

Vista Polymers
A Division of
Vista Chemical Company

Highway 25
Post Office Box 91

Aderdeen, Mississippi 39730-0091
Phone (601) 369-8111

A

LETTER OF CERTIFICATION

Date: June 8, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415

Railcar No.: VIPX 45820

Attention: Quality Control Manager

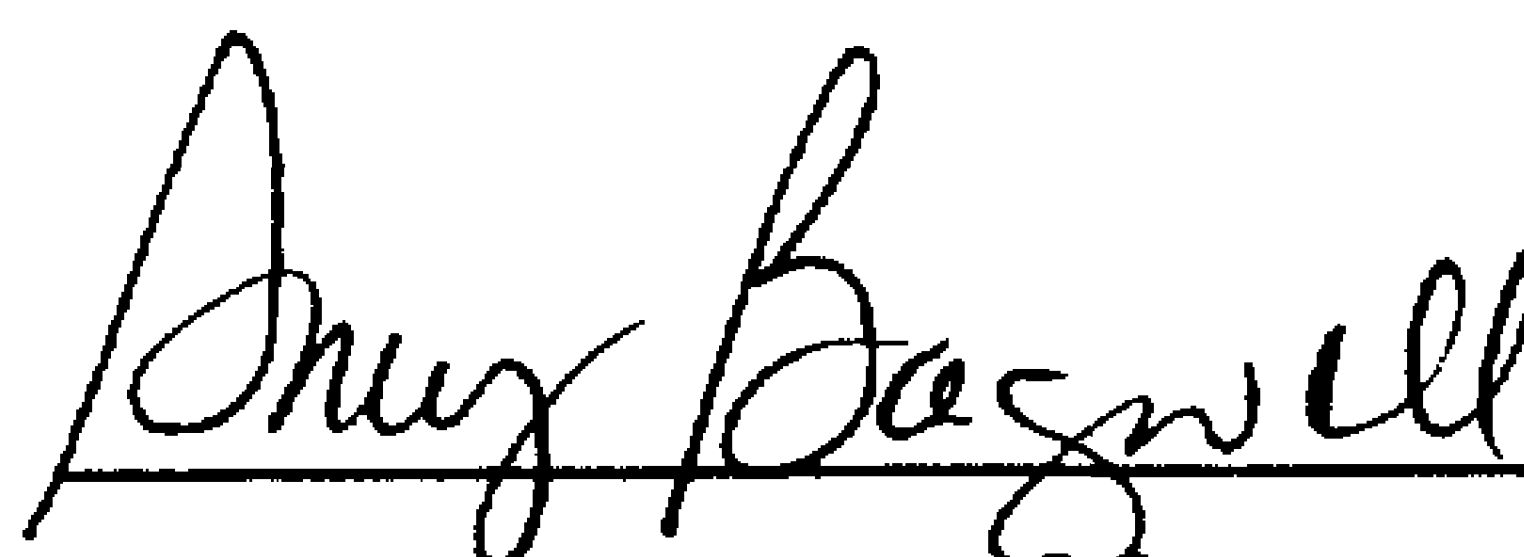
Order No.: 0011991-000

Ship Date: June 4, 1992

Customer P.O. No.: 10862

VISTA

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.17
Bulk Density, GM/CC	ABR-2B	0.530
Brabender Dry Time, Mins.	ABR-7	4.9
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.00
% On 200 Mesh		5.1
% On Pan		1.7
Vinyl Chloride Monomer	ABGC-26	0.033
Inherent Viscosity	ABR-10	1.01
Hard Particle @ 7 Minutes	ABR-12	1
Contamination, BLK/BRN	ABR-5A	4/ 5
METS IR, % of Control	ABR-13	122



