



AMERICAN  
ENGINEERING  
TESTING, INC.

CONSULTANTS  
• ENVIRONMENTAL  
• GEOTECHNICAL  
• MATERIALS  
• FORENSICS

September 23, 2010

Mr. Terry Fenelon, CSI  
Prism Pigments  
1251 Arundel Street  
St. Paul, MN 55117

RE: Concrete Wash Water Solidification Results  
CONGELZ Polymer  
AET Project No. 03-03736

Dear Mr. Fenelon,

American Engineering Testing, Inc (AET) has completed the testing services that you requested and authorized on the mixture of CONGELZ polymer and concrete wash water that you provided. We also tested four mixtures that we prepared using wash water from concrete containing admixtures. The purpose of the testing was to determine whether the resultant materials are "solid" according to the Paint Filter Test (EPA method 9095B). According to Mr. Tom Lance of Waste Management, Inc. and our discussions with the Minnesota Pollution Control Agency (MPCA), if the material determined to be solid according to this test, then it can be disposed in their mixed municipal solid waste, industrial and demolition debris landfill facilities in Minnesota.

We subcontracted Legend Technical Services, Inc. (Legend) to test three subsamples that we collected from the material you provided and the four samples containing admixtures that we prepared. Legend reported that free liquid was not present according to the Paint Filter Test. Based on these results, and our discussions with Mr. Lance, we expect that this material can be disposed of as a non-hazardous solid waste in MPCA-permitted landfills in Minnesota.

Additional details regarding the material, our services and the test results are presented below.

### Material Description

Prism Pigments is developing a concrete washout solidification polymer product under the trademark name CONGELZ. The intent of this product is to solidify concrete wash water so that it can be disposed of as solid waste. On March 17, 2010, you delivered approximately 400 grams of material to AET that you said was concrete wash water mixed with 0.5% by weight of CONGELZ polymer; you also provided us with the CONGELZ polymer in its raw form.



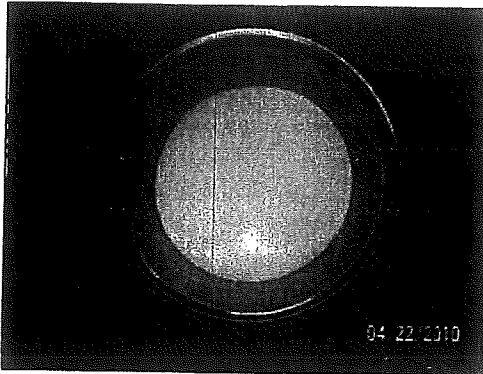


Photo # 1: CONGELZ Polymer

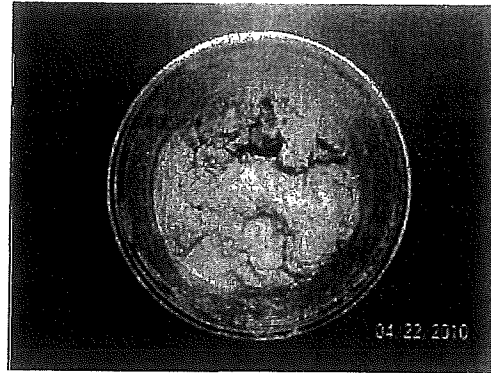


Photo # 2: Wash/Polymer Mixture

### AET Scope of Services

Based on your requests, the goals of the project, and our discussions with Mr. Lance, we performed the following scope of services.

- Obtained three laboratory sample jars from Legend
- Prepared three subsamples of the wash/polymer mixture
- Submitted the samples to Legend to be tested for free liquid and pH

Prior to sample preparation, the mixture supplied by Prism Pigments was covered and stored at room temperature in the plastic container shown in Photo # 2. To prepare the samples, we used an EnCore sampler to obtain multiple plugs of the mixture to put into the laboratory jars (Photo #3). The samples were prepared on April 22, 2010, and placed in our refrigerator. On April 23, 2010, we placed the samples in a cooler with ice and delivered them to Legend under documented chain-of-custody.

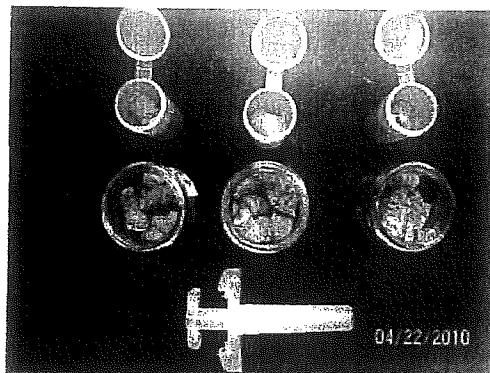


Photo # 3: Laboratory Samples

Upon receipt of the test results, you requested that we conduct further testing to assess the affect of selected admixtures on the solidification of the wash water. The scope was extended to include the following services.

