

EPA 9090 TESTING OF 82 TEX WOVEN GEOTEXTILE

Samples of 82 Tex, a woven polypropylene geotextile manufactured by Synthetic Industries, were tested for compatibility with landfill leachate sampled from the Lakeview Landfill Disposal facility located in Erie, Pennsylvania. Numerous laboratory tests were completed on specimens subjected to leachate to determine if conditions found in a landfill will adversely affect the properties of 82 Tex. Laboratory tests include:

Grab Strength	ASTM D-4632
Trapezoidal Tear	ASTM D 4533
Puncture	ASTM D 4833
Mullen Burst	ASTM D 3786
Permittivity	ASTM D 4491
Dimensional Stability	ASTM D 4591
Thickness	ASTM D 5199
Mass/Unit Area	ASTM D 3776

The above testing was conducted at temperatures of 23°C and 50°C to model potential conditions that a geotextile would experience in a landfill application. Testing was conducted after exposure to leachate at intervals of 30, 60, 90 and 120 days. Initial baseline testing of specimens not immersed in leachate was also conducted for comparison purposes.

Test data shows that the fabric performed well when subjected to the leachate and temperature conditions used in the testing program. Variations in test results can be attributed the general variability of the material itself. Graphical representation of test data in the form of percent change from specimens not immersed in leachate can be viewed in the document.

**Final Report
EPA 9090 Testing
82 Tex Woven Geotextile**

Synthetic Industries

Performed For:

**Synthetic Industries
Construction Products Division
4019 Industry Drive
Chattanooga, TN 37416**

Performed By:

**J&L Testing Company, Inc.
938 South Central Avenue
Canonsburg, PA 15317**

**May 4, 1994
Job No: 93R1419**



J&L TESTING COMPANY, INC.

GEOTECHNICAL AND GEOSYNTHETICS MATERIALS TESTING AND RESEARCH

May 4, 1994
93R1419

Synthetic Industries
Construction Products Division
4019 Industry Drive
Chattanooga, TN 37416

Attention: Mr. Rick Riggs

RE: FINAL REPORT
EPA 9090 TESTING
82 TEX WOVEN GEOTEXTILE
SYNTHETIC INDUSTRIES

Dear Mr. Riggs:

We are pleased to submit herein the final test results for EPA 9090 testing performed on Synthetic Industries 82 Tex woven geotextile. The test was performed using leachate from the Lakeview Landfill Disposal Facility located in Erie, Pennsylvania, owned and operated by Waste Management of North America. Results of the tests are presented in Appendix A with a description of the leachate presented in Appendix B.

Upon receipt of the material, coupons were cut from the sheet to statistically sample the material per ASTM protocols. These samples were then randomly selected for the initial baseline testing and for immersion in the 23°C and 50°C temperature controlled 22 gallon glass tanks. Initial baseline/reference tests included:

Grab Strength	ASTM D-4632	Machine & Cross Direction
Trap Tear	ASTM D-4533	Machine & Cross Direction
Puncture	ASTM D-4833	
Mullen Burst	ASTM D-3786	
Permittivity	ASTM D-4491	
Dimensional Stability	ASTM D-4594	
Thickness	ASTM D-5199	
Mass/Unit Area	ASTM D-3776	

At 30, 60, 90 and 120 day intervals, randomly sampled coupons were extracted from each of the two temperature controlled tanks and these samples were tested for the same property characteristics as the baseline sample. The results are presented on the attached tables and the percent differences in the results are compared to the baseline samples and plotted as shown in Appendix A.

Each of the plots are discussed below:

Grab Strength (Machine and Cross Direction)

In the machine direction the data, on average, indicates little change in the material and probably within the range of the statistical differences of the product itself. In the cross direction there is a slightly downward trend in strength averaging about 6% strength loss over 120 days. However, the woven fibers tend to slightly loosen during exposure in the tank due to the recirculating system of the apparatus. This may have caused the slight loss in strength.

Trapezoidal Tear Strength (Machine and Cross Direction)

Both machine and cross direction tests indicated a variation in data, however, on the average, the strength essentially remained unchanged over the 120 day test period.

Puncture Strength

No significant changes in the material occurred over the 120 test period except for the statistical differences in the material itself.

Mullen Burst

Similar to puncture strength, no significant changes were observed. The data may appear to indicate a strength gain, however, this could be attributed to the variations of the product through random sampling procedures.

Permittivity

The data shows a general downward trend. Inspection of the samples revealed a build-up of sediments, over time, on the fabric from the leachate. These sediments tend to retard flow during the permittivity test.

Dimensions

No significant changes were observed.

Thickness

The only anomaly in this test are the results at 120 days. A careful inspection of the fabric sample used for thickness indicated a slight build-up of leachate residue on the material. This accounted for the slight increase in thickness. Had these accumulations been scraped off the fibers, the thickness would have been comparable to the other tests.

Mass/Unit Area

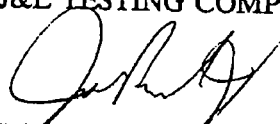
The data appears to show a slight downward trend in mass/unit area. However, the loss is generally less than 2% and probably within the statistical variation of the material itself.

In summary, the fabric performs well although there were some noted variations in the product. For the most part, these variations can be attributed to leachate particulate accumulations on the material over time, some loosening of the fibers associated with the recirculation system of the tanks and the general variability of the material.

Should you have any questions, please do not hesitate to call.

Sincerely,

J&L TESTING COMPANY, INC.



John Boschuk, Jr., P.E., REP
Director - Research & Development

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

INITIAL (UNIMMERSED)

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		179.6	151.7	152.0			161.1	13.082
CD		157.3	154.4	180.2			164.0	11.540
TRAP TEAR	lbs							
MD		60.1	68.6	61.3			63.3	3.756
CD		61.9	58.8	58.3			59.7	1.592
PUNCTURE	lbs	85.8	77.0	87.4			83.4	4.572
MULLEN BURST	psi	310	312	322	325	308	315	6.800
PERMITTIVITY	sec-1							
23 deg.spec.		0.15	0.18	0.16			0.16	0.012
50 deg.spec.		0.15	0.18	0.16			0.16	0.012

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

SUMMARY OF TEST DATA

82 TEX WOVEN GEOTEXTILE

IMMERSION PERIOD

MECHANICAL PROPERTY	IMMERS. TEMP.	DIR.	INITIAL VALUE	30-DAY		60-DAY		90-DAY		120 DAY	
				VALUE	%CHANGE Initial	VALUE	%CHANGE Initial	VALUE	%CHANGE Initial	VALUE	%CHANGE Initial
GRAB STRENGTH (lbs)	23	MD	161.1	151.8	-5.77	176.6	9.62	160.1	-0.62	145.3	-9.81
		CD	164.0	158.4	-3.41	166.8	1.71	156.4	-4.63	157.1	-4.21
	50	MD	161.1	166.1	3.10	163.2	1.30	149.4	-7.26	169.2	5.03
		CD	164.0	167.2	1.95	158.1	-3.60	163.5	-0.30	149.9	-8.60
TRAP TEAR (lbs)	23	MD	63.3	54.3	-14.22	78.2	23.54	74.1	17.06	64.4	1.74
		CD	59.6	51.6	-13.42	91.5	53.52	89.8	50.67	64.4	8.05
	50	MD	63.3	54.9	-13.27	76.8	21.33	76.9	21.48	66.1	4.42
		CD	59.6	53.7	-9.90	89.0	49.33	65.7	10.23	62.4	4.70
PUNCTURE (lbs)	23		83.4	85.8	2.88	72.1	-13.55	83.5	0.12	96.1	15.23
	50		83.4	92.5	10.91	83.4	0.00	83.5	0.12	93.2	11.75
MULLEN BURST	23		315	314	-0.32	337	6.98	333	5.71	324	2.86
	50		315	323	2.54	335	6.35	325	3.17	326	3.49
PERMITTIVITY	23		0.16	0.16	0.00	0.12	-25.00	0.15	-6.25	0.12	-25.00
	50		0.16	0.17	6.25	0.13	-18.75	0.17	6.25	0.12	-25.00

PHYSICAL PROPERTY	IMMERS. TEMP.	30 DAY %CHANGE	60 DAY %CHANGE	90 DAY %CHANGE	120 DAY %CHANGE
DIMENSIONS (Ave. both dir.)	23	0.00	0.08	0.14	0.00
	50	-0.06	-0.08	0.30	0.00
	23	0.45	0.01	-0.01	11.46
	50	0.47	0.02	1.45	8.66
MASS/UNIT AREA	23	3.31	-0.42	-2.45	-0.68
	50	-0.44	0.62	-1.28	-2.09

