result	Flag	Units	Date Analyzed	Reporting Limit	Analyst	Batch No. Prep/Run	Analytical Method
Cyanide, total	0.35		mg/kg dw	07/20/2000	0.29	jrr	746	SW 9012A
Solids, Total	84.8		%	07/20/2000	0.1	kmt	3687	SM 2540
Arsenic, ICP	<47	iec	mg/kg dw	07/20/2000	12	kdw	1696 2942	SW 6010B
Cadmium, ICP	3.2		mg/kg dw	07/20/2000	0.59	kdw	1696 3053	SW 6010B
Chromium, ICP	58		mg/kg dw	07/20/2000	2.4	kdw	1696 3036	SW 6010B
Lead, ICP	248		mg/kg dw	07/20/2000	4.7	kdw	1696 3282	SW 6010B
Nickel, ICP	696		mg/kg dw	07/20/2000	2.9	kdw	1696 2976	SW 6010B
Zinc, ICP	1,530		mg/kg dw	07/20/2000	1.2	kdw	1696 3035	SW 6010B

iec: Elevated reporting limit due to interelement interferences.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307
Mr. Ron Meister

07/20/2000

Job Number: 00.07627

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Cyanide, total	746	0.0740	0.0777	105.0
Cyanide, total	746	0.0740	0.0798	107.8
Cyanide, total	746	0.0740	0.0795	107.4
Cyanide, total	746	0.0740	0.0792	107.0
Cyanide, total	746	0.0740	0.0786	106.2
Cyanide, total	746	0.0740	0.0785	106.1
Cyanide, total	746	0.0740	0.0771	104.2
Cyanide, total	746	0.0740	0.0787	106.4
Cyanide, total	746	0.0740	0.0794	107.3
Cyanide, total	746	0.0740	0.0737	99.6
Cyanide, total	746	0.0740	0.0749	101.2
Arsenic, ICP	2941	2.00	2.02	101.0
Arsenic, ICP	2942	2.00	2.04	102.0
Cadmium, ICP	3053	1.00	0.987	98.7
Chromium, ICP	3036	2.00	2.00	100.0
Lead, ICP	3282	2.00	1.97	98.5
Nickel, ICP	2976	1.00	0.992	99.2
Zinc, ICP	3035	2.00	1.98	99.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307
Mr. Ron Meister

07/20/2000

Job Number: 00.07627

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Cyanide, total		746	<0.25	mg/kg	0.25	SW 9012A
Solids, Total		3687	<0.1	%	0.1	SM 2540
Arsenic, ICP	1696	2941	<10	mg/Kg	10	SW 6010B
Cadmium, ICP	1696	3053	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1696	3036	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1696	3282	<4.0	mg/Kg	4.0	SW 6010B
Nickel, ICP	1696	2976	<2.5	mg/Kg	2.5	SW 6010B
Zinc, ICP	1696	3035	<1.0	mg/Kg	1.0	SW 6010B

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307
Mr. Ron Meister

07/20/2000

Job Number: 00.07627

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Cyanide, total		746	0.187	0.215	115.0
Cyanide, total		746	0.187	0.201	107.5
Cyanide, total		746	0.0187	0.212	1133.7
Cyanide, total		746	0.0470	0.0525	111.7
Cyanide, total		746	0.0470	0.0516	109.8
Cyanide, total		746	0.0470	0.0503	107.0
Arsenic, ICP	1696	2941	25.0	25.0	100.0
Cadmium, ICP	1696	3053	25.0	24.0	96.0
Chromium, ICP	1696	3036	25.0	24.7	98.8
Lead, ICP	1696	3282	25.0	24.4	97.6
Nickel, ICP	1696	2976	25.0	24.3	97.2
Zinc, ICP	1696	3035	25.0	24.3	97.2

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307
Mr. Ron Meister

07/20/2000

Job Number: 00.07627

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Cyanide, total		746	67.6	18	53.2	mg/kg	92.9	59.7	47.0	mg/kg	88.2	12.5
Cyanide, total		746	0.923	<0.25	0.936	mg/kg	98.6	0.924	0.936	mg/kg	98.7	0.1
Cadmium, ICP	1696	3053	18.9	<0.52	25.4	mg/kg	74.3	19.5	25.2	mg/kg	77.4	3.2
Chromium, ICP	1696	3036	28.9	6.5	25.4	mg/kg	88.2	27.9	25.2	mg/kg	84.8	3.6
Lead, ICP	1696	3282	21.8	<4.1	25.4	mg/kg	85.7	22.5	25.2	mg/kg	89.3	3.3

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307
Mr. Ron Meister

07/20/2000

Job Number: 00.07627

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
Solids, Total		3687	87.7	87.2	%	0.6
Solids, Total		3687	91.5	92.4	%	1.0
Solids, Total		3687	92.9	92.8	%	0.1
Solids, Total		3687	90.7	91.1	%	0.4

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

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(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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CHAIN OF CUSTODY RECORD

TestAmerica INCORPORATED

602 Commerce Drive / Watertown, WI 53094
Phone: (920) 261-1660 / Fax: (920) 261-8120

COMPANY: FOTH & VAN DYKE
ADDRESS: 2737 S. RIDGE RD. GREEN BAY, WI 54307
PHONE: (920) 497-2500 FAX: (920) 497-8516
PROJECT DESCRIPTION/NO.: MODERN PLATING / 97MD15
PROJECT MANAGER: RON MEISTER

REPORT TO: RON MEISTER
INVOICE TO: FOTH & VAN DYKE

P.O. NO.:
QUOTE NO.:

SAMPLED BY: BRIAN STANUL
NAME

NAME

Fax Results? X QC w/Results? X

Which regulations apply?
NPDES/Wastewater ____ RCRA ____ UST ____
Drinking Water ____ Other X None ____

DATE	TIME	SAMPLE ID/DESCRIPTION	FILTERED	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	NONE	METHANOL	OTHER	ANALYSES: CYANIDE	ARSENIC	CADMIUM	LEAD	NICKEL	ZINC	CHROMIUM				COMMENTS
7/18/00	10:25	CV-1 (WEST SIDESLOPE)		S	X						2			X	X	X	X	X	X	X			
	10:30	CV-2 (NORTH BOTTOM)												X	X	X	X	X	X	X			
	10:35	CV-3 (EAST SIDESLOPE)												X	X	X	X	X	X	X			
↓	10:40	CV-4 (SOUTH BOTTOM)		↓	↓						↓			X	X	X	X	X	X	X			

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LAB USE ONLY

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? YES / NO BOTTLES SUPPLIED BY LAB? YES / (NO) TEMPERATURE UPON RECEIPT: 2.2 °C

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
Brian Stanul	7/18/00	11:20	Paul Co. Yore 7/18/00 11:20	Kenny	7/18	13:10	P. Merrill

METHOD OF SHIPMENT:
TestAmerica Courier ✓
Client ____
Common Carrier

REMARKS: 9°C actual sample temp on 3.9°C blue ice

R001637

MASTER FILE COPY
Scope 97M015 Classification 8351
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TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/24/2000

Job Number: 00.07681

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Modern Plating Corp./97M015

Sample Number	Sample Description	Date Taken	Date Received
589293	SHAW-1	07/18/2000	07/19/2000
589294	SHAW-2	07/18/2000	07/19/2000
589295	SHAW-3	07/18/2000	07/19/2000
589296	SHAW-4	07/18/2000	07/19/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:
Mary Pearson

Mary Pearson
Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/24/2000

Sample No. : 589293

Job No.: 00.07681

Sample Description: SHAW-1
Modern Plating Corp./97M015

Date Taken: 07/18/2000
Time Taken: 16:35

Date Received: 07/19/2000
Time Received: 13:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	79.3		%	0.1	07/21/2000	kmt	SM 2540
Cadmium, ICP	<0.63		mg/kg dw	0.63	07/24/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/24/2000

Sample No. : 589294

Job No.: 00.07681

Sample Description: SHAW-2
Modern Plating Corp./97M015

Date Taken: 07/18/2000
Time Taken: 16:40

Date Received: 07/19/2000
Time Received: 13:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	79.0		%	0.1	07/21/2000	kmt	SM 2540
Cadmium, ICP	<0.63		mg/kg dw	0.63	07/24/2000	kdw	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/24/2000

Sample No. : 589295

Job No.: 00.07681

Sample Description: SHAW-3
Modern Plating Corp./97M015

Date Taken: 07/18/2000
Time Taken: 16:45

Date Received: 07/19/2000
Time Received: 13:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	78.6		%	0.1	07/21/2000	kmt	SM 2540
Cadmium, ICP	<0.64		mg/kg dw	0.64	07/24/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

07/24/2000

Sample No. : 589296

Job No.: 00.07681

Sample Description: SHAW-4
Modern Plating Corp./97M015

Date Taken: 07/18/2000
Time Taken: 16:50

Date Received: 07/19/2000
Time Received: 13:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	78.7		%	0.1	07/21/2000	kmt	SM 2540
Cadmium, ICP	0.64		mg/kg dw	0.64	07/24/2000	kdw	SW 6010B

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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TestAmerica INCORPORATED

602 Commerce Drive / Watertown, WI 53094
Phone: (920) 261-1660 / Fax: (920) 261-8120

CHAIN OF CUSTODY RECORD

COMPANY: Foth & Van Dyke
ADDRESS: 2737 S. Ridge Rd., Green Bay, WI 54307
PHONE: (920) 497-2500 FAX: (920) 497-8516
PROJECT DESCRIPTION/NO.: Modern Plating Corp./97M015
PROJECT MANAGER: Ron Meister

REPORT TO: Ron Meister
INVOICE TO: Foth & Van Dyke

P.O. NO.:
QUOTE NO.:

SAMPLED BY:
NAME: Brian Stanul

NAME

Fax Results? X QC w/Results? X

Which regulations apply?
NPDES/Wastewater____ RCRA____ UST____
Drinking Water____ Other____ None____

DATE	TIME	SAMPLE ID/DESCRIPTION	FILTERED	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	NONE	METHANOL	OTHER	ANALYSES: CADMIUM	COMMENTS
7/18/00	16:35	SHAW-1	N	S	X						1			X	
↓	16:40	SHAW-2	↓	↓	↓						↓			X	
	16:45	SHAW-3												X	
↓	16:50	SHAW-4	↓	↓	↓						↓			X	

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LAB USE ONLY

CONDITION OF SAMPLE: BOTTLES INTACT (YES) NO VOLATILES FREE OF HEADSPACE? YES / NO N/A BOTTLES SUPPLIED BY LAB (YES) NO TEMPERATURE UPON RECEIPT: 20 °C
11°C actual sample temp on ice

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR LAB BY:
Brian Stanul	7/19/00	08:25	7/19 0823		7/19	1340	P. Merrill

METHOD OF SHIPMENT:
courier ✓
courier

REMARKS:
* RUSH TURN-AROUND TIME *

R001644

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Scope 97M015 Classification 8351
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TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Job Number: 00.09231

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: 97M015

Sample Number	Sample Description	Date Taken	Date Received
594697	LG3-1 (N102+00, E108+40)	08/23/2000	08/23/2000
594698	LG3-2 (N103+00, E108+40)	08/23/2000	08/23/2000
594699	LG3-3 (N103+50, E108+40)	08/23/2000	08/23/2000
594700	LG3-4 (N103+00, E107+60)	08/23/2000	08/23/2000
594701	LG3-5 (N103+50, E107+60)	08/23/2000	08/23/2000
594702	LG3-6 (N103+00, E107+60)	08/23/2000	08/23/2000
594703	LG3-7 (N101+70, E108+60)	08/23/2000	08/23/2000
594704	LG3-8 (N103+00, E108+60)	08/23/2000	08/23/2000
594705	LG3-9 (N103+80, E108+00)	08/23/2000	08/23/2000
594706	LG3-10 (N103+00, E107+20)	08/23/2000	08/23/2000
594707	LG3-11 (Sludge)	08/23/2000	08/23/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson
Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594697

Job No.: 00.09231

Sample Description: LG3-1 (N102+00, E108+40)
97M015

Date Taken: 08/23/2000
Time Taken: 07:45

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.32		mg/kg dw	0.32	08/28/2000	jrr	SW 9012A
Solids, Total	78.5		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	9.6	S	mg/kg dw	1.3	08/26/2000	out	SW 6010B
Cadmium, ICP	3.9	S	mg/kg dw	0.64	08/26/2000	out	SW 6010B
Chromium, ICP	31	S	mg/kg dw	2.5	08/26/2000	out	SW 6010B
Lead, ICP	13	S	mg/kg dw	5.1	08/26/2000	out	SW 6010B
Nickel, ICP	79	S	mg/kg dw	3.2	08/26/2000	out	SW 6010B
Zinc, ICP	62	S	mg/kg dw	1.3	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594698

Job No.: 00.09231

Sample Description: LG3-2 (N103+00, E108+40)
97M015

Date Taken: 08/23/2000
Time Taken: 07:50

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.63		mg/kg dw	0.30	08/28/2000	jrr	SW 9012A
Solids, Total	83.5		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	4.1	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	<1.2	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Chromium, ICP	17	S	mg/kg dw	2.4	08/26/2000	out	SW 6010B
Lead, ICP	12	S	mg/kg dw	4.8	08/26/2000	out	SW 6010B
Nickel, ICP	13	S	mg/kg dw	3.0	08/26/2000	out	SW 6010B
Zinc, ICP	38	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594699

Job No.: 00.09231

Sample Description: LG3-3 (N103+50, E108+40)
97M015

Date Taken: 08/23/2000
Time Taken: 07:55

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.33		mg/kg dw	0.31	08/28/2000	jrr	SW 9012A
Solids, Total	80.9		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	6.8	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	8.2	S	mg/kg dw	0.62	08/26/2000	out	SW 6010B
Chromium, ICP	30	S	mg/kg dw	2.5	08/26/2000	out	SW 6010B
Lead, ICP	15	S	mg/kg dw	4.9	08/26/2000	out	SW 6010B
Nickel, ICP	23	S	mg/kg dw	3.1	08/26/2000	out	SW 6010B
Zinc, ICP	95	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594700

Job No.: 00.09231

Sample Description: LG3-4 (N103+00, E107+60)
97M015

Date Taken: 08/23/2000
Time Taken: 08:00

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	2.2		mg/kg dw	0.29	08/28/2000	jrr	SW 9012A
Solids, Total	85.2		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	5.9	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	141	S	mg/kg dw	0.59	08/26/2000	out	SW 6010B
Chromium, ICP	142	S	mg/kg dw	2.3	08/26/2000	out	SW 6010B
Lead, ICP	25	S	mg/kg dw	4.7	08/26/2000	out	SW 6010B
Nickel, ICP	97	S	mg/kg dw	2.9	08/26/2000	out	SW 6010B
Zinc, ICP	552	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594701

Job No.: 00.09231

Sample Description: LG3-5 (N103+50, E107+60)
97M015

Date Taken: 08/23/2000
Time Taken: 08:05

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	11		mg/kg dw	0.31	08/28/2000	jrr	SW 9012A
Solids, Total	80.3		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	8.8	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	8.1	S	mg/kg dw	0.62	08/26/2000	out	SW 6010B
Chromium, ICP	35	S	mg/kg dw	2.5	08/26/2000	out	SW 6010B
Lead, ICP	15	S	mg/kg dw	5.0	08/26/2000	out	SW 6010B
Nickel, ICP	25	S	mg/kg dw	3.1	08/26/2000	out	SW 6010B
Zinc, ICP	90	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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TestAmerica
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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594702

Job No.: 00.09231

Sample Description: LG3-6 (N103+00, E107+60)
97M015

Date Taken: 08/23/2000
Time Taken: 08:10

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	20		mg/kg dw	0.31	08/28/2000	jrr	SW 9012A
Solids, Total	81.4		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	<12	S	mg/kg dw	12	08/26/2000	out	SW 6010B
Cadmium, ICP	16	S	mg/kg dw	0.61	08/26/2000	out	SW 6010B
Chromium, ICP	29	S	mg/kg dw	2.5	08/26/2000	out	SW 6010B
Lead, ICP	12	S	mg/kg dw	4.9	08/26/2000	out	SW 6010B
Nickel, ICP	32	S	mg/kg dw	3.1	08/26/2000	out	SW 6010B
Zinc, ICP	100	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594703

Job No.: 00.09231

Sample Description: LG3-7 (N101+70, E108+60)
97M015

Date Taken: 08/23/2000
Time Taken: 08:15

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	64		mg/kg dw	0.33	08/28/2000	jrr	SW 9012A
Solids, Total	76.0		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	6.3	S	mg/kg dw	1.3	08/26/2000	out	SW 6010B
Cadmium, ICP	782	S	mg/kg dw	0.66	08/26/2000	out	SW 6010B
Chromium, ICP	757	S	mg/kg dw	2.6	08/26/2000	out	SW 6010B
Lead, ICP	33	S	mg/kg dw	5.3	08/26/2000	out	SW 6010B
Nickel, ICP	454	S	mg/kg dw	3.3	08/26/2000	out	SW 6010B
Zinc, ICP	2,640	S	mg/kg dw	1.3	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594704

Job No.: 00.09231

Sample Description: LG3-8 (N103+00, E108+60)
97M015

Date Taken: 08/23/2000
Time Taken: 08:20

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.9		mg/kg dw	0.30	08/28/2000	jrr	SW 9012A
Solids, Total	82.8		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	6.3	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	152	S	mg/kg dw	0.60	08/26/2000	out	SW 6010B
Chromium, ICP	100	S	mg/kg dw	2.4	08/26/2000	out	SW 6010B
Lead, ICP	14	S	mg/kg dw	4.8	08/26/2000	out	SW 6010B
Nickel, ICP	197	S	mg/kg dw	3.0	08/26/2000	out	SW 6010B
Zinc, ICP	554	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594705

Job No.: 00.09231

Sample Description: LG3-9 (N103+80, E108+00)
97M015

Date Taken: 08/23/2000
Time Taken: 08:25

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.7		mg/kg dw	0.26	08/28/2000	jrr	SW 9012A
Solids, Total	94.8		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	6.6	S	mg/kg dw	1.1	08/26/2000	out	SW 6010B
Cadmium, ICP	155	S	mg/kg dw	0.53	08/26/2000	out	SW 6010B
Chromium, ICP	50	S	mg/kg dw	2.1	08/26/2000	out	SW 6010B
Lead, ICP	15	S	mg/kg dw	4.2	08/26/2000	out	SW 6010B
Nickel, ICP	195	S	mg/kg dw	2.6	08/26/2000	out	SW 6010B
Zinc, ICP	942	S	mg/kg dw	1.1	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594706

Job No.: 00.09231

Sample Description: LG3-10 (N103+00, E107+20)
97M015

Date Taken: 08/23/2000
Time Taken: 08:30

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	19		mg/kg dw	0.29	08/28/2000	jrr	SW 9012A
Solids, Total	84.8		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	<1.2	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B
Cadmium, ICP	39	S	mg/kg dw	0.59	08/26/2000	out	SW 6010B
Chromium, ICP	68	S	mg/kg dw	2.4	08/26/2000	out	SW 6010B
Lead, ICP	10	S	mg/kg dw	4.7	08/26/2000	out	SW 6010B
Nickel, ICP	47	S	mg/kg dw	2.9	08/26/2000	out	SW 6010B
Zinc, ICP	230	S	mg/kg dw	1.2	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge
Green Bay WI 54307

08/28/2000

Sample No. : 594707

Job No.: 00.09231

Sample Description: LG3-11 (Sludge)
97M015

Date Taken: 08/23/2000
Time Taken: 08:40

Date Received: 08/23/2000
Time Received: 14:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	599		mg/kg dw	0.88	08/28/2000	jrr	SW 9012A
Solids, Total	28.4		%	0.1	08/25/2000	kmt	SM 2540
Arsenic, ICP	11	S	mg/kg dw	3.5	08/26/2000	out	SW 6010B
Cadmium, ICP	9,820	S	mg/kg dw	1.8	08/26/2000	out	SW 6010B
Chromium, ICP	9,080	S	mg/kg dw	7.0	08/26/2000	out	SW 6010B
Lead, ICP	140	S	mg/kg dw	14	08/26/2000	out	SW 6010B
Nickel, ICP	5,110	S	mg/kg dw	8.8	08/26/2000	out	SW 6010B
Zinc, ICP	33,200	S	mg/kg dw	3.5	08/26/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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TestAmerica, Bartlett Division

TestAmerica INCORPORATED

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

Chain of Custody Record

TESTAMERICA INC.

☐ Asheville, NC (A) (828) 254-5169 ☒ Bartlett, IL (C) (630) 289-3100 ☐ Cedar Falls, IA (E) (319) 277-2401 ☐ Charlotte, NC (G) (704) 392-1164 ☐ Dayton, OH (I) (937) 294-6856 ☐ Lumberton, NC (K) (910) 738-6190 ☐ Nashville, TN (M) (615) 726-0177 ☐ Pontiac, MI (O) (248) 332-1940 ☐ Rockford. Il (Q) (815) 874-2171

☐ Atlanta, GA (B) (770) 368-0636 ☐ Brighton, CO (D) (303) 659-0497 ☐ Charleston, SC (F) (843) 849-6550 ☐ Columbia, SC (H) (803) 796-8989 ☐ Davenport. IA (J) (319) 323-7944 ☐ Indianapolis, IN (L) (317) 842-4261 ☐ Macon, GA (N) (912) 757-0811 ☐ Orlando, FL (P) (407) 851-2560 ☐ Watertown, WI (R) (920) 261-1660

Client: FOTH & VAN DYKE	Project No.: 97M015
Report Address: 2737 S. RIDGE	Invoice Address:
GREEN BAY, WI 54307	– SAME –
Attn: RON MEISTER	Attn:
Phone No.: (920) 497-2500	Sampled By: BRIAN STANUL
Fax No.: (920) 497-8516	P.O. No:
TURNAROUND TIME	Quote No.
☐ Standard	State Samples Collected IL
☒ Rush (surcharges may apply)	Date Needed: 8/24/00

REQUESTED PARAMETERS

CYANIDE, ARSENIC, CADMIUM, LEAD, NICKEL, ZINC, CHROMIUM

Is this work being conducted for regulatory compliance monitoring? Yes___ No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA____ NPDESWastewater____
UST____ Drinking Water____
Other___ None____

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
LG3-1 (N102+00, E108+40)	8/23/00	07:45	G	Soil							2	
LG3-2 (N103+00, E108+40)		07:50										
LG3-3 (N103+50, E108+40)		07:55										
LG3-4 (N103+00, E107+60)		08:00										
LG3-5 (N103+50, E107+60)		08:05										
LG3-6 (N103+00, E107+60)		08:10										
LG3-7 (N101+70, E106+00)		08:15										
LG3-8 (N103+00, E106+60)		08:20										
LG3-9 (N103+60, E106+00)		08:25										
LG3-10 (N103+00, E107+20)		08:30										

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp: no ice Rec Lab Temp

COMMENTS: * 24 - HOUR TURN AROUND * 24°C actual sample temp

Relinquished By: Brian Stanul	Date 8/24/00 Time 11:35	Received By: A Henry	Date 8/23/00 Time 1120	LAB USE ONLY:	
Relinquished By: A Henry	Date 8/23 Time 1420	Received By: P. Meister	Date 8/23/00 Time 1420		
Relinquished By:	Date Time	Received By:	Date Time	Custody Seal: ☐ Yes ☐ No ☑ N/A	
Relinquished By:	Date Time	Received By:	Date Time	Bottles Supplied by TA: ☐ Yes ☑ No	

77

R001658

Chain of Custody Record

TESTAMERICA INC.

☐ Asheville, NC (A) (828) 254-5169
☒ Bartlett, IL (C) (630) 289-3100
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☐ Charlotte, NC (G) (704) 392-1164
☐ Dayton, OH (I) (937) 294-6856
☐ Lumberton, NC (K) (910) 738-6190
☐ Nashville, TN (M) (615) 726-0177
☐ Pontiac, MI (O) (248) 332-1940
☐ Rockford. Il (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636
☐ Brighton, CO (D) (303) 659-0497
☐ Charleston, SC (F) (843) 849-6550
☐ Columbia, SC (H) (803) 796-8989
☐ Davenport. IA (J) (319) 323-7944
☐ Indianapolis, IN (L) (317) 842-4261
☐ Macon, GA (N) (912) 757-0811
☐ Orlando, FL (P) (407) 851-2560
☐ Watertown, WI (R) (920) 261-1660

Client: FOTH & VAN DYKE

Project No.: 97M015

Report Address: 2737 S. RIDGE RD
GREEN BAY, WI 54307

Invoice Address: SAME –

Attn: RON MEISTER

Attn:

Phone No.: (920) 497-2500

Sampled By: BRIAN STANUL

Fax No.: (920) 497-8516

P.O. No:

Quote No.

State Samples Collected IL

TURNAROUND TIME

☐ Standard

☒ Rush (surcharges may apply)

Date Needed: 8/24/00

REQUESTED PARAMETERS

Is this work being conducted for regulatory compliance monitoring? Yes___ No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA____ NPDES Wastewater____
UST____ Drinking Water____
Other___ None____

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	CYANIDE	ARSENIC	CADMIUM	LEAD	NICKEL	ZINC	CHROMIUM	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
LG3-11 (SLUDGE)	8/23/00	08:40	G	SOIL		X	X	X	X	X	X	X						1	

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp

Rec Lab Temp: nice

COMMENTS: *24-HOUR TURN AROUND* 24°C actual sample temp

Relinquished By: Brian Stanul	Date 8/24/00 Time 11:20	Received By:	Date 8/23 Time 1430	LAB USE ONLY:	
Relinquished By:	Date 8/23 Time 1430	Received By: P.Meykill	Date 8/23/00 Time 1430		
Relinquished By:	Date Time	Received By:	Date Time	Custody Seal: ☐ Yes ☐ No ☑ N/A	
Relinquished By:	Date Time	Received By:	Date Time	Bottles Supplied by TA:	

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Job Number: 00.09351

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Proj. #97M015

Sample Number	Sample Description	Date Taken	Date Received
595085	Lagoon No. 3 Sludge	08/24/2000	08/25/2000
595086	WT3-1 (N107+25,E108+20)	08/24/2000	08/25/2000
595087	WT3-2 (N107+00,E108+25)	08/24/2000	08/25/2000
595088	WT3-3 (N106+82,E107+77)	08/24/2000	08/25/2000
595089	WT3-4 (N106+50,E108+25)	08/24/2000	08/25/2000
595090	WT3-5 (N106+67,E108+68)	08/24/2000	08/25/2000
595091	Lagoon No. 3 Sludge-2	08/25/2000	08/25/2000
595092	Lagoon No. 3 Sludge-3	08/25/2000	08/25/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Sample No. : 595086

Job No.: 00.09351

Sample Description: WT3-1 (N107+25,E108+20)
Proj. #97M015

Date Taken: 08/24/2000
Time Taken: 09:20

Date Received: 08/25/2000
Time Received: 14:05

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	72		%	0.1	08/26/2000	out	SM 2540
Cadmium, ICP	1.4		mg/kg dw	0.69	08/28/2000	out	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Sample No. : 595087

Job No.: 00.09351

Sample Description: WT3-2 (N107+00,E108+25)
Proj. #97M015

Date Taken: 08/24/2000
Time Taken: 09:25

Date Received: 08/25/2000
Time Received: 14:05

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	68		%	0.1	08/26/2000	out	SM 2540
Cadmium, ICP	0.87		mg/kg dw	0.74	08/28/2000	out	SW 6010B

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TestAmerica
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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Sample No. : 595088

Job No.: 00.09351

Sample Description: WT3-3 (N106+82,E107+77)
Proj. #97M015

Date Taken: 08/24/2000
Time Taken: 09:30

Date Received: 08/25/2000
Time Received: 14:05

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	67		%	0.1	08/26/2000	out	SM 2540
Cadmium, ICP	1.8		mg/kg dw	0.75	08/28/2000	out	SW 6010B

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INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Sample No. : 595089

Job No.: 00.09351

Sample Description: WT3-4 (N106+50,E108+25)
Proj. #97M015

Date Taken: 08/24/2000
Time Taken: 14:15

Date Received: 08/25/2000
Time Received: 14:05

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	67		%	0.1	08/26/2000	out	SM 2540
Cadmium, ICP	4.3		mg/kg dw	0.75	08/28/2000	out	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

09/01/2000

Sample No. : 595090

Job No.: 00.09351

Sample Description: WT3-5 (N106+67,E108+68)
Proj. #97M015

Date Taken: 08/24/2000
Time Taken: 16:00

Date Received: 08/25/2000
Time Received: 14:05

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	64		%	0.1	08/26/2000	out	SM 2540
Cadmium, ICP	4.7		mg/kg dw	0.78	08/28/2000	out	SW 6010B

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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Chain of Custody Record

TESTAMERICA INC.