Amy E. Bagwell
Laboratory Supervisor/Lead

Vista Polymers

Highway 25

Aberdeen, MS 39730

PVC RAILCAR ANALYSIS

Load Date: 6-3-92 Product: 5415 Car No.: 45820
 Time Logged In: 1630 Logged In By: TE Silo(s): 690
 Ship Date: 6/4 Order No: 11991-000 Customer: Essex UTC
Plainwell

no metal

Compartment	A		CA		CB		B	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	.15		.16		.15		.17	
Contamination ^{BL} ^{BR}	<u>2</u> <u>10</u>	<u>3</u> <u>13</u>	<u>4</u> <u>5</u>	<u>3</u> <u>12</u>	<u>3</u> <u>13</u>	<u>5</u> <u>10</u>	<u>2</u> <u>9</u>	<u>3</u> <u>13</u>
Bulk Density	.531		.529		.529		.532	
Hard Particle ⁵ ⁷	<u>2</u> <u>1 pc</u>	—	—	—	—	—	—	—
Viscosity	1.007							
RVCM	.033							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>0.00</u>	<u>1.56</u>	<u>17.72</u>	<u>14.73</u>	<u>8.54</u>	<u>3.99</u>	<u>2.54</u>	<u>.87</u>
%	<u>0.0</u>	<u>3.1</u>	<u>35.4</u>	<u>29.5</u>	<u>17.2</u>	<u>8.0</u>	<u>5.1</u>	<u>1.7</u>

Drytime: 4.9 Static Flow: 0 17.9 Avg. Microns: 172.2

Color L: 101.02 a 0.08 b 1.24

METS: 9457 122.0 %

Technician: CO JS

VAB.0001202400

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A

LETTER OF CERTIFICATION

Date: May 22, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415

Railcar No.: VIPX 45866

Attention: Quality Control Manager

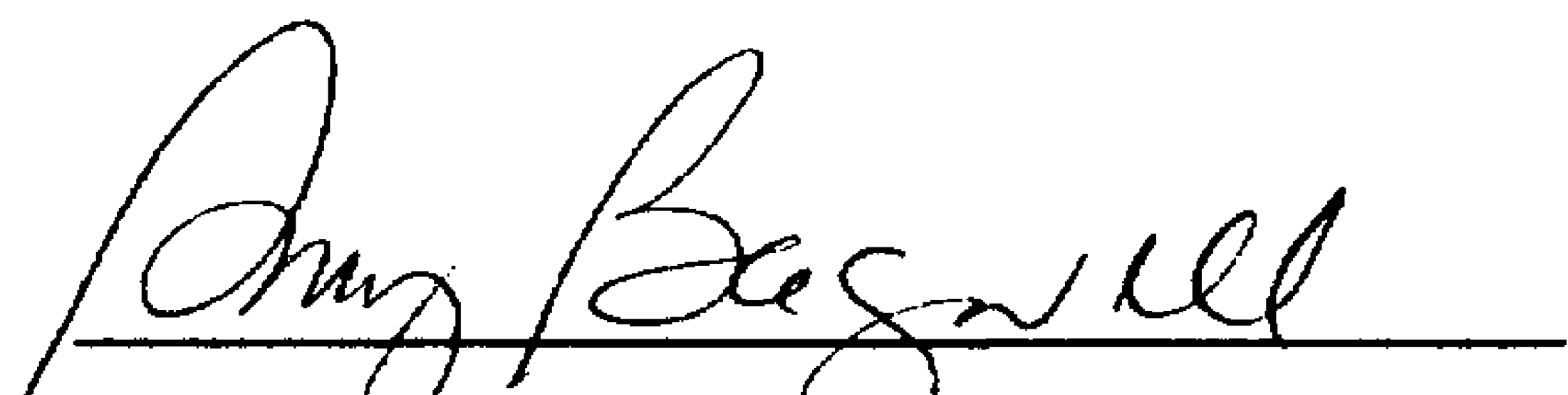
Order No.: 0011068-000

Ship Date: May 18, 1992

Customer P.O. No.: 10825

VISTA

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.23
Bulk Density, GM/CC	ABR-2B	0.517
Brabender Dry Time, Mins.	ABR-7	4.9
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.00
% On 200 Mesh		5.2
% On Pan		2.0
Vinyl Chloride Monomer	ABGC-26	0.025
Inherent Viscosity	ABR-10	1.01
Hard Particle @ 7 Minutes	ABR-12	1
Contamination, BLK/BRN	ABR-5A	5/ 5
METS IR, % of Control	ABR-13	116