SYNTHETIC INDUSTRIES
J & L TESTING CO., INC. TEST RESULTS
82 TEX WOVEN GEOTEXTILE
30 DAY, 23 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		157.5	148.4	149.4			151.8	4.075
CD		160.7	151.2	163.2			158.4	5.169
TRAP TEAR	lbs							
MD		51.8	53.8	57.3			54.3	2.273
CD		50.4	55.9	48.5			51.6	3.138
PUNCTURE	lbs	87.3	81.5	88.6			85.8	3.087
MULLEN BURST	psi	310	340	310	320	290	314	16.248
PERMITTIVITY	sec-1	0.16	0.15	0.16			0.16	0.005
PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.13	20.00					
Final Length		20.13	20.00					
% Change		0.00	0.00				0.00	0.000
Initial Width		13.94	14.16					
Final Width		13.94	14.16					
% Change		0.00	0.00				0.00	0.000
THICKNESS	mils							
Initial		11	11					
Final		11	11					
% Change		-0.90	1.80				0.45	1.351
MASS/UNIT AREA	oz/sy							
Initial		3.19	3.44					
Final		3.42	3.42					
% Change		7.21	-0.58				3.31	3.896

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

30 DAY, 50 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		167.8	173.2	157.2			166.1	6.646
CD		158.5	172.0	171.0			167.2	6.142
TRAP TEAR	lbs							
MD		55.7	54.3	54.6			54.9	0.602
CD		51.3	56.4	53.5			53.7	2.089
PUNCTURE	lbs	97.0	84.3	96.2			92.5	5.807
MULLEN BURST	psi	340	310	325	330	310	323	11.662
PERMITTIVITY	sec-1	0.17	0.17	0.17			0.17	0.000

PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.13	19.94					
Final Length		20.19	19.88					
% Change		0.30	-0.30				-0.00	0.299
Initial Width		14.06	14.03					
Final Width		14.06	14.00					
% Change		0.00	-0.21				-0.11	0.107
THICKNESS	mils							
Initial		11	11					
Final		11	11					
% Change		1.83	-0.89				0.47	1.364
MASS/UNIT AREA	oz/sy							
Initial		3.42	3.46					
Final		3.40	3.45					
% Change		-0.58	-0.29				-0.44	0.148

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

60 DAY, 23 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		191.7	178.6	159.6			176.6	13.178
CD		164.6	171.7	164.1			166.8	3.471
TRAP TEAR	lbs							
MD		74.4	83.6	76.7			78.2	3.909
CD		82.0	91.2	101.3			91.5	7.882
PUNCTURE	lbs	75.1	63.7	77.6			72.1	6.069
MULLEN BURST	psi	360	336	314	334	340	337	14.675
PERMITTIVITY	sec-1	0.11	0.10	0.14			0.12	0.017

PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.00	19.94					
Final Length		20.00	20.00					
% Change		0.00	0.30				0.15	0.150
Initial Width		13.97	14.00					
Final Width		13.97	14.00					
% Change		0.00	0.00				0.00	0.000
THICKNESS	mils							
Initial		111	110					
Final		109	112					
% Change		-1.80	1.82				0.01	1.810
MASS/UNIT AREA	oz/sy							
Initial		3.55	3.59					
Final		3.55	3.56					
% Change		0.00	-0.84				-0.42	0.418

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

60 DAY, 50 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		165.3	157.9	166.4			163.2	3.774
CD		153.8	160.1	160.4			158.1	3.043
TRAP TEAR	lbs							
MD		94.8	69.5	66.2			76.8	12.776
CD		97.8	75.1	94.2			89.0	9.961
PUNCTURE	lbs	83.7	82.4	84.2			83.4	0.763
MULLEN BURST	psi	340	330	342	326	337	335	6.066
PERMITTIVITY	sec-1	0.13	0.13	0.14			0.13	0.005

PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.00	20.06					
Final Length		20.00	20.00					
% Change		0.00	-0.30				-0.15	0.150
Initial Width		14.06	14.44					
Final Width		14.06	14.44					
% Change		0.00	0.00				0.00	0.000
THICKNESS	mils							
Initial		110	115					
Final		111	114					
% Change		0.91	-0.87				0.02	0.889
MASS/UNIT AREA	oz/sy							
Initial		3.45	3.34					
Final		3.40	3.43					
% Change		-1.45	2.69				0.62	2.072

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

90 DAY, 23 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		162.2	162.9	155.3			160.1	3.430
CD		163.7	161.7	143.8			156.4	8.947
TRAP TEAR	lbs							
MD		72.8	68.9	80.7			74.1	4.909
CD		72.2	102.9	94.3			89.8	12.931
PUNCTURE	lbs	80.6	84.9	84.9			83.5	2.046
MULLEN BURST	psi	330	345	340	320	330	333	8.718
PERMITTIVITY	sec-1	0.16	0.14	0.16			0.15	0.009
PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.13	19.13					
Final Length		20.13	19.06					
% Change		0.00	-0.34				-0.17	0.170
Initial Width		14.69	14.06					
Final Width		14.75	14.13					
% Change		0.41	0.46				0.44	0.027
THICKNESS	mils							
Initial		11	11					
Final		11	11					
% Change		-1.80	1.79				-0.01	1.794
MASS/UNIT AREA	oz/sy							
Initial		3.45	3.47					
Final		3.42	3.33					
% Change		-0.85	-4.04				-2.45	1.592

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

90 DAY, 50 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		144.2	141.6	162.4			149.4	9.253
CD		164.6	160.3	165.7			163.5	2.330
TRAP TEAR	lbs							
MD		77.2	74.2	79.2			76.9	2.055
CD		66.9	59.8	70.4			65.7	4.410
PUNCTURE	lbs	92.0	73.1	85.4			83.5	7.826
MULLEN BURST	psi	320	320	322	334	330	325	5.741
PERMITTIVITY	sec-1	0.18	0.16	0.15			0.17	0.013
PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.13	19.88					
Final Length		20.25	19.94					
% Change		0.62	0.30				0.46	0.160
Initial Width		14.09	14.06					
Final Width		14.19	14.00					
% Change		0.71	-0.44				0.13	0.577
THICKNESS	mils							
Initial		12	11					
Final		11	11					
% Change		-1.72	4.63				1.45	3.177
MASS/UNIT AREA	oz/sy							
Initial		3.43	3.58					
Final		3.35	3.57					
% Change		-2.24	-0.31				-1.28	0.966

SYNTHETIC INDUSTRIES

J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

120 DAY, 23 DEGREE

MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		139.4	145.7	150.8			145.3	4.674
CD		167.3	156.0	147.9			157.1	7.944
TRAP TEAR	lbs							
MD		67.9	66.4	59.0			64.4	3.909
CD		61.6	60.2	71.4			64.4	4.979
PUNCTURE	lbs	92.0	89.8	106.6			96.1	7.452
MULLEN BURST	psi	320	335	310	335	320	324	9.695
PERMITTIVITY	sec-1	0.12	0.11	0.12			0.12	0.005
PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		19.94	20.10					
Final Length		19.94	20.10					
% Change		0.00	0.00				0.00	0.000
Initial Width		14.12	14.00					
Final Width		14.12	14.00					
% Change		0.00	0.00				0.00	0.000
THICKNESS	mils							
Initial		11	11					
Final		13	13					
% Change		12.39	10.53				11.46	0.932
MASS/UNIT AREA	oz/sy							
Initial		3.55	3.46					
Final		3.49	3.47					
% Change		-1.83	0.47				-0.68	1.148