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☐ Atlanta, GA (B) (770) 368-0636 ☐ Brighton, CO (D) (303) 659-0497 ☐ Charleston, SC (F) (843) 849-6550 ☐ Columbia, SC (H) (803) 796-8989 ☐ Davenport. IA (J) (319) 323-7944 ☐ Indianapolis, IN (L) (317) 842-4261 ☐ Macon, GA (N) (912) 757-0811 ☐ Orlando, FL (P) (407) 851-2560 ☐ Watertown, WI (R) (920) 261-1660

Client: FOTH & VAN DYKE	Project No.: 97M015
Report Address: 2737 S. RIDGE RD	Invoice Address: SAME
GREEN BAY, WI 54307	
Attn: RON MEISTER	Attn:
Phone No.: (920) 497-2500	Sampled By: BRIAN STANUL
Fax No.: (920) 497-8516	P.O. No:
TURNAROUND TIME	Quote No.
☐ Standard	State Samples Collected IL
☒ Rush (surcharges may apply)	Date Needed: 8/28/00

REQUESTED PARAMETERS

Is this work being conducted for regulatory compliance monitoring? Yes___ No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA____ NPDESWastewater____
UST____ Drinking Water____
Other___ None____

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	% SOLIDS	CADMIUM	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
LAGOON No. 3 SLUDGE	8/24/00	14:00	G	SLUDGE		X							1	
WT3 - 1 (N107+25, E108+20)		09:20	G	SOIL			X						1	
WT3 - 2 (N107+00, E108+25)		09:25					X						1	
WT3 - 3 (N106+82, E107+77)		09:30					X						1	
WT3 - 4 (N106+50, E108+25)		14:15					X						1	
WT3 - 5 (N106+67, E108+68)	↓	16:00	↓	↓			X						1	
LAGOON NO. 3 SLUDGE - 2	8/25/00	08:00	G	SLUDGE		X							1	
LAGOON NO. 3 SLUDGE - 3	8/25/00	08:10	G	SLUDGE		X							1	

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

21 Init Lab Temp

rec'd on ice Rec Lab Temp

COMMENTS: 12°C actual sample temp

Relinquished By: Brian Stanul	Date 8/25/00 Time 09:10	Received By: Paul E Hoke	Date 8/25/00 Time 9:20	LAB USE ONLY:
Relinquished By: Paul E Hoke	Date 8/25/00 Time 11:00	Received By: BR Johnson	Date 8-25-00 Time 11:00	
Relinquished By: BR Johnson	Date 8-25-00 Time 1405	Received By: P. Merrill	Date 8/25/00 Time 1405	Custody Seal: ☐ Yes ☐ No ☑ N/A
Relinquished By:	Date Time	Received By:	Date Time	Bottles Supplied by TA: ☑ Yes ☐ No

TestAmerica
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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/10/2000

Job Number: 00.12128

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: #97M015; Modern Plating/Freeport, IL.

Sample Number	Sample Description	Date Taken	Date Received
604872	Outfall-1 (10')	11/01/2000	11/01/2000
604873	Outfall-2 (9')	11/01/2000	11/01/2000
604874	Outfall-3 (9')	11/01/2000	11/01/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Robert E. White

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/10/2000

Sample No. : 604872

Job No.: 00.12128

Sample Description: Outfall-1 (10')
#97M015; Modern Plating/Freeport, IL.

Date Taken: 11/01/2000
Time Taken: 07:45

Date Received: 11/01/2000
Time Received: 16:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	182		mg/kg dw	0.30	11/09/2000	plb	SW 9012A
Solids, Total	82.5		%	0.1	11/03/2000	kmt	SM 2540
Arsenic, ICP	<12	P	mg/kg dw	12	11/08/2000	kdw	SW 6010B
Cadmium, ICP	44		mg/kg dw	0.61	11/08/2000	kdw	SW 6010B
Chromium, ICP	18	P,MS	mg/kg dw	2.4	11/08/2000	kdw	SW 6010B
Lead, ICP	11	P,MS	mg/kg dw	4.8	11/08/2000	kdw	SW 6010B
Nickel, ICP	16	MS	mg/kg dw	3.0	11/08/2000	kdw	SW 6010B
Zinc, ICP	303	MS	mg/kg dw	1.2	11/08/2000	kdw	SW 6010B

MS: Matrix Spike recovery was outside of QA limits. The LCS was in control.
P : RPD is outside laboratory control limits

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/10/2000

Sample No. : 604873

Job No.: 00.12128

Sample Description: Outfall-2 (9')
#97M015; Modern Plating/Freeport, IL.

Date Taken: 11/01/2000
Time Taken: 07:55

Date Received: 11/01/2000
Time Received: 16:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	53		mg/kg dw	0.30	11/09/2000	plb	SW 9012A
Solids, Total	83.3		%	0.1	11/03/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/08/2000	kdw	SW 6010B
Cadmium, ICP	12		mg/kg dw	0.60	11/08/2000	kdw	SW 6010B
Chromium, ICP	10		mg/kg dw	2.4	11/08/2000	kdw	SW 6010B
Lead, ICP	6.0		mg/kg dw	4.8	11/08/2000	kdw	SW 6010B
Nickel, ICP	28		mg/kg dw	3.0	11/08/2000	kdw	SW 6010B
Zinc, ICP	85		mg/kg dw	1.2	11/08/2000	kdw	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/10/2000

Sample No. : 604874

Job No.: 00.12128

Sample Description: Outfall-3 (9')
#97M015; Modern Plating/Freeport, IL.

Date Taken: 11/01/2000
Time Taken: 08:00

Date Received: 11/01/2000
Time Received: 16:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	173		mg/kg dw	0.31	11/09/2000	plb	SW 9012A
Solids, Total	80.7		%	0.1	11/03/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/08/2000	kdw	SW 6010B
Cadmium, ICP	<0.62		mg/kg dw	0.62	11/08/2000	kdw	SW 6010B
Chromium, ICP	15		mg/kg dw	2.5	11/08/2000	kdw	SW 6010B
Lead, ICP	14		mg/kg dw	5.0	11/08/2000	kdw	SW 6010B
Nickel, ICP	26		mg/kg dw	3.1	11/08/2000	kdw	SW 6010B
Zinc, ICP	359		mg/kg dw	1.2	11/08/2000	kdw	SW 6010B

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/10/2000

Job Number: 00.12128

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: #97M015; Modern Plating/Freeport, IL.

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM	"American Society for Testing Materials"
EPA	"Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.
EPA	"Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.
SDWA	"Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.
SDWA	"Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.
SM	"Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.
SW	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

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TestAmerica INCORPORATED
Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103
Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: FOTH & VAN DYKE Client #: ____
Address: 2737 S. RIDGE RD.
City/State/Zip Code: GREEN BAY, WI 54307
Project Manager: RON MEISTER
Telephone Number: (920) 497-2500 Fax: (920) 497-8516
Sampler Name: (Print Name) BRIAN STANUL
Sampler Signature: Brian Stanul

Project Name: MODERN PLATING
Project #: 97M015
Site/Location ID: FREEPORT State: IL
Report To: RON MEISTER
Invoice To: FOTH & VAN DYKE
Quote #: ____ PO#: ____

TAT: Standard / X Rush (surcharges may apply)
Date Needed: 11/2/00
Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: CYANIDE	CHROMIUM	CADMIUM	LEAD	NICKEL	ZINC	ARSENIC	REMARKS
OUTFALL-1 (10')	11/1/00	07:45	G	N	S						X		X	X	X	X	X	X	X	
OUTFALL-2 (9')	↓	07:55	↓	↓	↓						X		X	X	X	X	X	X	X	
OUTFALL-3 (9')	↓	08:00	↓	↓	↓						X		X	X	X	X	X	X	X	

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: ____

Special Instructions:

Relinquished By: Brian Stanul	Date: 11/1/00	Time: 10:32	Received By: Karl Burdick	Date: 11/1	Time: 1032
Relinquished By: Karl Burdick	Date: 11/1	Time:	Received By: B R Johnson	Date: 11-1	Time: 1250
Relinquished By: B R Johnson	Date: 11-1	Time: 1615	Received By: [illegible]	Date: 11-1	Time: 16:40

LABORATORY COMMENTS:
Init Lab Temp: 22 C
Rec Lab Temp: 3°C temp blank
3°C cultured sample
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment: fed ex ice

102

R001675

MASTER FILE COPY
Scope 97M015 Classification 83
Copy To REM, MASTER FILE

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Job Number: 00.12902

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Proj. #97M015; Modern Plating Corp.

Sample Number	Sample Description		Date Taken	Date Received
607876	LG1A-1	(N102+60,E102+60)	11/17/2000	11/20/2000
607877	LG1A-2	(N102+45,E102+40)	11/17/2000	11/20/2000
607878	LG1A-3	(N102+25,E102+80)	11/17/2000	11/20/2000
607879	LG1A-4	(N102+19,E103+25)	11/17/2000	11/20/2000
607880	LG1A-5	(N102+10,E102+30)	11/17/2000	11/20/2000
607881	LG1A-6	(N101+70,E103+00)	11/17/2000	11/20/2000
607882	LG1A-7	(N101+70,E102+40)	11/17/2000	11/20/2000
607883	LG1A-8	(N101+50,E102+70)	11/17/2000	11/20/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607876

Job No.: 00.12902

Sample Description: LG1A-1 (N102+60,E102+60)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:05

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.5		mg/kg dw	0.30	11/28/2000	plb	SW 9012A
Solids, Total	84.1		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/22/2000	kdw	SW 6010B
Cadmium, ICP	4.4	MS,P	mg/kg dw	0.59	11/22/2000	kdw	SW 6010B
Chromium, ICP	32	MS,P	mg/kg dw	2.4	11/22/2000	kdw	SW 6010B
Lead, ICP	52	MS,P	mg/kg dw	4.8	11/22/2000	kdw	SW 6010B
Nickel, ICP	44	MS	mg/kg dw	3.0	11/22/2000	kdw	SW 6010B
Zinc, ICP	226	MS	mg/kg dw	1.2	11/22/2000	aks	SW 6010B

MS: Matrix Spike recovery was outside of QA limits. The LCS was in control.
P : RPD is outside laboratory control limits

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607877

Job No.: 00.12902

Sample Description: LG1A-2 (N102+45,E102+40)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:10

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.85		mg/kg dw	0.29	11/28/2000	plb	SW 9012A
Solids, Total	85.5		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/22/2000	kdw	SW 6010B
Cadmium, ICP	4.2		mg/kg dw	0.58	11/22/2000	kdw	SW 6010B
Chromium, ICP	20		mg/kg dw	2.3	11/22/2000	kdw	SW 6010B
Lead, ICP	69		mg/kg dw	4.7	11/22/2000	kdw	SW 6010B
Nickel, ICP	16		mg/kg dw	2.9	11/22/2000	kdw	SW 6010B
Zinc, ICP	187		mg/kg dw	1.2	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607878

Job No.: 00.12902

Sample Description: LG1A-3 (N102+25,E102+80)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:15

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.4		mg/kg dw	0.31	11/28/2000	plb	SW 9012A
Solids, Total	79.5		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	11/22/2000	kdw	SW 6010B
Cadmium, ICP	2.5		mg/kg dw	0.63	11/22/2000	kdw	SW 6010B
Chromium, ICP	120		mg/kg dw	2.5	11/22/2000	kdw	SW 6010B
Lead, ICP	84		mg/kg dw	5.0	11/22/2000	kdw	SW 6010B
Nickel, ICP	65		mg/kg dw	3.1	11/22/2000	kdw	SW 6010B
Zinc, ICP	164		mg/kg dw	1.3	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607879

Job No.: 00.12902

Sample Description: LG1A-4 (N102+19,E103+25)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:20

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.61		mg/kg dw	0.26	11/28/2000	plb	SW 9012A
Solids, Total	96.0		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<10		mg/kg dw	10	11/22/2000	kdw	SW 6010B
Cadmium, ICP	1.0		mg/kg dw	0.52	11/22/2000	kdw	SW 6010B
Chromium, ICP	20		mg/kg dw	2.1	11/22/2000	kdw	SW 6010B
Lead, ICP	14		mg/kg dw	4.2	11/22/2000	kdw	SW 6010B
Nickel, ICP	17		mg/kg dw	2.6	11/22/2000	kdw	SW 6010B
Zinc, ICP	58		mg/kg dw	1.0	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607880

Job No.: 00.12902

Sample Description: LG1A-5 (N102+10,E102+30)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:25

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	33		mg/kg dw	0.27	11/28/2000	plb	SW 9012A
Solids, Total	91.8		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<11		mg/kg dw	11	11/22/2000	kdw	SW 6010B
Cadmium, ICP	27		mg/kg dw	0.54	11/22/2000	kdw	SW 6010B
Chromium, ICP	90		mg/kg dw	2.2	11/22/2000	kdw	SW 6010B
Lead, ICP	261		mg/kg dw	4.4	11/22/2000	kdw	SW 6010B
Nickel, ICP	42		mg/kg dw	2.7	11/22/2000	kdw	SW 6010B
Zinc, ICP	414		mg/kg dw	1.1	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607881

Job No.: 00.12902

Sample Description: LG1A-6 (N101+70,E103+00)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:30

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	26		mg/kg dw	0.31	11/28/2000	plb	SW 9012A
Solids, Total	81.9		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/22/2000	kdw	SW 6010B
Cadmium, ICP	85		mg/kg dw	0.61	11/22/2000	kdw	SW 6010B
Chromium, ICP	171		mg/kg dw	2.4	11/22/2000	kdw	SW 6010B
Lead, ICP	37		mg/kg dw	4.9	11/22/2000	kdw	SW 6010B
Nickel, ICP	110		mg/kg dw	3.1	11/22/2000	kdw	SW 6010B
Zinc, ICP	696		mg/kg dw	1.2	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
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2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607882

Job No.: 00.12902

Sample Description: LG1A-7 (N101+70,E102+40)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 15:10

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	88		mg/kg dw	0.33	11/28/2000	plb	SW 9012A
Solids, Total	75.0		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	11/22/2000	kdw	SW 6010B
Cadmium, ICP	253		mg/kg dw	0.67	11/22/2000	kdw	SW 6010B
Chromium, ICP	813		mg/kg dw	2.7	11/22/2000	kdw	SW 6010B
Lead, ICP	240		mg/kg dw	5.3	11/22/2000	kdw	SW 6010B
Nickel, ICP	773		mg/kg dw	3.3	11/22/2000	kdw	SW 6010B
Zinc, ICP	2,400		mg/kg dw	1.3	11/22/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Sample No. : 607883

Job No.: 00.12902

Sample Description: LG1A-8 (N101+50,E102+70)
Proj. #97M015; Modern Plating Corp.

Date Taken: 11/17/2000
Time Taken: 13:35

Date Received: 11/20/2000
Time Received: 13:00

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	93		mg/kg dw	0.31	11/28/2000	plb	SW 9012A
Solids, Total	80.9		%	0.1	11/21/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/22/2000	kdw	SW 6010B
Cadmium, ICP	210		mg/kg dw	0.62	11/22/2000	kdw	SW 6010B
Chromium, ICP	433		mg/kg dw	2.5	11/22/2000	kdw	SW 6010B
Lead, ICP	61		mg/kg dw	4.9	11/22/2000	kdw	SW 6010B
Nickel, ICP	284		mg/kg dw	3.1	11/22/2000	kdw	SW 6010B
Zinc, ICP	1,610		mg/kg dw	1.2	11/22/2000	aks	SW 6010B

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

11/29/2000

Job Number: 00.12902

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: Proj. #97M015; Modern Plating Corp.

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM "American Society for Testing Materials"

EPA "Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.

EPA "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.

SDWA "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.

SDWA "Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.

SM "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.

SW "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica INCORPORATED

Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: Foth & Van Dyke Client #: ____
Address: 2737 S. Ridge Road
City/State/Zip Code: Green Bay, WI 54307
Project Manager: Ron Meister
Telephone Number: (920) 497-2500 Fax: (920)497-8516
Sampler Name: (Print Name) Brian Stanul
Sampler Signature: Brian Stanul

Project Name: Modern Plating Corp.
Project #: 97M015
Site/Location ID: Freeport State: IL
Report To: Ron Meister
Invoice To: Foth & Van Dyke
Quote #: ____ PO#: ____

TAT
__ Standard
X Rush (surcharges may apply)
Date Needed: 11/21/00
Fax Results: (Y) N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: Arsenic, Cadmium, Lead, Nickel, Zinc, Chromium, Cyanide

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other	Arsenic	Cadmium	Lead	Nickel	Zinc	Chromium	Cyanide	REMARKS
LG1A-1 (N102+60, E102+60)	11/17/00	13:05	G	N	S						1		X	X	X	X	X	X	X	
LG1A-2 (N102+45, E102+46)		13:10											X	X	X	X	X	X	X	
LG1A-3 (N102+25, E102+60)		13:15											X	X	X	X	X	X	X	
LG1A-4 (N102+19 E103+25)		13:20											X	X	X	X	X	X	X	
LG1A-5 (N102+10, E162+30)		13:25											X	X	X	X	X	X	X	
LG1A-6 (N101+70, E103+00)		13:30											X	X	X	X	X	X	X	
LG1A-7 (N101+70, E102+40)		15:10											X	X	X	X	X	X	X	
LG1A-8 (N101+50, E102+70)	↓	13:35	↓	↓	↓						↓		X	X	X	X	X	X	X	

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

Special Instructions:
24-HOUR TURN-AROUND TIME

Relinquished By: Brian Stanul	Date: 11/20/00	Time: 09:25	Received By: Paul E. Hoe	Date: 11/20/00	Time: 9:25
Relinquished By: Paul E. Hoe	Date: 11/20/00	Time: 11:15	Received By: B. Johnson	Date: 11-20	Time: 11:20
Relinquished By: B. Johnson	Date: 11-20	Time: 1300	Received By: Mandy	Date: 11-20	Time: 13100

LABORATORY COMMENTS:
Init Lab Temp: N/A
Rec Lab Temp:
Custody Seals: Y (N) N/A
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment:

rcvd on ice

115

R001688

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Job Number: 00.09414

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Camu Landfill Const; Freeport/#97M015

Sample Number	Sample Description	Date Taken	Date Received
595344	WTZ-1 (N104+40,E105+90)	08/25/2000	08/28/2000
595345	WTZ-2 (N104+40,E106+75)	08/25/2000	08/28/2000
595346	WTZ-3 (N104+35,E105+45)	08/25/2000	08/28/2000
595347	WTZ-4 (N104+81,E106+30)	08/25/2000	08/28/2000
595348	WTZ-5 (N104+46,E107+13)	08/25/2000	08/28/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Sample No. : 595344

Job No.: 00.09414

Sample Description: WTZ-1 (N104+40,E105+90)
Camu Landfill Const; Freeport/#97M015

Date Taken: 08/25/2000
Time Taken: 10:00

Date Received: 08/28/2000
Time Received: 12:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	70.9		%	0.1	08/29/2000	kmt	SM 2540
Cadmium, ICP	4.1	S	mg/kg dw	0.71	09/06/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Sample No. : 595345

Job No.: 00.09414

Sample Description: WTZ-2 (N104+40,E106+75)
Camu Landfill Const; Freeport/#97M015

Date Taken: 08/25/2000
Time Taken: 10:05

Date Received: 08/28/2000
Time Received: 12:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	75.5		%	0.1	08/29/2000	kmt	SM 2540
Cadmium, ICP	2.6	S	mg/kg dw	0.66	09/06/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Sample No. : 595346

Job No.: 00.09414

Sample Description: WTZ-3 (N104+35,E105+45)
Camu Landfill Const; Freeport/#97M015

Date Taken: 08/25/2000
Time Taken: 11:00

Date Received: 08/28/2000
Time Received: 12:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	70.9		%	0.1	08/29/2000	kmt	SM 2540
Cadmium, ICP	3.1	S	mg/kg dw	0.71	09/06/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Sample No. : 595347

Job No.: 00.09414

Sample Description: WTZ-4 (N104+81,E106+30)
Camu Landfill Const; Freeport/#97M015

Date Taken: 08/25/2000
Time Taken: 11:05

Date Received: 08/28/2000
Time Received: 12:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	62.1		%	0.1	08/29/2000	kmt	SM 2540
Cadmium, ICP	14	S	mg/kg dw	0.81	09/06/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Rd.
Green Bay, WI 53407

09/08/2000

Sample No. : 595348

Job No.: 00.09414

Sample Description: WTZ-5 (N104+46,E107+13)
Camu Landfill Const; Freeport/#97M015

Date Taken: 08/25/2000
Time Taken: 11:10

Date Received: 08/28/2000
Time Received: 12:40

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	47.9		%	0.1	08/29/2000	kmt	SM 2540
Cadmium, ICP	3,860	S	mg/kg dw	1.0	09/06/2000	out	SW 6010B

S : Parameter analysis was sub-contracted to another TestAmerica location.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: MODERN PLATING CORP. Client #: 97M015
Address: 701 S. HANCOCK, ~~FREEPORT, IL~~
City/State/Zip Code: FREEPORT, IL 62704
Project Manager: RON MEISTER
Telephone Number: (920) 497-2500 Fax: (920) 497-8516
Sampler Name: (Print Name) BRIAN STANUL
Sampler Signature: Brian Stanul

Project Name: CAMU LANDFILL CONSTRUCTION
Project #: 97M015
Site/Location ID: FREEPORT State: IL
Report To: RON MEISTER
Invoice To: FOTH & VAN DYKE
Quote #: ____ PO#: ____

TAT
___ Standard
X Rush (surcharges may apply)
Date Needed: ____
Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: CADMIUM	REMARKS
WT2-1 (N104+40, E105+90)	8/25/00	10:60	G		S						1		X	
WT2-2 (N104+40, E106+75)		10:05									1		X	
WT2-3 (N104+35, E105+45)		11:06									1		X	
WT2-4 (N104+81, E106+30)		11:05									1		X	
WT2-5 (N104+46, E107+13)		11:10									1		X	

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

Special Instructions:

Relinquished By: Brian Stanul	Date: 8/25/00	Time: 10:25	Received By: Paul C. Stone	Date: 8/28/00	Time: 10:26	
Relinquished By: Paul C. Stone	Date: 8/28/00	Time: 10:50	Received By: BR Johnson	Date: 8-28-00	Time: 10 V	
Relinquished By: BR Johnson	Date: 8/28/00	Time: 1240	Received By: [illegible]	Date: 8/28/00	Time: 1240	

LABORATORY COMMENTS:
Init Lab Temp: 23
Rec Lab Temp: Ave Sample Temp 19C
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

94

R001696

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Job Number: 00.13033

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: #97M015; Modern Plating Corp/Freeport IL

Sample Number	Sample Description		Date Taken	Date Received
608350	WT3-6	(N106+10,E108+20)	11/21/2000	11/27/2000
608351	WT3-7	(N106+10,E107+75)	11/21/2000	11/27/2000
608352	WT3-8	(N106+15,E108+75)	11/21/2000	11/27/2000
608353	WT2-6	(N104+10,E105+90)	11/22/2000	11/27/2000
608354	WT2-7	(N104+20,E107+30)	11/22/2000	11/27/2000
608355	WT2-8	(N104+20,E106+60)	11/27/2000	11/27/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Robert E. White

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608350

Job No.: 00.13033

Sample Description: WT3-6 (N106+10,E108+20)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/21/2000
Time Taken: 13:45

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	71.5		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	2.0		mg/kg dw	0.70	11/29/2000	aks	SW 6010B

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TestAmerica INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608351

Job No.: 00.13033

Sample Description: WT3-7 (N106+10,E107+75)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/21/2000
Time Taken: 14:00

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	54.7		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	130		mg/kg dw	0.91	11/29/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608352

Job No.: 00.13033

Sample Description: WT3-8 (N106+15,E108+75)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/21/2000
Time Taken: 14:20

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	67.4		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	28		mg/kg dw	0.74	11/29/2000	aks	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608353

Job No.: 00.13033

Sample Description: WT2-6 (N104+10,E105+90)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/22/2000
Time Taken: 10:25

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	62.5		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	120		mg/kg dw	0.80	12/01/2000	jtt	SW 6010B

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TestAmerica INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608354

Job No.: 00.13033

Sample Description: WT2-7 (N104+20,E107+30)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/22/2000
Time Taken: 10:10

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	71.2		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	59		mg/kg dw	0.70	12/01/2000	jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 608355

Job No.: 00.13033

Sample Description: WT2-8 (N104+20,E106+60)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/27/2000
Time Taken: 10:00

Date Received: 11/27/2000
Time Received: 11:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Solids, Total	70.0		%	0.1	11/29/2000	kmt	SM 2540
Cadmium, ICP	1.3		mg/kg dw	0.71	12/01/2000	jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Job Number: 00.13033

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: #97M015; Modern Plating Corp/Freeport IL

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM "American Society for Testing Materials"

EPA "Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.

EPA "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.

SDWA "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.

SDWA "Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.

SM "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.