- Prepared four samples of wash/polymer mixture from concrete modified with admixtures
- Submitted the samples to Legend to be tested for free liquid.

The protocols and procedures used to prepare samples from the mixtures that AET created using wash water from concrete modified by admixtures were similar to those used to prepare the first three samples. In order to obtain a similar consistency with the mixture in Photos #2 and #3, we added 1.5% by weight CONGELZ polymer to the samples that we prepared. The four admixture samples were created between June 21 and 25, 2010. The samples were submitted to Legend on June 28, 2010. Descriptions of the admixtures tested are given in the following table.

Admixture Sample*	Category	Description
A-1	Super Plasticizer	Polycarboxylate-based; high range water reducer
A-2	Water Reducer	Lignosulfonate-based; Type A low range
A-3	Air Entrainment	Vinsol-Resin
A-4	Water Reducer	Melamine-based with Prism buff-color additive

\*These admixtures contain the more common chemical bases used in chemical admixtures for concrete.

## Analytical Results

No free liquid was recovered by Legend using the Paint Filter Test by EPA method 9095B for the seven samples that we submitted.

From the mixture supplied by Prism Pigments, two samples had a pH of 12.4 and the other sample had a pH of 12.5. The Legend analytical report dated May 7, 2010, is attached to this letter. AET requested that Legend revise its original report dated May 4, 2010, to document the pH test results to three significant digits instead of two.

The Legend analytical report dated June 30, 2010, for the four samples with admixtures, is also attached to this letter. The samples with the admixtures were not tested for pH based on the analytical results of the first three samples.

## Conclusions

Based on the test results, and on our discussions with Mr. Lance and the MPCA, the mixtures of concrete wash water and CONGELZ polymer that we tested would be acceptable for disposal as a non-hazardous solid waste by MPCA-permitted landfills in Minnesota that are designated as

Prism Pigments  
September 23, 2010  
AET Project No. 03-03736  
Page 4 of 4

Type II or Type III facilities by Minnesota Rule 7048.0300. Depending on the quantity, generator, landfill, and local jurisdiction, the receiving facility may require additional testing beyond what is presented in this letter prior to acceptance. We recommend that our findings be presented to a prospective landfill for review to verify our conclusion.

### **Standard of Care**

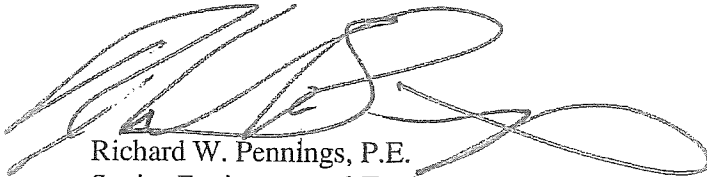
The conclusions in this letter represent our opinions based on our professional judgments. Our opinions are based on information provided to us by others upon which we have relied. We have endeavored to provide our services according to generally accepted engineering practices at this time and location, predicated on the limitations of scope, budget and schedule for this project. Other than this, no warranty, express or implied, is made or intended.

### **Closure**

We appreciated the opportunity to serve you on this project. If you have questions regarding this matter, please contact us.

Sincerely,

**American Engineering Testing, Inc.**



Richard W. Pennings, P.E.  
Senior Environmental Engineer  
Phone: (651) 789-4649  
Email: [rpennings@amengtest.com](mailto:rpennings@amengtest.com)

Attachments Legend Laboratory Analytical Report dated May 7, 2010  
Legend Laboratory Analytical Report dated June 30, 2010



88 Empire Drive  
St Paul, MN 55103  
Tel: 651-642-1150  
Fax: 651-642-1239

May 07, 2010

REVISION

Mr. Rick Pennings  
American Engineering Testing, Inc.  
550 Cleveland Ave N  
St. Paul, MN 55114

Work Order Number: 1001426  
RE: 03-03736 Concrete Wash Water Solidification

This is a revised report. The details of the revision are listed in the case narrative on the following page.

Enclosed are the results of analyses for samples received by the laboratory on 04/23/10. If you have any questions concerning this report, please feel free to contact me.

All samples will be retained by LEGEND, unless consumed in the analysis, for 30 days from the date of the original report and then discarded unless other arrangements are made.