Amy E. Bagwell
Laboratory Supervisor/Lead

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PVC RAILCAR ANALYSIS

Load Date: 5-15-92 Product: 5415 Car No.: 45866
 Time Logged In: 0615 Logged In By: D.T. Silo(s): 691
 Ship Date: 5/18 Order No: 11068-000 Customer: UTC, MI
10825

No Metal

Compartment	<u>A</u>		<u>CA</u>		<u>CB</u>		<u>B</u>	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	.21		.23		.21		.21	
Contamination	BL	<u>4</u>	<u>6</u>	<u>3</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>5</u>
	BR	<u>7</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>8</u>	<u>6</u>	<u>7</u>
Bulk Density	.518		.523		.520		.508	
Hard Particle	5	<u>5</u>	—	—	—	—	—	—
	7	<u>142</u>	—	—	—	—	—	—
Viscosity	1.011							
RVCM	.025							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>0.00</u>	<u>2.33</u>	<u>21.81</u>	<u>12.34</u>	<u>6.85</u>	<u>3.45</u>	<u>2.58</u>	<u>1.00</u>
%	<u>0.0</u>	<u>4.7</u>	<u>43.6</u>	<u>24.7</u>	<u>12.9</u>	<u>6.9</u>	<u>5.2</u>	<u>2.0</u>