SYNTHETIC INDUSTRIES

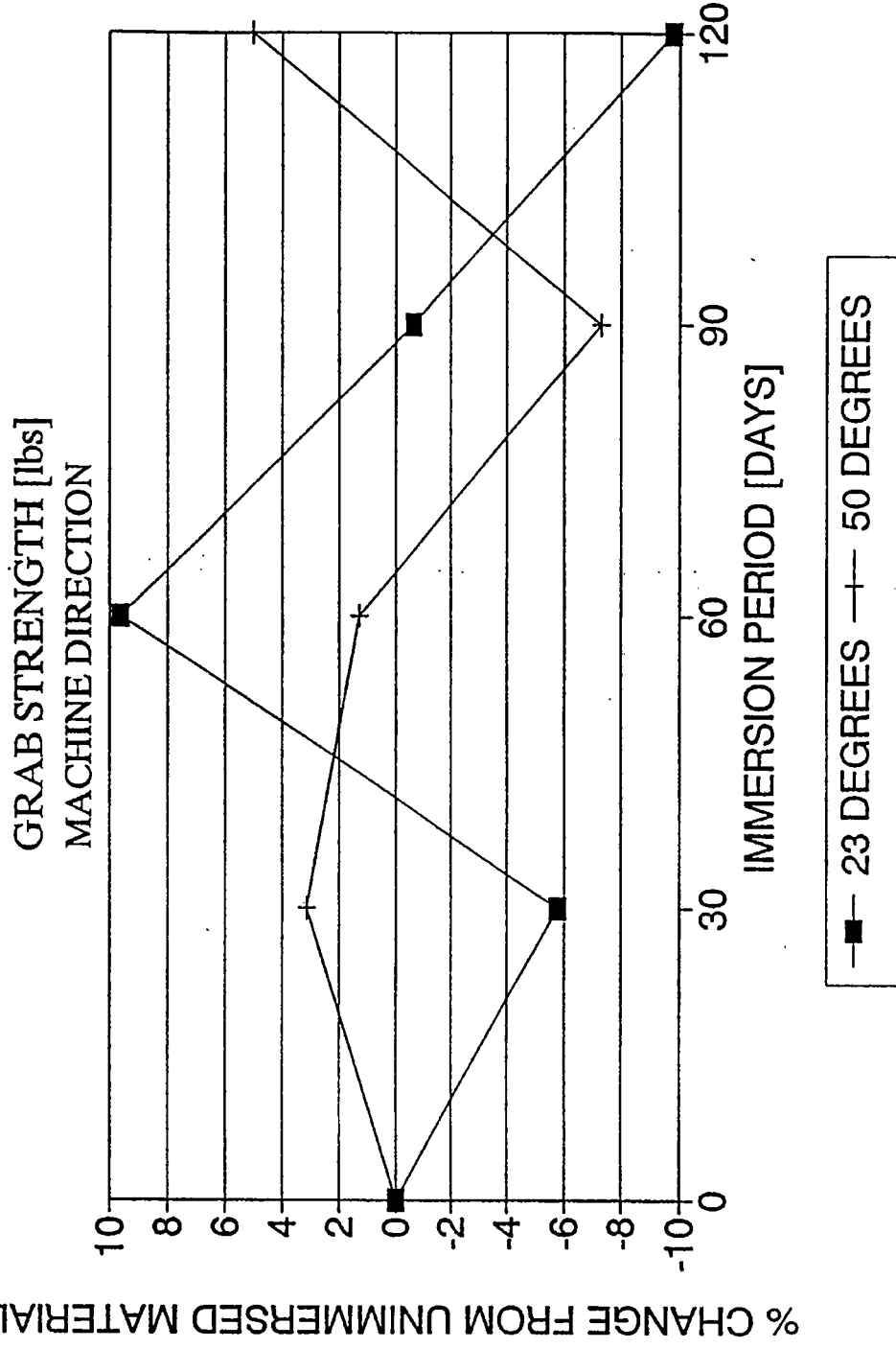
J & L TESTING CO., INC. TEST RESULTS

82 TEX WOVEN GEOTEXTILE

120 DAY, 50 DEGREE

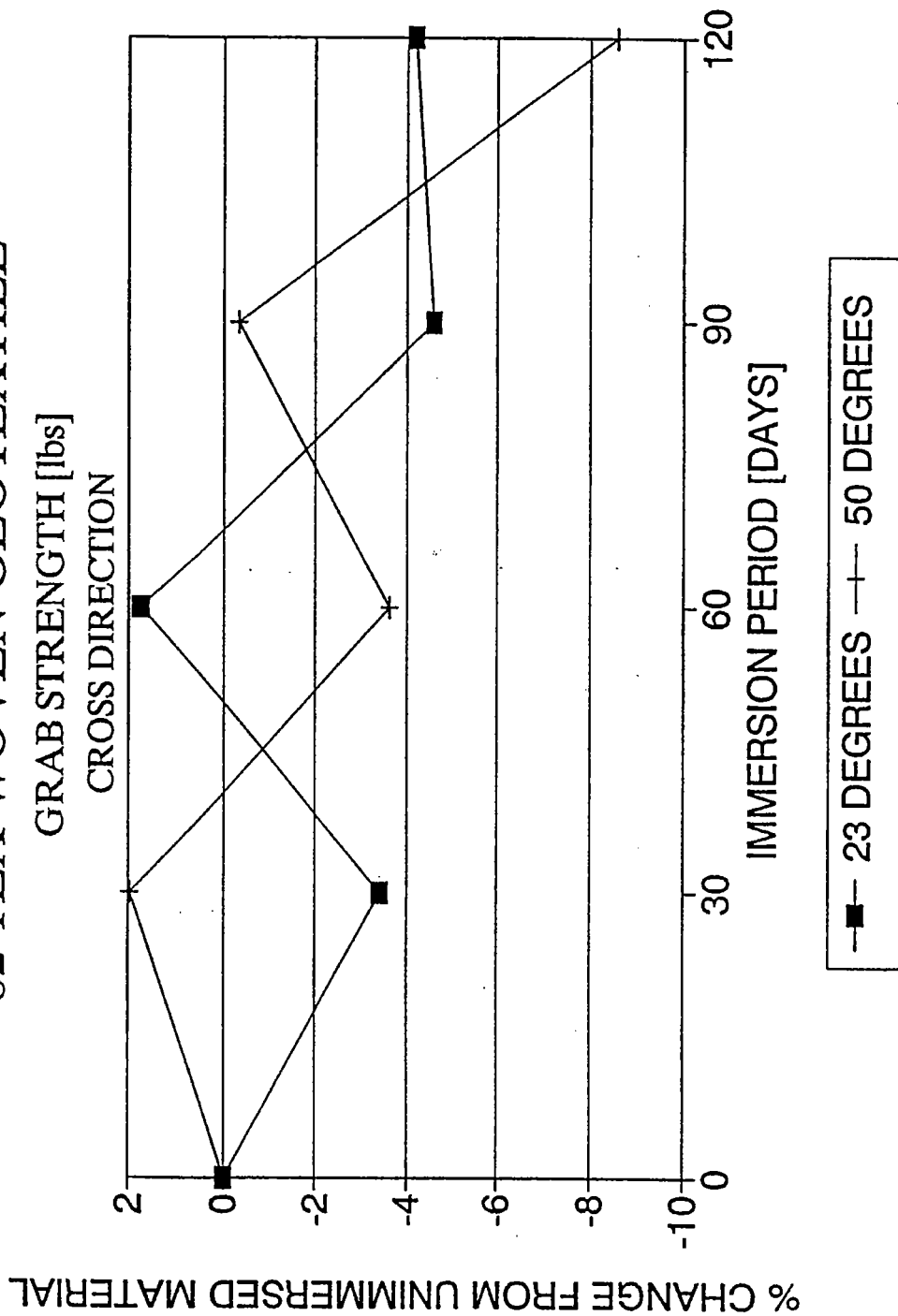
MECHANICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
GRAB TENSILE	lbs							
MD		164.6	170.4	172.6			169.2	3.366
CD		141.7	153.1	154.7			149.9	5.780
TRAP TEAR	lbs							
MD		66.6	67.4	64.2			66.1	1.380
CD		58.9	62.6	65.8			62.4	2.806
PUNCTURE	lbs	95.5	91.1	93.1			93.2	1.807
MULLEN BURST	psi	325	310	335	330	330	326	8.602
PERMITTIVITY	sec-1	0.12	0.11	0.11			0.12	0.003
PHYSICAL PROPERTY	UNITS	SPEC 1	SPEC 2	SPEC 3	SPEC 4	SPEC 5	MEAN	STD.DEV.
DIMENSIONS	in							
Initial Length		20.12	19.90					
Final Length		20.12	19.90					
% Change		0.00	0.00				0.00	0.000
Initial Width		14.00	14.00					
Final Width		14.00	14.00					
% Change		0.00	0.00				0.00	0.000
THICKNESS	mils							
Initial		12	12					
Final		13	13					
% Change		9.57	7.76				8.66	0.903
MASS/UNIT AREA	oz/sy							
Initial		3.49	3.57					
Final		3.37	3.54					
% Change		-3.26	-0.92				-2.09	1.169

SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE



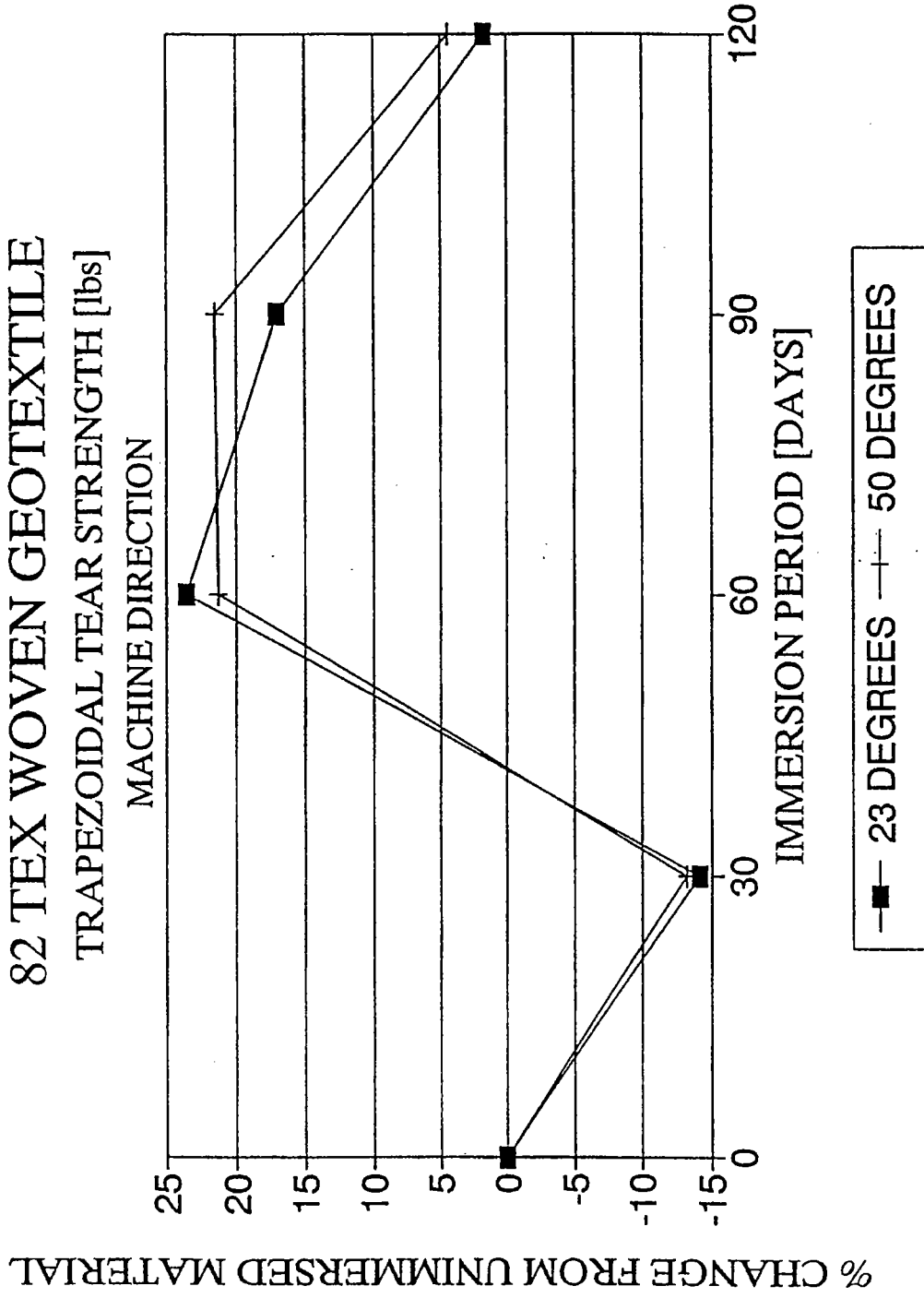
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SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE



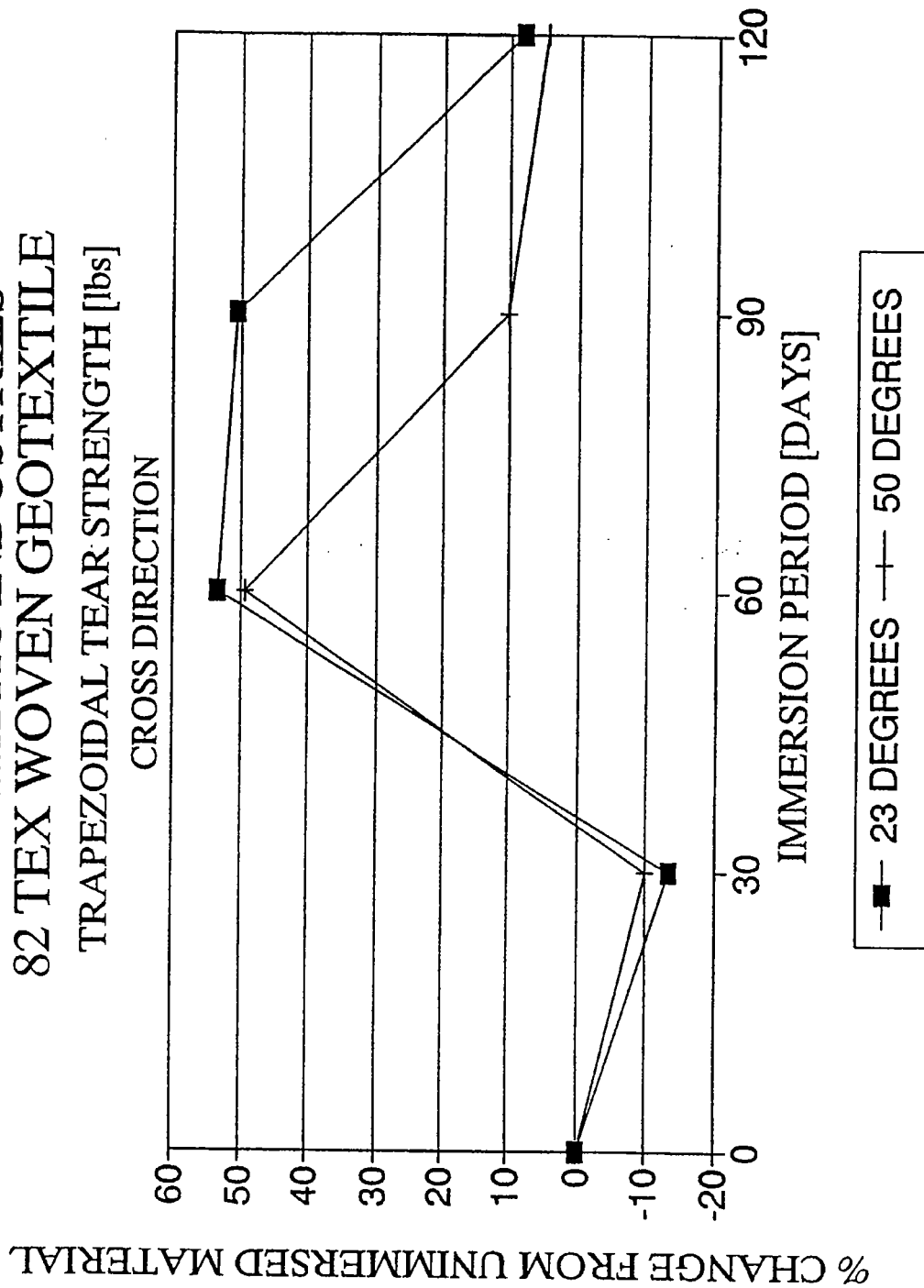
J&L TESTING COMPANY, INC.

SYNTHETIC INDUSTRIES
82 TEX WOVEN GEOTEXTILE
TRAPEZOIDAL TEAR STRENGTH [lbs]



