

Item of Concrete Properties

Refer to QMP provisions for Concrete. Concrete QMP items are contained in part 7 of the Standard Specifications. Refer to <u>CMM 8.35</u> for additional guidance.

****Non-QMP Concrete - refer to CMM 8.50 for testing requirements.****

QMP (Class I & II)

Portland Cement

- 1) Verify source is on the approved list. CONC 1-A
 - a. If on the approved list contact Regional Materials for approved sources and for determination of whether your source needs to be tested this year.
 - b. If not on the approved list contact Regional Materials for coordination of testing.

CONC 1-B

- 2) Diary entry required. (optional 900_____) 905-0001- 2016 CONCI
- 3) Manufacturers certification is required for blended cements. Assign to prefix 900-_____

Admixtures

Air Entraining Admixtures, Retarder, Water Reducers, Water Reducing Set Retarders

- 1) Verify source is on the approved list. CONC 1- C1, C2, C3, C4
- 2) Diary entry required. (optional 900-
- 3) If admixture is not on the approved list contact Regional Materials.

Other Admixtures

 If source is not on the approved list obtain a certified report of tests by a qualified independent laboratory showing the requirements of ASTM C494 for the type of admixture are satisfactory. Assign to prefix 900-_____-

__)

**If calcium chloride allowed as an accelerator, document in diary entry the concentration and addition rate. (optional 900-_____)

Water

Municipal Source

1) Diary entry required. (optional 900-____)

Private Wells CONCI

- 1) Contact Regional Materials for approved sources and for determination of whether your source needs to be tested.
- 2) Diary entry required. Reference water test number: 131-<u>0001</u>-<u>20+44</u> (optional 900-_____)

Surface Water

- 1) Contact Regional Materials for approved sources and for determination of whether your source needs to be tested this year.

Revised 09/18/2012 EC

Aggregates

Fine Aggregates Conci

- 1) Quality Test Required. (test prefix 162)
 - a. Obtain hard copy of test and assign a 900-_____

CONCI # 0-162-0007-7015

Coarse Aggregates

- 1) Quality Test Required. (test prefix 225)
 - a. Contact Regional Materials for approved sources and for determination of whether your source needs to be tested this year.
 - b. Obtain hard copy of test and assign a 900-0001 2016. CONCI # 0-225-0065 2015

905

COUC -IF

- c. If not from approved source, sample must be submitted to CO for quality testing.
- 2) Field Acceptance Testing.
 - a. Frequency varies based on application and quantity. See CMM Subsection 8.50 for guidance.

Fly Ash

- 1) Certified report of test or analysis required. Assign to prefix 900- 2016 (Must be supplied 14 days prior to use.) # CONC - 1 ▷
- 2) Fly ash samples are required.

OONC 1

- a. For contracts with less than 100 tons, no sampling is required.
- b. For contracts with 100 or more: 1 sample required per 2000 tons.

Slag

- 1) Certified report of test or analysis required. Assign to prefix 900-____-
- 2) Slag samples are required.
 - a. For contracts with less than 100 tons, no sampling is required.
 - b. For contracts with 100 or more: 1 sample required per 2000 tons.

Pòzzolans___

- 1) Verify source is on the approved list.
- 2) Diary entry required. (optional 900-____-
- 3) If a pozzolan is not on the approved list contact Regional Materials.

SEE ITEM HE 502.3200 PROTECTION SULFACE TREATMENT

502.3210 PIGMENTES SURFACE SPACE

See CMM Subsection 8.50 and Subsection 415.2.4 of the Standard Specifications for detailed guidance. **NOTE: Lots or batches carried over from the previous year must be tested before use.**

1) PAMS and Linseed

Concrete Curing Compounds

- a. Verify source is on the approved list.
- b. Diary entry required. (optional 900-_____)
- c. If source is not on the approved list sampling is required.
 - i. For contracts with less than 220 gallons, manufacturer's certification of compliance is required. Assign to prefix 900-_____
 - ii. For contracts with 220 or more gallons, one sample per 2000 gallons or fraction thereof.

