

AASHTO NTPEP Rolled Erosion Control Product (RECP) Test Report

Manufacturer:	US Erosion Control Products	Plant Name:	US Erosion Control Products
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City/State/Zip:	Willacoochee, GA 31650	City/State/Zip:	Willacoochee, GA 31650
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NTPEP / Log Number: ECP-2010-01-009

Product Identification: US-2P12

Description: Double-netted synthetic permanent turf reinforcement mat with polymer fiber fill

Netting: Synthetic UV stabilized top and bottom nets (each with 0.75 square openings)

Matrix/Fill: 100% Polymer

Stitching: UV stabilized synthetic @ 1.5 in. transverse stitch spacing



Test Results

Test Method - Description	Parameters	Test Result
ASTM D 6566 - Mass per Unit Area	Index Test	14.02 oz/sq.yd.
ASTM D 6818 – Ultimate Tensile Strength / Strain - MD - TD	Index Test	30.1 lb/in @ % 29.6
		22.2 lb/in @ % 22.4
ASTM D 6525 – Thickness	Index Test	292 mils
ASTM D 6567 - Ground Cover / Light Penetration	Index Test	90.1 % / % 9.9
ASTM D 792 – Specific Gravity - Net Only	Index Test	0.916 g/cm3
ASTM D 7101 - Determination of Unvegetated RECP Ability to Protect Soil From Rain Splash and Associated Runoff Under Bench-Scale Conditions	50 mm (2 in.) / hr for 30 min.	Soil Loss Ratio* = 6.80
	100 mm (4 in.) / hr for 30 min.	Soil Loss Ratio* = 9.27
	150 mm (6 in.) / hr for 30 min.	Soil Loss Ratio* = 12.64
ASTM D 7207 - Determination of Unvegetated RECP Ability to Protect Soil from Hydraulically-Induced Shear Stresses Under Bench-Scale Conditions	Shear: 2.11 psf for 30 min.	Soil Loss = 255.0 g
	Shear: 2.79 psf for 30 min.	Soil Loss = 328.3 g
	Shear: 4.10 psf for 30 min.	Soil Loss = 523.3 g
	Soil loss curve intercept =	3.68 psf @ ½-in soil loss
ASTM D 7322 - Determination of Temporary Degradable RECP Performance in Encouraging Seed Germination and Plant Growth	Top soil; Fescue (Kentucky 31); 21 day incubation; 27±2° & approximately 45±5% RH	% of Control = 396% (increased biomass)

* Soil Loss Ratio = Soil Loss Bare Soil / Soil Loss with RECP = 1 / C-Factor (Note: soil loss is based on regression analysis)



ROLLED EROSION CONTROL PRODUCT TEST RESULTS
Client: NTPEP

Material: Material: Rolled Erosion Control Product (RECP)
Manufacturer: US Erosion Control Products
Sample ID: US-2P12
TRI Log #: E2280-39-03

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	
	1	2	3	4	5	6	7	8	9	10			
Tensile Properties (ASTM D 6818)													
MD - Maximum Load (lb/in)	30.8	32.5	30.9	28.3	28.3							30.1	1.8
TD - Maximum Load (lb/in)	19.6	23.3	23.6	22.7	22.1							22.2	1.6
MD - Elongation @ Max. Load (%)	45.3	20.7	24.0	20.7	37.3							29.6	11.1
TD - Elongation @ Max. Load (%)	20.7	22.0	21.3	22.7	25.3							22.4	1.8
Thickness (ASTM D 6525)													
Thickness (mils)	353	236	256	180	447	409	269	298	221	248		292	86
Density/Specific Gravity (ASTM D 792, Method A) - Net Only													
Density (g/cm3)	0.917	0.916	0.916									0.916	0.001
Light Penetration (ASTM D 6567)													
Baseline Reading	302	298	296	303	301							300	3
Reading with sample	7	58	44	27	12							30	21
% Light Penetration	2.3	19.5	14.9	8.9	4.0							9.9	7.2
% Ground Cover	97.7	80.5	85.1	91.1	96.0							90.1	7.2
Mass/Unit Area (ASTM D 6566)													
Mass of 10 x 10 in specimen (g)	32.85	24.95	25.19	21.64	54.03	41.54	31.79	29.06	23.48	22.35		14.02	4.42
Mass/unit area (oz/sq.yd)	15.00	11.40	11.51	9.88	24.68	18.97	14.52	13.27	10.72	10.21		476	150
Mass/unit area (g/sq. meter)	509	387	390	335	837	644	493	450	364	346			