SW "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica INCORPORATED

Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: ____

Client Name: FOTH & VAN DYKE Client #: ____
Address: 2737 S. RIDGE RD.
City/State/Zip Code: GREEN BAY, WI 54307
Project Manager: RON MEISTER
Telephone Number: (920) 497-2500 Fax: (920) 497-8516
Sampler Name: (Print Name) BRIAN STANUL
Sampler Signature: Brian Stanul

Project Name: MODERN PLATING CORP.
Project #: 97M015
Site/Location ID: FREEPORT State: IL
Report To: RON MEISTER
Invoice To: FOTH & VAN DYKE
Quote #: ____ PO#: ____

TAT: ___ Standard; X Rush (surcharges may apply)
Date Needed: 11/28/00
Fax Results: (Y) N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: CADMIUM

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	None	CADMIUM	REMARKS
WT3-6 (N106+10, E108+20)	11/21/00	13:45	G	N	S	1	X	
WT3-7 (N106+10, E107+75)	"	14:00	"	"	"	1	X	
WT3-8 (N106+15, E108+75)	↓	14:20	"	"	"	1	X	
WT2-6 (N104+10, E105+90)	11/22/00	10:25	"	"	"	1	X	
WT2-7 (N104+20, E107+30)	↓	10:10	"	"	"	1	X	
WT2-8 (N104+20, E106+60)	11/27/00	10:00	↓	↓	↓	1	X	

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: ____

Special Instructions:

	Date:	Time:		Date:	Time:
Relinquished By: Brian Stanul	11/27/00	10:26	Received By:		
Relinquished By:	11/27	1650	Received By:	11-27-00	1150
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp: 11.2°C of sample
Rec Lab Temp: Temp Blank
Custody Seals: Y N
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment:

MASTER FILE COPY
Scope 97M015 Classification 8351
Copy To KEM Master File

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Job Number: 00.12936

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: #97M015; Modern Plating Corp/Freeport IL

Sample Number	Sample Description	Date Taken	Date Received
607993	LGO-1 (N100+65, E104+35)	11/20/2000	11/21/2000
607994	LGO-2 (N101+20, E104+35)	11/20/2000	11/21/2000
607995	LGO-3 (N101+00, E104+60)	11/20/2000	11/21/2000
607996	LGO-4 (N101+35, E104+20)	11/20/2000	11/21/2000
607997	LGO-5 (N101+10, E104+10)	11/20/2000	11/21/2000
607998	LGO-6 (N100+85, E103+90)	11/20/2000	11/21/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607993

Job No.: 00.12936

Sample Description: LGO-1 (N100+65, E104+35)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 08:30

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	11		mg/kg dw	0.33	11/28/2000	plb	SW 9012A
Solids, Total	75.1		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	11/28/2000	aks	SW 6010B
Cadmium, ICP	0.81		mg/kg dw	0.67	11/28/2000	aks	SW 6010B
Chromium, ICP	320		mg/kg dw	2.7	11/28/2000	aks	SW 6010B
Lead, ICP	17		mg/kg dw	5.3	11/28/2000	aks	SW 6010B
Nickel, ICP	77		mg/kg dw	3.3	11/28/2000	aks	SW 6010B
Zinc, ICP	95		mg/kg dw	1.3	11/28/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607994

Job No.: 00.12936

Sample Description: LGO-2 (N101+20, E104+35)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 11:20

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	11		mg/kg dw	0.36	11/30/2000	plb	SW 9012A
Solids, Total	69.5		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	11/28/2000	aks	SW 6010B
Cadmium, ICP	49		mg/kg dw	0.72	11/28/2000	aks	SW 6010B
Chromium, ICP	68		mg/kg dw	2.9	11/28/2000	aks	SW 6010B
Lead, ICP	23		mg/kg dw	5.8	11/28/2000	aks	SW 6010B
Nickel, ICP	432		mg/kg dw	3.6	11/28/2000	aks	SW 6010B
Zinc, ICP	5,470		mg/kg dw	1.4	11/28/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607995

Job No.: 00.12936

Sample Description: LGO-3 (N101+00, E104+60)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 12:55

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	38		mg/kg dw	0.31	11/30/2000	plb	SW 9012A
Solids, Total	81.4		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	11/28/2000	aks	SW 6010B
Cadmium, ICP	2.0		mg/kg dw	0.61	11/28/2000	aks	SW 6010B
Chromium, ICP	50		mg/kg dw	2.5	11/28/2000	aks	SW 6010B
Lead, ICP	37		mg/kg dw	4.9	11/28/2000	aks	SW 6010B
Nickel, ICP	23		mg/kg dw	3.1	11/28/2000	aks	SW 6010B
Zinc, ICP	172		mg/kg dw	1.2	11/28/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607996

Job No.: 00.12936

Sample Description: LGO-4 (N101+35, E104+20)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 13:00

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	225		mg/kg dw	0.33	11/30/2000	plb	SW 9012A
Solids, Total	75.7		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	11/28/2000	aks	SW 6010B
Cadmium, ICP	44		mg/kg dw	0.66	11/28/2000	aks	SW 6010B
Chromium, ICP	198		mg/kg dw	2.6	11/28/2000	aks	SW 6010B
Lead, ICP	120		mg/kg dw	5.3	11/28/2000	aks	SW 6010B
Nickel, ICP	436		mg/kg dw	3.3	11/28/2000	aks	SW 6010B
Zinc, ICP	2,250		mg/kg dw	1.3	11/28/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607997

Job No.: 00.12936

Sample Description: LGO-5 (N101+10, E104+10)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 13:20

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	1.9		mg/kg dw	0.36	11/30/2000	plb	SW 9012A
Solids, Total	70.2		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	11/28/2000	aks	SW 6010B
Cadmium, ICP	285		mg/kg dw	0.71	11/28/2000	aks	SW 6010B
Chromium, ICP	2,710		mg/kg dw	2.8	11/28/2000	aks	SW 6010B
Lead, ICP	19		mg/kg dw	5.7	11/28/2000	aks	SW 6010B
Nickel, ICP	2,140		mg/kg dw	3.6	11/28/2000	aks	SW 6010B
Zinc, ICP	5,980		mg/kg dw	1.4	11/28/2000	aks	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Sample No. : 607998

Job No.: 00.12936

Sample Description: LGO-6 (N100+85, E103+90)
#97M015; Modern Plating Corp/Freeport IL

Date Taken: 11/20/2000
Time Taken: 13:25

Date Received: 11/21/2000
Time Received: 13:20

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	0.68		mg/kg dw	0.31	11/30/2000	plb	SW 9012A
Solids, Total	79.5		%	0.1	11/22/2000	kmt	SM 2540
Arsenic, ICP	<13		mg/kg dw	13	11/28/2000	aks	SW 6010B
Cadmium, ICP	48		mg/kg dw	0.63	11/28/2000	aks	SW 6010B
Chromium, ICP	31		mg/kg dw	2.5	11/28/2000	aks	SW 6010B
Lead, ICP	11		mg/kg dw	5.0	11/28/2000	aks	SW 6010B
Nickel, ICP	189		mg/kg dw	3.1	11/28/2000	aks	SW 6010B
Zinc, ICP	1,010		mg/kg dw	1.3	11/28/2000	aks	SW 6010B

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/01/2000

Job Number: 00.12936

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: #97M015; Modern Plating Corp/Freeport IL

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

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SDWA "Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.

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SW "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

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TestAmerica INCORPORATED

Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: FOTH & VAN DYKE Client #: _____
Address: 2737 S. RIDGE RD.
City/State/Zip Code: GREEN BAY, WI 54307
Project Manager: RON MEISTER
Telephone Number: (920) 497-2500 Fax: (920) 497-8516
Sampler Name: (Print Name) BRIAN STANUL
Sampler Signature: Brian Stanul

Project Name: MODERN PLATING CORP.
Project #: 97M015
Site/Location ID: FREEPORT State: IL
Report To: RON MEISTER
Invoice To: FOTH & VAN DYKE
Quote #: _____ PO#: _____

TAT: ___ Standard; X Rush (surcharges may apply)
Date Needed: 11/22/00
Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: CYANIDE	ARSENIC	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC	REMARKS
LGO-1 (N100+65, E104+35)	11/20/00	08:30	G	N	S						1		X	X	X	X	X	X	X	
LGO-2 (N101+20, E104+35)		11:20									1		X	X	X	X	X	X	X	
LGO-3 (N101+00, E104+60)		[illegible]									1		X	X	X	X	X	X	X	
LGO-4 (N101+35, E104+20)		[illegible]									1		X	X	X	X	X	X	X	
LGO-5 (N101+10, E104+10)		13:20									1		X	X	X	X	X	X	X	
LGO-6 (N100+85, E103+90)		13:25									1		X	X	X	X	X	X	X	

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: _____

Special Instructions: *24-HOUR TURN-AROUND TIME*

Relinquished By: Brian Stanul	Date: 11/21/00	Time: 08:25	Received By: Paul E. Gore	Date: 11/21/00	Time: 8:07
Relinquished By: Paul E. Gore	Date: 11/21/00	Time: 1100	Received By: [illegible]	Date: 11/21	Time: 05
Relinquished By: [illegible]	Date: 11/21	Time: 1320	Received By: [illegible]	Date: 11/21/00	Time: 13:20

LABORATORY COMMENTS:
Init Lab Temp: N/A
Rec Lab Temp: 6°C Cooler Temp Recorded on Ice
Custody Seals: Y N (N/A)
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment: TA

137

R001718

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Job Number: 00.13477

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: 97M015; Modern Plating Corp.

Sample Number	Sample Description	Date Taken	Date Received
609897	LG1-1 (N102+35,E104+10)	12/06/2000	12/07/2000
609898	LG1-2 (N102+15,E104+30)	12/06/2000	12/07/2000
609899	LG1-3 (N102+35,E104+50)	12/06/2000	12/07/2000
609900	LG1-4 (N102+10,E104+90)	12/06/2000	12/07/2000
609901	LG1-5 (N101+90,E104+95)	12/06/2000	12/07/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

138

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Sample No. : 609897

Job No.: 00.13477

Sample Description: LG1-1 (N102+35,E104+10)
97M015; Modern Plating Corp.

Date Taken: 12/06/2000
Time Taken: 13:15

Date Received: 12/07/2000
Time Received: 13:10

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.30		mg/kg dw	0.30	12/12/2000	plb	SW 9012A
Solids, Total	83.8		%	0.1	12/13/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	12/08/2000	jtt	SW 6010B
Cadmium, ICP	<0.60		mg/kg dw	0.60	12/08/2000	jtt	SW 6010B
Chromium, ICP	19		mg/kg dw	2.4	12/08/2000	jtt	SW 6010B
Lead, ICP	11		mg/kg dw	4.8	12/08/2000	jtt	SW 6010B
Nickel, ICP	11		mg/kg dw	3.0	12/08/2000	jtt	SW 6010B
Zinc, ICP	63		mg/kg dw	1.2	12/08/2000	jtt	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Sample No. : 609898

Job No.: 00.13477

Sample Description: LG1-2 (N102+15,E104+30)
97M015; Modern Plating Corp.

Date Taken: 12/06/2000
Time Taken: 13:30

Date Received: 12/07/2000
Time Received: 13:10

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	147		mg/kg dw	0.34	12/12/2000	plb	SW 9012A
Solids, Total	73.5		%	0.1	12/13/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/08/2000	jtt	SW 6010B
Cadmium, ICP	29		mg/kg dw	0.68	12/08/2000	jtt	SW 6010B
Chromium, ICP	1,350		mg/kg dw	2.7	12/08/2000	jtt	SW 6010B
Lead, ICP	79		mg/kg dw	5.4	12/08/2000	jtt	SW 6010B
Nickel, ICP	503		mg/kg dw	3.4	12/08/2000	jtt	SW 6010B
Zinc, ICP	3,400		mg/kg dw	1.4	12/08/2000	jtt	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Sample No. : 609899

Job No.: 00.13477

Sample Description: LG1-3 (N102+35,E104+50)
97M015; Modern Plating Corp.

Date Taken: 12/06/2000
Time Taken: 13:50

Date Received: 12/07/2000
Time Received: 13:10

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	2.32		mg/kg dw	0.29	12/12/2000	plb	SW 9012A
Solids, Total	86.1		%	0.1	12/12/2000	kmt	SM 2540
Arsenic, ICP	<12		mg/kg dw	12	12/08/2000	jtt	SW 6010B
Cadmium, ICP	5.0		mg/kg dw	0.58	12/08/2000	jtt	SW 6010B
Chromium, ICP	23		mg/kg dw	2.3	12/08/2000	jtt	SW 6010B
Lead, ICP	9.6		mg/kg dw	4.6	12/08/2000	jtt	SW 6010B
Nickel, ICP	14		mg/kg dw	2.9	12/08/2000	jtt	SW 6010B
Zinc, ICP	72		mg/kg dw	1.2	12/08/2000	jtt	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Sample No. : 609900

Job No.: 00.13477

Sample Description: LG1-4 (N102+10,E104+90)
97M015; Modern Plating Corp.

Date Taken: 12/06/2000
Time Taken: 14:05

Date Received: 12/07/2000
Time Received: 13:10

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	4.6		mg/kg dw	0.34	12/12/2000	plb	SW 9012A
Solids, Total	74		%	0.1	12/12/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/08/2000	jtt	SW 6010B
Cadmium, ICP	6.8		mg/kg dw	0.68	12/08/2000	jtt	SW 6010B
Chromium, ICP	53		mg/kg dw	2.7	12/08/2000	jtt	SW 6010B
Lead, ICP	16		mg/kg dw	5.4	12/08/2000	jtt	SW 6010B
Nickel, ICP	41		mg/kg dw	3.4	12/08/2000	jtt	SW 6010B
Zinc, ICP	110		mg/kg dw	1.4	12/08/2000	jtt	SW 6010B

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ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Sample No. : 609901

Job No.: 00.13477

Sample Description: LG1-5 (N101+90,E104+95)
97M015; Modern Plating Corp.

Date Taken: 12/06/2000
Time Taken: 14:10

Date Received: 12/07/2000
Time Received: 13:10

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	15.5		mg/kg dw	0.36	12/12/2000	plb	SW 9012A
Solids, Total	70.3		%	0.1	12/12/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/08/2000	jtt	SW 6010B
Cadmium, ICP	40		mg/kg dw	0.71	12/08/2000	jtt	SW 6010B
Chromium, ICP	100		mg/kg dw	2.8	12/08/2000	jtt	SW 6010B
Lead, ICP	41		mg/kg dw	5.7	12/08/2000	jtt	SW 6010B
Nickel, ICP	31		mg/kg dw	3.6	12/08/2000	jtt	SW 6010B
Zinc, ICP	313		mg/kg dw	1.4	12/08/2000	jtt	SW 6010B

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

12/13/2000

Job Number: 00.13477

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: 97M015; Modern Plating Corp.

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM "American Society for Testing Materials"

EPA "Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.

EPA "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.

SDWA "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.

SDWA "Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.

SM "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.

SW "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

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TestAmerica INCORPORATED

Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Phone: 630-289-3100
Fax: 630-289-5445

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring ____

Client Name: FOTH & VAN DYKE Client #: ____
Address: 2737 S. RIDGE ROAD
City/State/Zip Code: GREEN BAY, WI 54307
Project Manager: RON MEISTER
Telephone Number: (920) 497-2500 Fax: (920) 497-8516
Sampler Name: (Print Name) BRIAN STANUL
Sampler Signature: Brian Stanul

Project Name: MODERN PLATING CORP.
Project #: 97M015
Site/Location ID: FREEPORT State: IL
Report To: RON MEISTER
Invoice To: FOTH & VAN DYKE
Quote #: ____ PO#: ____

TAT
___ Standard
X Rush (surcharges may apply)
Date Needed: 12/8/00
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: CYANIDE	ARSENIC	CADMIUM	CHROMIUM	LEAD	NICKEL	ZINC	REMARKS
LG1-1 (N102+35, E104+10)	12/6/00	13:15	G	N	S						1		X	X	X	X	X	X	X	
LG1-2 (N102+15, E104+30)		13:30									1		X	X	X	X	X	X	X	
LG1-3 (N102+35, E104+50)		13:50									1		X	X	X	X	X	X	X	
LG1-4 (N102+10, E104+90)		14:05									1		X	X	X	X	X	X	X	
LG1-5 (N101+90, E104+95)		14:10									1		X	X	X	X	X	X	X	

Special Instructions:
24-HOUR TURN-AROUND TIME

Relinquished By: Brian Stanul	Date: 12/7/00	Time: 08:30	Received By: Paul E. Dore	Date: 12/7/00	Time: 8:30
Relinquished By: Paul E. Dore	Date: 12/7/00	Time: 11:00	Received By: A Kenny	Date: 12/7	Time: 00
Relinquished By: A Kenny	Date: 12/7	Time: 13:0	Received By: Ann Buchholz	Date: 12/7/00	Time: 13:10

LABORATORY COMMENTS:
Init Lab Temp: 2°
Rec Lab Temp: 5°C Cooled Sample temp recd on ice
Custody Seals: Y N (N/A)
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment: TA

147

R001728

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Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

01/04/2001

Job Number: 00.13750

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: 97M015; Modern Plating

Sample Number	Sample Description	Date Taken	Date Received
610769	LGI-6 (N102+40,E105+00)	12/13/2000	12/15/2000
610770	LGI-7 (N102+20,E105+25)	12/13/2000	12/15/2000
610771	LGI-8 (N102+55,E105+25)	12/13/2000	12/15/2000

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Project Manager

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

01/04/2001

Sample No. : 610769

Job No.: 00.13750

Sample Description: LGI-6 (N102+40,E105+00)
97M015; Modern Plating

Date Taken: 12/13/2000
Time Taken: 13:10

Date Received: 12/15/2000
Time Received: 13:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.35		mg/kg dw	0.35	01/03/2001	plb	SW 9012A
Solids, Total	71.6		%	0.1	12/18/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/18/2000	kdw	SW 6010B
Cadmium, ICP	<0.70		mg/kg dw	0.70	12/18/2000	kdw	SW 6010B
Chromium, ICP	45		mg/kg dw	2.8	12/18/2000	kdw	SW 6010B
Lead, ICP	21		mg/kg dw	5.6	12/18/2000	kdw	SW 6010B
Nickel, ICP	28		mg/kg dw	3.5	12/18/2000	kdw	SW 6010B
Zinc, ICP	140		mg/kg dw	1.4	12/18/2000	kdw	SW 6010B

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INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

01/04/2001

Sample No. : 610770

Job No.: 00.13750

Sample Description: LGI-7 (N102+20,E105+25)
97M015; Modern Plating

Date Taken: 12/13/2000
Time Taken: 12:50

Date Received: 12/15/2000
Time Received: 13:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.36		mg/kg dw	0.36	01/03/2001	plb	SW 9012A
Solids, Total	70.4		%	0.1	12/18/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/19/2000	kdw	SW 6010B
Cadmium, ICP	<0.71		mg/kg dw	0.71	12/19/2000	kdw	SW 6010B
Chromium, ICP	38		mg/kg dw	2.8	12/19/2000	kdw	SW 6010B
Lead, ICP	23		mg/kg dw	5.7	12/19/2000	kdw	SW 6010B
Nickel, ICP	62		mg/kg dw	3.6	12/19/2000	kdw	SW 6010B
Zinc, ICP	142		mg/kg dw	1.4	12/19/2000	kdw	SW 6010B

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

01/04/2001

Sample No. : 610771

Job No.: 00.13750

Sample Description: LGI-8 (N102+55,E105+25)
97M015; Modern Plating

Date Taken: 12/13/2000
Time Taken: 14:30

Date Received: 12/15/2000
Time Received: 13:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cyanide, total	<0.35		mg/kg dw	0.35	01/03/2001	plb	SW 9012A
Solids, Total	70.6		%	0.1	12/18/2000	kmt	SM 2540
Arsenic, ICP	<14		mg/kg dw	14	12/19/2000	kdw	SW 6010B
Cadmium, ICP	1.1		mg/kg dw	0.71	12/19/2000	kdw	SW 6010B
Chromium, ICP	47		mg/kg dw	2.8	12/19/2000	kdw	SW 6010B
Lead, ICP	50		mg/kg dw	5.7	12/19/2000	kdw	SW 6010B
Nickel, ICP	28		mg/kg dw	3.5	12/19/2000	kdw	SW 6010B
Zinc, ICP	227		mg/kg dw	1.4	12/19/2000	kdw	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

Mr. Ron Meister
FOTH & VAN DYKE
2737 S. Ridge Road
P.O. Box 19012
Green Bay, WI 54307

01/04/2001

Job Number: 00.13750

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130

Project Description: 97M015; Modern Plating

CASE NARRATIVE

No analytical exceptions were noted outside of routine method protocols.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM	"American Society for Testing Materials"
EPA	"Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.
EPA	"Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.
SDWA	"Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.
SDWA	"Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.
SM	"Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.
SW	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

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ATTACHMENT: CHAIN OF CUSTODY

Following are the chain of custody documents associated with the samples pertaining to this report.

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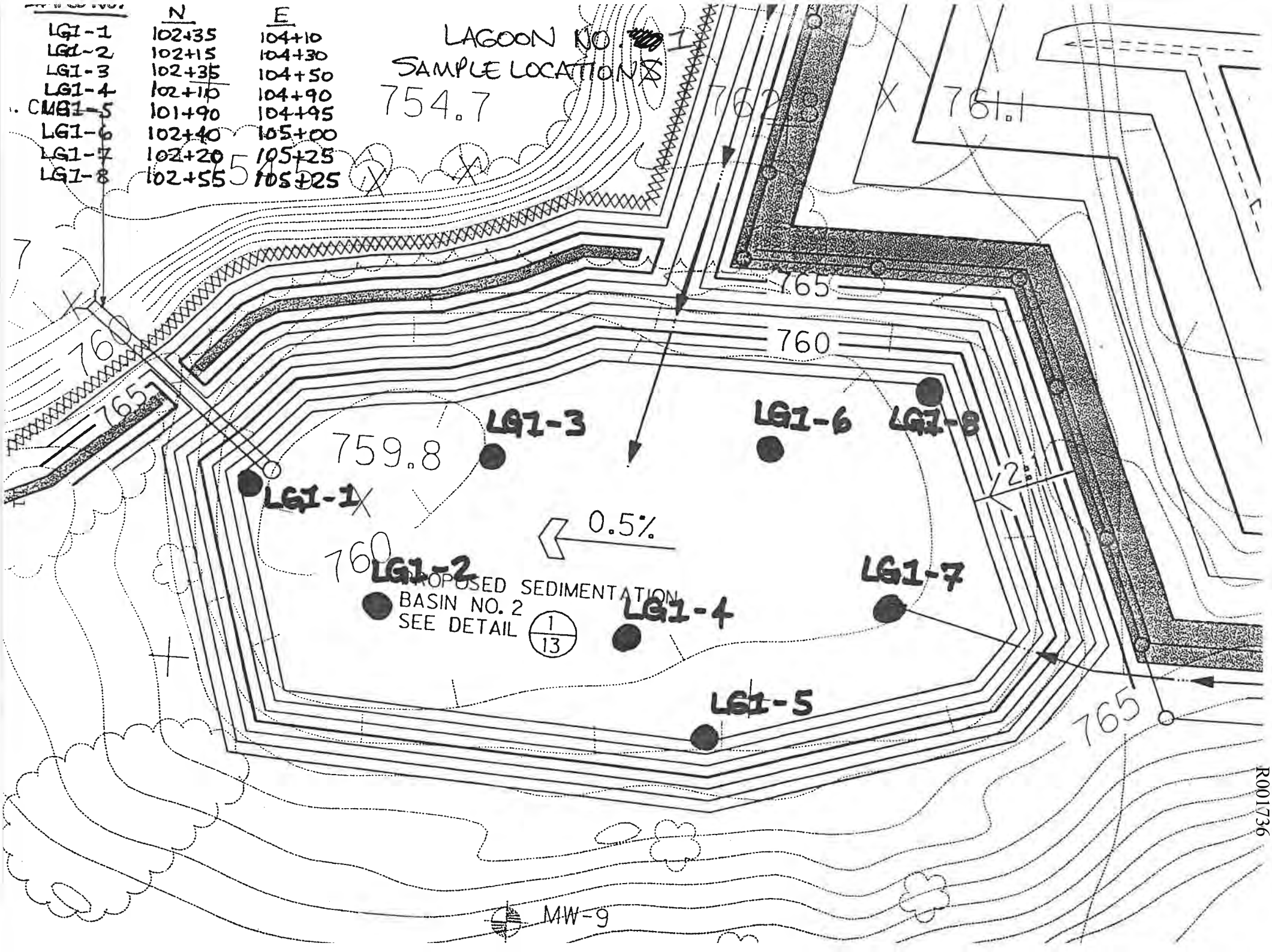
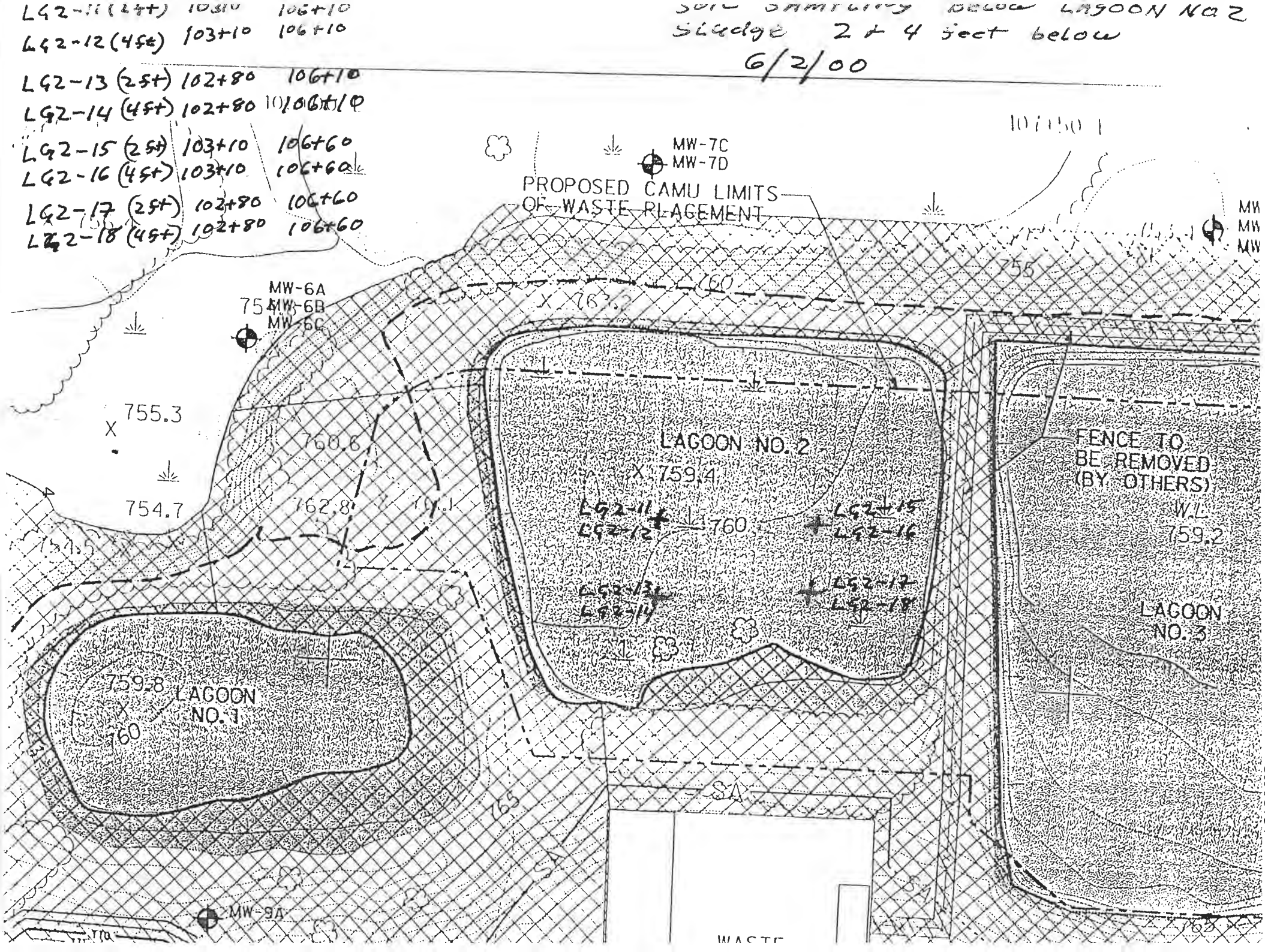

LAGOON NO. 1
SAMPLE LOCATIONS
N
E
LG1-1 102+35 104+10
LG1-2 102+15 104+30
LG1-3 102+35 104+50
LG1-4 102+10 104+90
LG1-5 101+90 104+95
LG1-6 102+40 105+00
LG1-7 102+20 105+25
LG1-8 102+55 105+25
754.7
762.3
761.1
765
760
759.8
LG1-3
LG1-6
LG1-8
LG1-1
2:1
0.5%
LG1-2
PROPOSED SEDIMENTATION BASIN NO. 2
SEE DETAIL 1/13
LG1-4
LG1-7
LG1-5
MW-9