Drytime: 4.9 Static Flow: 0, 9.0 Avg. Microns: 180.3

Color L: 100.68 a 0.01 b 1.22

METS: 8986, 115.5%

Technician: D.T. + HPL

VAB.0001202402

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LETTER OF CERTIFICATION

Date: May 1, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415

Railcar No.: UTCX 46497

Attention: Quality Control Manager

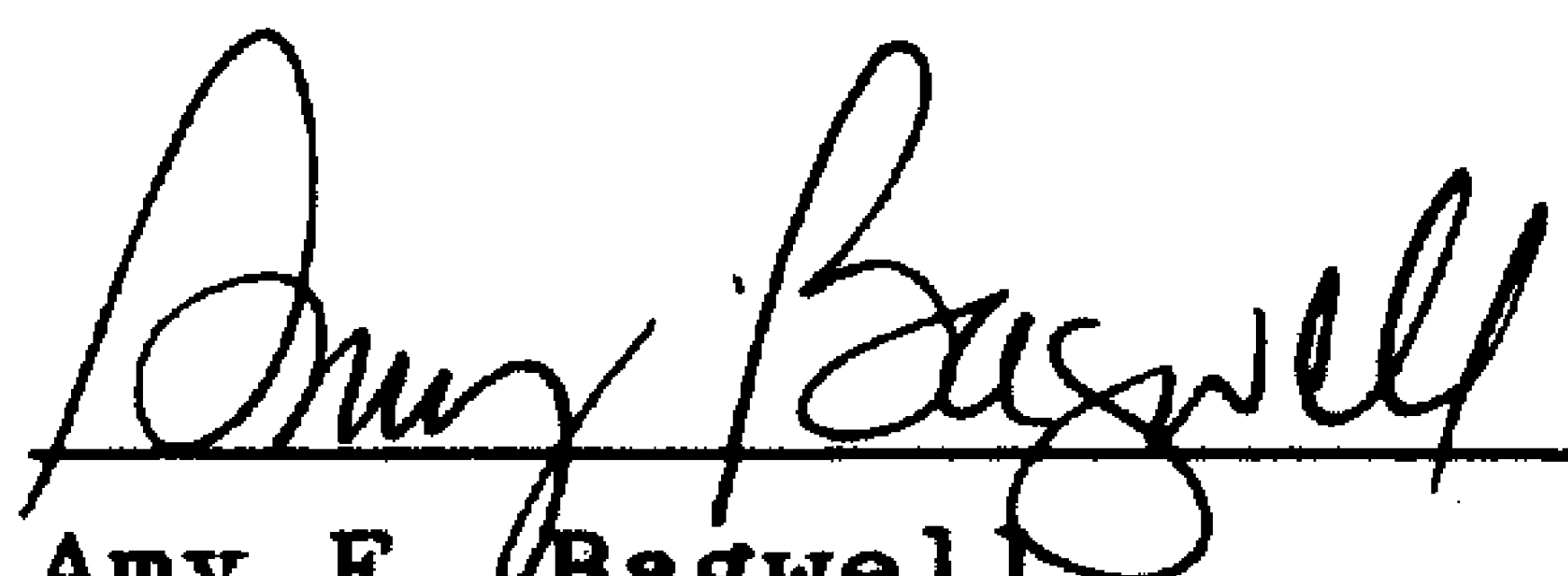
Order No.: 0010230-000

Ship Date: April 27, 1992

Customer P.O. No.: 10747

VISTA

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.14
Bulk Density, GM/CC	ABR-2B	0.510
Brabender Dry Time, Mins.	ABR-7	4.8
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.00
% On 200 Mesh		4.2
% On Pan		1.5
Vinyl Chloride Monomer	ABGC-26	0.027
Inherent Viscosity	ABR-10	1.02
Hard Particle @ 7 Minutes	ABR-12	2
Contamination, BLK/BRN	ABR-5A	6/ 8
METS IR, % of Control	ABR-13	129


Amy E. Bagwell
Laboratory Supervisor/Lead

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PVC RAILCAR ANALYSIS

Load Date: 4-25-92Product: 5415Car No.: 46497Time Logged In: 10:30Logged In By: MITSilo(s): 690-691Ship Date: 4/27 Order No: 10280-000 Customer: ~~ES&C~~ UTC, MI10747no metal

Compartment	A		CA		CB		B	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	.11		.14		.12		.11	
Contamination	BL	<u>6</u>	<u>5</u>	<u>6</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>5</u>
	BR	<u>8</u>	<u>5</u>	<u>9</u>	<u>8</u>	<u>5</u>	<u>7</u>	<u>8</u>
Bulk Density	.515		.506		.508		.511	
Hard Particle	5	<u>20</u>	—	—	—	—	—	—
	7	2 Dec						
Viscosity	1.015							
RVCM	.027							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>0.00</u>	<u>2.03</u>	<u>24.52</u>	<u>120.2</u>	<u>5.83</u>	<u>2.68</u>	<u>2.10</u>	<u>.73</u>
% P	<u>0.0</u>	<u>4.1</u>	<u>49.0</u>	<u>24.0</u>	<u>11.8</u>	<u>5.4</u>	<u>4.2</u>	<u>1.5</u>

Drytime: 4.8 Static Flow: 0 / 8.8 Avg. Microns: 184.4Color L: 101.88 a .09 b 1.15METS: 9620 / 129.3%Technician: MIT