MD Machine Direction
 TD Machine Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

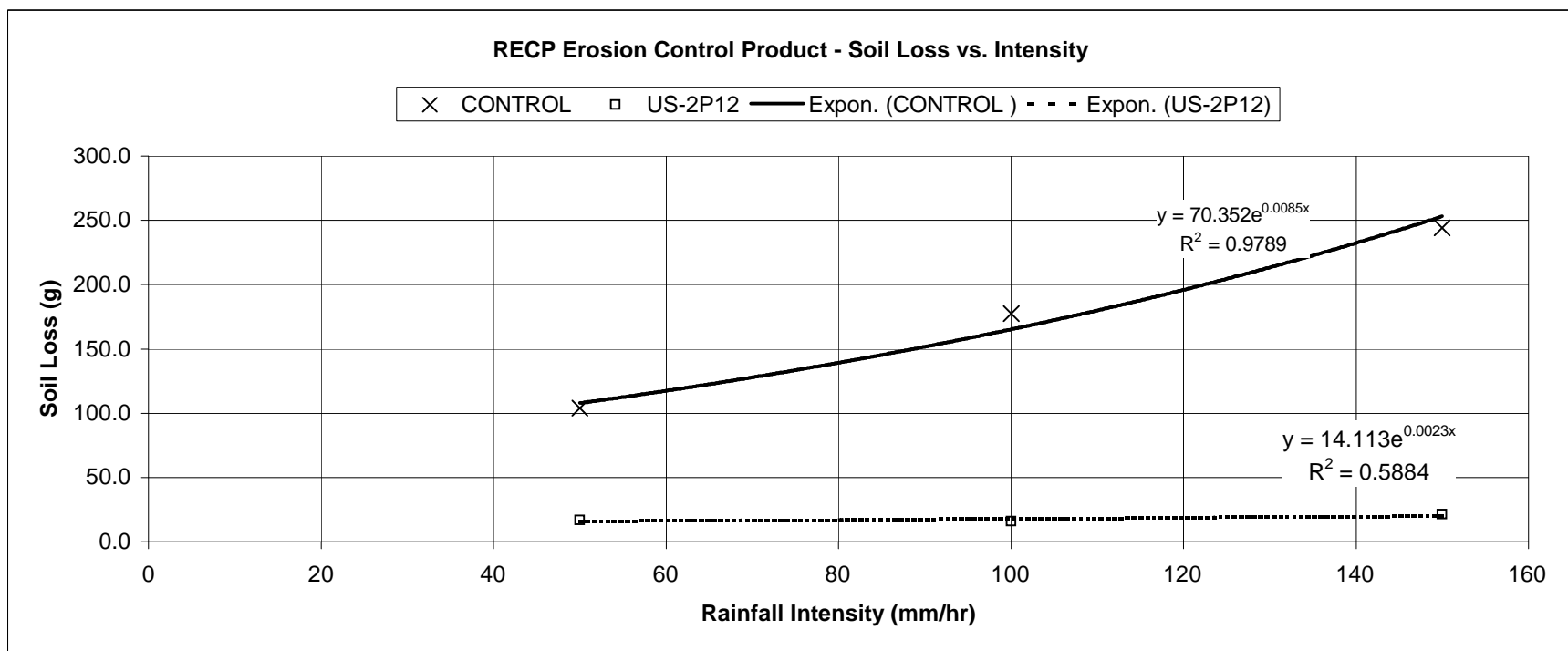
Erosion Control Product Testing Summary

ASTM D 7101:

STANDARD INDEX TEST METHOD FOR the DETERMINATION of UNVEGETATED ROLLED EROSION CONTROL PRODUCT (RECP)
ABILITY TO PROTECT SOIL FROM RAIN SPLASH AND ASSOCIATED RUNOFF UNDER BENCH-SCALE CONDITIONS

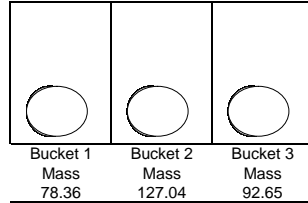
3:1 Slope Surface Condition	Raw Soil Loss Data (g)			Soil Loss Ratio* Based on Raw Data			Regression Curve Fitting		Calculated Soil Loss Based on Regression (g)			Soil Loss Ratio* Based on Regression		
	Rain Intensity, mm/hr			Rain Intensity, mm/hr					Rain Intensity, mm/hr			Rain Intensity, mm/hr		
	50	100	150	50	100	150			50	100	150	50	100	150
CONTROL	104.0	177.6	244.1				70.352	0.0085	107.8	165.2	253.1			
US-2P12	16.8	15.9	21.2	6.20	11.15	11.52	14.113	0.0023	15.9	17.8	20.0	6.80	9.27	12.64
C-Factor				0.16	0.09	0.09						0.147	0.108	0.079