R001736

LG2-11 (2ft) 103+10 106+10
LG2-12 (4ft) 103+10 106+10
LG2-13 (2ft) 102+80 106+10
LG2-14 (4ft) 102+80 106+10
LG2-15 (2ft) 103+10 106+60
LG2-16 (4ft) 103+10 106+60
LG2-17 (2ft) 102+80 106+60
LG2-18 (4ft) 102+80 106+60

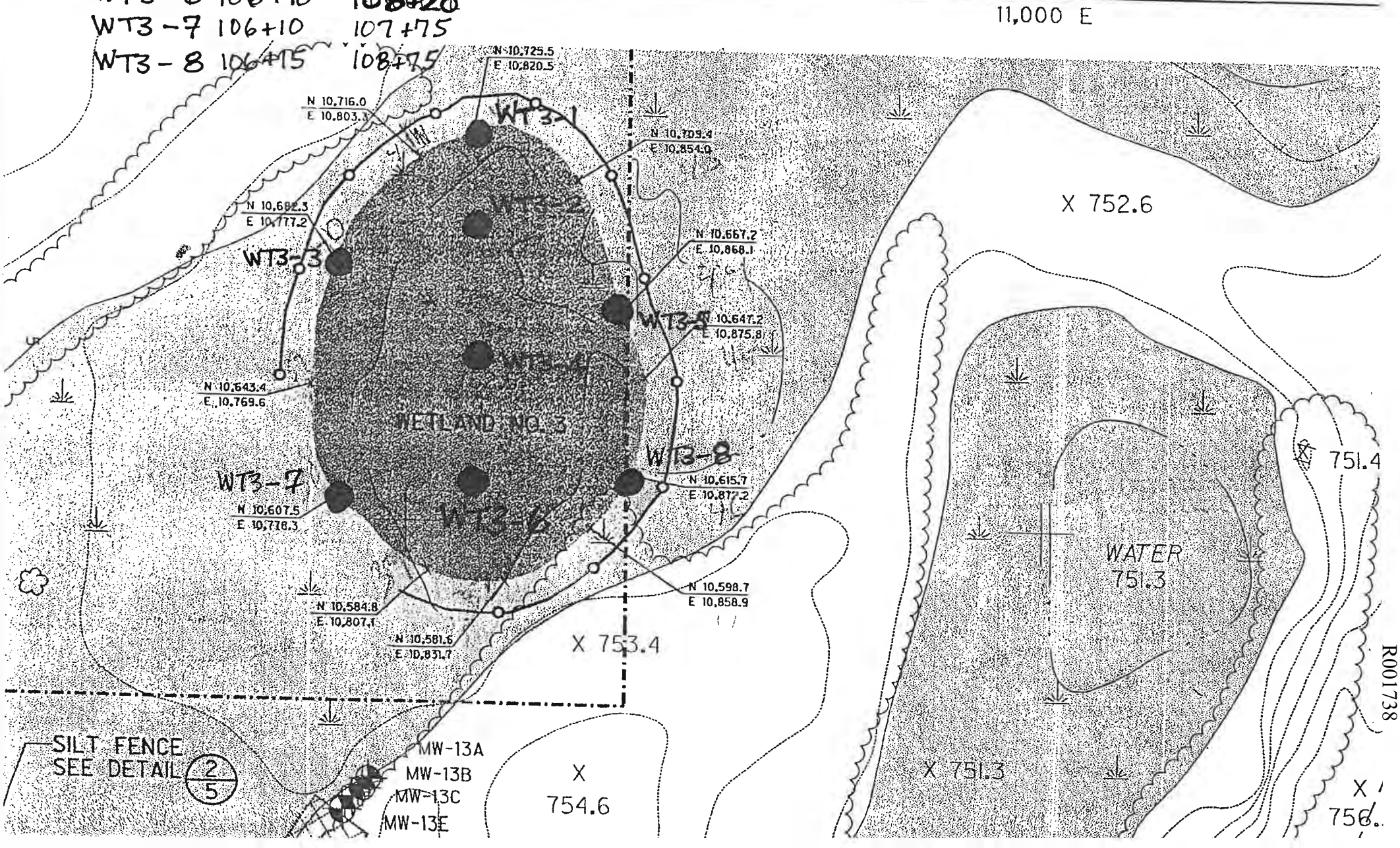
Soil sampling below Lagoon No 2
Sludge 2 & 4 feet below
6/2/00



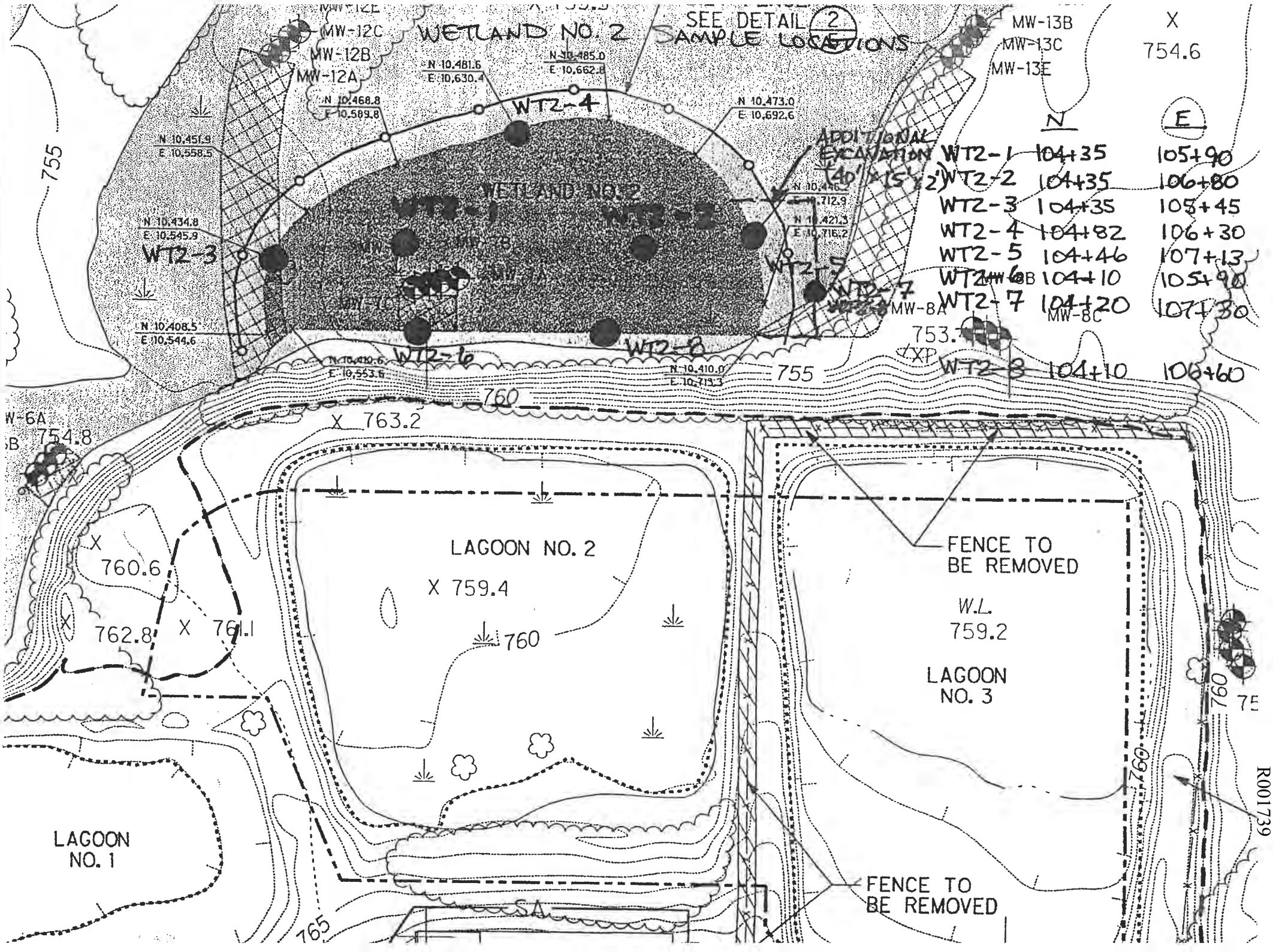
R001737

WT3-1	[illegible]+25	[illegible]108+20
WT3-2	107+00	108+20
WT3-3	106+82	107+77
WT3-4	106+50	108+25
WT3-5	106+67	108+68
WT3-6	106+10	108+20
WT3-7	106+10	107+75
WT3-8	106+15	108+75

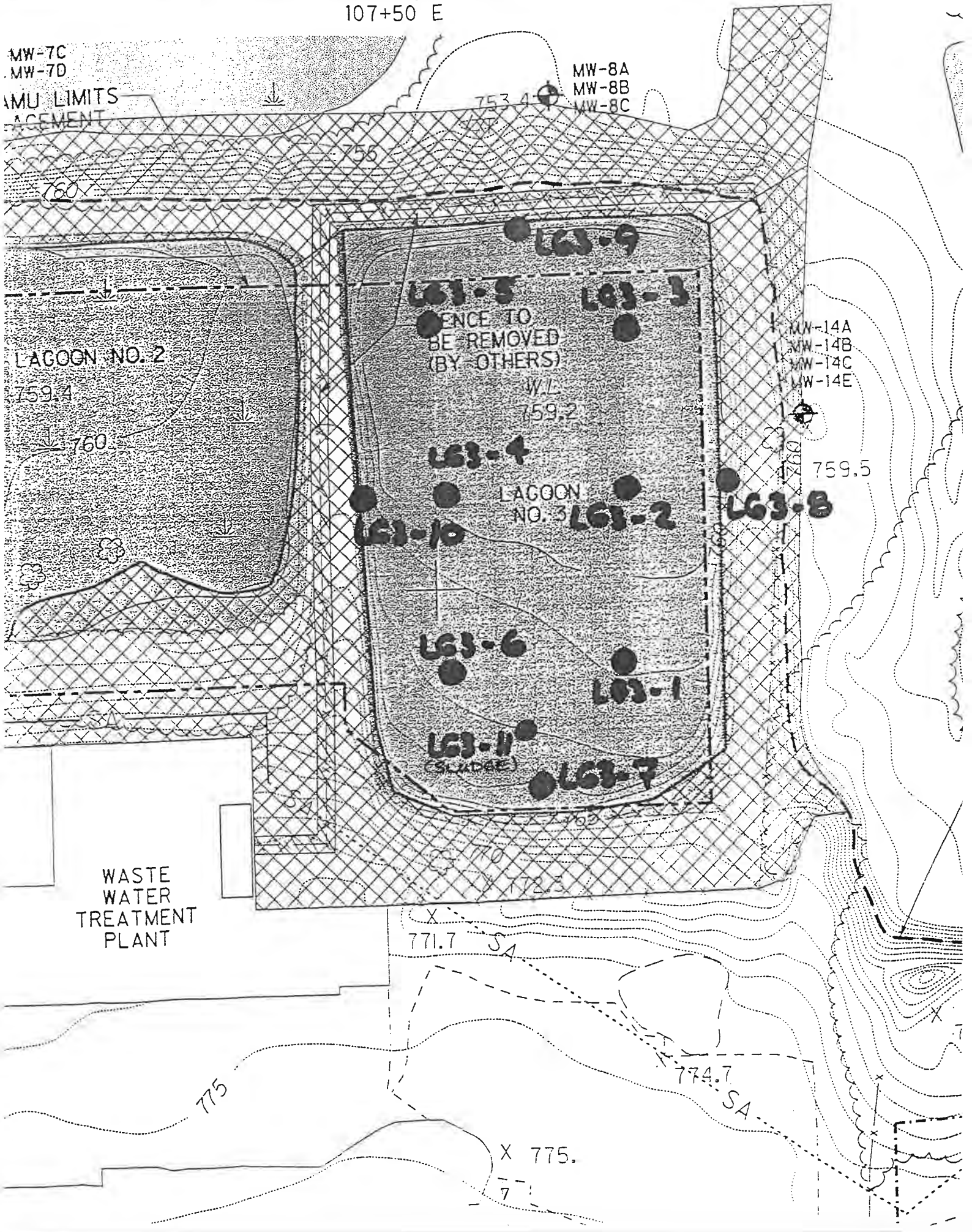
WETLAND NO. 3 SAMPLE LOCATIONS

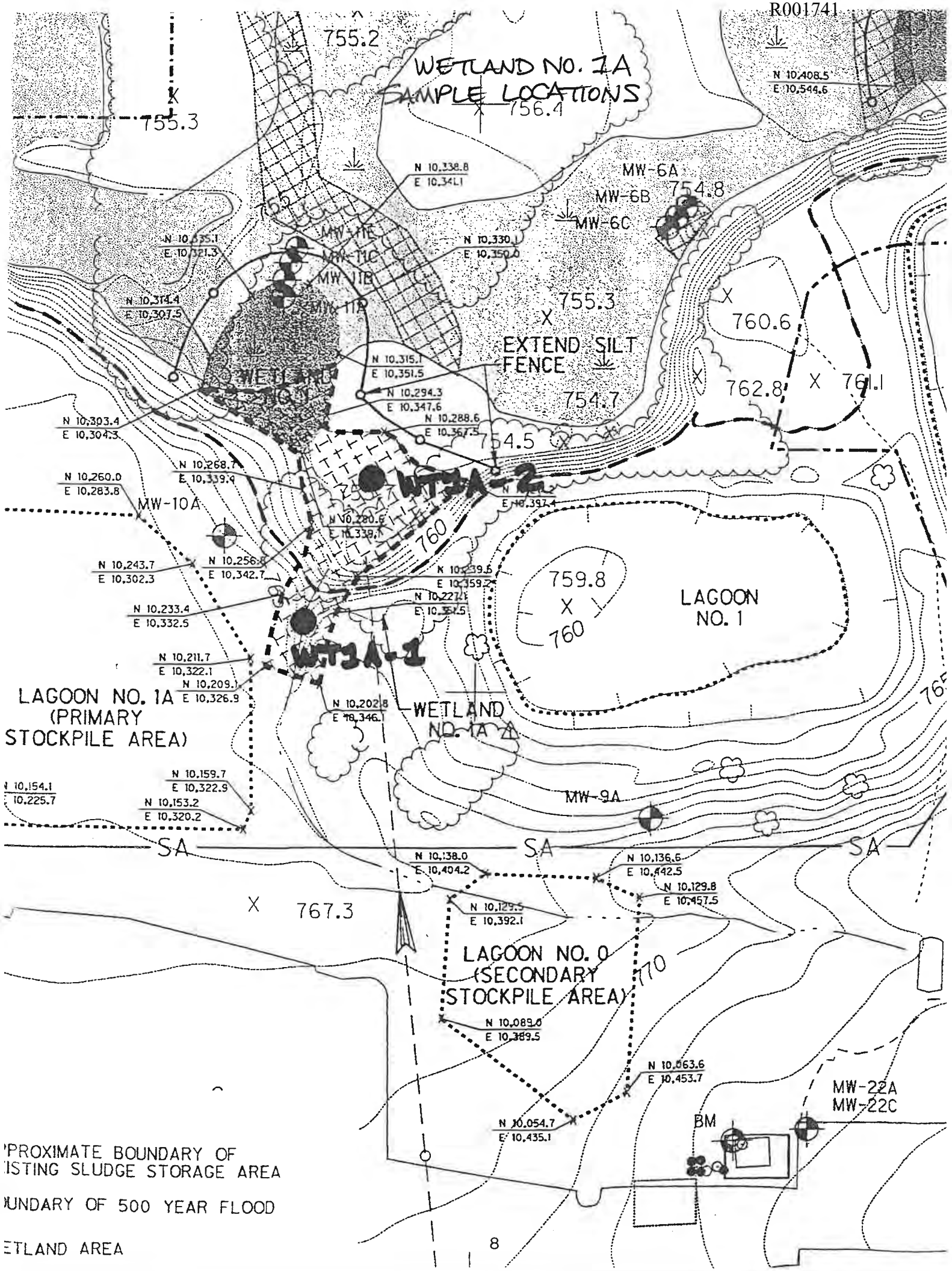


R001738


WETLAND NO. 2
SEE DETAIL 2
SAMPLE LOCATIONS
MW-12C
MW-12B
MW-12A
MW-13B
MW-13C
MW-13E
WT2-4
WT2-1
WT2-2
WT2-3
WT2-5
WT2-6
WT2-7
WT2-8
MW-8A
MW-8C
N 10,481.6
E 10,630.4
N 10,485.0
E 10,662.8
N 10,468.8
E 10,589.8
N 10,473.0
E 10,692.6
N 10,451.9
E 10,558.5
N 10,434.8
E 10,545.9
N 10,408.5
E 10,544.6
N 10,410.6
E 10,553.6
N 10,410.0
E 10,713.3
N 10,446
E 10,712.9
N 10,421.3
E 10,716.2
ADDITIONAL EXCAVATION (40' x 15' x 2')
N
E
WT2-1 104+35 105+90
WT2-2 104+35 106+80
WT2-3 104+35 105+45
WT2-4 104+82 106+30
WT2-5 104+46 107+13
WT2-6 104+10 105+90
WT2-7 104+20 107+30
WT2-8 104+10 106+60
754.6
753.7 (XP)
755
760
763.2
754.8
760.6
762.8
761.1
759.4
759.2
LAGOON NO. 1
LAGOON NO. 2
LAGOON NO. 3
FENCE TO BE REMOVED
FENCE TO BE REMOVED
W.L.
765
R001739

LAGOON NO. 3 SAMPLE LOCATIONS




WETLAND NO. 1A
SAMPLE LOCATIONS
755.2
755.3
756.4
N 10,408.5
E 10,544.6
N 10,338.8
E 10,341.1
MW-6A
MW-6B
MW-6C
754.8
MW-11E
MW-11C
MW-11B
MW-11A
N 10,330.1
E 10,350.0
N 10,314.4
E 10,307.5
755.3
760.6
EXTEND SILT FENCE
754.7
762.8
761.1
N 10,315.1
E 10,351.5
N 10,294.3
E 10,347.6
N 10,288.6
E 10,367.5
754.5
N 10,303.4
E 10,304.3
N 10,268.7
E 10,339.9
N 10,260.0
E 10,283.8
MW-10A
WT3A-2
N 10,280.6
E 10,339.1
760
759.8
LAGOON NO. 1
N 10,243.7
E 10,302.3
N 10,256.8
E 10,342.7
N 10,233.4
E 10,332.5
WT3A-1
N 10,211.7
E 10,322.1
N 10,209.1
E 10,326.9
LAGOON NO. 1A
(PRIMARY
STOCKPILE AREA)
N 10,202.8
E 10,346.1
WETLAND
NO. 1A
MW-9A
N 10,159.7
E 10,322.9
N 10,153.2
E 10,320.2
SA
SA
SA
N 10,138.0
E 10,404.2
N 10,136.6
E 10,442.5
N 10,129.8
E 10,457.5
767.3
N 10,129.5
E 10,392.1
LAGOON NO. 0
(SECONDARY
STOCKPILE AREA)
770
N 10,089.0
E 10,389.5
N 10,063.6
E 10,453.7
MW-22A
MW-22C
BM
N 10,054.7
E 10,435.1
PROXIMATE BOUNDARY OF
ISTING SLUDGE STORAGE AREA
UNDARY OF 500 YEAR FLOOD
ETLAND AREA

Product Grade: TG600

Lot Number: 69

Color: BLACK

Roll Dimensions: 15ft 4in x 1860ft

Evergreen Technologies Inc.

QA/QC Laboratory

Evergreen, Alabama

Nonwoven Test Rolls Lot Summary

Reviewed By:

QA: DMW

Engineer: _____

Roll No.	Test Date	Weight ASTM D5261 (oz/yd2)	Grab Tensile/Elongation ASTM D4632 M.D. Tens. (lbs)	M.D. Elong (%)	C.D. Tens. (lbs)	C.D. Elong (%)	M. Burst ASTM D3786 (psi)	Puncture Resistance ASTM D4833 (lbs)	Trap.Tear ASTM D4533 MD (lbs)	Trap.Tear ASTM D4533 CD (lbs)	Thickness ASTM D5199 (mils)	Hydraulic Tests ASTM D4491 Permit. (sec-1)	Hydraulic Tests ASTM D4491 Perm.(Kv) (cm/sec)	Water Flow (gpm/ft2)	A.O.S. ASTM D4751 (mm)
11581	06/02/2000	6.6	227.3	141.5	227.2	55.6	396.6	89.7	119.9	100.6	89	2.65	0.602	202.5	0.193
11584	06/02/2000	6.5	228.1	171.0	231.2	64.8	436.5	92.5	108.2	95.1	90				
11586	06/02/2000	6.5													
11587	06/02/2000	6.7	223.6	159.0	234.5	66.3	411.9	100.5	94.2	88.9	86				
11591	06/02/2000	6.3	219.0	160.5	232.6	61.5	394.1	92.3	96.5	85.4	81				
11594	06/02/2000	6.7	230.2	174.7	239.0	63.4	409.5	96.9	83.2	86.6	83				
11597	06/02/2000	6.6	220.3	192.0	212.2	68.4	426.5	95.8	120.9	135.6	85	2.62	0.655	202.3	0.192
11600	06/02/2000	6.6	218.7	149.5	219.6	57.3	415.6	92.1	101.3	107.1	91	2.78	0.688	208.2	0.201
11603	06/02/2000	6.7	216.0	141.2	226.6	57.8	412.7	99.5	126.6	128.2	92				
11604	06/02/2000	6.4													
11606	06/02/2000	6.6	198.9	132.4	232.3	57.9	403.8	96.6	93.8	103.1	93				
11609	06/03/2000	6.5	211.9	135.8	217.6	54.8	403.8	97.5	98.2	101.0	93				
11612	06/03/2000	6.4	223.4	142.4	246.6	60.4	498.1								
11613	06/03/2000	6.4													
11614	06/03/2000	6.2										2.93	0.713	219.1	0.194
11615	06/03/2000	6.5	207.8	131.8	209.8	55.1	453.0	95.7	94.5	91.2	94				
11616	06/03/2000	6.7	232.9	143.3	219.6	62.3	401.6	98.7	96.4	87.1	88	2.73	0.622	204.5	0.200
11619	06/03/2000	6.5	217.6	162.2	242.4	65.6	494.5	95.7	120.1	101.0	94				
11620	06/03/2000	6.7													
11622	06/03/2000	6.6	221.8	182.2	235.4	59.9	462.7	99.5	92.5	107.3	92				
11625	06/04/2000	6.7	219.7	143.8	231.0	56.2	477.8	92.5	125.0	104.7	91				
11628	06/04/2000	6.5	206.9	134.4	217.7	56.8	475.0	93.9	106.3	116.8	93				
11631	06/04/2000	6.6	212.5	140.1	223.4	59.1	447.5	97.8	84.7	95.0	86	3.07	0.740	229.7	0.188
11634	06/04/2000	6.4	209.3	143.3	231.1	56.1	472.5	96.7	74.7	80.8	83				
11637	06/04/2000	6.5	225.0	150.9	211.7	60.3	454.5	94.0	88.2	82.6	85				
11641	06/04/2000	6.8	214.9	157.6	254.9	68.8	497.6	103.8	124.0	118.5	99	2.65	0.660	198.0	0.212
11644	06/05/2000	6.7	230.8	168.8	232.9	62.3	471.7								
11646	06/05/2000	6.4	226.2	140.3	215.2	57.3	468.4	95.1	128.7	116.5	94				
11649	06/05/2000	6.5	205.5	137.3	225.9	60.8	464.2								
11651	06/05/2000	6.6	218.7	139.1	224.5	54.7	475.8	104.0	102.8	99.2	88				
	Average =	6.5	218.7	151.0	227.8	60.1	445.0	96.4	103.7	101.5	92	2.40	0.538	179.4	0.210
	Standard Deviation =	.1	8.7	16.4	11.2	4.2	34.6	3.7	15.8	14.7	89.7	2.73	0.652	205.5	0.199
											4.5	.20	0.065	14.8	0.009

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier		Trailer No.	Date	Shipment No.	Bill of Lading No.
L&L TRUCKING	LLTR	1812	06/09/2000	4677	4669

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possesion of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From:		To:	
Shipper (Origin)	EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN, AL 36401	Cosignee	MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: **0001858-00** Customer Purchase Order: **0** Job Number:

TES/TET#: **TMP#:** **Freight Terms:** PP[

Order Comments TES-2427 / TMP #
PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTAC BENJAMIN AT 915-530-3055.

Bill of Lading Comments

No. Pkgs		Kind of Package, Description of Articles, Special Marks and Exceptions	Weight
1	DC4200AA168155	DC4200/ 6oz/6oz 14x155 2,170ft2	645
21	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	19,656
1	NS1300168280	NS1300 14x280 3,920ft2	756
4	NS1300168300	NS1300 14x300 4,200ft2	3,240
27	**Total Pkgs**	**Total Weight**	24,297 lb

Cosignee Signature **Delivery Date**

REMIT C.O.D. TO:

C.O.D. Amt$

C.O.D Fee: ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

_____ (Signature of Cosignor)

Freight charges are PREPAID unless marked collect. **Check box if charges are Collect.** ☐

This is to certify that the above named materials are properly classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.
200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401
Permanent post office address of shipper

Shipper, Per Russell Cohorn Agent, Per Rosa Bustra

Evergreen Technologies, Inc.
Packing List

9-Jun-00 14:19:26

Customer MID010
Ship To:

MIDESSA INDUSTRIAL VINYL CO
MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Order Number 0001858-00 PO Number: 0
Shipment Number: 4677

Line	Roll Number	Lot Number	Product Code
1	0300883	03019	NS1300168300
2	0300884	03019	NS1300168300
3	0300885	03019	NS1300168300
4	0300886	03019	NS1300168300
5	0403316	04022	DC4200AA168225
6	0403324	04022	DC4200AA168225
7	0403325	04022	DC4200AA168225
8	0403326	04022	DC4200AA168225
9	0403327	04022	DC4200AA168225
10	0403332	04022	DC4200AA168225
11	0403338	04022	DC4200AA168155
12	0403339	04022	DC4200AA168225
13	0403344	04022	DC4200AA168225
14	0403345	04022	DC4200AA168225
15	0403346	04022	DC4200AA168225
16	0403347	04022	DC4200AA168225
17	0403348	04022	DC4200AA168225
18	0403349	04022	DC4200AA168225
19	0403350	04022	DC4200AA168225
20	0403351	04022	DC4200AA168225
21	0403358	04022	DC4200AA168225
22	0403359	04022	DC4200AA168225
23	0403362	04022	DC4200AA168225
24	0403365	04022	DC4200AA168225
25	0403366	04022	DC4200AA168225
26	0403367	04022	DC4200AA168225
27	9305424	93161	NS1300168280

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier	SAS	Trailer No.	Date	Shipment No.	Bill of Lading No
SASSY TRUCKING		130	06/09/2000	4678	4668

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possesion of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From:	To:
Shipper (Origin): EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN; AL 36401	Cosignee: MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: 0001858-00 Customer Purchase Order: 0 Job Number:

TES/TET#: TMP#: Freight Terms: PP

Order Comments: TES-2427 / TMP #
PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTA
BENJAMIN AT 915-530-3055.

Bill of Lading Comments:

No. Pkgs	Kind of Package, Description of Articles, Special Marks and Exceptions		Weight
1	DC4200AA168200	DC4200/ 6oz/6oz 14x200 2,800ft2	832
1	DC4200AA168205	DC4200/6oz/6oz 14x205 2,870ft2	853
25	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	23,400
27	Total Pkgs		Total Weight 25,085

Cosignee Signature | Delivery Date

REMIT C.O.D. TO: | C.O.D. Amt$ | C.O.D Fee: ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

(Signature of Cosignor)

Freight charges are PREPAID unless marked collect. Check box if charges are Collect. ☐

This is to certify that the above named materials are property classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.
200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401
Permanent post office address of shipper

Shipper, Per Russell Cotton

Agent, Per J Gilbert

Evergreen Technologies, Inc.