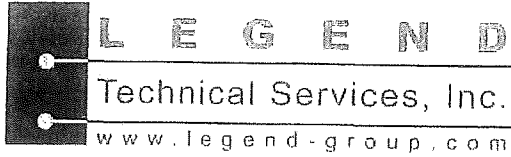
Prepared by,  
LEGEND TECHNICAL SERVICES, INC

Terri Olson  
Client Manager II  
tolson@legend-group.com

William Dahl  
QA/QC Coordinator  
wdahl@legend-group.com

Reviewed by:

Date: 5/7/2010



88 Empire Drive  
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American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1001426 Date Reported: 05/07/10
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1	1001426-01	Other	04/22/10 18:00	04/23/10 15:50
S-2	1001426-02	Other	04/22/10 18:00	04/23/10 15:50
S-3	1001426-03	Other	04/22/10 18:00	04/23/10 15:50

Shipping Container Information

Default Cooler                      Temperature (°C): 5.6  
 Received on ice: Yes                      Temperature blank was present                      Received on ice pack: No  
 Received on melt water: No                      Ambient: No                      Acceptable (IH/ISO only): No  
 Custody seals: No

**Case Narrative:**

At the client's request, this report was revised on May 7, 2010 to report the pH results with 3 significant figures.

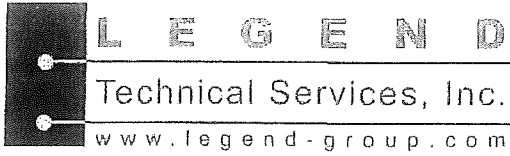


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American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1001426 Date Reported: 05/07/10
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**WET CHEMISTRY**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>S-1 (1001426-01) Other</b> Sampled: 04/22/10 18:00 Received: 04/23/10 15:50										
Free Liquid	Not Present			N/A	1	B0D2815	04/28/10	04/28/10	EPA 9095B	
pH	12.4			Std. Units	1	B0D2812	04/28/10	04/28/10	9045D	E-7
<b>S-2 (1001426-02) Other</b> Sampled: 04/22/10 18:00 Received: 04/23/10 15:50										
Free Liquid	Not Present			N/A	1	B0D2815	04/28/10	04/28/10	EPA 9095B	
pH	12.5			Std. Units	1	B0D2812	04/28/10	04/28/10	9045D	E-7
<b>S-3 (1001426-03) Other</b> Sampled: 04/22/10 18:00 Received: 04/23/10 15:50										
Free Liquid	Not Present			N/A	1	B0D2815	04/28/10	04/28/10	EPA 9095B	
pH	12.5			Std. Units	1	B0D2812	04/28/10	04/28/10	9045D	E-7



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American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1001426 Date Reported: 05/07/10
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**WET CHEMISTRY - Quality Control**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
<b>Batch B0D2812 - General Prep</b>											
<b>Duplicate (B0D2812-DUP1)</b>											
pH	8.43			Std. Units		8.50			0.827	20	
<b>Reference (B0D2812-SRM1)</b>											
pH	5.98			Std. Units	6.00		99.7	98.3-101.7			





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American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1001426 Date Reported: 05/07/10
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### Notes and Definitions

- E-7 Result estimated; not within calibration range.
- < Less than value listed
- dry Sample results reported on a dry weight basis
- NA Not applicable. The %RPD is not calculated from values less than the reporting limit.
- MDL Method Detection Limit
- RL Reporting Limit
- RPD Relative Percent Difference
- LCS Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)
- MS Matrix Spike = Laboratory Fortified Matrix (LFM)

1601426  
 AMERICAN ENGINEERING TESTING, INC.  
 St. Paul Office  
 550 Cleveland Ave. N.  
 St. Paul, MN 55114  
 651-659-9001  
 651-659-1379 (fax)

12753

OTHER

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

AET PROJECT NUMBER 03-03736

PROJECT NAME/LOCATION Concrete Water-Stop Installation

AET PROJECT MANAGER RICHARD POWINGS

SEND REPORT TO SALES

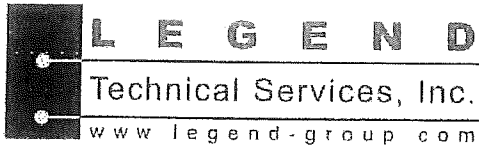
SAMPLED BY/PRINT RICHARD POWINGS

DATE NEEDED BY: \_\_\_\_\_

REQUESTED TURNAROUND TIME:  NORMAL  RUSH

ITEM#	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	UNPRESERVED	MgOH	HCL	H2SO4	HNO3	FIELD FILTERED Y/N	ANALYSIS	REMARKS	ITEM NUMBER	REQUISITED BY/AFFILIATION	ACCEPTED BY/AFFILIATION	DATE	TIME
01	S-1	4/22/16	10:00	SOLO	22							PH						
02	S-2	7/7/16																
03	S-3	7/7/16																

NOTE: 5.6°C



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Tel: 651-642-1150  
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June 30, 2010

Mr. Rick Pennings  
American Engineering Testing, Inc.  
550 Cleveland Ave N  
St. Paul, MN 55114

Work Order Number: 1002484  
RE: 03-03736 Concrete Wash Water Solidification

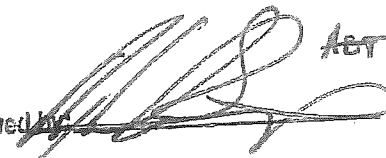
Enclosed are the results of analyses for samples received by the laboratory on 06/28/10. If you have any questions concerning this report, please feel free to contact me.