* soil loss ratio = soil loss of unprotected surface (i.e. control) divided by soil loss with protected surface = 1 / C-Factor



RECP Slope Simulation Test

Client: NTPEP
Mfr: US Erosion Control Products
TRI Log # E2280-39-03
Sample ID: US-2P12
Slope = 3 TO 1



Mass/Area (osy)
14.02

2 in/hr rainfall
Buckets weighed and volume measured every 5 min
Test duration: 30 min

Soil only

Bucket No.	Time(min)	5		10		15		20		25		30	
		Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)
1		807	12.88	925	13.82	947	12.91	959	11.34	989	10.26	941	9.25
2		1401	36.05	1381	26.59	1511	25.33	1295	14.97	1292	13.14	1275	14.38
3		986	22.8	1077	22.21	1114	18.96	1127	16.05	1123	16.55	1053	14.41
Average			23.9		20.9		19.1		14.1		13.3		12.7

Control	
Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
5568	
8155	6734
6480	

RECP Protected	
Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
5086	
8728	7235
7891	

RECP over Soil

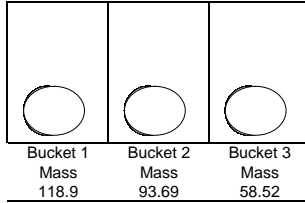
Bucket No.	Time(min)	5		10		15		20		25		30	
		Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)
1		618	2.15	797	2.08	872	1.98	946	3.30	844	1.31	1009	1.30
3		1064	7.44	1378	5.02	1508	4.93	1636	4.25	1427	3.41	1715	2.92
Average		974	2.60	1281	1.93	1373	1.88	1469	1.90	1263	1.62	1531	1.49
			4.1		3.0		2.9		3.2		2.1		1.9

Avg Mass/Area (osy): 14.02		
Individual Specimen Mass (g)	Individual Specimen Area (in2)	Individual Specimen Mass/Area (osy)
78.36	360	9.94
127.04	360	16.12
92.65	360	11.75

Bucket No.	Time(min)	5		10		15		20		25		30		30 Normalized	
		Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)
1		2.15		4.23		6.21		9.51		10.82		12.12		8.60	
2		7.44	4.1	12.46	7.1	17.39	10.0	21.64	13.2	25.05	15.3	27.97	17.2	32.16	16.78
3		2.60		4.53		6.41		8.31		9.93		11.42		9.58	

RECP Slope Simulation Test

Client: NTPEP
Mfr: US Erosion Control Products
TRI Log # E2280-39-03
Sample ID: US-2P12
Slope = 3 TO 1



Mass/Area (osy)
14.02

4 in/hr rainfall
Buckets weighed and volume measured every 5 min
Test duration: 30 min

Soil only

Bucket No.	Time(min)	5		10		15		20		25		30		Control Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
		Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)		
1		1423	35.16	1486	27.86	1491	24.36	1577	22.05	1493	20.45	1540	21.59	9010	
2		2021	49.76	2056	37.79	2052	33.25	2109	30.46	2067	27.41	2138	33.69	12443	10550
3		1660	37.8	1688	30.57	1685	25.58	1755	26.12	1680	23.56	1729	25.28	10197	
Average			40.9		32.1		27.7		26.2		23.8		26.9		

Bucket No.	Time(min)	5		10		15		20		25		30		RECP Protected Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
		Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)		
Cumulative	1	35.16		63.02		87.38		109.43		129.88		151.47		7389	
soil loss	2	49.76	40.9	87.55	73.0	120.80	100.7	151.26	126.9	178.67	150.7	212.36	177.6	10061	9258
	3	37.80		68.37		93.95		120.07		143.63		168.91		10325	