Packing List

9-Jun-00 13:57:26

Order Number 0001858-00 PO Number: 0

Shipment Number: 4678

Customer MID010

Ship To: MIDESSA INDUSTRIAL VINYL CO
MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Line	Roll Number	Lot Number	Product Code
1	0403323	04022	DC4200AA168225
2	0403328	04022	DC4200AA168200
3	0403329	04022	DC4200AA168225
4	0403330	04022	DC4200AA168225
5	0403331	04022	DC4200AA168225
6	0403333	04022	DC4200AA168225
7	0403334	04022	DC4200AA168225
8	0403335	04022	DC4200AA168225
9	0403336	04022	DC4200AA168225
10	0403337	04022	DC4200AA168225
11	0403340	04022	DC4200AA168225
12	0403341	04022	DC4200AA168225
13	0403342	04022	DC4200AA168225
14	0403343	04022	DC4200AA168225
15	0403352	04022	DC4200AA168225
16	0403353	04022	DC4200AA168205
17	0403354	04022	DC4200AA168225
18	0403355	04022	DC4200AA168225
19	0403356	04022	DC4200AA168225
20	0403357	04022	DC4200AA168225
21	0403361	04022	DC4200AA168225
22	0403363	04022	DC4200AA168225
23	0403364	04022	DC4200AA168225
24	0403368	04022	DC4200AA168225
25	0403369	04022	DC4200AA168225
26	0403370	04022	DC4200AA168225
27	0403371	04022	DC4200AA168225

BILL OF LADING--SHORT FORM--NOT NEGOTIABLE

Carrier	Trailer No.	Date	Shipment No.	Bill of Lading No
BOYD BOYD BROTHERS TRANSPORTATION	48930	06/12/2000	4686	4677

RECIEVED, subject to the classifications and lawfully allowed tarrifs in effect on the date of issue of this Bill of Lading.

The property described below in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as any person or corporation in possesion of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutally is agreed as to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

From:	To:
Shipper (Origin) EVERGREEN TECHNOLOGIES, INC. 200 MILLER SELLERS DRIVE EVERGREEN, AL 36401	Cosignee MIDESSA INDUSTRIAL VINYL CO MODERN PLATING CORP 701 S HANCOCK FREEPORT, IL 61032

ETI Order Number: 0001858-00 Customer Purchase Order: 0 Job Number:

TES/TET#: TMP#: Freight Terms: PP

Order Comments TES-2427 / TMP #
PLEASE FAX THEN MAIL CERTS TO BENJAMIN VELASQUEZ AT FAX # 915-381-2082. IF DELIVERY PROBLEMS, PLEASE CONTA
BENJAMIN AT 915-530-3055.

Bill of Lading Comments

No. Pkgs	Kind of Package, Description of Articles, Special Marks and Exceptions		Weight
1	DC4200AA168220	DC4200/ 6oz/6oz 14x220 3,080ft2	915
4	DC4200AA168225	DC4200 6oz/6oz 14x225 3,150ft2	3,744
5	Total Pkgs	Total Weight	4,659

Cosignee Signature

Delivery Date

REMIT C.O.D. TO:

C.O.D. Amt$

C.O.D Fee: ☐ Prepaid ☐ Collect $

Subject to Section 7 of conditions, if this shipment is to be delivered to the cosignee without recourse on the cosignor, the cosignor shall sign the following statement:

The carrier shall not make delivery of the shipment without payment of freight and all other lawful charges.

(Signature of Cosignor)

Freight charges are PREPAID unless marked collect.

Check box if charges are Collect. ☐

This is to certify that the above named materials are property classified, described, packaged, marked and labled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

EVERGREEN TECHNOLOGIES, INC.
200 MILLER SELLERS DRIVE - EVERGREEN, AL 36401 Shipper, Per Agent, Per

Permanent post office address of shipper

R001748

Evergreen Technologies, Inc.
Packing List

12-Jun-00 *13:21:08*

Order Number 0001858-00 *PO Number:* 0
Shipment Number: 4686

Customer MID010

Ship To: MIDESSA INDUSTRIAL VINYL CO
MODERN PLATING CORP
701 S HANCOCK
FREEPORT, IL 61032

Line	Roll Number	Lot Number	Product Code
1	0403245	04022	DC4200AA168225
2	0403283	04022	DC4200AA168225
3	0403360	04022	DC4200AA168225
4	0403373	04022	DC4200AA168220
5	0403374	04022	DC4200AA168225

Product Grade: TG600
Lot Number: 69
Color: BLACK
Roll Dimensions: 15ft 4in x 1860ft

Evergreen Technologies Inc.
QA/QC Laboratory
Evergreen, Alabama

Reviewed By:
QA: DMN
Engineer:

Nonwoven Test
Rolls
Lot Summary

Roll No.	Test Date	Weight ASTM D5261 (oz/yd2)	Grab Tensile/Elongation ASTM D4632 M.D. Tens. (lbs)	M.D. Elong (%)	C.D. Tens. (lbs)	C.D. Elong (%)	M. Burst ASTM D3786 (psi)	Puncture Resistance ASTM D4833 (lbs)	Trap.Tear ASTM D4533 MD (lbs)	Trap.Tear ASTM D4533 CD (lbs)	Thickness ASTM D5199 (mils)	Hydraulic Tests ASTM D4491 Permit. (sec-1)	Hydraulic Tests ASTM D4491 Perm.(Kv) (cm/sec)	Water Flow (gpm/ft2)	A.O.S. ASTM D4751 (mm)
11581	06/02/2000	6.6	227.3	141.5	227.2	55.6	396.6	89.7	119.9	100.6	89	2.65	0.602	202.5	0.193
11584	06/02/2000	6.5	228.1	171.0	231.2	64.8	436.5	92.5	108.2	95.1	90				
11586	06/02/2000	6.5													
11587	06/02/2000	6.7	223.6	159.0	234.5	66.3	411.9	100.5	94.2	88.9	86				
11591	06/02/2000	6.3	219.0	160.5	232.6	61.5	394.1	92.3	96.5	85.4	81				
11594	06/02/2000	6.7	230.2	174.7	239.0	63.4	409.5	96.9	83.2	86.6	83	2.62	0.655	202.3	0.192
11597	06/02/2000	6.6	220.3	192.0	212.2	68.4	426.5	95.8	120.9	135.6	85	2.78	0.688	208.2	0.201
11600	06/02/2000	6.6	218.7	149.5	219.6	57.3	415.6	92.1	101.3	107.1	91				
11603	06/02/2000	6.7	216.0	141.2	226.6	57.8	412.7	99.5	126.6	128.2	92				
11604	06/02/2000	6.4													
11606	06/02/2000	6.6	198.9	132.4	232.3	57.9	403.8	96.6	93.8	103.1	93				
11609	06/03/2000	6.5	211.9	135.8	217.6	54.8	403.8	97.5	98.2	101.0	93				
11612	06/03/2000	6.4	223.4	142.4	246.6	60.4	498.1								
11613	06/03/2000	6.4													
11614	06/03/2000	6.2										2.93	0.713	219.1	0.194
11615	06/03/2000	6.5	207.8	131.8	209.8	55.1	453.0	95.7	94.5	91.2	94				
11616	06/03/2000	6.7	232.9	143.3	219.6	62.3	401.6	98.7	96.4	87.1	88	2.73	0.622	204.5	0.200
11619	06/03/2000	6.5	217.6	162.2	242.4	65.6	494.5	95.7	120.1	101.0	94				
11620	06/03/2000	6.7													
11622	06/03/2000	6.6	221.8	182.2	235.4	59.9	462.7	99.5	92.5	107.3	92				
11625	06/04/2000	6.7	219.7	143.8	231.0	56.2	477.8	92.5	125.0	104.7	91				
11628	06/04/2000	6.5	206.9	134.4	217.7	56.8	475.0	93.9	106.3	116.8	93	3.07	0.740	229.7	0.188
11631	06/04/2000	6.6	212.5	140.1	223.4	59.1	447.5	97.8	84.7	95.0	86				
11634	06/04/2000	6.4	209.3	143.3	231.1	56.1	472.5	96.7	74.7	80.8	83				
11637	06/04/2000	6.5	225.0	150.9	211.7	60.3	454.5	94.0	88.2	82.6	85				
11641	06/04/2000	6.8	214.9	157.6	254.9	68.8	497.6	103.8	124.0	118.5	99	2.65	0.660	198.0	0.212
11644	06/05/2000	6.7	230.8	168.8	232.9	62.3	471.7								
11646	06/05/2000	6.4	226.2	140.3	215.2	57.3	468.4	95.1	128.7	116.5	94				
11649	06/05/2000	6.5	205.5	137.3	225.9	60.8	464.2				88				
11651	06/05/2000	6.6	218.7	139.1	224.5	54.7	475.8	104.0	102.8	99.2	92	2.40	0.538	179.4	0.210
Average =		6.5	218.7	151.0	227.8	60.1	445.0	96.4	103.7	101.5	89.7	2.73	0.652	205.5	0.199
Standard Deviation =		.1	8.7	16.4	11.2	4.2	34.6	3.7	15.8	14.7	4.5	.20	0.065	14.8	0.009

Report Date: 06/12/2000 Time: 14:22:29
Product Type: NS1400 BLACK
Lot Number: 93161
Dimension: 14 ft 0 in X 1150 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
9305424	09/22/1999	45.1	20.0	0.1524	205.70	4.96	12.800	0.9500
Average =		45.1	20.0	0.1524	205.70	4.96	12.800	0.950
Standard Deviation =		.0	.0	0.0000	.00		.000	0.000

Time: 13:57:21

Product Type: NS1300 BLACK

Lot Number: 3019

Dimension: 14 ft 0 in X 300 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
300879	04/19/2000	57.1	21.7	0.1812	238.90	2.60	15.920	0.9520
300883	04/19/2000			0.1672				
300887	04/19/2000	57.7	13.7	0.1598	213.00	2.60		
300898	04/19/2000	52.5	16.0	0.1684	209.80	2.60		0.9540
300909	04/20/2000	52.5	18.3	0.1590	209.10	2.60		0.9530
300920	04/20/2000	61.7	16.6	0.1556	203.90	2.42	16.340	0.9540
300930	05/18/2000			0.1533				0.9550
300931	04/20/2000	54.2	16.0	0.1554	205.60	2.30		
300941	04/20/2000	61.1	17.7	0.1815	229.60	2.40		0.9550
Average =		56.7	17.1	0.1646	215.70	2.50	16.130	0.9550
Standard Deviation =		3.8	2.5	0.0108	13.28		.297	0.954
								0.001

Report Date: 06/12/2000 Time: 12:40:02
Product Type: NS1400 BLACK
Lot Number: 3031
Dimension: 14 ft 0 in X 115 ft

Evergreen Tecnologies Inc.
Quality Control Lab
Evergreen, Alabama

Net Product Report

Reviewed By:
QA DMSN 6/12/00
Engineer

Roll No.	Test Date	Strip Tensile ASTM D 5035 MD Tensile (lbs/in)	Strip Tensile ASTM D 5035 CD Tensile (lbs/in)	Mass/Area ASTM D5199 (lbs/ft2)	Thickness ASTM D5199 (mils)	Carbon Black Content ASTM D 4218 (%)	+ Transmissivity ASTM D4716 (m2/s)	Density ASTM D1505 (g/cc)
301365	06/04/2000	72.4	23.8	0.2031	249.90	2.54	15.378	0.9530
301370	06/04/2000	62.4	15.4	0.1914	237.30	2.78		0.9580
301373	06/04/2000	57.3	20.3	0.1803	229.80	2.57		0.9560
301376	06/04/2000	61.2	20.4	0.1819	228.30	2.38	13.924	0.9480
301379	06/05/2000	61.8	19.3	0.1819	232.20	2.48		0.9490
301382	06/05/2000	63.4	20.3	0.1807	227.00	2.65		0.9520
301385	06/05/2000	63.9	17.1	0.1727	221.30	2.72		0.9530
301388	06/05/2000	64.8	18.8	0.1814	230.30	2.87	17.360	0.9530
301391	06/06/2000	66.7	22.5	0.1817	228.40	2.88		0.9560
301394	06/06/2000	65.4	22.3	0.1868	228.90	2.61		0.9530
301396	06/06/2000	109.7	37.5	0.2924	320.10	2.76	22.184	0.9550
301397	06/06/2000	104.7	34.3	0.2926	325.00	2.24		0.9530
301400	06/06/2000	61.7	16.2	0.1809	244.10	2.45	17.749	0.9450
17 301403	06/07/2000	60.3	21.4	0.1785	242.50	2.53		0.9450
	Average =	69.7	22.1	0.1990	246.08	2.60	17.319	0.952 ✓
	Standard Deviation =	16.3	6.3	0.0402	33.31		3.128	0.004

Transmissivity tested at 15,000 psf, gradient = 1.0, configuration = p/sample/p 10-4 m2/sec, 15 minutes seating time

R001752

Grade DC4200AA
Lot Number: 4022
Roll Dim.: 14 ft 0 in X 225 ft
Customer: Midessa

EVERGREEN TECHNOLOGIES INC.
MQA/MQC LABORATORY
EVERGREEN, ALABAMA

COMPOSITE TEST ROLLS
LOT SUMMARY

REVIEWED BY:
QA DMJN 7/7/1
ENGINEER

Roll Number	Test Date	Geonet		Top Fabric			Bottom Fabric			Peel Test		TRANSMISSIVITY ASTM D4716 (m2/sec)		
		Roll No.	Lot No.	Roll No.	Lot No.	Product Type	Roll No.	Lot No.	Product Type	Top ASTM F904 (g/in)	Btm ASTM F904 (g/in)	X 10-3	X 10-4	X 10-5
0403245	06/07/2000	301376	03031	0011619	00069	TG600	0011622	00069	TG600	1043.0	1122.0	0.653	6.525	65.250
0403258	06/05/2000	301378	03031	0011621	00069	TG600	0011625	00069	TG600	1115.6	1122.1			
0403273	06/05/2000	301375	03031	0011629	00069	TG600	0115590	00069	TG600	1196.0	1031.0			
0403288	06/05/2000	301381	03031	0011588	00069	TG600	0011606	00069	TG600	963.3	957.0	0.272	2.718	27.180
0403303	06/06/2000	301385	03031	0011586	00069	TG600	0011624	00069	TG600	927.5	971.2			
0403316	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	1453.0	1354.0			
0403319	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	916.3	977.4			
0403320	06/06/2000	301387	03031	0011623	00069	TG600	0011608	00069	TG600	1129.0	936.3			
0403323	06/06/2000	301383	03031	0011616	00069	TG600	0011611	00069	TG600	953.4	1081.0			
0403333	06/06/2000	301390	03031	0011615	00069	TG600	0011628	00069	TG600	1615.0	1147.0			
0403344	06/06/2000	301392	03031	0011605	00069	TG600	0011630	00069	TG600	1008.0	1511.0	0.359	3.588	35.880
0403359	06/07/2000	301394	03031	0011639	00069	TG600	0011634	00069	TG600	1000.0	1255.0			
0403374	06/07/2000	301401	03031	0011637	00069	TG600	0011636	00069	TG600	1133.0	1091.0			
									AVERAGE=	1111.8	1119.7	0.428	4.277	42.770
									STD. DEVIATION=	209.1	168.2	0.199	1.995	19.948

R001753

EVERGREEN TECHNOLOGIES, INC.

GEOCOMPOSITE DC4200/TG600

DC4200/TG600 is a drainage geocomposite made by thermally bonding Evergreen Technologies U.V. stabilized, spunbonded, continuous filament, needlepunched, nonwoven, polypropylene 6 ounce per square yard geotextile to **both** sides of our chemically resistant high density polyethylene **NS1400** geonet core. ETI geocomposites have high compressive strength in order to ensure maximum flow capacity of both liquids and gases under high confining pressures, and exhibit high ply adhesion strengths to ensure performance of the composite as a single unit. Virgin resins used in the production of ETI geonets consist of at least 97% polyethylene with a melt flow range between 0.1 and 1.0 grams per 10 minutes (ASTM D1238), and a density range of 0.932 to 0.970 grams per cubic centimeter (ASTM D1505). The geocomposite is delivered to the jobsite in roll form with each roll having unique identification and QA traceability. **DC4200/TG600** conforms to the property values listed in the tables below.

PROPERTY	TEST METHODS	UNITS	VALUE	SPECIFICATIONS[1]	TEST FREQUENCY
FINISHED GEOCOMPOSITE PROPERTIES					
• Transmissivity[3] nominal pressure = 15000psf; i=1.0	ASTM D 4716 plate/composite/plate	m^2/sec (E-04)	1.0	MARV	200,000 sf (or per project req.)
• Peel Adhesion	ASTM F 904 (modified)[2]	g/in	454	MARV	50,000 sf
• Geotextile overlap at edges and unbonded area		in mm	3.0 75	nominal	
CORE NET PROPERTIES (97% minimum virgin polyethylene resin)					
• MD Tensile	ASTM D 5035	ppi kN/m	48 8.4	MARV	50,000 sf
• Thickness	ASTM D 5199	mil mm	200 5.1	MARV	50,000 sf
• Carbon Black	ASTM D 4218 (or ASTM D 1603)	% weight	2.0	MARV	50,000 sf
GEOTEXTILE PROPERTIES					
• Grab Tensile	ASTM D 4632	lbs N	160 712	MARV	100,000 sf
• AOS	ASTM D 4751	US Std. Sieve mm	70 0.212	MARV	500,000 sf
• Mass/Unit Area	ASTM D 5261	oz/yd^2	6.0	MARV	100,000 sf
• Water Permeability	ASTM D 4491	cm/sec	0.3	MARV	500,000 sf
• Water Flow Rate	ASTM D 4491	gpm/ft^2 $m^3/sec/m^2$	135 0.08	MARV	500,000 sf
• U.V. Resistance	ASTM G 53	%	70		1 per lot
PACKAGING					
• Roll length	Direct Measure	ft	225	nominal	Each roll
• Roll width	Direct Measure	ft	14	nominal	Each roll
• Roll weight	Direct Measure	lbs	903	typical	Each roll
• Roll diameter	Direct Measure	in	31	typical	Each roll
• Core ID	Direct Measure	in	4	nominal	N/A
• Labeling:	Product code, geotextile type, roll dimensions, finished product lot and roll number.				

Notes

[1] MARV is defined as the one-sided 97.5% confidence limit obtained through long-term data (mean - 2* standard deviations) and represents the minimum allowable sample roll average for each specific test.

[2] Peel adhesion ASTM F 904: 2 inch wide strip. Reported value per specimen is average of all computed points between 1" and 5" of separation.

[3] Transmissivity results reported by Evergreen Technologies, Inc. are based on standard index test conditions. Actual performance is dependent upon site specific conditions. Please contact Evergreen Technologies Technical Service for site specific transmissivity testing.

[4] Geotextile and Core Net component properties are tested prior to the lamination process and cannot be tested on the finished geocomposite product.

ETI

Sales/Technical Service
5775-B Glenridge Drive • Lakeside Center, Suite 450 • Atlanta, Georgia 30328-5363 • 404.250.1290• 404.705.9650 (fax) • 800.984.9784
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Manufacturing/Quality Assurance
200 Miller Sellers Drive • Evergreen, Alabama 36401 • (Main Tel.) 334.578.9003 • 334.578.6141 (fax)

QA Direct
334.578.6103 • 334.578.6140 (fax)

EVERGREEN TECHNOLOGIES, INC.

GEONET NS 1300 / 1400 / 1600

ETI NS Series drainage net is a three dimensional high density polyethylene net structure formed by intersecting strands which provide uniform channels, open area and thickness to assure uniform flow throughout the structure. ETI geonets are crush resistant and have a low compressibility capable of maintaining high transmissivity under a range of loading conditions. The geonet is manufactured with carbon black to provide ultra-violet stabilization. Virgin resins used in the production of ETI geonets consist of at least 97% polyethylene with a melt flow range between 0.1 and 1.0 grams per 10 minutes (ASTM D1238), and a density range of 0.932 to 0.970 grams per cubic centimeter (ASTM D1505). The geonet is delivered to the jobsite in roll form with each roll having unique identification and QA traceability. **NS Series geonets** conform to the property values listed in the tables below:

PROPERTY	TEST METHODS	UNITS	1300	1400	1600	SPECIFICATIONS[1]	TEST FREQUENCY
• Transmissivity[2] nominal pressure = 15,000 psf; i=1.0	ASTM D 4716 plate/net/plate	m^2/sec (E-04)	7	10	14	MARV	200,000 sf (or per project req.)
• Thickness	ASTM D 5199	mil mm	160 4.1	200 5.1	250 6.4	MARV	50,000 sf
• Grab Tensile (MD)	ASTM D 5035	ppi kN/m	35 6.1	48 8.4	91 16.0	MARV	50,000 sf
• Mass/Unit Area	ASTM D 5261	lbs/ft^2 g/m^2	.150 732	.162 830	.258 1260	MARV	50,000 sf
• Carbon Black	ASTM D 4218 (OR ASTM D 1603)	% weight	2.0	2.0	2.0	MARV	50,000 sf
PACKAGING							
• Roll width	direct measure	ft	14	14	14	nominal	Each roll
• Roll length	direct measure	ft	300	300	300	nominal	Each roll
• Roll diameter	direct measure	in	28	30	34	typical	Each roll
• Roll weight	direct measure	lbs	660	795	1,212	typical	Each roll
• Core I.D.	direct measure	in	4	4	4	nominal	N/A
• Labeling:	Product code, roll dimensions, finished product lot and roll number.						

Notes

[1] MARV is defined as the one-sided 97.5% confidence limit obtained through long-term data (mean - 2* standard deviations) and represents the minimum allowable sample roll average for each specific test.

[2] Transmissivity results reported by Evergreen Technologies, Inc. are based on standard index test conditions. Actual performance is dependent upon site specific conditions. Please contact Evergreen Technologies Sales/Technical Service for site specific transmissivity testing.

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Sales/Technical Service
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www.etigeo.com

Manufacturing/Quality Assurance
200 Miller Sellers Drive • Evergreen, Alabama 36401 • (Main Tel.) 334.578.9003 • 334.578.6141 (fax)

QA Direct
334.578.6103 • 334.578.6140 (fax)

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **17-Jul-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **J000312**

QC'd By: _____
TEST METHOD: **ASTM D4437**
DATE REPORT: **17-Jul-00**

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 4	53724	186	>50	FTB		1 Outside	148	<10	SE	FTB	
		184	>50	FTB		2 Outside	134	<10	SE	FTB	
		183	>50	FTB		3 Outside	147	<10	SE	FTB	
		186	>50	FTB		4 Outside	129	<10	SE	FTB	
		188	>50	FTB		5 Outside	131	<10	SE	FTB	
	AVG.	185			120	AVG:	138				90
	STD. DEV.	2				STD. DEV.	9				
						1 Inside	147	<10	SE	FTB	
						2 Inside	150	<10	SE	FTB	
						3 Inside	***123***	***100***	AD	Non-FTB	
						4 Inside	152	<10	SE	FTB	
						5 Inside	145	<10	SE	FTB	
	AVG.	185			120	AVG:	143				90
	STD. DEV.	2				STD. DEV.	12				
DS- 5	53725	191	>50	FTB		1 Outside	124	<10	SE	FTB	
		187	>50	FTB		2 Outside	130	<10	SE	FTB	
		191	>50	FTB		3 Outside	***156***	***100***	AD	Non-FTB	
		196	>50	FTB		4 Outside	154	<10	SE	FTB	
		191	>50	FTB		5 Outside	146	<10	SE	FTB	
	AVG:	191			120	AVG:	142				90
	STD. DEV.	3				STD. DEV.	14				
						1 Inside	***126***	***30***	AD-BRK	FTB	
						2 Inside	***141***	***20***	AD-BRK	FTB	
						3 Inside	***141***	***50***	AD-BRK	FTB	
						4 Inside	149	<10	SE	FTB	
						5 Inside	150	<10	SE	FTB	
	AVG:	191			120	AVG:	141				90
	STD. DEV.	3				STD. DEV.	10				

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

R001756

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **FOTH & VAN DYKE**
PROJECT: **Modern Plating / 97M015**
DATE REC'D: **14-Jul-00**

MATERIAL: **60 Mil HDPE**
SEAM TYPE: **Heat Fusion Weld**
PGL JOB #: **G000715**

QC'd By: _____
TEST METHOD: **ASTM D4437**
DATE REPORT: **14-Jul-00**

		SHEAR EVALUATION				PEEL EVALUATION					
SAMPLE ID	PGL CONTROL #	MAXIMUM STRENGTH (lb/in)	ELONGATION @ BREAK (%)	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in)	% PEEL (%)	LOCUS OF FAILURE	NSF 54 FAILURE MODE	PROJECT SPEC. (lb/in)
DS- 1	52990	164	>50	FTB		1 Outside	135	<10	SE	FTB	
						2 Outside	135	<10	SE	FTB	
		165	>50	FTB		3 Outside	158	<10	SE	FTB	
						4 Outside	151	<10	SE	FTB	
		175	>50	FTB		5 Outside	125	<10	SE	FTB	
						AVG:	**141**				90
		173	>50	FTB		STD. DEV.	**13**				
						1 Inside	139	<10	SE	FTB	
		178	>50	FTB		2 Inside	136	<10	SE	FTB	
						3 Inside	135	<10	SE	FTB	
						4 Inside	120	<10	SE	FTB	
						5 Inside	130	<10	SE	FTB	
	AVG.	**171**			120	AVG:	**132**				90
	STD. DEV.	**6**				STD. DEV.	**7**				

3

BREAK DESCRIPTION (NSF 54, 1993):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM THROUGH BOTH SHEETS.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
FTB	FILM-TEAR BOND.

Precision Geosynthetic Laboratories

R001757

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D. Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-1	BJS1	RRV/E1	P15/P6	PATCH	2'x2'	7/13/00	RRV	P
R-2			P3/P4/P5/P6	↓	2'ϕ	↓	↓	P
R-3			P6/P15/P16	TEE (CAP ON SEAM END FOR AIR CHANNEL)	6"	N/A	N/A	N/A
R-4			P3/P6/P16		6"			
R-5			~~P2~~ P2/P3/P17					
R-6			P2/P17/P18					
R-7			P3/P16/P17					
R-8			P2/P14/P18					
R-9			P1/P2/P14					
R-10			P1/P7/P14					
R-11			P7/P8/P14					
R-12			P8/P9/P14					
R-13			P9/P10/P14					
R-14			P10/P13/P14					P
R-15	↓	↓	P10/P11/P12/P13	PATCH	3'x2'	7/13/00	RRV	P

LINER REPAIR SUMMARY

Project Name: MODERN PLATING CORP. LR -

Project No: 97M015 Page of

Installer: MIDESSA GEOMEMBRANES Date: 7/13/00

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D. Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-16	BJS1	RRV/E1	P3 TOE	BEAD	12"	7/13/00	RRV	P
R-17			P3 TOP		6"			
R-18			P11/P12	PATCH DS-1	4'x3'	7/13/00	RRV	P
R-19			P11/P12		3'x2'			
R-20			P11/P12		2'x1'			
R-21			P27/P28/P21	TEE (CAP ON END FOR AIR CHANNEL TEST)	6"	N/A	N/A	N/A
R-22			P21/P22/P28/P29		6"			
R-23			P22/P29/P30		6"			
R-24			P29/P30/P31		6"			
R-25			P23/P24/P25	PATCH	2'x1'	7/13/00	RRV	P
R-26			P21/P23/P25	TEE (CAP ON END FOR AIR CHANNEL TEST)	2"	N/A	N/A	N/A
R-27			P21/P25/P26		6"			
R-28			P21/P26/P27		6"			
R-29			P26/P27	PATCH DS-3	4'x3'	7/13/00	RRV	P
R-30			P27/P28		2'x1'			P
R-31			P28		1¢			P
R-32			P19/P22	BEAD	6"			P
R-33			P19/P22		4"			P
R-34			P21/P22/P19	TEE (CAP ON END FOR AIR CHANNEL TEST)	6"	NA	N/A	N/A
R-35			P19/P20/P21		6"			
R-36			P17/P20/P21		6"			
R-37			P17/P18/P20		6"			

R0017246

LINER REPAIR SUMMARY

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDEOSA GEOMEMBRANES

Date: 7/13/00

LR -

Page of

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-38	BJS	RRV/E1	P19/P20/P18	TEE CAP ON SEAM FOR AIR CHANNEL TEST	6"	N/A	N/A	N/A
R-39	↓	↓	P18/P14/P19	↓	6"	↓	↓	↓
R-40			P14/P19	PATCH DS-2	4'x3'			

R001760

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP.