Revised 09/18/2012 EC

- 2) White Water wax-limited to uses referred to and allowed under Std. Spec. 501.2.9
 - a. Verify source is on the approved list.
 - b. Diary entry required. (optional 900-_____)
 - c. If source is not on the approved list sampling is required.
 - i. For contracts with less than 220 gallons, manufacturer's certification of compliance is required. Assign to prefix 900-____-
 - ii. For contracts with 220 or more gallons, one sample per 2000 gallons or fraction thereof.
 - 3) Clear and Translucent
 - a. Diary entry required. (optional 900-_____)
 - b. Sampling is required.
 - i. For contracts with less than 55 gallons, manufacturer's certification of compliance is required. Assign to prefix 900-____-
 - ii. For contracts with 55 or more gallons, one sample per contract.
 - 3) Cure & Seal Compound
 - a. Verify source is on the approved list. CONCI-F
 - b. Diary entry required. (optional 900-_____)
 - c. If source is not on the approved list contact Regional Materials.

Project Reporting

- Develop a 155-<u>ODS</u> -<u>2016</u> to cover the entire QMP acceptance. Discuss all aspects of verification testing and contractor testing. (control charts, adjustments, additional testing, etc.) (See CMM 8.45)
 - a. Include date of samples, location of sample, quantity, test results, tester names,

Example prefix 155 report for QMP Ancillary Concrete

QMP ANCILLARY CONCRETE

The contractor provided an acceptable QC plan and mix design-documents on file in the project record. Field-testing was summarized on DOT WS 5013 (located in the project record) Cylinder compression strength records and printouts were satisfactory and are stored with the project records. Two sets of QC tests were completed the first day with three sets done each of the subsequent days

QC testing met the frequency and requirements of the QMP specification.

Verification t Date 8/14/2006	ests Location C&G		C.Y.		% Air	Temperature	Slump
Sta. 23+10 -	38+4	102		5.6	78 F	1.5-inch	1
8/15/2006 Sta. 21+10 -	6 foot Sid 53+87 LT	dewalk-	224		6.3	76 F	1.75-inch
8/16/2006 Sta. 21+10 -	6 foot Sid 53+87 LT	dewalk-	226		5.5	72 F	1.5-inch

Verification cylinders cast Ave = 4567 psi See report 9-999-130-0123-2008

QMP (Class III)

Class III Concrete

- 1) Certification of compliance is required 3 days prior to use. Assign to prefix 900-_____
 - a. If certification of compliance is not supplied, then concrete falls under Class II concrete.
- 2) Department Verification testing is optional for Class III concrete.

RMS 4/06/16

Cemstone Products Company Cemstone Ready Mix Quality Management Plan

Hudson - Baldwin CTH J Bridge B-55-0259 1020-01-83

I. Description

This QMP plan describes contractors responsibilities common to QMP's under part 7 including quality control plans; personnel and laboratories certifications; quality control testing; and data submissions and record keeping. This QMP plan also describes department responsibilities; common to all QMP's under part 7, for verification and quality assurance testing. Exceptions and additional requirements under QMP program are specified under specific QMP provisions

II. General

- 1. Provide and maintain a quality control program, defined as all actives and documentation of the following:
 - a. Mix and gradation design
 - b. Control and inspection of production and placement processes
 - c. Material sampling, testing, and correction of in-place work
- 2. CMM Chapter 8 provides additional detailed guidance for QMP work and describes required sampling and testing procedures
- 3. The Departments material reporting system (MRS) software allows contractors to submit selected data to the departments electronically, estimate pay adjustment, and print reports. Qualified personnel may obtain MRS software.

III. Quality Control Plan

1. Organization Chart

Cemstone Engineering Services Techs

Jacob Ostendorf

Cell Number - (715) 441-7373

Email - jostendorf@cemstone.com

Certifications - PCCTECHII, AGGTECHII, CST, ATTS

Dave Horejsi

Cell Number - (612) 363-7104

Email - dhorejsi@cemstone.com

Certifications – PCCTECHII, AGGTECHI, CST

Jack Mickelson

Cell Number – (715) 419-1730

Email – jmickelson@cemstone.com

Certifications – PCCTECHI

2. Corrective Actions

If there is any change to the mix design that was submitted at the start of the job, Jacob Ostendorf will contact the Engineer and discuss a solution to keep the job going. On the job corrective actions can be made during the pour when concrete is not in spec. If the concrete delivered is not in spec the engineer or tech can get a hold of Jacob Ostendorf to figure out an action to bring the concrete back into spec if there is an opportunity to do so.

3. Cemstone Ready Mix Lab

Cemstone Redi Mix has a certified lab in New Richmond, Wisconsin. The lab is certified to do gradations, test batches, cylinder curing, and cylinder breaks.