RECP over Soil

Bucket No.	Time(min)	5		10		15		20		25		30		Avg Mass/Area (osy):		
		Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Individual Specimen Mass (g)	Individual Specimen Area (in2)	Individual Specimen Mass/Area (osy)
1		1076	2.96	1231	2.32	1235	1.67	1256	1.55	1350	1.36	1241	1.39	118.9	360	15.09
2		1497	6.59	1665	4.91	1542	3.28	1679	2.56	1869	2.26	1809	1.82	93.69	360	11.89
3		1609	10.46	1765	6.16	1647	3.77	1733	4.50	1838	3.77	1733	4.37	58.52	360	7.42
Average			6.7		4.5		2.9		2.9		2.5		2.5			

Bucket No.	Time(min)	5		10		15		20		25		30		30 Normalized	
		Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)
Cumulative	1	2.96		5.28		6.95		8.50		9.86		11.25		12.11	
soil loss	2	6.59	6.7	11.50	11.1	14.78	14.0	17.34	16.9	19.60	19.4	21.42	21.9	18.17	15.92
	3	10.46		16.62		20.39		24.89		28.66		33.03		17.50	

RECP Slope Simulation Test

Client: NTPEP
Mfr: US Erosion Control Products
TRI Log # E2280-39-03
Sample ID: US-2P12
Slope = 3 TO 1

		
Bucket 1	Bucket 2	Bucket 3
Mass	Mass	Mass
103.72	114.38	127.32

Mass/Area (osy)
14.02

6 in/hr rainfall
Buckets weighed and volume measured every 5 min
Test duration: 30 min

Soil only

Bucket No.	Time(min) 5		10		15		20		25		30	
	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)
1	2346	48.28	2457	42.23	2291	37.2	2295	34.44	2156	32	2074	29.68
2	2684	60.81	2501	46.46	2070	33.88	2065	32.94	2033	35.36	1846	25.26
3	2503	63.25	2700	57.68	2414	44.22	2321	38.19	2227	37.91	2120	32.52
Average		57.4		48.8		38.4		35.2		35.1		29.2

Control	
Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
13619	
13199	13701
14285	

RECP Protected	
Total Runoff Volume (ml)	Average Total Runoff Volume (ml)
12909	
12295	13043
13924	

RECP over Soil

Bucket No.	Time(min) 5		10		15		20		25		30	
	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)	Runoff Volume (ml)	Mass(g)
1	1797	7.42	2142	5.66	2217	5.04	2262	4.39	2135	2.65	2356	3.23
2	1650	5.14	1820	4.23	2191	3.64	2277	3.60	2039	1.73	2318	2.70
3	1919	3.10	2262	2.96	2547	2.13	2242	2.01	2328	1.33	2626	1.60
Average		5.2		4.3		3.6		3.3		1.9		2.5

Avg Mass/Area (osy): 14.02		
Individual Specimen Mass (g)	Individual Specimen Area (in ²)	Individual Specimen Mass/Area (osy)
103.72	360	13.16
114.38	360	14.51
127.32	360	16.15