Project No: 97MO15

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R-41	BJSI	FA/F1	P40/P41	PATCH	2'x2'	7/14/00	FA	P
R-42			P42/P47		1'x1'			P
R-43			P35/P36 39		1'x1'			P
R-44			P35/P36/P37/P38	PATCH	1.5'ϕ		FA	P
R-45			P34/P35	PATCH	4'x2'			P
R-46			P35		3'x2'			P
R-47			P41/P42/P46	BEAD	1.5'		FA	P
R-48			P38/P39	PATCH DS-4	4'x3'		BV	P
R-49			P33/P34	DS-5	4'x3'		BV	P
R-50			P32/P33	SEAM	135'	7/15/00	FA	P
R-51			P50/P51 P48/P49/P50/P32	PATCH	2'x3'			P
R-52			P50/P51	DS-6	4'x3'			P
R-53			P32/P52	DS-6	4'x3'			P
R-54	↓	↓		PATCH	1.5'ϕ	↓	↓	P

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R001761

LINER REPAIR SUMMARY

LR-

Project Name: MODERN PLATING CORP. - PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R55	BJSI		P59/P60/P67	PATCH	2.5'ϕ	10/26	GG	P
R56			P60/P61/P67	TEE	[illegible]			P
R57			P60/P61	PATCH	2'ϕ			P
R58			P61/P62					P
R59			P63/P66/P67	PATCH	2.5'ϕ			P
R60			P64/P65/P66		1'ϕ			P
R61			P65/P66		2.5'ϕ			P
R62			P67/P68	DS-7	6'x2'			P
R63			P69/P70		2'ϕ	10/26	AA	P
R64			P71/P72A				GG	P
R65			P71/P72A				GG	P
R66	REM		P71/P72A	PATCH	2.5'ϕ	10/26	AA	P
R67			P71/P72A	DS-8	3'x5'	10/26	AA	P
R68	REM		P72B/P72A		2'ϕ	10/26	RV	P
R69			P77/P72B/P72A	Tee	2.5'ϕ	10/26	RV	P
R70			P-77/P72B	Patch	2.0'ϕ	10/26	RV	P
R71			P-78/P-77/P72A	Tee	2.0'ϕ	10/26	RV	F Retest P
R72			P-78/P-77	PATCH	1.5'ϕ	10/26	RV	P
R73			P72A/P-77/[illegible]	Patch	2'ϕ	10/26	AA	F Retest P
R74			P72A/P-73/P-76/P-77	Patch	2'ϕ	10/26	AA	P
R75			P-72A/P-73	Patch	2'ϕ	10/26	AA	F Retest P
R76			P-73/P-74/P-75	Tee	1.5'ϕ	10/26	AA	F Retest P
R77			P-74/P-75/P-77	Tee	1.5'ϕ	10/26	AA	

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/26/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R78	REM		P-77 / P-78	DS-9	~2'x5'	10/26	AA	F retest P
R79	REM		P-80 / P-81 / P-72B	TEE	2'ϕ	10/26	AA	P
R80	REM		P-81 / P72B	PATCH	2'ϕ	10/26	AA	F retest P
R81	BJSJ		P70 / P71 / TIE	PATCH	1.5'ϕ	10/27	GG	P
R82	BJSJ		P59 / P67 / TIE	PATCH	2'x1'	10/27	GG	P

LINER REPAIR SUMMARY

LR -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: WIDESSA | Checked By:

Repair Number	QA Monitor	Oper./ Mach	Repair Location (Seam I.D., Panel I.D. or Coordinates)	Damage Description/Comments on Repair	Type and Size of Repair	Date Vacuum Tested	Tester's Initials	Vac. Test Results (P/F)
R83	BJS1	GG	P87/P93/P94	PATCH	1.5'ϕ	10/27/00	GG	P
R84	↓	↓	P84/P85	PATCH	2.5'ϕ	↓	↓	P
R85			P91/P92	DS-10	6'x2'			P
R86			P96/P97	DS-11	6'x2'			P
R87			P97/P98	10' EAST/WEST OF TOE	6'x2'			P
R88			P98/P99/P101		2'ϕ			P
R89			P103/P104	MID-SLOPE DS-12	6'x2'			P
R90			P104	MID SLOPE 2' E. OF P105	2'ϕ			P
R91			P97/P105	INT. OF PIPE	2.5'ϕ	10/28		P
R92			P91/P92/TIE		1.5'ϕ	↓		P
R93			P91/TIE	MID PANEL DS-13	6'x2'			P
R94	↓	↓	↓	PIPE BOOT	6'x6'	N/A	↓	P

FORM EES049 (5/98)

R001764

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES

Date: 7/12/00

Computer Entry By:

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Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-1	BJS1	P11/P12	1	RV	NE SLOPE	120	122	117	120		142	7/13/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES

Date: 7/13/00

Computer Entry By:

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Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-2	BJS1	P14/P19	F1	RV	BOTTOM	106	103	100	102	99	114	7/15/00		
DS-3	BJS1	P26/P27	F1	RV	SOUTH SLOPE	109	90	98	102	98	118	7/15/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES

Date: 7/14/00

Computer Entry By:

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Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-4	BJS1	P38/P39	F1	RV	EAST SLOPE	93	89	86	84	104	128	7/15/00		
DS-5	BJS1	P33/P34	F1	RV	BOTTOM	109	91	96	98	97	130	7/15/00		
DS-6	BJS1	P50/P51	F1	RV	WEST SLOPE	106	111	101	99	98	126	7/15/00		

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP. – PHASE 2

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Project No: 97MD15

Date: 10/25/00 – 10/26/00

Computer Entry By:

Installer: MIDESSA

Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					5 Hex	Date Sent to Lab	Lab Results (P/F)	Comments
DS-7	MJC1	P67/P68	#5	BV	PHASE2 SECONDARY	99/	132	132/	141	139	176	10/26/00	P	
DS-8	MJC1	P71/P72A	#5	BV	PHASE 2 SECONDARY	107/	139	123/	134	141	172	10/26/00	P	
DS-9	BJS1	P77/P78	#5	RV	PHASE2 SECONDARY	121/	128	143/	128	125	174	10/24/00	P	

DESTRUCTIVE SAMPLE SUMMARY

DS -

Project Name: MODERN PLATING CORP. - PHASE 2

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Project No: 97M015

Date: 10/27/00

Computer Entry By:

Installer: MIDESSA

Computer Entry By:

Checked By:

Destr. Sample Number	QA Monitor	Seam Number	Machine Number	Welder Initials	Location Description	Field Tensiometer Test Results (lbs./inch)					SHEAR	Date Sent to Lab	Lab Results (P/F)	Comments
DS-10	BJS1	P91/P92	#5	RV	P91/P92	144	135	140	144	142	172	10/28	P	
DS-11	BJS1	P96/P97	#5	RV	P96/P97	130	147	137	147	144	194	10/28	P	
~~DS-12~~		~~P103/P104~~												
DS-12	BJS1	P103/P104	#5	RV	P103/P104	141	140	162	143	147	177	10/28	P	
DS-13	BJS1	P91/TIE	#5	RV	P91/EAST TIE	165	151	133	153	140	218	10/28	P	

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R001769

FORM EES047 (5/98)

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: ~~MDP~~ MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

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Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P33/P34	0-END	BJSJ	RRV	30	08:15	29	08:20	1	P			
P34/P35	0-~~END~~ 35			30	08:16	28	08:21	2	P			
P34/P35	35-END			30	09:03	30	09:08	0	P			
P37/P38	0-END			32	09:15	31	09:20	1	P			
P38/P39	0-END			32	08:50	31	08:55	1	P			
P39/P40	0-END			33	08:44	33	08:49	0	P			
P44/P45	0-END			32	09:22	30	09:27	2	P			
P37/P45	0-END			31	09:38	30	09:43	1	P			
P40/P41	0-35			30	10:12	28	10:17	2	P			
P46/P47	0-END			30	10:50	30	10:55	0	P			
P41/P47	0-END			33	10:36	30	10:41	3	P			
P41/P46	0-END			33	10:36	30	10:41	3	P			
P42/P46	0-END			32	11:42	30	11:47	2	P			
P41/P42	0-END			38	11:55	35	12:00	3	P			
P48/P49	0-END			32	16:26	31	16:31	1	P			
P49/P50	0-END			33	16:50	33	16:55	0	P			
P53/P55	0-END			31	16:28	28	16:33	3	P			
P52/P53	0-END			30	17:15	29	17:20	1	P			
P50/P51	0-END			30	17:35	30	17:40	0	P			
P55/P58	0-END			36	17:20	33	17:25	3	P			
P54/P58	0-END			31	17:~~30~~ 31	31	17:26	0	P			

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R001770

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP.

Project No: 97M015 Date: 7/15/00

Installer: MIDESSA GEOMEMBRANES

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Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Air Test: Air Pressure Test: Start Time	Air Test: Air Pressure Test: End PSI	Air Test: Air Pressure Test: End Time	Air Test: Air Pressure Test: Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Vacuum Test: Date Vacuum Tested	Vacuum Test: Vac. Test Results (P/F)	Comments
P32 P51	O-END	BJS	RRV	39	07:08	36	07:13	3	P	~~7/15/00~~		
P50 P32	O-END			—	—	—	—	—	—	7/15/00	P	
P51 P53	O-END			36	07:15	30	07:20	0	P			
P32 P48	O-END			30	07:18	29	07:23	1	P			
P32 P33	O-END			32	07:29	30	07:34	2	P			
P36 P43	O-END			36	08:00	33	08:05	3	P			
P37 P44	O-END			35	08:11	34	08:16	1	P			
P36 P37	O-END			30	08:12	30	08:17	0	P			
P43 P44	O-END			30	08:20	30	08:25	0	P			
P35 P42	O-END			31	08:35	30	08:40	1	P			
P35 P40	O-END			33	09:12	30	09:17	3	P			
P35 P39	O-END			30	09:15	29	09:22	1	P			
P38 P38	O-END			32	09:32	31	09:37	1	P			
P35 P36	O-END			35	09:37	32	09:42	3	P			
P54 P55	O-END			30	09:49	30	09:54	0	P			
P54 P56	O-END			31	10:06	30	10:11	1	P			
P54 P57	O-END			30	10:15	28	10:20	2	P			
P56 P57	O-END			31	10:53	29	10:58	2	P			
P53 P54	O-END			30	10:55	30	11:00	0	P			
P51 P52	O-END	↓	↓	32	11:11	31	11:16	1	P			

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. - PHASE 2

Project No: 97M015 Date: 10/26/00

Installer: MIDESSA

Page of

Computer Entry By:

Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P62/P63	0-END	BJSJ	GG	39	09:55	38	10:00	1	P			
P61/P62	0-END			36	10:04	34	10:09	2	P			
P59/P60	0-END			34	09:57	34	10:02	0	P			
P63/P64	0-END			37	10:11	37	10:16	0	P			
P64/P65	0-END			37	10:16	35	10:21	2	P			
P65/P66	0-END			36	10:20	35	10:25	1	P			
P66/P67	0-END			36	11:30	36	11:35	0	P			
P63/P67	0-END			37	11:30	35	11:35	2	P			
P68/P67	0-END			39	11:46	39	11:51	0	P			
P69/P67	0-END			37	11:51	35	11:56	2	P			
P69/P70	0-12			40	11:55	40	12:00	0	P			
P69/P70	12-END			38	11:55	37	12:00	1	P			
P68/P70	0-END			37	12:04	36	12:09	1	P			
P70/P71	0-END			35	15:00	35	15:05	0	P			
P71/P72B	0-END									10/26/00	P	
P71/P72A	0-END									10/26/00	P	
P60/P61	0-END			38	10:00	37	10:05	1	P			
P68/P69	0-END			35	12:03	35	12:08	0	P			
P72A/P72B	0-END									10/26/00	P	
P75/P76	0-END									↓	P	
P73/P74	0-END									↓	P	

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Start Time	End PSI	End Time	Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	Comments
P76/P77	O-END	BJS1	GG							10/26/00	P	
P77/P78	O-END	↓	↓							↓	P	
P78/P79	O-END										P	
P79/P80	O-END										P	
P80/P81	O-END										P	
P73/P76	O-END										P	
P74/P76	O-END										P	
P74/P75	O-END										P	
P72B/P79	O-END										P	
P72A/P78	O-END										P	
P72A/P77	O-END										P	
P72A/P73	O-END										P	
P72/TIE	O-END										P	
P70/TIE	O-END										P	
P68/TIE	O-END										P	
P67/TIE	O-END										P	
P59/TIE	O-END	↓	↓							↓	P	

FORM EES051 (5/98)

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P86/P87	O-END	BJS1	GG	38	10:55	37	11:00	1	P			
P82/P83	O-END	BJS1	GG	37	10:55	35	11:00	2	P			
P83/P84	O-END	JC71	GG	37	11:05	36	11:10	1	P			
P85/P86	O-END	JC71	GG	44	11:29	41	11:34	3	P			
P86/P88	O-END	JC71	GG							10/27	P	
P88/P89	O-END	JC71	GG	38	11:35	37	11:40	1	P			
P90/P91	O-END	JC71	GG	39	1:06	37	1:11	3	P			
P91/P92	O-END	JC71	GG	36	1:00	34	1:05	2	P			
P87/P94	O-END	JC71	GG	39	1:37	38	1:42	1	P			
P87/P94	O-END	JC71	GG	40	1:45	38	1:50	2	P			
P87/P93	O-END	JC71	GG	35	1:52	33	1:57	2	P			
P89/P90	O-END	JC71	GG	39	2:12	38	2:17	1	P			
P92/P96	O-END	JC71	GG	35	4:05	33	4:10	2	P			
P96/P97	O-END	JC71	GG	37	3:55	35	4:00	2	P			
P98/P99	O-END	JC71	GG	35	5:00	35	5:05	0	P			
P100/P101	O-END	JC71	GG	37	5:00	37	5:05	0	P			
P101/P102	O-END	JC71	GG	39	5:05	37	5:10	2	P			
P102/P103	O-END	JC71	GG	40	5:11	40	5:16	0	P			
P104/P105	O-END	BJS1	GG							10/27	P	
P84/P85	O-END	BJS1	GG	38	11:10	37	11:15	1	P			
P86/P89	O-END	BJS1	GG							10/27	P	

NON-DESTRUCTIVE SEAM TEST SUMMARY

ND -

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test: Air Pressure Test: Start PSI	Air Test: Air Pressure Test: Start Time	Air Test: Air Pressure Test: End PSI	Air Test: Air Pressure Test: End Time	Air Test: Air Pressure Test: Drop (PSI)	Vacuum Test: Air Test Results (P/F)	Vacuum Test: Date Vacuum Tested	Vacuum Test: Vac. Test Results (P/F)	Comments
P85/P90	0-END	BJS1	66							10/27/00	P	
P84/P90	↓	↓	↓							↓	P	
P83/P90											P	
P82/P90											P	
P90/P93											P	
P95/P96											P	
P92/P95											P	
P95/P97	↓	↓	↓							↓	P	

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R001775

FORM FES051 (5/98)

NON-DESTRUCTIVE SEAM TEST SUMMARY ND -

Project Name: Page of

Project No: Date: 10/28/00 Computer Entry By:

Installer: Checked By:

Seam Number	Interval Tested	QA Monitor	Tester Initials	Air Test					Vacuum Test			Comments
				Air Pressure Test								
				Start		End		Drop (PSI)	Air Test Results (P/F)	Date Vacuum Tested	Vac. Test Results (P/F)	
				PSI	Time	PSI	Time					
P97/P98	0-END	BJS1	GG							10/28/00	P	
P98/P103	↓	↓	↓							↓	P	
P98/P102											P	
P99/P101											P	
P99/P100											P	
P98/P104											P	
P103/P104											P	
P105/P105											P	
P97/P104											P	
P97/P105											P	
P97/P106	↓	↓	↓							↓	P	
EAST TIE	0-END	BJS1	GG							10/28/00	P	

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES

Date: 7/12/00

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Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind/Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P4/P5	BJS1	70°F	N/A	0/0	30	RV	F@	F1	843	10.2	08:23	08:28	-
P2/P3					50	RV	F@	F1	843	10.2	08:55	09:05	-
P1/P2					50						09:13	09:18	-
P1/P7		↓			50						09:46	09:51	-
P7/P8		75°F			50						09:53	09:57	-
P8/P9					50						09:59	10:05	-
P9/P10					50						10:09	10:12	-
P10/P11					20						10:15	10:18	-
P11/P12				↓							10:21	10:33	~~-~~
P/12/P13				5/0	24						10:23	10:27	-
P5/P6		↓			34						10:59	11:02	-
P3/P6		78°F			18						11:13	11:15	-
P3/P4					33						11:15	11:18	-
P10/P3					30						11:23	11:27	-
P11/P12	↓	↓	↓	↓	25	↓	↓	↓	↓	↓	11:27	11:30	- DS-1
P14/P18	BJS1	80°F	N/A	10/0	22	RV	F@	F1	850	10.4	14:05	14:10	-
P6/P15					20						14:15	14;20	-
P16/P17					29						15:49	15:52	-
P18/P19					16						16:27	16:29	-
P14/P19					135						16:29	16:38	-
P18/P17	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	16:40	16:43	-

PANEL SEAMING SUMMARY

PS-

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

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Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P19/P20	BJSI	78°F	N/A	5/0	22	RV	F	F1	850	10.4	16:43	16:45	
P17/P20					22						16:46	16:48	
P15/P16					20						16:48	16:49	
P6/P16					22						16:49		
P3/P17					22								
P18/P2					22								
P1/P18					22								
P7/P14					22								
P8/P14					22								
P9/P14					22								
P10/P14					2								
P13/P14					42							17:09	
P22/P21	BJSI	75°F	N/A	0/0	22	RV	F	F1	850	10.4	18:41	18:43	
P17/P21					18						18:47		
P20/P21					2								
P19/P21					091								
P19/P22					56							19:03	
P23/P24					19						19:13	19:15	
P25/P26					32						19:16	19:19	
P26/P27					32						19:20	19:23	
P21/P30					35						19:25	19:29	

1000

R001796

PANEL SEAMING SUMMARY

Project Name: MODERN PLATING CORP. PS:

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES Date: 7/12/00 Page of

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P28/P29	BJS1	75°F	N/A	0/0	32	RV	F	F1	850	10.4	19:30	19:34	
P27/P28					32						19:36	19:44	GENERATOR ~~GENERATOR~~ RAN OUT OF GAS
P29/P30					22						19:45	19:47	
P29/P31					19						19:47	19:49	
P23/P25					6						19:54	19:55	
P24/P25					24						19:55	19:58	
P22/P30					33						X20:00		
P22/P29					22								
P21/P28					~~30~~ 22								
P21/P27					22								
P21/P26					22								
P21/P25					22								
P21/P23					18						20:15		

1497

1603

R001779

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

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Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P32/P33	BJS1	70°F	N/A	0/0	144	RV	F	F1	850	10.1	06:41	06:56	
P33/P34											07:00	07:14	
P34/P35											07:21	07:35	
P37/P38				5/0	45						07:52	07:56	
P38/P39											08:00	08:06	
P39/P40											08:15	08:19	522
P40/P41											08:35	08:42	STOPPED TO GO OVER PIPE
P36/P43		75°F		10/0	~~234~~						08:50	08:52	
P44/P45					22						09:04	09:06	633
P37/P44					20						09:33	09:35	
P37/P45					7						09:35	09:36	
P37/P36					34						09:48	09:51	
P43/P44					24						09:51	09:54	
P41/P46					22						10:08	10:11	
P41/P47					3						10:11	10:12	
P35/P42					33						10:52	10:54	
P42/P46					12						10:19	10:21	
P42/P41					26						10:21	10:24	
P35/P40					22						10:54		
P35/39													
P35/38												11:03	

R001780

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

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Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P35/P36	BJS1	78°F	N/A	10/0	48	RV	F	F1	850	10.1	11:03	11:07	.
P49/P50	↓	↓			33						11:21	11:24	.
P50/P51	↓	85°F			35						11:51	11:55	.
P48/P49	JRL				41						2:37	2:41	.
P32/P48	↓	↓			36						3:44	3:48	.
P52/P53	JRL	85°			76						2:18	2:26	.
P54/P53					25						2:44 ~~2:53~~	2:46	.
P54/P58					14						2:46	2:48	.
P55/P58					23						2:55	2:59	.
P53/P55					26						3:16	3:19	.
P54/P56					22						3:00	3:08	.
P54/P57					12						3:06	3:10	.
P53/P52					29						3:12	3:15	.
P57/P52					16						3:10	3:12	.
P53/P54					22						3:12	3:16	.
P53/P51					22						3:26	3:29	.
P52/P57					22						3:29	3:32	
P54/P32					52						3:34	3:40	1
P50/P32					21						3:40	3:44	.
P51/P32	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	3:44	3:46	.

950 / 1018

1363 / 1453

1458

R001781

PANEL SEAMING SUMMARY

PS -

Project Name: MPC PHASE 2

Page 1 of

Project No: 97M015

Date: 10-25-00

Computer Entry By:

Installer: MIDWEST

Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P59/P60	MJC1	69	74	NO WIND CLOUDY	37	BFV	FUSION	#5	868	650 ~11FT/MIN	2:56	3:00	THESE LENGTHS
P60/P61	MJC1	69	74	CLOUDY TO PARTLY	44/81	BFV	FUSION	#5	860	650	3:45	3:50	WILL BE CUT BACK WHEN
P61/P62	MJC1	~~68~~ 69 ~~74~~	74	PC	46/127	BFV	FUSION	#5	860	650	3:53	3:57	P67-TIE IN SEAM IS MADE
P62/P63	MJC1	~~68~~ 69	74	PC	44/171	BFV	FUSION	#5	860	650	3:54	4:05	
~~P63/P64 P65/P66~~	MJC1	69	74	PC	27/198	BFV	FUSION	#5	860	650	4:07	4:10 ~~4:16~~	
P64/P65 P66	MJC1	69	74	PC	34/232	BFV	FUSION	#5	860	650	4:16	4:20	NORTH EAST CORNER
P63/P66 P64	MJC1	69	74	PC	40/272	BFV	FUSION	#5	860	650	4:23	4:27	
P67/TIE IN	MJC1	69	74	PC	140/412	BFV	FUSION	#5	860	650	4:41	4:58	
P67/69,68	MJC1	66.4	66	PC	139/551	BFV	FUSION	#5	860	650	5:17	5:33	1ST DESTRUCTIVE SAMPLE ON THIS SEAM
P68/69	MJC1	67	68	PC	22/573	BFV	FUSION	#5	860	650	5:07	5:10	BUTT SEAM
P69 68/70	MJC1	65	63.7	PC	14/587	BFV	FUSION	#5	860	650	5:41	6:42	LOST POWER ON MACH ON EAST SLOPE
P69 68/70	MJC1	60	60	PC	126/713	BFV	FUSION	#5	860	620	6:15	6:31	RESEAMED AFTER DUCT REPAIRS
P70/P71	MJC1	60	60	PC	139/891	BFV	FUSION	#5	866	620	6:35	6:48	TRIM WELD 4
P71/P72	MJC1	60	60	PC	~~884~~ 1284	BFV	FUSION	#5	860	620	7:03	7:16	WRINKLE REPAIR NEAR SUMP
													STOP ~~SHORT~~
													SHORT OF SUMP

R001782

FORM EES052 (5/98)

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. — PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Sheet Temp. (if req.)	Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P72A/P72B	BJSI	65°F	N/A	0/0	22	BV	F	#5	860	13	09:39	09:42	
P71/P72A				"		"	"	"			09:50	09:52	
P71/P72B	REM	62°F		0/0	~70'	BV	F	#5	860	13	09:52	10:00	
[illegible]													
P16	P16	REM	65°F		0/0	19'	RV	F	#5	860	13	11:25	11:30
P13	P14	REM	65°F		0/0	25'	RV	F	#5	860	13	11:20	11:25
P16	P17	REM	60°F		5/0	48'	RV	F	#5	860	13	11:32	11:38
P17	P18	REM	60°F		5/0	49'	RV	F	#5	860	9	11:49	11:55
P18	P19	REM	60°F		5/0	48'	RV	F	#5	860	9	12:04	12:11
P19	P80	REM	60°F		5/0	35'	RV	F	#5	860	9	12:18	12:18
P80	P81	REM	60°F		5/0	23'	RV	F	#5	860	9	12:22	12:24
P13	P16	REM	60°F		5/Light	27½'	RV	F	#5	860	9	12:39	12:42
P16	P15	REM	60°F		5/Light	10'	RV	F	#5	860	9	12:42	12:44
P15	P14	REM	60°F		5/Light	24'	RV	F	#5	860	9	12:45	12:48
P81	P13B	REM	60°F		5/Light	33'						12:58	1:00
P13B	P19					22'						1:00	1:04
P13B	P80					22'						1:02	1:05
P72B	P17					22'						1:06	1:07
P72B	P13A					42'						1:14	1:24
[illegible]											1:15		

Comments: Occasional very light drizzle | Light Rain Starts | " " Continues | Light to Mod. Rain | Light rain stops

R001783

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. — PHASE 2 | Page of

Project No: 97M015 | Date: 10/26/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P72/TIE	BOSS1	65°F	N/A	10/0	22	RV	F	#5	860	13	17:02		
P70/TIE	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		
P68/TIE	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		
P67/TIE	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		
P59/TIE	↓	↓	↓	↓	40	↓	↓	↓	↓	↓	↓	17:25	

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R001784

FORM EES052 (5/98)

PANEL SEAMING SUMMARY

PS -

Project Name: MODERN PLATING CORP. — PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\ Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P82/P83	B551	65°F	N/A	5/0	36	RV	F	#5	860°	676	10:00	10:05	
P82/P87					36						10:06	10:11	
P83/P84					36						10:13	10:18	
P84/P85					36						10:23	10:28	
P85/P86					36						10:37	10:40	
P88/P89					22						10:43	10:45	
P86/P89					15						10:45	10:47	
P90/P91					140						11:04	11:21	
P91/P2					140						11:27	11:41	497
P93/P87					25						13:11	13:13	
P94/P87					10						13:13	13:15	
P90/P89					30						13:17	13:21	
P85/P90					22						13:24	13:26	
P86/P88					24						13:28	13:32	
P84/P90					22						13:33	13:35	
P83/P90					22						13:35	13:37	
P82/P90					22						13:37	13:39	
P90/P93					26						13:41	13:44	700
P95/P96					22						14:37	14:39	
P92/P96					82						14:46	14:53	
P92/P95	↓	↓	↓	↓	58	↓	↓	↓	↓	↓	14:53	14:58	862