VAB.0001202404

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CERTIFICATE OF ANALYSIS

Date: April 7, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415

Railcar No.: UTCX 46404

Attention: Quality Control Manager

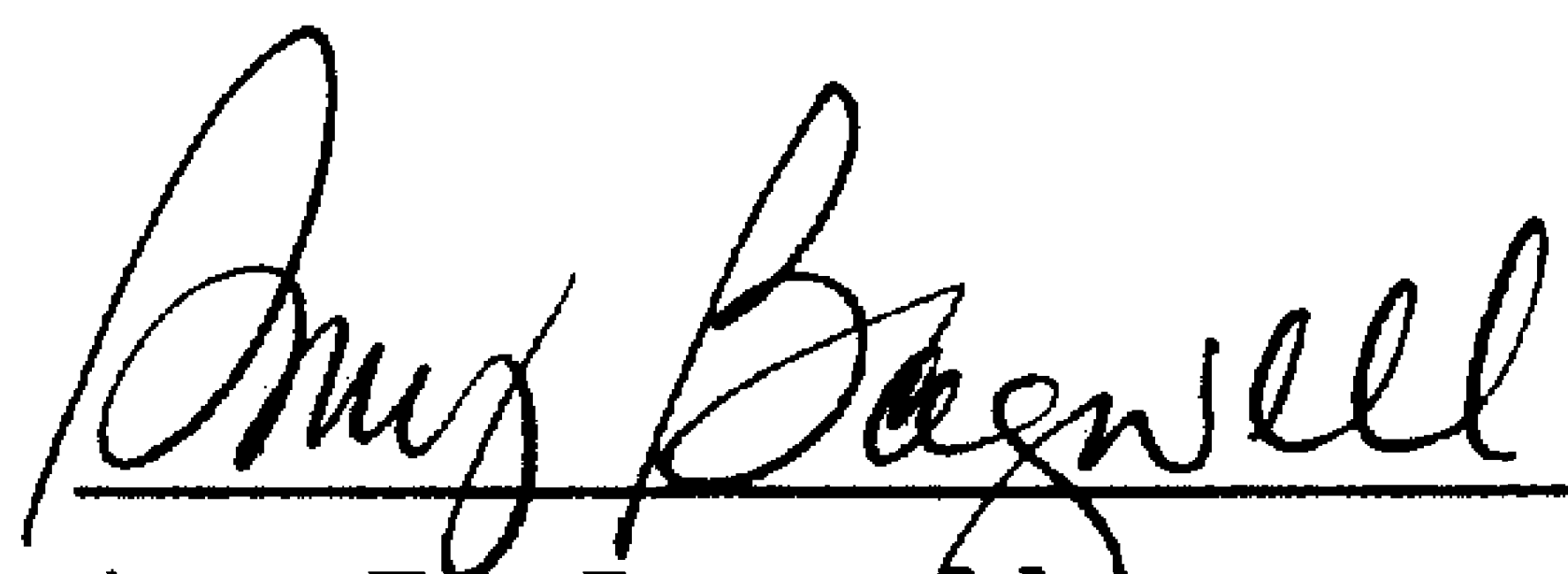
Order No.: 0009307-000

Ship Date: April 2, 1992

Customer P.O. No.: 10662

VISTA

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.20
Bulk Density, GM/CC	ABR-2B	0.507
Brabender Dry Time, Mins.	ABR-7	4.7
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.0
% On 200 Mesh		3.6
% On Pan		1.3
Vinyl Chloride Monomer	ABGC-26	0.010
Inherent Viscosity	ABR-10	1.02
Hard Particle @ 7 Minutes	ABR-12	3
Contamination, BLK/BRN	ABR-5A	4 / 5
METS IR, % of Control	ABR-13	114


Amy E. Bagwell
Laboratory Supervisor

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Aberdeen, MS 39730

PVC RAILCAR ANALYSIS

Load Date: 4-1-92 Product: 5415 Car No.: 46404
 Time Logged In: 1700 Logged In By: PT Silo(s): 690 + 691
 Ship Date: 4/2 Order No: 9307-000 Customer: United Tech
10662 Plumwell

no metal

Compartment	A		CA		CB		B	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	.20		.19		.19		.19	
Contamination BL	<u>3</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>3</u>
BR	<u>7</u>	<u>5</u>	<u>7</u>	<u>8</u>	<u>5</u>	<u>8</u>	<u>6</u>	<u>5</u>
Bulk Density	.507		.505		.507		.509	
Hard Particle 5	<u>20</u>	—	—	—	—	—	—	—
7	<u>300</u>							
Viscosity	1.020							
RVCM	.010							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>00</u>	<u>90</u>	<u>25.21</u>	<u>12.74</u>	<u>5.98</u>	<u>2.64</u>	<u>1.78</u>	<u>.65</u>
% P	<u>00</u>	<u>1.8</u>	<u>50.4</u>	<u>25.5</u>	<u>12.1</u>	<u>5.3</u>	<u>3.6</u>	<u>1.3</u>

Drytime: 4.7 Static Flow: 0 110.2 Avg. Microns: 181.8

Color L: 101.14 a -0.08 b 1.37

METS: 8857, 114.3%

Technician: M.T & KH

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LETTER OF CERTIFICATION

Date: March 5, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415
Railcar No.: PLWX 44668