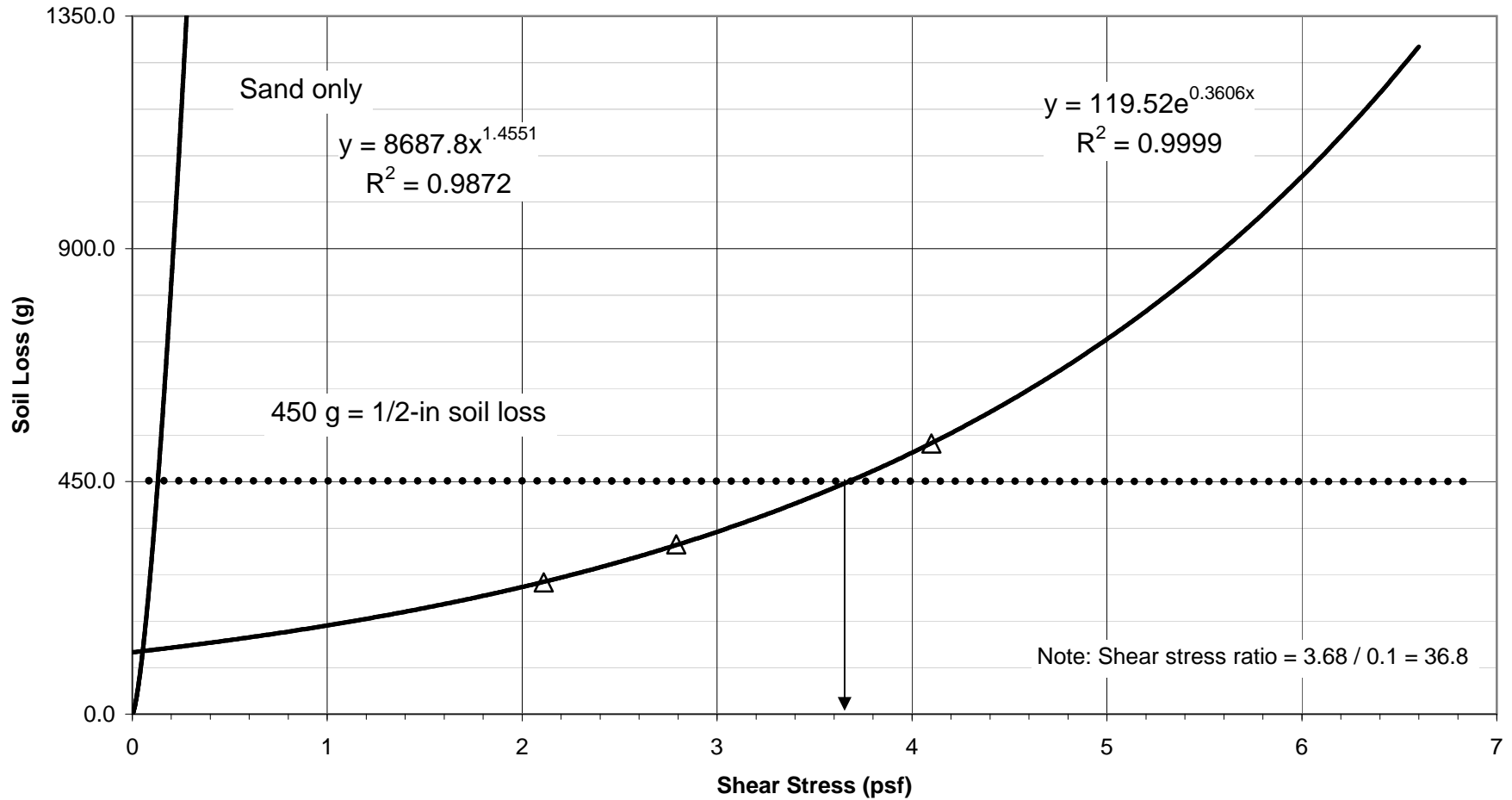
Bucket No.	Time(min) 5		10		15		20		25		30		30 Normalized	
	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Mass Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)	Total Soil Loss(g)	Average Soil Loss(g)
1	7.42		13.08		18.12		22.51		25.16		28.39		26.65	
2	5.14	5.2	9.37	9.5	13.01	13.1	16.61	16.4	18.34	18.3	21.04	20.9	21.78	21.19
3	3.10		6.06		8.19		10.20		11.53		13.13		15.13	

Shear Stress vs Soil Loss

US-2P12

ASTM D 7207:

STANDARD INDEX TEST METHOD FOR the DETERMINATION of UNVEGETATED ROLLED EROSION CONTROL PRODUCT (RECP)
 ABILITY TO PROTECT SOIL FROM HYDRAULICALLY-INDUCED SHEAR STRESSES UNDER BENCH-SCALE CONDITIONS



RECP Channel Simulation Test

CLIENT: US Erosion Control Products
TRI Log # E2280-39-03
Sample ID: US-2P12

RECP over soil

Test duration: 30 min
 RPM: 25
 Shear Stress (psf): 2.11

Bucket No.	Mass(g) prior to test	Mass(g) post test	Soil loss(g)	Average Soil loss(g)
1	3945	3705	240	255.0
2	3920	3560	360	
3	3955	3790	165	

RECP over soil

Test duration: 30 min
 RPM: 30
 Shear Stress (psf): 2.79

Bucket No.	Mass(g) prior to test	Mass(g) post test	Soil loss(g)	Average Soil loss(g)
1	3995	3730	265	328.3
2	3970	3640	330	
3	3945	3555	390	

RECP over soil

Test duration: 30 min
 RPM: 40
 Shear Stress (psf): 4.1

Bucket No.	Mass(g) prior to test	Mass(g) post test	Soil loss(g)	Average Soil loss(g)
1	3950	3305	645	523.3
2	3905	3395	510	
3	3945	3530	415	

Comments: Buckets weighed under water

soil only		
rpm	soil loss(g)	shear stress(psf)
16	728	0.188
20	1292	0.256
27	2387	0.42

soil only		
slope	7063.41	
intercept	-565.26	
R squared	1.00	
Shear = 0	-565.26	
Shear = 0.50	2966.44	
450	0.14	= 1/2-inch intercept

recp		
rpm	soil loss(g)	shear stress(psf)
25	255.0	2.11
30	328.3	2.79
40	523.3	4.1
	1.43	119.52
	450.50	3.68