R001785

PANEL SEAMING SUMMARY

PS-

Project Name: MODERN PLATING CORP. – PHASE 2 | Page of

Project No: 97M015 | Date: 10/27/00 | Computer Entry By:

Installer: MIDESSA | Checked By:

Seam Number	QA Monitor	Weather Conditions: Ambient Temp.	Weather Conditions: Sheet Temp. (if req.)	Weather Conditions: Wind\- Precip.	Seam Length (feet)	Welder Initials	Weld Type	Machine Number	Temp. Setting	Speed Setting	Time: Start	Time: End	Comments
P95/P97	BJS1	65°F	N/A	5/0	82	RV	F	#5	860°	676	15:05	15:13	
P96/P97					58						15:25	15:31	100%
P98/P99					32						15:45	15:48	
P100/P101					17						15:57	15:59	
P101/P102					36						16:09	16:12	
P102/P103					36						16:15	16:18	
P103/P98					12						16:20	16:22	
P102/P98					22						16:23	16:25	
P99/P101					30						16:26	16:29	
P99/P100					13						16:29	16:30	
P98/P94					17						16:42	16:43	
P103/P104					36						16:43	16:48	1253
P104/P105					36						16:51	16:54	
P105/P106					36						16:58	17:01	
P97/P98					78						17:04	17:12	
P97/P104					22						17:20	17:22	
P97/P105					22						17:35	17:37	
P97/P106	↓	↓	↓	↓	22	↓	↓	↓	↓	↓	17:37	17:40	
EAST TIE	BJS1	60°F	N/A	0/0	140	RV	F	#5	860°	676	17:54	18:06	

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Page of

Date: 7/12/00

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-1	17012-1/60 mil TEX. HDPE	NORTH SLOPE	07:30	68°F/0/LT.	BJS1	N	OK	50/22	
P-2	/		07:35					40/	
P-3	/		07:41					40/	
P-4	/	↓	07:47					40/	
P-5	/	WEST SLOPE	07:52					35/	
P-6	/	WEST SLOPE	08:10					55/	
P-7	/	NORTH SLOPE	09:43	↓				45/	
P-8	/	↓	09:52	75°F/5/0				45/	
P-9	/		09:56					45/	
P-10	/		10:02					45/	
P-11	/	↓	10:06					20/15	
P-12	/	EAST SLOPE	10:12					20/15	
P-13	↓ /	↓	10:17	↓				20/↓	
P-14	17332-1/	EAST SLOPE/ BOTTOM	13:46	80°F/5/0				137/22	
P-15	/	WEST SLOPE	13:54					23/22	
P-16	/	↓	13:58					29/22	
P-17	/	↓	14:10					44/22	
P-18	/	BOTTOM	14:30					16/22	
P-19	/	EAST SLOPE/ BOTTOM	15:40					132/22	
P-20	/	WEST SLOPE/ ~~BOTTOM~~	16:15					23/22	
P-21	~~17012-1~~ 17014-1/	WEST SLOPE/ BOTTOM	16:20	↓				77/22	
P-22	~~17012-1~~ ↓	EAST SLOPE	18:34	75°F/0/0	↓	↓	↓	55/22	

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-23	17014-1/60-mil HDPE	WEST SLOPE	18:40	75°F/0/0	BJS1	N	OK	20/19 22	
P-24	↓	↓	18:44	↓	↓	↓	↓	19/22	
P-25	↓	SOUTH SLOPE	18:46	↓	↓	↓	↓	32/22	
P-26	↓	↓	18:49	↓	↓	↓	↓	35/22	
P-27	↓	↓	18:52	↓	↓	↓	↓	38/22	
P-28	↓	↓	18:56	↓	↓	↓	↓	37/22	
P-29	↓	↓	19:03	↓	↓	↓	↓	39/22	
P-30	↓	EAST SLOPE	19:09	↓	↓	↓	↓	33/22	
P-31	↓	SE SLOPE	19:14	↓	↓	↓	↓	33/22	

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R001788

FORM EES050 (5/98)

PANEL PLACEMENT SUMMARY

Project Name: MODERN PLATING CORP. PP

Project No: 97M015 Page of

Installer: MIDESSA GEOMEMBRANES Date: 7/14/00

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-32	17318-1 / 60 mil HDPE	NORTH/BOTTOM SOUTH	06:10	70F/0/0	BJS1	N	OK	144/22	
P-33	/ /		06:15					/	
P-34	/ /		06:35					/	
P-35	17014-1 ~~17014-1~~		06:58					/	
P-36	17308-1 /	NORTH SLOPE	07:32					/	
P-37	/ /	EAST SLOPE	07:40	70F/5/0				34 /	
P-38	/ /		07:49					45 /	
P-39	/ /		08:07					/	
P-40	/ /		08:15					/	
P-41	/ /		08:30					/	
P-42	/ /	SOUTH SLOPE	08:37					/	
P-43	/ /	NORTH SLOPE	08:50					/	
P-44	/ /	EAST SLOPE	08:57					13 /	
P-45	/ /		09:02	~~70F/HIGH~~	JRL			15 /	
P-46	/ /		10:02	78/10/0				7 /	
P-47	/ /	~~SOUTH~~ SLOPE	10:05					20 /	
P-48	/ /	SW SLOPE	10:13					3 /	
P-49	/ /	SW SLOPE	10:20					20 /	
P-50	17308-1 /	SW SLOPE	10:45					18 /	
P-51	17331-1 ~~17308-1~~ /	WEST SLOPE	11:04					35 /	
P-52	17331-1 /	BOTTOM NORTH	11:50					05 /	
P-53	17331-1 /	SOUTH/BOTTOM NORTH	12:00					73/82 /	

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

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Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-54	17331-1 / 60MIL HDPE	BOTTOM/WEST SIDE	1:20	83°/10/0	JRL	N	OK	36/22	
P-55	17308-1	SOUTH SID	1:50					26/22	
P-56	17331-1	NORTH SLOPE	1:59					22/22	
P-57	17331-1 ~~17306-1~~	NW SLOPE	2:05					8/22	
P-58	17331-1	SW SLOPE	2:12		JRL			22/22	

FORM EES050 (5/98)

R001490

PANEL PLACEMENT SUMMARY

Project Name: MODERN PLATING CORP. - PHASE 2 — PP

Project No: 97M015

Installer: MIDESSA GEOMEMBRANES — Date: 10/25/00 — Page ___ of ___

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-59	17 8-1/60-mil TEX	NORTH SLOPE	09:05	60F/0/MIST	BJSL	N	OK	38/22	
P-60	17316-1/		09:38					38/22	
P-61	/		09:41					38/22	
P-62	/		09:44					39/22	
P-63	/		09:46					39/22	
P-64	/		09:50					39/22	
P-65	/	↓	09:53	↓				34/22	
P-66	/	EAST/WEBBY/BOTTOM	12:39	65F/0/0				16 1[illegible]/22	
P-67	/	EAST/WEBBY/BOTTOM	12:45					30 [illegible]/13 [illegible]	
P-68	↓ /	WEST/BOTTOM	14:27					135/22	
P-69	17305-1/	EAST	15:30					102/22	
P-70	/	WEST/BOTTOM/EAST	15:35					33/22	
P-71	/		17:20 [illegible]					135/22	
P-72	↓ / ↓	↓	18:07	60F/0/0	↓	↓	↓	135/22	
								135/22	

R001791

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP. - PHASE 2

Project No: 97M015

Page of

Installer: MIDESSA

Date: 10/26/00

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-73	17305-1/60-mil	EAST SLOPE	10:21	70°F/10/0	BJS1	N	OK	32/22	
P-74	17310-1/	↓	10:55					32/22	
P-75	/	SOUTH SL.	11:05					19/	
P-76	/		11:10					13/	
P-77	/		11:15					35/	
P-78	/		11:20					49/	
P-79	/		11:31					49/	
P-80	/		11:54					49/	
P-81	↓ / ↓	↓	12:01	↓	↓	↓	↓	30/ 20/ ↓	

PANEL PLACEMENT SUMMARY

PP-

Project Name: MODERN PLATING CORP. – PHASE 2

Project No: 97M015

Date: 10/27/00

Page ___ of ___

Installer: MIDESSA

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-82	17310-1 / 60-mil HDPE	NORTH SLOPE	09:20	65F/S/0	BJS1	N	OK	36 / 22	
P-83	" / "	"	09:22	"	"	"	"	" / "	
P-84	" / "	"	09:25	"	"	"	"	" / "	
P-85	" / "	"	09:30	"	"	"	"	" / "	
P-86	" / "	"	09:32	"	"	"	"	" / "	
P-87	" / "	↓	09:37	"	"	"	"	36 / "	
P-88	" / "	EAST SLOPE	09:40	"	"	"	"	36 / "	
P-89	↓ / "	↓	09:45	"	"	"	"	24 / ↓	
P-90	17312-1 / "	EAST/BOTTOM/WEST	10:25	"	"	"	"	30 / 22	
P-91	" / "	↓	10:38	"	"	"	"	135 / 22	
P-92	" / "	↓	11:00	"	"	"	"	135 / "	
P-93	" / "	WEST SLOPE	12:45	"	"	"	"	142 / "	
P-94	↓ / "	↓	12:50	"	"	"	"	25 / "	
P-95	↓ / "	↓	14:20	"	"	"	"	[illegible] / "	
P-96	17307-1 / "	EAST/BOTTOM	14:25	"	"	"	"	87 / "	
P-97	" / "	EAST/BOTTOM/WEST	15:10	"	"	"	"	58 / "	
P-98	" / "	EAST/BOTTOM	15:25	"	"	"	"	140 / "	
P-99	" / "	EAST SLOPE	15:45	"	"	"	"	78 / 60	
P-100	" / "	SOUTH SLOPE	15:52	"	"	"	"	35 / "	
P-101	" / "	"	15:53	"	"	"	"	12 / "	
P-102	" / "	"	15:59	"	"	"	"	35 / "	
P-103	↓ / ↓	↓	16:05	↓	↓	↓	↓	35 / ↓	

FORM FESOED /5/00

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP PHASE 2

Project No: 97M015

Date: 10/27/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
P-104	17307-1/60mil HDPE	SOUTH SLOPE	16:11	60°F/10/0	BJS1	N	OK	35/22	
P-105	17331-1/	↓	16:20	↓	↓	↓	↓	57/22	
P-106	↓		16:36					57/22	

TRIAL WELD SUMMARY

TW -

Project Name: MODERN PLATING CORP - PHASE 2

Project No: 97M015

Date: 10/27/00

Page of

Installer: MIDESSA

Computer Entry By:

Checked By:

Test No.	Time	QA Monitor	Weather (Wind/ ~~Precip.~~)	Weather (~~Wind~~/ Precip.)	Welder ID	Mach. No.	Extrusion Welds Barrel Temp.	Extrusion Welds Preheat Temp.	Fusion Welds Wedge Temp.	Fusion Welds Speed Setting	PEEL (PPI) Inside\Outside Weld 1	PEEL (PPI) Inside\Outside Weld 2	PEEL (PPI) Inside\Outside Weld 3	SHEAR (PPI) 1	Pass\ Fail	Comments
1	09:35	BJS1	5	0	RV	#5	—	—	860	676	144\140	155\136	124\137	185 ~~177~~	P	
2	12:50	BJS1	5	0	RV	#5	—	—	860	676	110\144	~~141~~\140	144\120	162	P	

TRIAL WELD SUMMARY

TW -

Project Name: MPC PHASE II — Page / of

Project No: 97M015 — Date: OCT 25 - 2006 — Computer Entry By:

Installer: ~~MEDE~~ MIDESSA GEOMEMBRANES — Checked By:

Test No.	Time	QA Monitor	Weather (Wind/ Precip.)	Weather (Wind/ Precip.)	Welder ID	Mach. No.	Extrusion Welds Barrel Temp.	Extrusion Welds Preheat Temp.	Fusion Welds Wedge Temp.	Fusion Welds Speed Setting	PEEL (PPI) Inside\Outside Weld 1	PEEL (PPI) Inside\Outside Weld 2	PEEL (PPI) Inside\Outside Weld 3	SHEAR (PPI) 1	Pass\ Fail	Comments
~~1~~	~~12:50~~	MJC1	~~0/FOG~~	~~63.5°F~~	~~BV BFV~~	~~#5 PROVED~~				700						LEISTER TENSIOMETER ~~#1~~, MATERIAL TEMP 65°
1	2:00 PM	MJC1		69.6°F NO WIND CLOUDY	BFV	#5			868	700 12ft/min	144 107	120 150	125 151	167	P	HAND PULLED TRIALS DUE TO ~~BROKEN~~ TENSIOMETER SHEET TEMP 73.0°F
																THE TEST VALUES FOR THE TRIAL WELDS
																WILL BE REMOVED TOMORROW WITH
																A NEW TENSIOMETER
																HAND PULL PEELED
																ON INSIDE TRIAL
																NEW WELD
2	2:20 PM	MJC1		69 NO WIND CLOUDY	BFV	#5			868	650 11ft/min	146 121	177 144	134 136	180	PASS BY VISUAL	
3	3:40	MJC1		69 NO WIND	BFV	#5			860	650	134 130	150 130	144 136	188	P	AFTER P59/P60 REPAIR SEAM OF
																MOUSE SO A
																NEW TRIAL WELD
																WAS NEEDED
4	6:14	MJC1				#5			860	620 10ft/min	136 125	151 153	140 142	180	P	

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R001796

FORM EES048 (5/98)

TRIAL WELD SUMMARY

TW -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/14/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Test No.	Time	QA Monitor	Weather (Wind/ Precip.)	Weather (Wind/ Precip.)	Welder ID	Mach. No.	Extrusion Welds Barrel Temp.	Extrusion Welds Preheat Temp.	Fusion Welds Wedge Temp.	Fusion Welds Speed Setting	PEEL (PPI) Inside\Outside Weld 1	PEEL (PPI) Inside\Outside Weld 2	PEEL (PPI) Inside\Outside Weld 3	SHEAR (PPI) 1	Pass\ Fail	Comments
1	06:30	BJS1	70°F	0/0	RV	F1	—	—	850	10.1	140\118	118\108	128\130	147	P	
2	10:05	BJS1	75°F	10/0	FA	E1	515	405	—	—	96\—	100\—	104\—	125	P	
3	13:45	BJS1	90°F	10/0	~~FA~~ RV	F1	—	—	850	12.5	101\100	101\96	102\95	130	P	
4	14:30	BJS1	90°F	10/0	FA	E1	515	405	—	—	109\101	96\98	97\99	130	P	

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R001797

TRIAL WELD SUMMARY

TW -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Date: 7/12/00

Page of

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Test No.	Time	QA Monitor	Weather (Wind/ ~~Precip.~~)	Weather (~~Wind/~~ Precip.)	Welder ID	Mach. No.	Extrusion Welds Barrel Temp.	Extrusion Welds Preheat Temp.	Fusion Welds Wedge Temp.	Fusion Welds Speed Setting	PEEL (PPI) Inside\Outside Weld 1	PEEL (PPI) Inside\Outside Weld 2	PEEL (PPI) Inside\Outside Weld 3	SHEAR (PPI) 1	Pass\ Fail	Comments
1	08:00	BJS1	0	0	RV	F1	—	—	843	10.2	127 \ 141	140 \ 127	127 \ 124	150	P	
2	14:15	BJS1	10	0	RV	F1	—	—	850	10.4	124 \ 123	122 \ 131	135 \ 129	145	P	
3	18:00	BJS1	0	0	RV	E1	515	405	—	—	127 \ —	133 \ —	135 \ —	159	P	

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R001798

4/13/00

Chevron

Chevron Chemical Company LLC

March 27, 2000

G Chayer
Solmax Int'l
2801 Blv.
Marie Victorin
Varennes, PQ J3X1P

CERTIFICATE OF ANALYSIS

Product:	9642	Lot Number:	K021378
Chevron Order #:	250219 - 13000	Destination:	Varennes
Package:	GOCX058420	Weight (lbs):	173,750
Customer Order #:	PON1372	Ship Date:	3/24/00

Following is the data on the subject material as determined by the Quality Control Department:

Property	Value	Units
Melt Index	0.15	gms/10 min
HLMI	13.6	gms/10 min
Density	0.9373	gms/cc
OIT	141.4	

The data set forth herein has been carefully compiled by Chevron Chemical Company. However, there is no warranty of any kind, either expressed or implied, applicable to its use and the user assumes all risk and liability in connection therewith.

Sincerely,

Gary MacMurtrie
Supervisor
Quality Control

13 Avril 00

Customer Fax: 450-929-2548

For inquiry, contact Customer Service at the following number:
Film, Coating, Pipe Applications: 1-800-231-3826
Molding Applications: 1-800-231-3828

TECHNICAL DATA SHEET
Textured HDPE Geomembrane

SOLMAX INTERNATIONAL

MODERN PLATING FACILITY, FREEPORT, IL

Properties	Test Method	Frequency *	Solmax 460T English Units
Thickness, Minimum Average	ASTM D5994	Every Roll	60 mil
Standard Roll Dimensions‡	N/A	N/A	22' x 520'
Resin Density	ASTM D1505	Once per Batch	0.94 g/cc
Melt Index	ASTM D1238 Condition E	Once per Batch	0.4 g/10 minutes
Oxidative Induction Time	ASTM D3895	Once per Batch	> 100 minutes
Sheet Density	ASTM D1505	Every Other Roll	> 0.940 g/cc
Asperity Height	GRI-GM12	Every Roll	10 mil
Carbon Black Content	ASTM D4218	Every Other Roll	2.0 to 3.0 %
Carbon Black Dispersion (10 views)	ASTM D5596	Every Sixth Roll	Category 1 or 2
Tensile Strength - Yield Strength - Yield Elongation (1.3 in. Gage Length) - Break Strength - Break Elongation (2 in. Gage Length)	ASTM D638 Type IV	Every Other Roll	 126 lb/in 13 % 90 lb/in 150 %
Tear Resistance	ASTM D1004	Every Sixth Roll	42 lbs.
Puncture Resistance	ASTM D4833	Every Sixth Roll	90 lbs.
Puncture Resistance	FTMS 101C	Upon Request	63 lbs.
Stress Crack Resistance (SP-NCTL)	ASTM D5397 (Appendix)	Once per Batch	> 200 hrs (BAM Modified)
Dimensional Stability	ASTM D1204	Every Sixth Roll	± 2 %
Low Temperature Brittleness	ASTM D746	Certified	-112 °F
Oven Aging (at 85°C, Standard OIT, % retained after 90 days)	ASTM D5721	Per Formulation	55 %
U.V. Resistance (High Pressure OIT, % Retained after 1600 hrs)	GRI-GM11	Per Formulation	60 %

*** Testing frequency based on standard roll dimensions.**
‡Roll length may vary ±1%

Data provided for informational purposes only.
08/99

International Head Office
2801 Marie-Victorin Blvd.• Varennes, Quebec, Canada J3X 1P7
Tel.: (450) 929-1234• Fax: (450) 929-1227• Web: www.solmax.com
Other Offices

Canada:	USA:	France:	Chile:
800 267-1232	800 571-3904	01.30.15.05.46	562 263-1739

PANEL PLACEMENT SUMMARY

PP -

Project Name: Modern Plating Corp - Phase 2

Project No: 97M015

Page of

Date: 10/26/00

Installer: MIDESSA

Computer Entry By: REM

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip	OA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
GCL-78	? / GCL	Southeast/ Bottom	7:15	60F / 0 / 0	REM	N	Damp OK	60 / 15	
GCL-79	? / GCL	South sideslope/ Bottom	7:30					17 / 15	
GCL-80	? / GCL	"	7:35					8 / 15	
GCL-81	1788 / GCL	Sideslope/ Southwest	7:45					29 / 15	
GCL-82	1788 / GCL	Sideslope/ Southwest	7:50					35 / 15	
GCL-83	1788 / GCL	Sideslope/ South	8:10					44 / 15	
GCL-84	1788 / GCL	West / Sideslope	8:40					Δ 12 / 8	
GCL-85	1788 / GCL	Sideslope/ West	8:50 ALL SW					8 / 8	
GCL-86	1788 / GCL	Sideslope/ West	8:55 corner					Δ 6 / 10	
GCL-87	1788 / GCL	Sideslope/ Southwest	9:00					Δ 4 / 6	
GCL-88	1788 / GCL	South Side Slope	9:00					Δ 17 / 15	
GCL-89	1788 / GCL	South Side Slope	9:10					Δ 8 / 15	
GCL-90	1794 / GCL	South side Slope	9:12					35 / 15	
GCL-91	1794 / GCL	South side Slope	9:13					35 / 15	
GCL-92	1794 / GCL	South side Slope	9:15					36 / 15	
GCL-93	1794 / GCL	South side Slope	9:19					37 / 15	
GCL-94	1796 / GCL	West side Slope	9:25					36 / 15	
GCL-95	1796 / GCL	Southeast corner	9:35					22 / 15	
GCL-96	1796 / GCL	Sump (Inside)	10:05					15 / 15	2 layers of GCL in sump
GCL-97	1796 / GCL	Southeast corner	10:10					22 / 15	
GCL-98	1796 / GCL	Southwest corner	10:12					9 / 15	
GCL-99	1796 / GCL	"	10:15					12 / 8	

FORM FESOSD (5/98)

R001801

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97M015

Page of

Date: 7/12/00

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
GCL-45	000170 4	West Slope	6:20pm		REM	N	OK	20/16	
GCL-46	↓	West Slope	6:25pm		↓	↓	↓	20/16	

R001802

PANEL PLACEMENT SUMMARY

PP -

Project Name: MODERN PLATING CORP.

Project No: 97.M015

Page 1 of

Date: 7/12/2000

Installer: MIDESSA GEOMEMBRANES

Computer Entry By:

Checked By:

Panel Number	Roll Number/ Material Type	Panel Location	Time Deployed	Weather Temp./Wind/ Precip.	QA Monitor	Panel Damage (y/n)	Subgrade Conditions	Length/ Width (feet)	Comments
GCL-1	00001402/ BENTONAT	NORTH SLOPE	06:10	65°F/0/0	BJS1	N	OK	35/15	
GCL-2	/	/	06:18	/	/	/	/	/	
GCL-3	/	/	06:21	/	/	/	/	/	
GCL-4	/	/	06:26	/	/	/	/	/	
GCL-5	00001404/	/	06:35	/	/	/	/	/	
GCL-6	/	/	06:42	/	/	/	/	/	
GCL-7	/	/	06:46	/	/	/	/	/	
GCL-8	/	/	06:52	/	/	/	/	/	
GCL-9	00001708/	/	07:05	/	/	/	/	25/15	
GCL-10	/	/	07:12	/	/	/	/	15/15	
GCL-11	/	BOTTOM	07:15	/	/	/	/	78/15	
GCL-12	00001710/	NORTH SLOPE	08:37	/	/	/	/	/	
GCL-13	/	BOTTOM	08:40	/	/	/	/	83/15	
GCL-14	00001709	North Slope	9:00	/	REM	N	OK	35/15	
GCL-15	/	NE Corner	9:20	/	/	N	OK as noted	24/15	small (2'x2') wet spot @ toe of slope
GCL-16	/	EAST SLOPE	9:26	/	/	N	OK	26/15	
GCL-17	/	EAST SLOPE	9:29	/	/	N	OK	25/15	
GCL-18	/	EAST SLOPE	10:00	/	/	N	OK	/	
GCL-19	00002159	BOTTOM + WEST SLOP	10:50	/	/	N	OK	150/15	
GCL-20	06001704	WEST SLOPE	10:16	/	/	/	/	15/15	
GCL-21	/	SOUTH SLOPE	10:15	/	/	/	/	11/15	
GCL-22	/	SOUTH SLOPE	10:25	/	/	/	/	18/15	

FORM FES050 (5/98)

R001803

TABLE 2.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received: **7/3/00**
Date Reported: **7/7/00**
Client Sample ID: **GCL-PH1-2 Roll 00001792**
Material Description: **GCL**

QC'd By: _____
PGL Job No. : **000642**
PGL Control No. : **52679**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D1777	Thickness (in)	0.334	0.330	0.332	0.331	0.334	0.333	0.331	0.334	0.331	0.331	0.332	0.002	*0.25 min.*
ASTM D5993	Mass per Unit Area (lbs/ ft.^{2}) *(Bentonite Content)*	1.03	0.82	0.90	0.89	0.85						0.90	0.08	*0.75 min.*
ASTM D4632	Grab Tensile													
	Tensile Strength (lbs)													
	MD	348	288	304	377	398	407	317	342	312	287	338	44	*70 min.*
	TD	321	290	389	306	314	344	329	344	369	359	337	30	
	Elongation at Peak (percent)													
	MD	58	58	62	51	64	55	55	67	73	62	60	6	
	TD	74	87	125	112	96	122	73	97	116	98	100	19	
ASTM D4643	Water (Moisture) Content (percent)	14.9	15.3	15.0								15.1	0.2	*12 max.*
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 30 psi)*	3.6E-09										3.6E-09		*5x10^{-9} max.*
ASTM D5887	Index Flux (m.^{3}/ m.^{2}/sec.)	3.5E-09										3.5E-09		*5x10^{-8} max.*
ASTM D5890	Swell Index (mL/ 2 g.)	29.0										29.0	N/A	*24 min.*
ASTM D4632 Modified	Peel Strength (lbs)													
	MD	30	28	55	52	43						42	12	*15 min.*
	TD	77	59	39	65	64						61	14	
ASTM D5891	Fluid Loss (mL)	14.2										14.2	N/A	*18 max.*

MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

Precision Geosynthetic Laboratories

TABLE 1.