Attention: Quality Control Manager

Order No.: 0007702-000

Ship Date: March 4, 1992

Customer P.O. No.: 10549

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.11
Bulk Density, GM/CC	ABR-2B	0.495
Brabender Dry Time, Mins.	ABR-7	4.6
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.00
% On 200 Mesh		5.1
% On Pan		1.4
Vinyl Chloride Monomer	ABGC-26	0.013
Inherent Viscosity	ABR-10	1.01
Hard Particle @ 7 Minutes	ABR-12	3
Contamination, BLK/BRN	ABR-5A	4/ 7
METS IR, % of Control	ABR-13	120


Amy E. Bagwell
Laboratory Supervisor/Lead

VISTA

Vista Polymers

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Aberdeen, MS 39730

PVC RAILCAR ANALYSIS

Load Date: 2-29-92Product: 5415Car No.: 44668Time Logged In: 0200Logged In By: MMSilo(s): 690, 691Ship Date: 3/4 Order No: 7702-000 Customer: Essex UTC, Plainville
10549*no metal*

Compartment	A		CA		CB		B	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	.06		.09		.10		.11	
Contamination	BL	$\frac{4}{7}$	$\frac{1}{6}$	$\frac{3}{10}$	$\frac{3}{5}$	$\frac{2}{11}$	$\frac{4}{7}$	$\frac{3}{9}$
	BR							$\frac{4}{10}$
Bulk Density	.489		.497		.492		.503	
Hard Particle	$\frac{15}{74}$ <u>300</u>	—	—	—	—	—	—	—
Viscosity	1.013							
RVCM	.013							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>0.0</u>	<u>.44</u>	<u>19.20</u>	<u>14.75</u>	<u>8.32</u>	<u>3.70</u>	<u>2.56</u>	<u>.68</u>
% P	<u>0.0</u>	<u>.9</u>	<u>38.4</u>	<u>29.5</u>	<u>17.3</u>	<u>7.4</u>	<u>5.1</u>	<u>1.4</u>

Drytime: 4.6 Static Flow: 0 111.1 Avg. Microns: 170.6Color L: 100.87 a -0.04 b 1.43METS: 9300 1120.0%Technician: MIT & RH