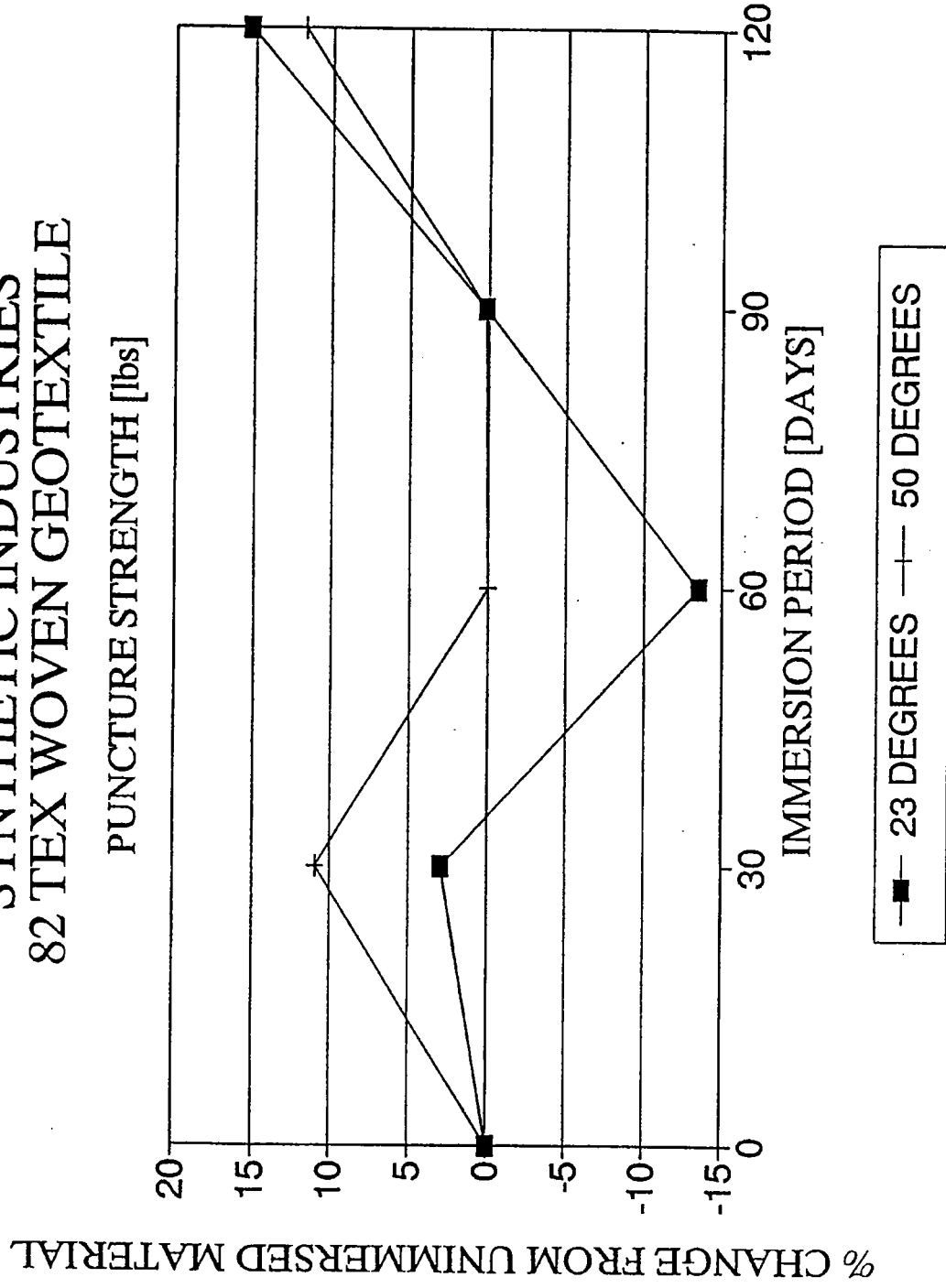
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SYNTHETIC INDUSTRIES
82 TEX WOVEN GEOTEXTILE
TRAPEZOIDAL TEAR STRENGTH [lbs]



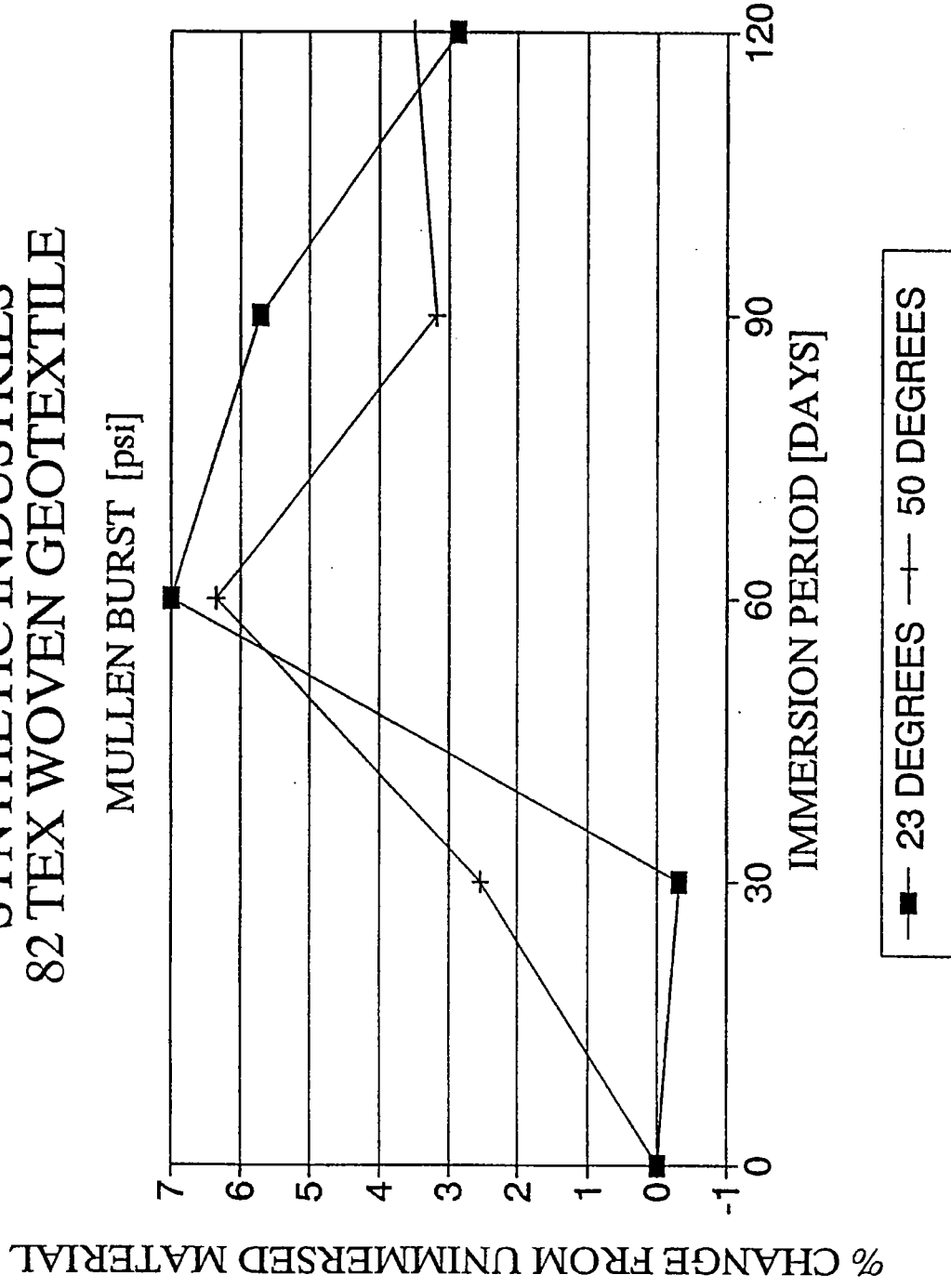
J&L TESTING COMPANY, INC.