Germination / Vegetation Growth Summary

ASTM D 7322:

STANDARD INDEX TEST METHOD FOR the DETERMINATION of
TEMPORARY DEGRADABLE RECP PERFORMANCE IN
ENCOURAGING SEED GERMINATION AND PLANT GROWTH

Property	Units	Day	Control	US-2P12
Seeds Germinated per Area	# per 4 sq.in.	0	0.00	0.00
		7	2.00	11.00
		14	13.22	20.00
		21	15.44	21.67
Average Plant Height	inch	0	0.00	0.00
		7	0.76	1.26
		14	2.14	2.98
		21	3.41	5.01
Plant Mass per Area	mg per 4 sq.in.	21	29.78	117.93

Property	Units	Day	Control	US-2P12
Seeds Germinated per Area	% of Control	7	100%	550%
		14	100%	151%
		21	100%	140%
Average Plant Height	% of Control	7	100%	167%
		14	100%	139%
		21	100%	147%
Plant Mass per Area	% of Control	21	100%	396%

RECP Germination

Date 05/10/10
 Client US Erosion Control Products Top Sample
 TRI Log # E2280-39-03 175 seeds
 Sample ID US-2P12 4" layer top soil
 Bottom _____

RECP PROTECTED

Day 7									Day 14									Day 21								
Bucket 1			Bucket 2			Bucket 3			Bucket 1			Bucket 2			Bucket 3			Bucket 1			Bucket 2			Bucket 3		
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Number of Germinated Seeds									Number of Germinated Seeds									Number of Germinated Seeds								
13	12	11	10	11	8	11	5	18	21	22	19	19	19	19	18	18	25	23	23	20	19	20	21	21	23	25
Average per square									Average per square									Average per square								
11.0									20.0									21.7								
Height of Germinated Plants									Height of Germinated Plants									Height of Germinated Plants								
2	1.1	0.6	1.9	1.8	1	1.5	1.9	1.2	3.6	3.4	4.1	2.4	4	3	1.8	3.7	2.2	6.2	7.2	6.2	4	3.4	2.6	3.4	5.5	3.5
0.6	2	1.4	1.2	1.5	1.1	1.9	1.8	1.2	3.7	0.4	3	1.7	4.1	3.1	3.5	0.8	1.5	4.8	5	5	3.6	3.4	5.2	5.6	2.5	3.6
0.9	0.4	0.8	1.2	1.5	1.7	2.5	1.8	1.3	2.8	4.6	3.4	2.2	4	2.5	3.8	2.3	2.1	4.5	6.2	7.9	4	2.4	4.7	0.9	3.3	3.3
1.2	1.9	1.5	0.7	1.8	0.7	1	0.6	1	5.9	2.6	4.5	3.6	2.7	0.8	3.3	5	4.2	4.6	6.2	5.9	7.3	4.9	3	3.7	8.6	5.4
0.8	1.6	1.8	0.5	2	0.8	1.9	1.2	1.4	0.2	5.6	3.3	2.4	4.7	3.3	2.7	2.8	3.2	4.9	4.9	5.7	6.4	5.3	4.4	3.8	4.6	3.8
0.8	1	1.5	0.9	0.3	2.4	1.2		1.5	2.9	1.4	4.4	3.7	2	3	4.3	4.7	4.8	7.4	4.5	7.4	7	3.8	3.8	3	8.6	2.6
1.2	1.2	0.2	1.8	0.5	1.2	1.9		0.8	2.4	3	1	3.2	3.7	1.5	5	4.5	1	5.9	1.4	5.6	4.3	5.7	4.2	7.1	7.8	5.1
1.7	1.8	1	1.8	0.6	1.2	1		1.2	2	3.4	2.9	3.3	2.8	2.5	6	3.9	2.9	3.4	2.1	3.2	7.3	4.2	3.8	1	6.4	4
0.7	0.5	1.6	1.8	0.7		1.9		1.9	3.1	3.8	3.9	1.5	1.5	2.7	1.6	2.3	4.2	3.7	3.5	7.1	4.9	3.6	3.6	4.3	1.3	2.5
1.7	1	2	1.4	1.5		0.8		1	1.7	5	4.6	2.3	2.4	5	3.5	1.5	4.3	5.4	3	5	6.8	3.1	1.8	7	3.8	4.3