4. Cemstone Ready Mix Material Sources

- 1. Fine Aggregate --- Casey
- 2. Course Aggregate --- Casey
- 3. Cement Columbia Lafarge Davenport
- 4. Fly Ash Columbia Elm Road
- 5. Admixture BASF Admixes

If a Material used in the batch process were to change the engineer will be contacted and appropriate action will be discussed. Cemstone will try to keep the same material throughout the job but at times there could be a shortage in Material that was being used. To keep the job going the change in Material will have to be discussed and appropriate action will be taken.

5. Equipment Checks

- 1. Equipment used in the testing of concrete is assigned to an Engineering Services Tech. The Tech will be able to supply the contractor or engineer with documentation of the calibrations. Also the tech will have Cal Can with them to check there air pot for accuracy. Equipment is always checked every three months.
- 2. Equipment used in the Aggregate Testing or Concrete Strength Testing is assigned to the New Richmond Lab. This equipment has documentation of calibrations and is check once a year.
- 3. Equipment used to batch material is checked once a year. All admix dispensers are checked one time a year unless a problem is suspected. All delivery trucks are DOT approved.

6. Frequency of Quality Control Testing

1. Aggregate

- a. Aggregate Moisture Content
 - i. Moistures will always be done for every 50 yards or once a day and will be done before the start of the batching of concrete. The batch man will receive the moisture that the tech recorded and be put into the computer.

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- b. Aggregate Gradations
 - i. Gradations will be performed every 200 yards
 - poured or once a week, based on whichever
 - comes first.
- c. Aggregate #200 Wash
 - i. A #200 wash will be performed for every time a moisture is done or a gradation is preformed
- 2. Plastic Concrete
 - a. Concrete will be tested for correct air before the job can start. If the concretes entrained air is in specifications of the mix the engineer will be contacted and the pour can start. After the initial test is done the tech will have to do a random test for every 50 yards poured that day. If the contractor is pouring less than 50 yards the tech will still do a random test on the amount poured if under 50 yards. The test will consist of an air test, slump test, temperature, and make cylinders. If at any time a test is being done and the concrete is out of spec the tech will contact Jacob Ostendorf and the engineer on the job. At this time the tech will perform another test. If anything is done to the concrete to bring it back in to spec by adding approved products the tech will perform a test tell the concrete coming to the job is at the correct spec. If the concrete is unable to bring back into spec the concrete can be reject by the engineer.
- 3. Hardened Concrete
 - a. The cylinders that were made will be picked up from the job in a time frame of 24 to 48 hours. These cylinders will then be handled carefully back to lab and labeled. After being labeled the cylinders will be placed in a curing tank for 28 days from the pour. At the 28 day Jacob Ostendorf will perform a strength test with the concrete strength tester. If there was any problem with the strength Jacob Ostendorf will contact the engineer to come up with corrective actions, this could result in breaking a cylinder at 56 Days or take core samples.

7. Mix Design

WHB5146 was designed in 1999 by Cemstone. The mix has been used with great success over the years. Cylinders breaks have always exceeded the 4000psi mark in 28 days. This mix is designed for 4" slump and 6% air.

8. Batch Plant

The concrete being placed will come from the Cemstone's New Richmond Dry Batch Plant. The batch plant is equipped Command Data that produced a computer generated batch weights and tickets. The tickets and batch report will accompany each load. The batch plant is able to produce 80 cubic yards an hour. This plant also has an admixture dispenser.

9. Problems

If there was any issue with the batch plant that occurs during the pour the Cemstone's River Falls plant will be the backup plant. This plant is equipped with the exact same computer generated batch weights and tickets. It also has the same admixture dispenser. Spooner plant can produce 80 cubic yards and hour

IV. Contractor

Placing, surfacing and curing equipment is checked at the site before every pour. Equipment in unsatisfactory condition is repaired or replaced. Replacement parts for key components of the finishing machine and concrete vibrators are on site during the pour. A spare generator, to run the belts, is also on site during deck pours. Concrete will be placed by conveyor belts, concrete pumps, concrete buckets or direct from the chute of the truck. Hand held concrete vibrators will be used to consolidate the concrete as it's placed. Alignment, profile and cross slope will be controlled with the use of a power screed, Bidwell or Comaco finishing machine. Concrete thickness shall be checked with a probe at predetermined intervals during each pour. This information will be documented and presented to the owner after each pour. The overall alignment, profile, depth and cross slopes are set before and during the dry run of the finishing machine. Adjustments to profile, depth and cross slope, necessitated as a result of grade checks made during the pour, will be accomplished by raising or lowering the screed pipe, or modifying the profile set on the finishing machine. Transits will be used to monitor form alignments. Formwork will be adjusted on an as needed basis.