SYNTHETIC INDUSTRIES
82 TEX WOVEN GEOTEXTILE



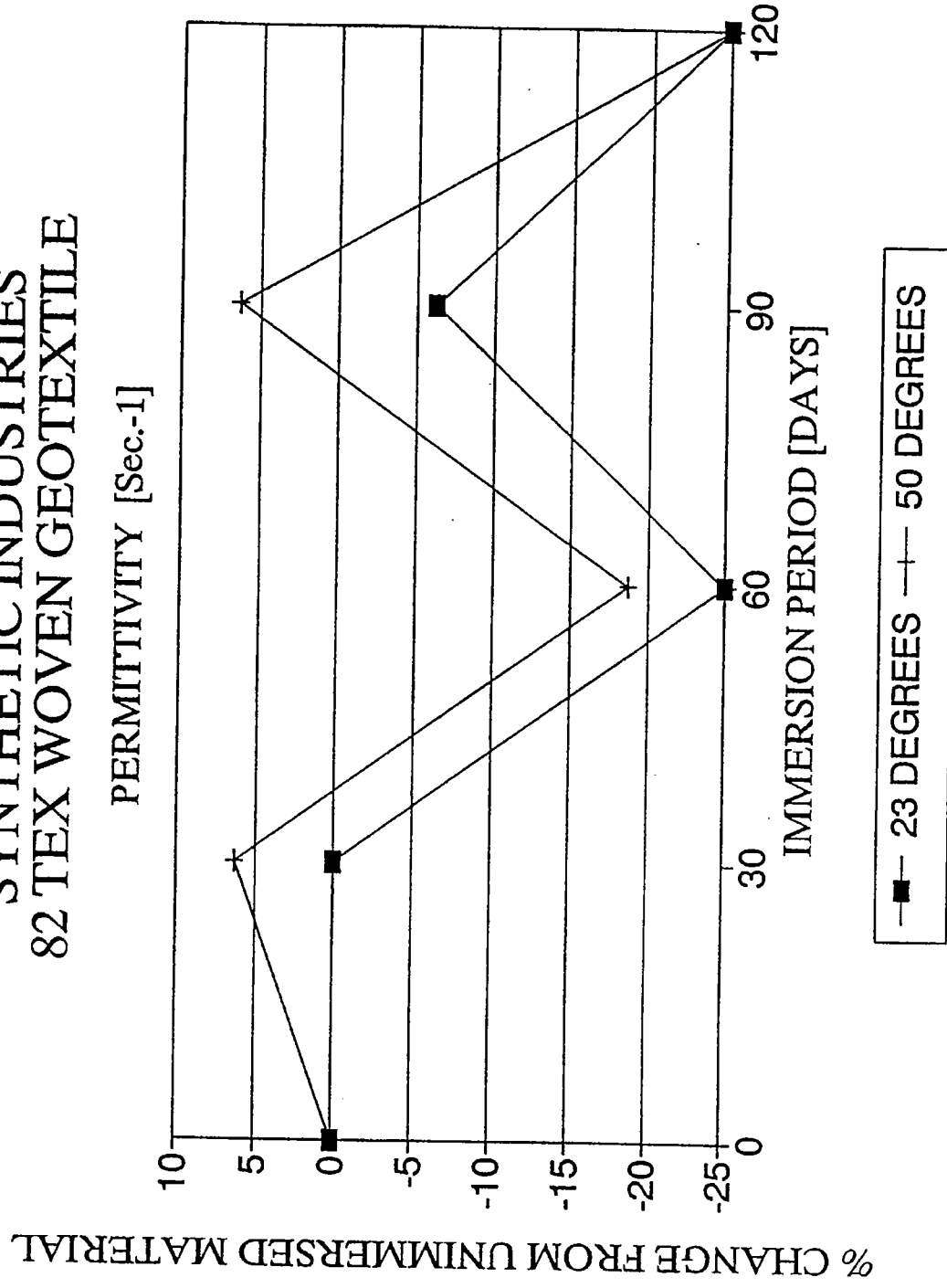
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SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE



J&L TESTING COMPANY, INC.

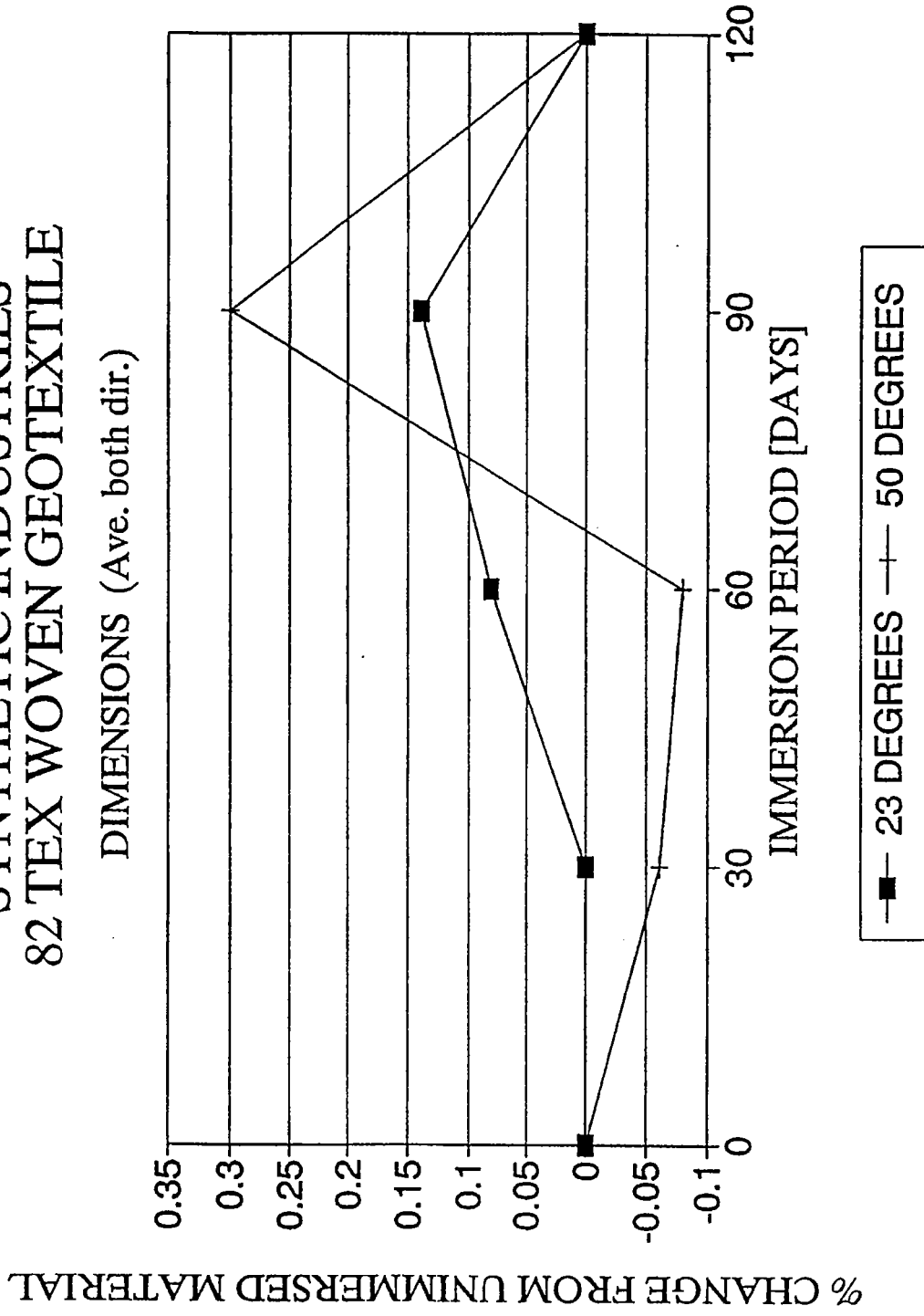
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J&L TESTING COMPANY, INC.

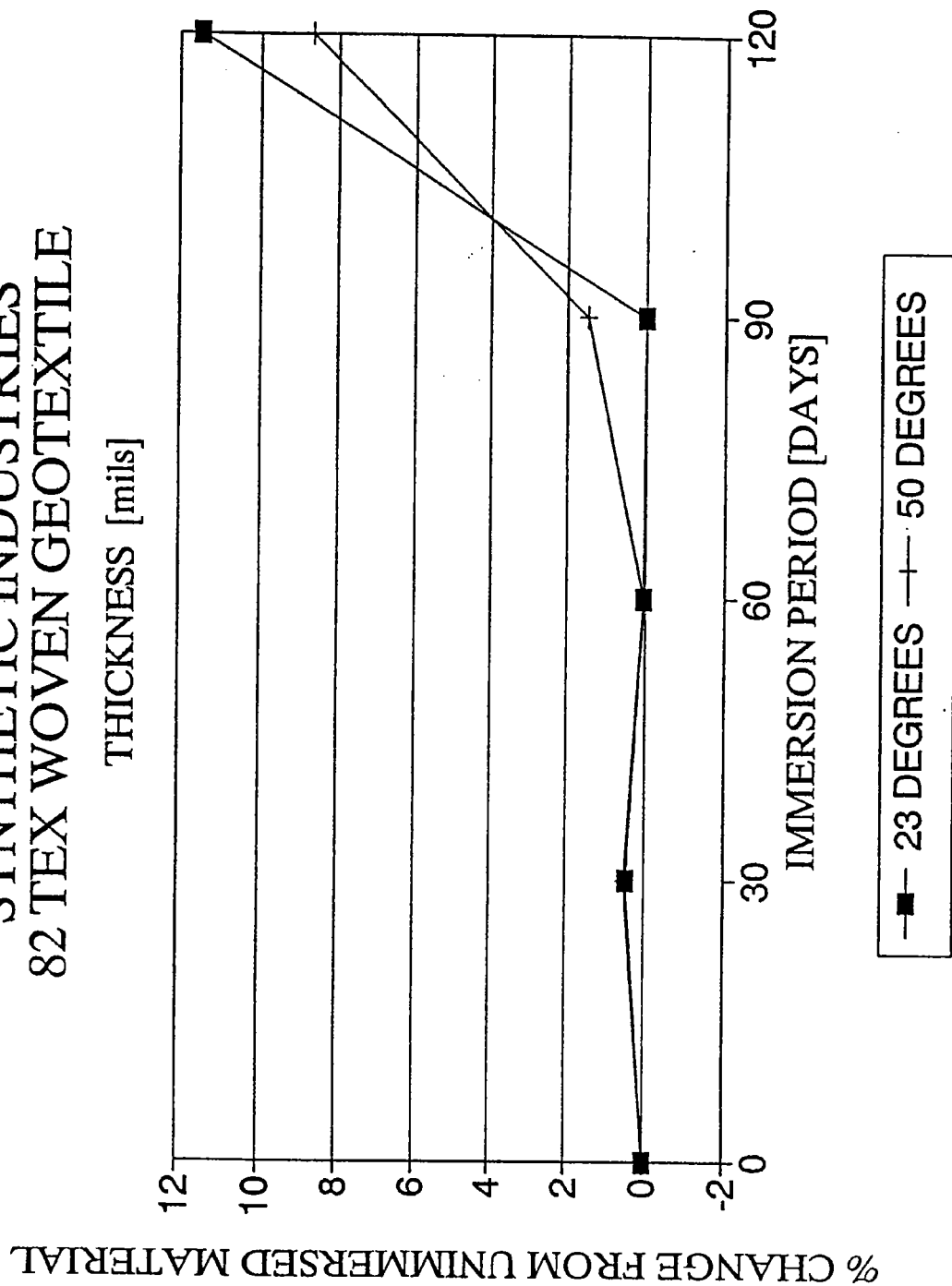
SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE

DIMENSIONS (Ave. both dir.)



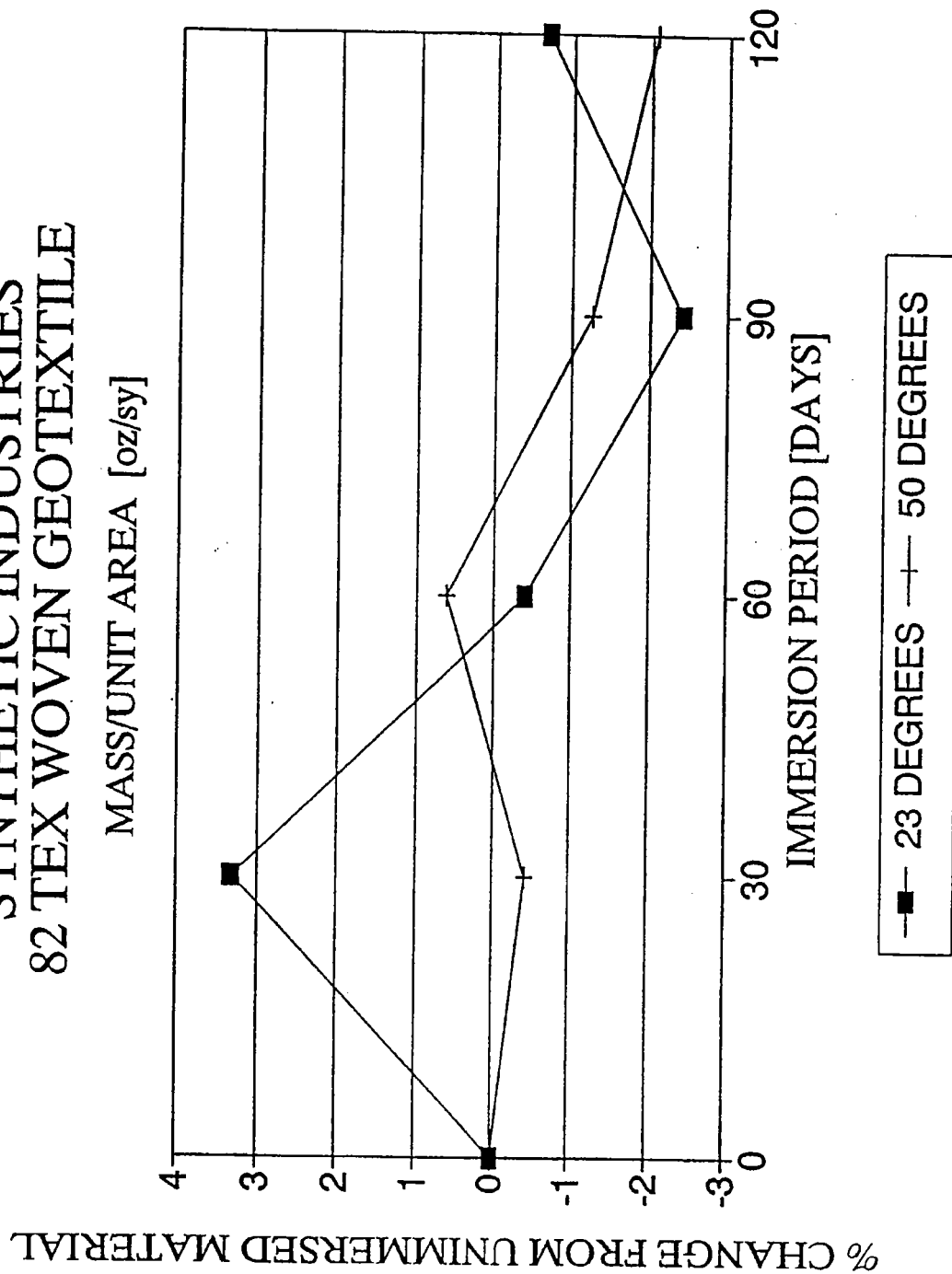
J&L TESTING COMPANY, INC.

SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE



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SYNTHETIC INDUSTRIES 82 TEX WOVEN GEOTEXTILE



J&L TESTING COMPANY, INC.



W&K ENVIRONMENTAL MONITORING LABORATORIES, INC

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CLIENT REPORT

Site: 425 - Lake View Landfill
Disposal Facility
851 Robinson Road East
Erie PA 16509

Sample Point: METEIT
Sample Type: LEACHATE
Sample Number: AIS461

KNS: 93-14364
MW: 425932
REV: 02

Sampled: 4-NOV-1993
Received: 5-NOV-1993
Reported: 6-DEC-1993

Analyte	Result	EML RL	Units	Comments	Method
FIELD DATA:					
DEPTH TO LEACHATE	NA		FT		FDCXDATA01
LEACHATE ELEVATION	NA		FT MSL		FDCXDATA01
PH FIELD	6.99		PH UNITS		FDPHQAD01
PH FIELD	6.98		PH UNITS		FDPHQAD01
PH FIELD	6.97		PH UNITS		FDPHQAD01
PH FIELD	6.95		PH UNITS		FDPHQAD01
SAMPLE COLLECTORS NAME	R. WAGNER				FDPHQAD01
SAMPLING EQUIPMENT	N				FDPHQAD01
SAMPLING MATERIAL	PLAS/BOTT				FDPHQAD01
SPECIFIC CONDUCTANCE FIELD	2910		UMHOS/CM		FDPHQAD01
SPECIFIC CONDUCTANCE FIELD	2900		UMHOS/CM		FDPHQAD01
SPECIFIC CONDUCTANCE FIELD	2900		UMHOS/CM		FDPHQAD01
SPECIFIC CONDUCTANCE FIELD	2890		UMHOS/CM		FDPHQAD01
WATER TEMPERATURE IN DEGREES CELSIUS	8.4		DEGREES C		FDPHQAD01
CHEMICAL METHODS & ROBOTICS:					
CHEMICAL OXYGEN DEMAND	418	50.	MG/L	DL	CRCODXXX01
NITROGEN, AMMONIA	45.2	1.00	MG/L	DL	CRN2NH3X01
PH	6.79	0.05	PH UNITS		CRPHXQUD04
PH	6.79	0.05	PH UNITS		CRPHXQUD04
PH	6.79	0.05	PH UNITS		CRPHXQUD04
PH	6.78	0.05	PH UNITS		CRPHXQUD04
PHENOLS	.069	0.0050	MG/L	NQ, PX	CRPHXQUD04
SOLIDS, TOTAL SUSPENDED	2020	3.	MG/L		CRPNLRAX01
SOLIDS, TOTAL DISSOLVED	1360	10.	MG/L	DL	CRTSXXXX01
SPECIFIC CONDUCTANCE	2460	1.0	UMHOS/CM		CRTSXXXX01
SPECIFIC CONDUCTANCE	2450	1.0	UMHOS/CM		CRTSXXXX01
SPECIFIC CONDUCTANCE	2450	1.0	UMHOS/CM		CRTSXXXX01
SPECIFIC CONDUCTANCE	2450	1.0	UMHOS/CM		CRTSXXXX01
INORGANICS:					
ALKALINITY, BICARBONATE	1110	10.	MG/L		CRN2NH3X01
BIOCHEMICAL OXYGEN DEMAND	200	120.	MG/L	DL, NQ	INBODXXX01
CALCIUM-TOTAL	292000	5000	UG/L	DL	INICPTOTCA
CHLORIDE	187	2.5	MG/L	DL	INICPTOTCA
IRON-TOTAL	549000	100.	UG/L	DL	INICPTOTFE
LEAD-TOTAL	112	16.0	UG/L	DL	INGFAATOPB
MANGANESE-TOTAL	17500	56.0	UG/L	DL	INICPTOTMN
NICKEL-TOTAL	306	200.	UG/L	DL	INICPTOTMN
SODIUM-TOTAL	142000	8000	UG/L	DL	INICPTOTNA
SULFATE	113	25.0	MG/L	DL	INSULFAT01
ZINC-TOTAL	3110	84.0	UG/L	DL	INICPTOTZN
VOLATILE ORGANICS:					