MATERIAL PROPERTIES

CLIENT: FOTH & VAN DYKE

PROJECT: Modern Plating / 97M015

Date Received: **7/3/00**
Date Reported: **7/7/00**
Client Sample ID: **GCL-PH1-1 Roll 00001708 Lot 200022LO**
Material Description: **GCL**

QC'd By: _____
PGL Job No.: **000642**
PGL Control No.: **52678**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D1777	Thickness (in)													
		0.330	0.332	0.334	0.332	0.334	0.332	0.331	0.330	0.334	0.332	0.332	0.002	*0.25 min.*
ASTM D5993	Mass per Unit Area (lbs/ ft.^{2}) *(Bentonite Content)*													
		1.01	1.00	0.91	0.90	0.89						0.94	0.06	*0.75 min.*
ASTM D4632	Grab Tensile													
	Tensile Strength (lbs)													
	MD	375	400	395	313	381	370	420	307	379	363	370	36	*70 min.*
	TD	329	390	384	357	362	362	379	341	355	321	358	23	
	Elongation at Peak (percent)													
	MD	61	60	54	49	58	58	61	60	58	59	58	4	
	TD	80	72	78	72	70	78	100	70	94	83	80	10	
ASTM D4643	Water (Moisture) Content (percent)													
		15.8	15.8	15.3								15.7	0.3	*12 max.*
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 30 psi)*													
		3.9E-09										3.9E-09		*$5x10^{-9}$ max.*
ASTM D5887	Index Flux (m.^{3}/ m.^{2}/sec.)													
		2.2E-09										2.2E-09		*$5x10^{-8}$ max.*
ASTM D5890	Swell Index (mL/ 2 g.)													
		30.0										30.0	N/A	*24 min.*
ASTM D4632	Peel Strength (lbs)													
Modified	*MD*	58	49	61	63	59						58	5	*15 min.*
	TD	47	55	58	62	59						56	6	
ASTM D5891	Fluid Loss (mL)													
		16.2										16.2	N/A	*18 max.*

MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

Precision Geosynthetic Laboratories

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, 78°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
2' BRIDGING LAYER

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
1	N102+75, E105+70	6"	~755'	MPC-CIVIL-1	137.3	10.1	124.7	97.1	
2	N102+75, E105+70	12"			137.7	9.9	125.3	97.6	
3	N103+25, E105+70	6"			137.0	11.6	122.8	95.6	
4	N103+25, E105+70	12"			142.6	11.6	127.7	99.5	
5	N102+40, E105+70	6"			136.7	11.3	122.8	95.6	
6	N102+40, E105+70	12"			136.4	11.3	122.6	95.5	
7	N103+25, E106+00	6"			136.1	10.4	123.3	96.0	
8	N103+25, E106+00	12"			137.8	11.1	124.0	96.6	
9	N102+75, E106+00	6"			136.2	11.3	122.3	95.3	
10	N102+75, E106+00	12"			137.4	11.6	123.0	95.8	
11	N102+40, E106+00	6"			138.6	10.5	125.4	97.7	
12	N102+40, E106+00	12"			138.9	10.8	125.4	97.7	
13	N103+25, E106+50	6"			140.9	11.0	126.9	98.8	
14	N103+25, E106+50	12"			141.2	10.7	127.6	99.4	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2805 Moisture: 701

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1 OF 2
Prepared by: BJS1 Date: 6/21/00
Checked by: Date:

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R001806

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, 78°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
2' BRIDGING LAYER

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
15	N102+75, E106+00	12"	~755'	MAC-CIVIL-1	137.6	12.6	122.3	95.2	
16	N102+75, E106+00	6"			137.6	10.3	124.7	97.1	
17	N102+75, E106+70	6"			143.0	10.2	129.7	101.1	
18	N102+75, E106+70	12"			140.3	10.2	127.3	99.2	
19	N103+00, E106+80	6"			143.5	8.3	132.4	103.1	
20	N103+00, E106+80	12"			145.3	8.3	134.2	104.5	
21	N103+25, E106+80	6"			139.0	10.6	125.7	97.9	
22	N103+25, E106+80	12"			139.3	10.0	126.6	98.6	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MAC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2805 Moisture: 701

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 2 OF 2
Prepared by: BJSI Date: 6/21/00
Checked by: Date:

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R001807

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, 80°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 1

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
23	N103+10, E105+80	6"	~756'	MPC-CIVIL-1	139.9	11.5	125.5	97.7	
24	N102+60, E105+80	6"			135.2	10.7	122.1	95.1	
25	~~N103+10~~ N102+60, E106+25	6"			136.0	11.2	122.3	95.3	
26	N103+10, E106+25	6"			139.2	9.7	126.9	98.8	
27	N103+10, E106+65	6"			135.5	11.1	121.9	95.0	
28	N102+60, E106+65	6"			136.9	11.5	122.8	95.7	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2808 Moisture: 702

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 6/22/00
Checked by: Date:

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R001808

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, 80°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 2

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
29	N103+25, E106+00	6"	~757	MPC-CIVIL-1	138.4	11.2	124.5	97.0	
30	N102+75, E106+00	↓	↓	↓	140.2	11.2	126.1	98.2	
31	N102+40, E106+50				139.0	10.3	125.9	98.1	
32	N102+75, E106+50				139.3	10.4	126.2	98.3	
33	N103+25, E106+50				139.7	11.1	125.8	97.9	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2808 Moisture: 702

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJST Date: 6/22/00
Checked by: Date:

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R001809

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, 82°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: LIFT 3 - PHASE I
NORTH & WEST BERMS

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
34	N103+45, E105+65	6"	~760	MRC-CIVIL-1	140.7	10.0	127.9	99.6	
35	N103+45, E106+05	↓	↓	↓	141.8	11.2	127.5	99.3	
36	N103+45, E107+00				137.5	10.6	124.9	96.9	
37	N102+90, E105+15				141.7	10.6	128.1	99.8	
38	N103+35, E105+15				136.2	10.6	123.1	95.9	
39	N103+25, E105+40				137.8	10.2	125.0	97.3	
40	N103+00, E107+00				136.8	11.5	122.7	95.5	
41	N102+65, E107+00				136.0	11.5	122.0	95.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MRC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2816 Moisture: 703

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 6/28/00
Checked by: Date:

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R001810

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, 82°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 4
NORTH BERM

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
42	N103+40, E106+50	6"	~761	MRC-CIVIL-1	137.5	10.6	124.9	96.9	
43	N103+40, E105+75	↓	↓	↓	139.3	10.8	125.7	97.9	
44	N103+00, E105+50	↓	↓	↓	137.1	10.3	124.2	96.8	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MRC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2816 Moisture: 703

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 2
Prepared by: BJS1 Date: 6/23/00
Checked by: Date:

R001811

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, 75°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 4
EAST & WEST BERMS

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
45	N102+75, E106+90	6"	~761	MPC-CIVIL-1	136.6	11.2	122.8	95.7	
46	N103+20, E106+90	↓	↓	↓	138.0	11.5	123.8	96.4	
47	N103+25, E105+10	↓	↓	↓	138.9	11.5	124.6	97.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2801 Moisture: 704

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 6/27/00
Checked by: Date:

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R001812

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, 75°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 5
NORTH BERM

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
48	N103+50, E105+35	6"	~762'	MPC-CIVIL-1	137.5	11.1	123.8	96.4	
49	N103+50, E106+00	↓	↓	↓	135.8	11.1	122.2	95.2	
50	N103+50, E106+80	↓	↓	↓	137.4	11.0	123.8	96.4	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2801 Moisture: 704

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 6/27/00
Checked by: Date:

R001813

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, 75°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 6
NORTH BERM

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
51	N103+50, E105+60	6"	LIFT 6	MPC-CIVIL-1	136.0	11.3	122.2	95.2	
52	N103+50, E106+10	↓	↓	↓	135.3	10.8	122.1	95.1	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2800 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 6/30/00
Checked by: Date:

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R001814

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, 75°F

Method of Test:
- ☒ Nuclear Meter (ASTM: D2922)
- ☐ Sand Cone (ASTM: D1556)

Area/Location Tested: LIFT 5 – PHASE I
WEST & SOUTH BERMS

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
53	N103+30, E105+30	6"	LIFT 5	MPC-CIVIL-1	138.2	10.8	124.7	97.2	
54	N103+00, E105+00	↓	↓	↓	140.0	8.5	129.0	100.5	
55	N102+75, E105+25				135.3	10.1	122.9	95.7	
56	N102+65, E104+40				136.3	10.2	123.7	96.3	
57	N102+30, E106+15				135.4	8.8	124.4	96.9	
58	N102+30, E106+50				136.5	10.0	124.1	96.6	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2800 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 6/30/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: CLOUDY, HUMID, 80°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
NORTH BERM
LIFT 6

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
59	N103+50, E106+90	6"	LIFT 6	FREEPORT	130.2	10.8	117.5	97.9	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
FREEPORT WOTF	SP-SM	120.0	11.0	9.5

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2795 Moisture: 697

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 7/5/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather:

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
EAST BERM
LIFT 5

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
60	N103+10, E107+00	6"	LIFT 5	FREEPORT	126.8	9.6	115.7	96.4	
61	N102+75, E107+00	6"	LIFT 5	FREEPORT	124.9	9.5	114.2	95.1	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
FREEPORT WWTF	SP-SM	120.0	11.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2795 Moisture: 697

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.:
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 7/5/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: CLOUDY, HUMID, 80°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
WEST BERM
LIFT 6

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
62	N102+90, E105+00	6"	LIFT 6	FREEPORT	128.6	10.7	116.2	96.9	
63	N103+40, E105+15	6"	LIFT 6	FREEPORT	127.0	11.2	114.2	95.2	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
FREEPORT WOTF	SP-SM	120.0	11.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2795 Moisture: 697

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 7/5/00
Checked by: Date:

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R001818

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, HUMID, 85°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 7
WEST & NORTH BERMS

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
64	N103+00, E105+10	6"	LIFT 7	TEMP	118.9	8.2	109.9	95.6	
65	N103+50, E105+30	↓	↓	↓	124.4	8.3	114.9	99.9	
66	N103+50, E105+70				~~111.8~~ 120.7	8.0	111.8	97.2	
67	N103+60, E106+25				~~122.1~~ 120.5	~~9.6~~ 8.3	~~122.1~~ 111.4	~~96.9~~ 96.9	
68	N103+50, E106+95				125.2	10.8	~~113.0~~ 111.3	~~98.3~~ 98.3	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP*		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2804 Moisture: 703

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 7/6/00
Checked by: Date:

* ESTIMATED STANDARD PROCTOR & MOISTURE BASED ON LPT PROCTOR

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST

Compaction Equipment: DYNAPAC CA15 SHEEPFOOT COMPACTOR
DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, HUMID, 85°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 6
EAST BERM

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
69	N103+25, E106+95	6"	LIFT 6	TEMP	133.0	9.0	122.0	106.1	
70	N102+90, E106+95	↓	↓	↓	122.1	9.6	111.4	96.9	
71	N102+50, E106+95	↓	↓	↓	128.2	9.3	117.3	102.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP*		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2804 Moisture: 703

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONST. Page:
Prepared by: BJSJ Date: 7/6/00
Checked by: Date:

*ESTIMATED STANDARD PROCTOR BASED ON 1PT. PROCTOR

FORM CFS011 (1/91)

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R001820

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, 80°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
NORTH BERM / WEST BERM / EAST BERM
LIFT 8

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
72	N103+70, E105+50	6"	LIFT 8	TEMP	124.0	9.5	113.3	98.5	
73	N103+70, E106+00	↓	↓	↓	120.2	8.0	111.3	96.8	
74	N103+70, E107+15				122.3	8.0	113.3	98.5	
	N103+35, E105+15								
77	~~N102+75, E105+60~~								
78	N ~~102+75~~ 102+85, ~~E105+40~~ 105+10	6"	LIFT 8	TEMP	121.0	10.6	109.5	95.2	
79	N102+50, E ~~103+25~~ 107+00	↓	↓	↓	119.6	8.7	110.0	95.7	
80	N103+00, E107+00				127.1	8.8	116.8	101.6	
					126.1	8.9	115.7	100.6	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2799 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97MD15
Project: CAMM LANDFILL CONSTRUCTION Page:
Prepared by: VBJS1 Date: 7/7/00
Checked by: Date:

FORM GES011

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 ~~SHEEP~~ DRUM ROLLER

Weather:

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
LIFT 7
EAST BERM/WEST BERM

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
75	N103 + ~~40~~ 25, E106+50 /07+00	6"	LIFT 7	TEMP	127.5	8.2	117.8	102.5	
76	N102+75, E106+50 /07+00	6"	LIFT 7	TEMP	126.4	8.1	116.9	101.6	
84	N102+75, E105+60	6"	LIFT 7	TEMP	120.3	8.4	111.0	96.5	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: ~~699~~ 2799 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSJ Date: 7/7/00
Checked by: Date:

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R001822

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CAIS DRUM ROLLER

Weather: PARTLY CLOUDY, 80°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
NORTH/WEST/EAST BERMS
LIFT 9

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
81	N103+50, E105+75	6"	LIFT 9	TEMP	125.4	9.1	115.0	100.0	
82	N103+50, E106+25	↓	↓	↓	122.3	9.5	111.7	97.2	
83	N103+50, E106+75				127.6	11.5	114.4	99.5	
85	N102+80, E105+40	6"	LIFT 9	TEMP	121.5	9.9	110.6	96.2	
86	N103+00, E105+00	↓	↓	↓	125.3	10.2	113.7	98.9	
87	N103+40, E105+00				125.5	10.5	113.5	98.7	
91	N102+50, E107+00	6"	LIFT 9	TEMP	123.9	9.2	113.5	98.7	
92	N103+00, E107+00	↓	↓	↓	123.1	8.9	113.0	98.2	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2799 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 7/7/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP-563C SHEEPFOOT COMPACTOR
DYNAPAC DRUM ROLLER

Weather: PARTLY CLOUDY, 80°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
NORTH/WEST/EAST BERMS
LIFT 10

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
88	N103+55, E105+60	6"	LIFT 10	TEMP	119.6	8.0	110.7	96.3	
89	N103+55, E106+10	↓	↓	↓	123.5	8.6	113.7	98.9	
90	N103+55, E106+60	↓	↓	↓	119.3	8.4	110.1	95.7	
93	N102+70, E105+45	6"	LIFT 10	TEMP	118.6	8.3	109.5	95.2	
94	N102+80, E105+~~25~~00	↓	↓	↓	123.6	8.5	113.9	99.0	
95	N103+35, E105+15	↓	↓	↓	118.2	8.0	109.4	95.1	
96	N103+45, E107+00	6"	LIFT 10	TEMP	120.6	8.1	111.6	97.0	
97	N103+00, E107+00	↓	↓	↓	121.5	8.2	112.3	97.7	
98	N102+50, E107+00	↓	↓	↓	118.2	8.2	109.2	95.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2799 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSJ Date: 7/7/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather:

Method of Test:

☒ Nuclear Meter *(ASTM: D2922)*

☐ Sand Cone *(ASTM: D1556)*

Area/Location Tested: PHASE I NORTH LIFT 11

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
99	N103+55, E106+85	6"	LIFT 11	TEMP	121.2	9.7	110.5	96.1	
100	N103+55, E106+00	↓	↓	↓	122.9	8.8	112.9	98.2	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER

Model: 3440 Serial No.: 25921

Standard Counts:

Density: 2799 Moisture: 699

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97MOIS

Project: CAMU LANDFILL CONSTRUCTION Page:

Prepared by: BJSI Date: 7/7/00

Checked by: Date:

FORM CES011 (1/91)

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, HUMID, 85°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
WEST/NORTH/EAST BERMS
LIFT ~~2~~ 11

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
101	N102+30, E105+55	6"	LIFT ~~2~~ 11	TEMP	~~119.3~~ ~~122.6~~	~~8.9~~ ~~8.5~~	~~109.5~~ ~~113.0~~	95.2	
102	N102+80, E105+40	↓	↓	↓	125.1	8.6	115.2	100.2	
103	N103+10, E105+00	↓	↓	↓	121.4	8.1	112.3	97.7	
104	N103+35, E105+10	↓	↓	↓	128.3	8.2	118.6	103.1	
107	N103+50, E105+30	6"	LIFT 11	TEMP	118.9	8.4	109.7	95.4	
108	N103+25, E107+10	↓	↓	↓	118.5	8.2	110.5	96.1	
109	N102+75, E107+10	↓	↓	↓	120.3	8.2	111.1	96.6	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2806 Moisture: 705

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 7/8/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, WINDY, HUMID, 85°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I WEST BERM / BOTTOM LIFT 12"

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
105	N102+75, E105+00	6"	LIFT 12	TEMP	126.5	8.4	116.7	101.5	
106	N102+65, E105+50	↓	↓	↓	128.4	8.6	118.2	102.8	
110	N103+15, E106+50	6"	LIFT 12	TEMP	123.1	8.3	113.7	98.8	
111	N103+15, E106+00	↓	↓	↓	124.7	8.8	114.7	99.7	
112	N103+15, E105+50	↓	↓	↓	118.4	8.3	109.3	95.1	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2806 Moisture: 705

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 7/8/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather: PARTLY CLOUDY, HUMID, 78°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I
SOUTH SLOPE
LIFT 11

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
~~113~~ ~~114~~	N102+30, E106+00	6"	LIFT 11	TEMP	~~119.9~~ ~~122.7~~	~~8.9~~ ~~10.1~~	~~110.1~~ ~~111.4~~	95.7	
~~115~~	N102+30, E106+50	↓	↓	↓	122.7	10.1	111.4	96.9	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2806 Moisture: 701

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJS1 Date: 7/10/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 DRUM ROLLER

Weather: SUNNY, 80°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE I, BOTTOM, LIFT 12

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
115	N102+65, E106+00	6"	LIFT 12	TEMP	129.9	~~12.7~~ 10.8	117.3	102.0	
116	N102+65, E106+45	↓	↓	↓	129.1	11.1	116.2	101.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
TEMP		115.0	10.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER

Model: 3440 Serial No.: 25921

Standard Counts:

Density: ~~692~~ 2779 Moisture: 692

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015

Project: CAMP LANDFILL CONSTRUCTION Page:

Prepared by: BJST Date: 7/11/00

Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C COMPACTOR

Weather: SUNNY, 60°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
BOTTOM
LIFTS 3,4

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
129	N102+65, E108+00	6"	~~753~~ ~752'	MPC-CIVIL-3	132.1	14.3	115.6	103.1	
130	N103+15, E108+00	↓	↓	↓	134.1	14.3	117.3	104.6	
131	N102+65, E107+50				135.3	14.5	118.2	105.3	
132	N103+15, E107+50				136.3	14.5	119.0	106.1	
	N102+75, E108+20								
133	~~N103+35, E107+75~~	6"	~754	MPC-CIVIL-1	136.3	10.9	122.9	95.7	
134	N103+35, E107+75	↓	↓	↓	140.3	10.5	127.0	98.9	
135	N102+75, E107+35				137.0	11.5	122.9	95.7	
136	N102+50, E107+75				135.8	11.3	122.0	95.0	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	112.2	16.2	95
MPC-CIVIL-1	ML	128.4	9.5	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2778 Moisture: 712

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page:
Prepared by: BJSI Date: 10/9/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C COMPACTOR

Weather: SUNNY, 50°F

Method of Test:

☒ Nuclear Meter (ASTM: D2922)

☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2 BOTTOM LIFT 2

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
125	N102+75, E108+20	6"	~752	MPC-CIVIL-3	136.1	15.2	118.1	105.3	
126	N103+25, E107+75	6"	↓	↓	134.8	15.0	117.2	104.5	
127	N102+75, E107+40	6"			~~135.8~~ 126.6	~~14.9~~ 15.2	~~118.2~~ 109.9	~~105.4~~ 98.0	
128	N102+35, E107+75	6"	↓	↓	135.8	14.9	118.2	105.4	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER

Model: 3440 Serial No.: 25921

Standard Counts:

Density: 2768 Moisture: 691

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015

Project: CAMU LANDFILL CONSTRUCTION Page: 1

Prepared by: BJS1 Date: 10/6/00

Checked by: Date:

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R001831

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C SHEEPFOOT COMPACTOR

Weather: CLOUDY, LIGHT RAIN, 50°F

Method of Test:
- [x] Nuclear Meter (ASTM: D2922)
- [ ] Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2 BOTTOM BRIDGING LAYER

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
117	N102+50, E108+00	6"	~750	MPC-CIVIL-3	131.0	14.6	114.3	103.0	
118	N102+50, E108+00	12"			129.4	17.0	110.6	99.6	
119	N103+00, E108+00	6"			132.2	15.1	114.8	103.4	
120	N103+00, E108+00	12"			128.3	17.6	109.1	98.3	
121	N103+00, E107+50	6"			131.1	15.2	113.8	102.5	
122	N103+00, E107+50	12"			125.4	15.8	108.3	97.6	
123	N102+50, E107+50	6"			132.9	15.5	115.1	103.7	
124	N102+50, E107+50	12"			125.0	16.2	107.6	96.9	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	111.0	16.0	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2772 Moisture: 706

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 10/5/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C COMPACTOR
DYNAPAC CA15 ROLLER

Weather: SUNNY, 65°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFTS 5, 6, 7

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
137	N103+25, E108+30	6"	~757' 4	MPC-CIVIL-3	134.5	14.6	117.4	104.7	
138	N103+75, E108+30	↓	↓	MPC-CIVIL-1	136.5	11.0	123.0	95.8	
139	N103+40, E107+75	6"	~757' 5	MPC-CIVIL-1	137.7	11.2	123.8	96.4	
140	N103+00, E107+50		~755'		137.8	11.5	123.6	96.3	
141	N102+50, E107+50				136.6	11.6	122.4	95.3	
142	N102+50, E108+00				137.1	11.2	123.3	96.0	
143	N103+00, E108+00	↓	↓	↓	135.9	11.2	122.2	95.2	
144	N102+00, E107+40	6"	~758' 7	MPC-CIVIL-3	137.9	14.5	120.4	107.4	
145	N102+50, E108+30		~758'		135.3	14.6	118.1	105.3	
146	N103+00, E108+30	↓	↓	↓	133.5	14.7	116.4	103.7	
147	N103+45, E108-100	6"	~758' 6	MPC-CIVIL-1	139.5	10.8	125.9	98.1	
148	N103+45, E107+50	↓	↓	↓	139.8	11.5	125.4	97.7	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2767 Moisture: 702

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 10/10/00
Checked by: Date:

FORM CE5011 (1/91)

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C COMPACTOR
DYNAPAC CA15 ROLLER

Weather: 70°F, SUNNY

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFT 8

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
149	N102+25, E108+30	6"	~759' 8	MPC-CIVIL-1	136.9	11.5	122.8	95.6	
150	N102+75, E108+30	↓	↓	↓	136.3	11.7	122.0	95.0	
151	N103+25, E108+30	↓	↓	↓	136.4	11.6	122.2	95.2	
152	N102+65, E107+75	6"	~756' 6	MPC-CIVIL-1	137.4	11.7	123.0	95.8	
153	N103+00, E108+~~80~~20	↓	↓	MPC-CIVIL-3	133.5	14.2	116.9	104.2	
154	N103+30, E107+75	↓	↓	↓	134.7	14.2	117.9	105.1	
155	N103+00, E107+35	↓	↓	↓	135.8	14.9	118.8	105.4	
156	N103+40, E107+50	6"	~759' 7	MPC-CIVIL-3	134.9	14.9	117.4	104.6	
157	N103+40, E108+00	↓	↓	↓	135.1	14.9	117.6	104.8	
158	N102+75, E108+30	6"	~761' 9	MPC-CIVIL-3	136.0	14.2	119.1	106.1	
159	N103+25, E108+30	↓	↓	↓	134.8	14.3	117.9	105.1	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2761 Moisture: 707

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 10/11/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: CAT CP563C COMPACTOR
DYNAPAC CA15 ROLLER

Weather: SUNNY, 70°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFT 8, 7

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
160	N103+40, E107+80	6"	~760' 8	MPC-CIVIL-3	132.6	15.3	115.0	102.3	
161	N103+40, E107+35	↓	↓	↓	136.1	14.2	119.2	106.2	
162	N102+00, E107+45	6"	~759' 8	MPC-CIVIL-3	135.9	14.5	118.7	105.8	
163	N103+15, E107+85	6"	~757' 7	MPC-CIVIL-3	133.9	14.5	116.9	104.2	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2761 Moisture: 707

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONST. Page: 1
Prepared by: BJSI Date: 10/11/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR & CONST.

Compaction Equipment: DYNAPAC CA15 COMPACTOR
DYNAPAC CA15 ROLLER

Weather: SUNNY, WINDY, 70°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFTS 8, 9, 10, 11

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
164	N102+50, E108+30	6"	~761' 10	MPC-CIVIL-3	138.3	14.7	120.6	107.4	
165	N103+00, E108+30		↓		138.8	14.8	120.9	107.7	
166	N103+40, E108+00		~761' 9		133.9	14.5	116.9	104.2	
167	N103+40, E107+50		↓		134.7	14.3	117.9	105.0	
168	N102+50, E107+50		~758' 8		137.3	14.8	119.6	106.6	
169	N103+00, E107+50		↓		138.4	14.2	121.2	108.0	
170	N103+00, E108+00		~757'		134.5	14.3	117.7	104.9	
171	N102+50, E108+00		↓		134.9	14.4	117.9	105.1	
172	N103+40, E107+30		~762' 10		128.6	17.8	109.2	97.4	
173	N103+40, E107+80		↓		131.5	15.2	114.2	101.8	
174	N103+15, E108+30		~762 11		127.6	18.1	108.0	96.3	
175	N102+65, E108+30		↓		126.6	17.6	107.6	95.9	
176	N102+15, E108+30	↓	↓	↓	126.2	17.6	107.3	95.6	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2780 Moisture: 707

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 10/12/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 COMPACTOR
DYNAPAC CA15 ROLLER

Weather: SUNNY, WINDY, 70°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFTS 9, 11, 12

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
177	N102+75, E108+30	6"	~763' 12	MPC-CIVIL-3	134.2	14.4	117.3	104.5	
178	N103+25, E108+30	↓	↓	MPC-CIVIL-1	136.3	11.5	122.2	95.2	
179	N103+45, E108+00	6"	~763' 11	MPC-CIVIL-3	133.9	14.4	117.1	104.3	
180	N103+45, E107+50	↓	↓	↓	130.7	16.2	112.5	100.3	
181	N103+25, E107+50	6"	~759' 9	MPC-CIVIL-3	135.5	14.3	118.5	105.6	
182	N103+25, E108+00	↓	↓	↓	134.4	14.2	117.7	104.9	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2780 Moisture: 707

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 2
Prepared by: BJS1 Date: 10/12/00
Checked by: Date:

FORM CES011 (1/91)

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 COMPACTOR
DYNAPAC CA15 ROLLER

Weather: SUNNY, 75°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFTS 12, 13

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
183	N102+50, E108+30	6"	~764' 13	MPC-CIVIL-3	136.5	14.2	119.5	106.5	
184	N103+00, E108+30	↓	↓	↓	133.8	15.4	115.9	103.3	
185	N103+40, E107+80		12		136.0	14.2	119.1	106.2	
186	N103+40, E107+30		↓		135.4	14.3	118.5	105.6	
187	N102+20, E108+45		~765' 14		130.0	14.5	113.5	101.1	
188	N102+70, E108+45		↓		130.4	14.6	113.8	101.4	
189	N103+20, E108+45		~765' 13		131.2	14.2	114.9	102.4	
190	N103+55, E108+00		↓		132.9	14.4	116.1	103.5	
191	N103+55, E107+50	↓		↓	137.4	14.2	120.3	107.3	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2770 Moisture: 708

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJSI Date: 10/13/00
Checked by: Date:

DENSITY TESTS OF COMPACTED FILL

Contractor: TERRA ENGR. & CONST.

Compaction Equipment: DYNAPAC CA15 COMPACTOR
DYNAPAC CA15 ROLLER

Weather: CLOUDY, 65°F

Method of Test:
☒ Nuclear Meter (ASTM: D2922)
☐ Sand Cone (ASTM: D1556)

Area/Location Tested: PHASE 2
LIFTS 14, 15

Report Number:

Test No.	Test Location	Depth of Probe	Elevation	Proctor Used	Wet Density (pcf)	Moisture Content (%)	Dry Density (pcf)	Percent Compaction	Remarks
192	N102+25, E108+45	6"	~766' 15	MPC-CIVIL-1	137.2	11.2	123.4	96.1	
193	N102+75, E108+45	↓	↓	↓	136.8	11.5	122.7	95.6	
194	N103+25, E108+45	↓	↓	MPC-CIVIL-3	136.7	14.2	119.7	106.7	
195	N103+55, E108+00	6"	~766' 14	MPC-CIVIL-3	134.2	15.2	116.5	103.8	
196	N103+55, E107+50	↓	↓	↓	137.6	14.3	120.4	107.3	

Proctor No.	Soil Classification	Max. Dry Density (pcf)	Moisture Content (%)	Compaction Spec. (%)
MPC-CIVIL-1	ML	128.4	9.5	95
MPC-CIVIL-3	ML	112.2	16.2	95

General Note:
Density test results are valid only at the locations and elevations tested.

Nuclear Meter Used: TROXLER
Model: 3440 Serial No.: 25921
Standard Counts:
Density: 2777 Moisture: 697

Foth & Van Dyke

Client: MODERN PLATING CORP. Scope I.D.: 97M015
Project: CAMU LANDFILL CONSTRUCTION Page: 1
Prepared by: BJS1 Date: 10/16/00
Checked by: Date:

FORM CES011 (1/91)