Either hand troweling, single or double drums on the finishing machine, straight edge or darbee will accomplish finishing concrete. Texture, depending on the specifications, will be by combination broom and tiner and/or magnesium float. Curing concrete will be by fogging, when necessary, and covering with burlap prior to specify continuous water application. Concrete will also be cured with burlene, if warranted by weather conditions or span length. Also, curing compound may be used as necessitated by the type of concrete being poured. Steel cover on substructure will be checked by measuring rebar clearances and chair heights and comparing field dimensions with plan clearances. Steel cover on deck concrete will be checked by measuring bottom slab chairs, high chairs and/or standees as appropriate and checking these heights with plan clearances. The top mat of steel will be secured to the formwork with wire to prevent floating. Additionally, steel clearances will be checked and documented during the dry run of the finishing machine. Prior to ordering concrete the weather forecast will be checked. If temperature or precipitation conditions are not favorable, the pour will be cancelled. In the event that concrete is ordered and it starts raining, suitable covering material will be on hand to protect the wet concrete surface. Additionally, the location of emergency headers will be reviewed during the dry running of the finishing machine. Deck concrete smoothness will be checked with a 10-foot long straight edge, overlapping 50% on each pass. Any imperfections that are encountered will be corrected.

V. Certifications

Required Certification	Sampling or Testing Rules
PCC Tech 1	Sampling Fresh Concrete
	Test for Air Content, Slump, and
	Temperature
	Fabrication and Curing of concrete
	Strength Specimen
Concrete Strength Tester	Concrete Strength Testing
Aggregate Tech 1	Aggregate Sampling
	Gradations, P 200, and Moisture
	content testing
PCC Tech 2	Create Mix designs
	Adjust Add-Mixtures
	Adjust sand and rock ratio
Aggregate Tech 2	Aggregate Performance
	Aggregate Properties
	Aggregate Quality Test
	Aggregate Blending
	Extraction Principles
	WisDot Aggregate Quality Management

	WisDot Standard Specifications
ATTS	La Wear
	Sodium Sulfate Soundness
	Freeze/Thaw Soundness
	Fracture
	Liquid Limit
	Specific Gravity
	Absorption

VI. Laboratory Certifications

The New Richmond Lab is certified every year to do gradations, cylinder breaks, and cylinder curing. All state job testing will be done out of the New Richmond Lab and data will be entered into Atwood's.

VII. Test Numbers

- 1. Water Test Number-0-131-2-2014
- 2. Course Aggregate Test Number-225-65-2015
- 3. Fine Aggregate Test Number—165-7-2015

VIII. Equipment

The New Richmond Lab has all the necessary equipment and supplies to preform Quality control testing. All equipment and supplies have been calibrated and checked for good conditions under CMM 8-30. All equipment has been documented and is available for the engineer to see.

IX. Documentation

- A Cemstone Tech will document observations, inspection records, and process adjustments daily. Documentations/ test results will be submitted to the Departments Material contact person on the same day it becomes available
- 2. The forms used will be under CMM Chapter 8. Note other information in permanent field records and as part of the process control documentation in the contractor's quality control plan. Data will be entered into the applicable MRS software within 5 business days after results are available.
- 3. A summited final testing records and other documentation to the engineer electronically within 10 business days after all contract-required information becomes available. The engineer may also allow submissions of scanned copies and hand-written documentations.

X. Contractor Testing

1. Preform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other test necessary to control production and construction processes, and additional testing

Test	Test Standards
Washed P 200 Analysis	AASHTO T11
Sieve Analysis of Fine and Corse Aggregate	AASHTO T27
Aggregate Moistures	AASHTO T255
Sampling Freshly Mixed Concrete	AASHTO R60
Air Content of Fresh Concrete	AASHTO T152
Concrete Slump	AASHTO T119
Concrete Temperature	AASHTO C1064
Concrete Compressive Strength	AASHTO T122
Making and Curing Concrete Cylinders	AASHTO T23
Standard Moist Curing for Concrete Cylinders	AASHTO M201

enumerated in the contractor's quality control plan or engineer directs. The test methods that will be used fallow:

- Notify the engineer when an individual test exceeds spec limit. Material from the first out-of-spec test nonconforming testing will be issued tell spec is reached. The department may reject or otherwise determine the final disposition of nonconforming material specified in 106.5
- 3. The department may periodically observe contractors sampling and testing and direct additions contractors sampling and testing for department observations.