NA - Not Analyzed

ND - Not Detected

TBK - Trip Blank

Item	Additional Comment Explanations (NQ/DI)
CHEMICAL OXYGEN DEMAND	Dilution factor 5 applied.
NITROGEN, AMMONIA	Dilution factor 50 applied.
PHENOLS	CLOUDY SAMPLE. RESULTS WERE OBTAINED FROM METHOD 420.1 TO ELIMINATE MATRIX PROBLEMS.
SOLIDS, TOTAL DISSOLVED	Dilution factor 2 applied.
BIOCHEMICAL OXYGEN DEMAND	Dilution factor 60 applied.
CALCIUM-TOTAL	DILUTION WATER DEPLETED MORE THAN 0.2 MG/L D.O.
CHLORIDE	Dilution factor 5 applied.
LEAD-TOTAL	Dilution factor 5 applied.
MANGANESE-TOTAL	Dilution factor 05 applied.
NICKEL-TOTAL	Dilution factor 5 applied.
SODIUM-TOTAL	Dilution factor 5 applied.
SULFATE	Dilution factor 5 applied.
ZINC-TOTAL	Dilution factor 5 applied.
VOMSAAN101	Dilution factor 10 applied.
	SAMPLE FORMED THEREFORE DILUTION WAS NECESSARY.



NMX ENVIRONMENTAL MONITORING LABORATORIES, INC

CLIENT REPORT

Site: 425 - Lake View Landfill
Disposal Facility
851 Robinson Road East
Erie PA 16509

Sample Point: METPIT
Sample Type: LEACHATE
Sample Number: AI5461

EES: 93-14364
MP: 425932
MSV: 02

Sampled: 4-NOV-1993
Received: 5-NOV-1993
Reported: 6-DEC-1993

Analyte	Result	EML RL	Units	Comments	Method
1,1,1-TRICHLOROETHANE	ND	50.	UG/L		VOMSAAN101
1,1-DICHLOROETHANE	ND	50.	UG/L		VOMSAAN101
1,1-DICHLOROETHENE	ND	50.	UG/L		VOMSAAN101
1,2-DIBROMOETHANE	ND	80.	UG/L		VOMSAAN101
1,2-DICHLOROETHANE	ND	50.	UG/L		VOMSAAN101
HEXANE	ND	40.	UG/L		VOMSAAN101
CIS-1,2-DICHLOROETHENE	ND	80.	UG/L		VOMSAAN101
ETHYLBENZENE	70.	40.	UG/L		VOMSAAN101
METHYLENE CHLORIDE	170.	50.	UG/L		VOMSAAN101
TETRACHLOROETHENE	ND	40.	UG/L		VOMSAAN101
TOLUENE	170.	40.	UG/L		VOMSAAN101
TRANS-1,2-DICHLOROETHENE	ND	100	UG/L		VOMSAAN101
TRICHLOROETHENE	ND	40.	UG/L		VOMSAAN101
VINYL CHLORIDE	ND	80.	UG/L		VOMSAAN101
XYLENE (TOTAL)	140.	80.	UG/L		VOMSAAN101

NA - Not Analyzed

ND - Not Detected

TRK - Trip Blank



WAX ENVIRONMENTAL MONITORING LABORATORIES, INC

CLIENT REPORT

Site: 425 - Lake View Landfill
Disposal Facility
851 Robinson Road East
Erie PA 16509

Sample Point: METFIT
Sample Type: LEACHATE
Sample Number: AI2506

ENS: 93-13793
MP: 425932
REV: 02

Sampled: 29-DEC-1993
Received: 31-DEC-1993
Reported: 19-JAN-1994

Analyte	Result	EML RL	Units	Comments	Method
FIELD DATA:					
DEPTH TO LEACHATE	NA		FT		FDCXDATA01
LEACHATE ELEVATION	NA		FT MSL		FDCXDATA01
PH FIELD	7.59		PH UNITS		FDPHQAD01
PH FIELD	7.56		PH UNITS		FDPHQAD01
PH FIELD	7.59		PH UNITS		FDPHQAD01
PH FIELD	7.60		PH UNITS		FDPHQAD01
SAMPLE COLLECTORS NAME	C. FERRICK				FDCXSAMPLER
SAMPLING EQUIPMENT	Y				FDCXDATA01
SAMPLING MATERIAL	GLASS				FDCXDATA01
SPECIFIC CONDUCTANCE FIELD	2360		UMHOS/CM		FDSPCOND04
SPECIFIC CONDUCTANCE FIELD	2360		UMHOS/CM		FDSPCOND04
SPECIFIC CONDUCTANCE FIELD	2350		UMHOS/CM		FDSPCOND04
SPECIFIC CONDUCTANCE FIELD	2360		UMHOS/CM		FDSPCOND04
WATER TEMPERATURE IN DEGREES CELSIUS	4.5		DEGREES C		FDXTEMPC01
CHEMICAL METHODS & ROBOTICS:					
NITROGEN, AMMONIA	34.5	0.40	MG/L	DL	CRN2NH3X01
NITROGEN, NITRATE	.15	0.050	MG/L		CRN3H1YD01
PH	7.56	0.05	PH UNITS		CRPHXQUD04
PH	7.55	0.05	PH UNITS		CRPHXQUD04
PH	7.56	0.05	PH UNITS		CRPHXQUD04
PH	7.56	0.05	PH UNITS		CRPHXQUD04
PHENOLS	ND	0.050	MG/L	NQ	CRPNHRAX01
SOLIDS, TOTAL SUSPENDED	28	3.	MG/L		CRTSSXXX01
SPECIFIC CONDUCTANCE	1770	1.0	UMHOS/CM		CRCNDQUD04
SPECIFIC CONDUCTANCE	1770	1.0	UMHOS/CM		CRCNDQUD04
SPECIFIC CONDUCTANCE	1170	1.0	UMHOS/CM		CRCNDQUD04
SPECIFIC CONDUCTANCE	1170	1.0	UMHOS/CM		CRCNDQUD04
TOTAL ORGANIC CARBON	70.3	1.0	MG/L		CRTCCQUD01
TOTAL ORGANIC CARBON	71.3	1.0	MG/L		CRTCCQUD01
TOTAL ORGANIC CARBON	70.5	1.0	MG/L		CRTCCQUD01
TOTAL ORGANIC CARBON	70.1	1.0	MG/L		CRTCCQUD01
TURBIDITY	35	1.0	NTU	TX	CRTURBID01
INORGANICS:					
BIOCHEMICAL OXYGEN DEMAND	131	120.	MG/L	DL,NQ	INBODXXX01
IRON-TOTAL	5840	100.	UG/L		INICPTCTFZ
LEAD-TOTAL	ND	16.0	UG/L	DL	INGFAATCPB
NICKEL-TOTAL	ND	40.0	UG/L		INICPTCTNI
ZINC-TOTAL	42.5	20.0	UG/L		INICPTCTZN

NA - Not Analyzed

ND - Not Detected

TX - Trip Blank

Item	Additional Comment Explanations (NQ/DL)
NITROGEN, AMMONIA PHENOLS	Dilution factor 20 applied. CLOUDY SAMPLE AND RESULTS WERE DETERMINED FROM METHOD 420.1 TO ELIMINATE MATRIX PROBLEMS.
INBODXXX01 BIOCHEMICAL OXYGEN DEMAND	EMPTY - ALIQUOT FROM : AI2506-D0 GLUCOSE-GLUTAMIC ACID RESULTS WERE NOT WITHIN THE CONTROL LIMITS. HOWEVER AFG STANDARDS ARE WITHIN THE CONTROL LIMITS.
LEAD-TOTAL	Dilution factor 60 applied. Dilution factor 65 applied.