1.1	1.4	1.8		0.8		1.3		0.6	2.9	0.6	1.7	3.5	3.1	5.8	4.3	1.5	4.2	5	3.1	7.8	5.5	5	1.1	6.3	3.3	3.4
1.2	1.5							0.5	0.9	2.1	1.7	4.5	3.2	1.2	0.3		2.8	5	8.8	3.7	8.8	3.4	5.8	8	3.3	1.2
0.6								1.3	3	1.6	3.1	5	2	2.5	1.6		3.4	3.6	8.5	5.1	9.8	3.4	5.2	6.1	1.8	6
								0.2	1.6	3.5	3.2	1.1	3.3	2.9	3.9		3.1	2.5	4.4	8.1	3.3	7.5	3.7	7.8		5.9
								0.85	4.2	4.3	4.8	1.9	3.7	4.3	1.9		3.7	0.6	7.3	5.4	3.2	6.8	3.3	10.2		3.5
								0.5	3.9	3.1	2.6	4.2	3	1.7	1.5		4.7	2.7	5.4	6.7	3.7	3.6	6.4	7.7	7.2	5.8
								0.1	2.7	3.5	4.7	3.5	0.8	3.7	3.2		2.5	4.4	7.2	7.3	4.4	6.7	4	7.8	7.2	4.6
								0.2	4.3	1	3.3	3.5	1.6	0.8	4.1		1.6	8.7	7.1	4.9	4.6	8.7	5.7	2.5	7.2	3.5
								3.6	1.2	4.2	1.4	3	1.7		2.1	2.3	6.8	7.5	1.1	4	8.1	7	1.6	6.7	5.5	
								4	4.4						3.7	1.6	1.6	7.4	4.6		6.8	9.7	0.8	2.4	5.4	
								4.7	4.4						2.2	0.7	6.4	4.7				7.2	4.9	4.3	4.8	
								4.7							3.6	3.6	6.2	3.1						6	3.6	
															2.4	1.7	7.2	3						4.9	4.4	
															0.9	2.1								4.6	4.4	
															1.3	3.2								6.4	4.9	
Average height of plants in each 2" square									Average height of plants in each 2" square									Average height of plants in each 2" square								
1.1	1.3	1.3	1.3	1.2	1.3	1.5	1.5	0.9	3.1	3.1	3.4	2.9	2.9	2.7	3.1	2.7	2.9	4.8	5.3	5.7	5.4	5.0	4.6	4.9	5.1	4.2
Average height of plants in each bucket									Average height of plants in each bucket									Average height of plants in each bucket								
1.2			1.3			1.3			3.2			2.9			2.9			5.3			5.0			4.7		
Average height of plants of Sample									Average height of plants of Sample									Average height of plants of Sample								
1.3									3.0									5.0								
Mass(mg) of plants in each 2" square																										
127.8	137.5	139.4	103.2	99.2	92.5	120.6	69.8	171.4																		
Average per square																										
117.9																										
Total mass(mg) of plants in each bucket																										
404.7									294.9									361.8								
Total mass(mg) of plants for sample																										
1061.4																										

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Temp (27 +/- 2 C)	26.4	26			26.1	26.9	27	26.9	26.8			26.7	26.5	26.2	26.6			26.1			
Humidity (45 +/- 5 % RH)	38	51			43	39	43	44	43			39	38	43	43			42			
Light Intensity (900 +/- 100 ft-cd)	873	889			879	895	892	876	880			861	846	844	844			822			
Water Added (ml)	500						400						400								

RECP Germination

Date 05/06/10
Client US Erosion Control Products
TRI Log # E2280-39-03
Sample ID Control