All samples will be retained by LEGEND, unless consumed in the analysis, for 30 days from the date of this report and then discarded unless other arrangements are made.

Prepared by,  
LEGEND TECHNICAL SERVICES, INC

Terri Olson  
Client Manager II  
tolson@legend-group.com

Dan Brezina  
Chemist III  
dbrezina@legend-group.com

Reviewed by:  AET  
Date: 6/30/2010



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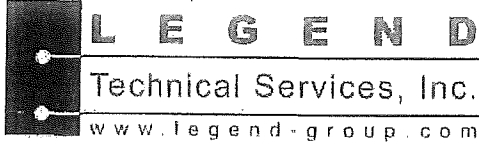
American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1002484 Date Reported: 06/30/10
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-1	1002484-01	Solid	06/26/10 13:00	06/28/10 13:55
A-2	1002484-02	Solid	06/26/10 13:00	06/28/10 13:55
A-3	1002484-03	Solid	06/26/10 13:00	06/28/10 13:55
A-4	1002484-04	Solid	06/26/10 13:00	06/28/10 13:55

<b>Shipping Container Information</b>		
Default Cooler	Temperature (°C): 5.5	
Received on ice: Yes	Temperature blank was present	Received on ice pack: No
Received on melt water: No	Ambient: No	Acceptable (IH/ISO only): No
Custody seals: No		

Case Narrative:



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 Tel: 651-642-1150  
 Fax: 651-642-1239

American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1002484 Date Reported: 06/30/10
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**WET CHEMISTRY**  
**Legend Technical Services, Inc.**

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A-1 (1002484-01) Solid</b> Sampled: 06/26/10 13:00    Received: 06/28/10 13:55										
Free Liquid	Not Present			N/A	1	B0F3025	06/30/10	06/30/10	EPA 9095B	
<b>A-2 (1002484-02) Solid</b> Sampled: 06/26/10 13:00    Received: 06/28/10 13:55										
Free Liquid	Not Present			N/A	1	B0F3025	06/30/10	06/30/10	EPA 9095B	
<b>A-3 (1002484-03) Solid</b> Sampled: 06/26/10 13:00    Received: 06/28/10 13:55										
Free Liquid	Not Present			N/A	1	B0F3025	06/30/10	06/30/10	EPA 9095B	
<b>A-4 (1002484-04) Solid</b> Sampled: 06/26/10 13:00    Received: 06/28/10 13:55										
Free Liquid	Not Present			N/A	1	B0F3025	06/30/10	06/30/10	EPA 9095B	



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American Engineering Testing, Inc. 550 Cleveland Ave N St. Paul, MN 55114	Project: 03-03736 Concrete Wash Water Solidification Project Number: 03-03736 Project Manager: Mr. Rick Pennings	Work Order #: 1002484 Date Reported: 06/30/10
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#### Notes and Definitions

- < Less than value listed
- dry Sample results reported on a dry weight basis
- NA Not applicable. The %RPD is not calculated from values less than the reporting limit.
- MDL Method Detection Limit
- RL Reporting Limit

OTHER  160 24 61  
 ADDRESS: 12921  
 PHONE: / OF /

AMERICAN ENGINEERING TESTING, INC.  
 St. Paul Office  
 580 Cleveland Ave. N.  
 St. Paul, MN 55114  
 651-659-9001  
 651-659-1378 (fax)

AET PROJECT NUMBER: 03-03736  
 PROJECT NAME/LOCATION: CONCRETE  
 AET PROJECT MANAGER: RICHARD PENNING  
 SEND REPORT TO: SAME  
 SAMPLED BY: RICHARD PENNING  
 ANALYST SIGNATURE: [Signature]

REQUESTED TURNAROUND TIME: NORMAL  
 DATE NEEDED BY: 2 DAY - 6/30/2010  
 FIELD FILTERED Y/N: [Blank]

ITEM#	SAMPLE DESCRIPTION	DATE	TIME	SAMPLE TYPE	PRESERVATIVES					REMARKS
					UNPRESERVED	MeOH	HCL	H <sub>2</sub> O <sub>2</sub>	HNO <sub>3</sub>	
1	A-1	6/6	11M	Solid	1	1				
2	A-2	7			1	1				
3	A-3	7			1	1				
4	A-4	7			1	1				

ITEM NUMBER	RECEIVED BY/AFFILIATION	DATE	TIME
1-4	[Signature]	6/8/10	13:55

NOTE: 6.5°C