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LETTER OF CERTIFICATION

Date: February 12, 1992

Customer: United Technologies
800 E. Bridge St.
Plainwell, MI 49080

Product: 5415

Railcar No.: ACFX 41175

Attention: Quality Control Manager

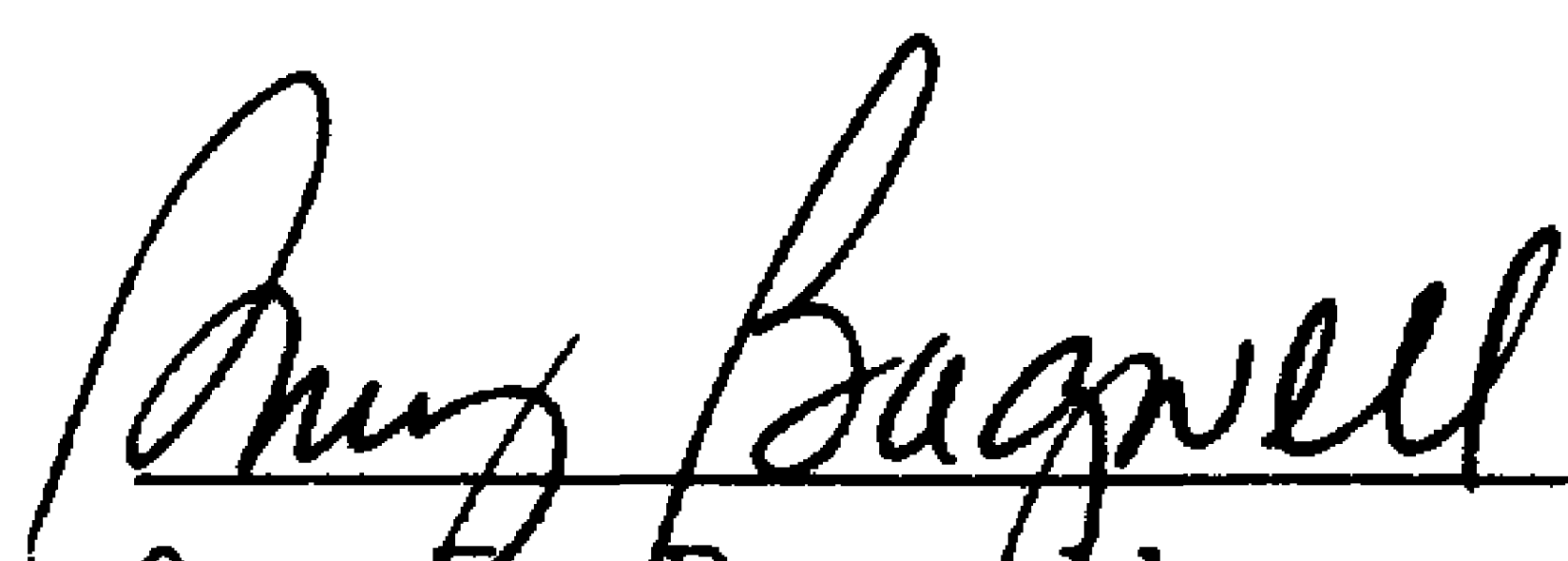
Order No.: 0005889-000

Ship Date: February 6, 1992

Customer P.O. No.: 10345

VISTA

<u>Property</u>	<u>Test Method</u>	<u>Analysis</u>
Moisture, %	ABR-1A	0.13
Bulk Density, GM/CC	ABR-2B	0.506
Brabender Dry Time, Mins.	ABR-7	4.9
Particle Size Distribution	ABR-3	
% On 40 Mesh		0.00
% On 200 Mesh		3.5
% On Pan		1.1
Vinyl Chloride Monomer	ABGC-26	0.009
Inherent Viscosity	ABR-10	1.02
Hard Particle @ 7 Minutes	ABR-12	1
Contamination, BLK/BRN	ABR-5A	6/ 5
METS IR, % of Control	ABR-13	118



Amy E. Bagwell
Laboratory Supervisor/Lead

PVC RAILCAR ANALYSIS

Load Date: 2-4-92 Product: 5415 Car No.: 41175
 Time Logged In: 0500 Logged In By: MT Silo(s): 690-691
 Ship Date: 2/6/92 Order No: 0005889-000 Customer: Essex/BUTC
10345 Plamwell

No metal

Compartment	A		CA		CB		B	
Sample From	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Moisture %	<u>.08</u>		<u>.13</u>		<u>.08</u>		<u>.08</u>	
Contamination	BL <u>5</u>	<u>11</u>	<u>3</u>	<u>7</u>	<u>6</u>	<u>8</u>	<u>4</u>	<u>9</u>
	BR <u>10</u>	<u>12</u>	<u>7</u>	<u>7</u>	<u>5</u>	<u>12</u>	<u>7</u>	<u>12</u>
Bulk Density	<u>.510</u>		<u>.508</u>		<u>.503</u>		<u>.502</u>	
Hard Particle	<u>3</u>	—	—	—	—	—	—	—
	<u>1 M.B.</u>							
Viscosity	<u>1.022</u>							
RVCM	<u>.009</u>							

Screen Analysis

Mesh	40	60	80	100	120	140	200	Pan
Weight	<u>0.00</u>	<u>0.93</u>	<u>2382</u>	<u>1282</u>	<u>6.54</u>	<u>296</u>	<u>1.75</u>	<u>0.56</u>
%	<u>0.0</u>	<u>1.9</u>	<u>47.6</u>	<u>25.6</u>	<u>14.4</u>	<u>5.9</u>	<u>3.5</u>	<u>1.1</u>
✓ C	<u>0.0</u>	<u>3.9</u>	<u>52.8</u>	<u>17.5</u>	<u>10.6</u>	<u>5.0</u>	<u>3.4</u>	<u>0.7</u>
Drytime:	<u>4.9</u>							
Static Flow:	<u>0</u>	<u>10.2</u>						
Avg. Microns:							<u>180.0</u>	

Color L: 100.79 a -0.07 b 1.27METS: 9314, 118.0 %Technician: DT. + HPL