Top Thin layer of top soil
175 seeds
4" layer top soil
Bottom _____

Control

Day 7									Day 14									Day 21								
Bucket 1			Bucket 2			Bucket 3			Bucket 1			Bucket 2			Bucket 3			Bucket 1			Bucket 2			Bucket 3		
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Number of Germinated Seeds									Number of Germinated Seeds									Number of Germinated Seeds								
3	0	0	0	0	0	3	10	2	13	16	13	15	12	2	13	20	15	13	16	12	24	17	6	16	21	14
Average per square									Average per square									Average per square								
2.0									13.2									15.4								
Height of Germinated Plants									Height of Germinated Plants									Height of Germinated Plants								
1.1						1.1	0.3	0.5	2.1	1.2	1.6	1.6	2.3	1.9	2.2	2.9	2.4	3	4	2.7	3	2.6	2.6	0.8	4.1	3.9
0.9						0.9	0.5	0.1	4.8	2.6	2.6	2.3	1.8	1.5	1.6	0.9	2.5	4.4	3.3	4.3	3.8	0.4	2.1	2.8	5	4.4
0.6						0.4	0.1		1.2	0.9	2.1	0.5	1		0.3	4.1	3.3	6.1	3.7	2.7	1.6	1.2	3.6	3.6	5.3	3.5
						1			2	2.3	0.8	0.69	2.4		1.8	1.8	2.3	6.2	4	3.9	2.1	4.6	2.3	3.6	1.8	4
						1.3			4.3	2.4	1	2	2.8		2.2	3.9	2.4	3.1	4	2.9	3.2	4.6	0.7	3.4	3.2	5.4
						0.9			1.9	2.7	2.6	2.2	1.2		3.5	3	0.9	3.4	2.2	4.7	3.5	1.8	3.4	2.3	0.9	3.2
						0.9			1.4	2	1.5	1.9	1.1		3.4	3	2.9	4.2	4.6	3.1	2.1	3		3.4	5.6	2.9
						1.1			3	1.6	2	2.2	3		2.5	4.3	3.9	3.1	2.9	4.8	2.6	3.7		1.3	4.7	5.9
						1.1			2.1	2.2	0.3	0.8	2.5		2.2	2.3	1.8	3.8	1.9	1.7	1.8	4.1		6.8	3.2	3.5
						1.2			2.6	2.3	2.8	0.9	2		0.3	2.2	2	3.4	3.4	4.5	4	3.9		1.7	5.1	3.5
									3	2.4	1.7	1.7	2.5		3.3	3	1.8	3.5	3.7	3.7	2.5	2.2		4.6	4.5	3.7
									2.9	2.4	2.4	2.5	3.2		3.4	1.7	2.3	8.2	3.9	3.6	2.1	2.4		3.2	3.1	3.8
									2.5	2.1	2.3	0.6			1.6	3.5	0.6	5	3.9		3.69	3.6		4.7	4.1	2.3
									2.2		0.7				3.1	0.8		3.3		3.4	5.3			4.7	4	2.8
									2.2		3.7				3.4	1.9		4.3		1.6	2.5			1	2.3	
									2.3						3.5			3.9		3.5	2.8			1	5	
															2.5					3.2	2.6					3.7
															2.9						2.2					5.1
															3						4.2					3.69
															4.2						1.8					6.4
																					2.9					3.6
																					2.2					
																					1.9					
																					6					
Average height of plants in each 2" square									Average height of plants in each 2" square									Average height of plants in each 2" square								
0.9						0.8	0.8	0.3	2.6	2.1	1.8	1.6	2.2	1.7	2.2	3.0	2.1	4.4	3.6	3.6	2.9	3.0	2.5	3.1	4.0	3.8
Average height of plants in each bucket									Average height of plants in each bucket									Average height of plants in each bucket								
0.9									2.2									3.8								
Average height of plants of Sample									Average height of plants of Sample									Average height of plants of Sample								
0.8									2.1									3.4								
Mass(mg) of plants in each 2" square																										
42.3	31	22.5	34.8	23.2	8.2	30.2	40.2	35.6																		
Average per square																										
29.8																										
Total mass(mg) of plants in each bucket																										
95.8									66.2									106								
Total mass(mg) of plants for sample																										
268																										

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Temp (27 +/- 2 C)	26.4	26			26.1	26.9	27	26.9	26.8			26.7	26.5	26.2	26.6			26.1				
Humidity (45 +/- 5 % RH)	38	51			43	39	43	44	43			39	38	43	43			42				
Light Intensity (900 +/- 100 ft-cd)	873	889			879	895	892	876	880			861	846	844	844			822				
Water Added (ml)	500					400					400											

Germination / Vegetation Growth Summary

ASTM D 7322:

STANDARD INDEX TEST METHOD FOR the DETERMINATION of TEMPORARY DEGRADABLE
RECP PERFORMANCE IN ENCOURAGING SEED GERMINATION AND PLANT GROWTH

Photographs



Bucket # 1 US-2P12



Bucket # 1 Control



Bucket # 2 US-2P12



Bucket # 2 Control



Bucket # 3 US-2P12



Bucket # 3 Control