XI. Department Testing General

- 1. The department conducts verification testing to validate quality and independent assurance testing to evaluate sampling and testing. The department will use the same sampling and testing methods required for contractor testing under 701.3. The department will provide the contractors with a list of names and telephone numbers of project verifications and independent assurance personnel.
- 2. The department will provide test results to the contractor within 2 days after the department obtains a sample, or in the case of long term testing, within 2 business days after results are available.
- 3. Correct department-identified deficiencies. If the contractor fails to correct deficiencies or resolve discrepancies, the engineer may suspend production. Resolve disputes as specified in 106.3.4.3.5.

XII. Department Testing Verification Testing

- The department will have a HTCP certified technician, or ACT working under a certified technician, perform QV sampling and testing. Department QV testing must meet the same certification level requirements specified for contractor testing personnel for each test being verified. The department will notify the contractors before sampling so the contractor can observe QV sampling.
- 2. The department will sample randomly at locations independent of contractors QC test and use separate equipment and laboratories
- 3. If verifications test conform to specifications, no further action is required. If verification tests do not conform to specifications, the

department will notify the contractor and Jacob Ostendorf immediately. The engineer and contractor will jointly investigate nonconforming test results. The investigations may include additional testing as well review and observation of department and contractors sampling and testing procedures, equipment, and other documented test results. Both parties will document investigated work.

XIII. Department Testing Independent Assurance Testing

- 1. The department performs independent assurance testing to evaluate department verification and contractor's QC sampling and testing personnel qualifications, procedures, and equipment. The department will perform independent assurance reviews according to the departments independent assurance program, which may include one or more of the following:
 - a. Split sample testing
 - b. Proficiency sample testing
 - c. Witnessing sampling and testing
 - d. Test equipment calibration checks
 - e. Reviewing contract-required data and available contractors process control information
 - f. Requesting that testing personnel perform additional sampling and testing.

XIV. Payment

Cost of sampling, testing and documentation under part 7 are incidental to the work. The contractor fails to preform work required under the contract QMP provisions; the department may reduce the contractors pay. The department will administer pay reductions under NON-performance of QMP administrative item.

XV. Curing

1. HOT WEATHER:

Prior to ordering concrete the weather forecast will be checked. If necessary, the pour time will be adjusted to fit the coolest part of the day. Stock piles will be watered as well as the mixer barrels in order to maintain cooler mix temps.

2. COLD WEATHER:

Prior to ordering concrete, the weather forecast will be checked. If necessary, pre-heat forms and housed and heat the substructure pours. Cover deck pours with single or double burlene or insulating blankets as necessary.

Test Number: C	EM001.535 - 13	2 - 0005 - 2016		Lab S	ite		F	Page 1 of 1
Materials Laborat Concrete Mix E Type: DR - DE		stem Tests On:		CRM- 1190 C	one Ready Mix New Richmono Ay G chmond, WI 54	d Dave Ho		-
Main Project ID: Hudson - Baldy CTH J Bridge I I 94	win							
Date Sampled:		Date I	Requested /	Received:		Date T	'ested:	
04/05/12		04/05/	12			04/05/	12	
By: David Horejsi /	101647	By: S1	ATE			By: ST	ATE	
Source:			Leg	al Descriptio	n: , , Section: ,	T: N, R:,		County:
132 Main Concrete	-	-	and Proport	ions				
Test Number: CEN	1001.535 - 132 -	- 0005 - 2016						
Design Mix								
ID	C WHB5146	;			Grade :	A-FA		
Description	4000 PSI							
Cementitous Mat	erial							
Cement: (lbs)	Fly Ash: (lbs)	Slag content: (lbs)	Total :		x Water: / Lbs)	Water Cement Ratio	Air Conter (%)	nt:
480	109		589	28	233.24	0.40	6	
Aggregate Sourc	es	Source:		SSD W	eight (lbs):	Absorption	%	
Coarse 1:	CASE	Y WEST			930 🗸	1.28		
Coarse 2:	CASE	Y WEST			930 🗸	1.28		
Coarse 3:								
Fine 1:	CASE	Y WEST			1260 V	0.76		
Fine 2 :					1200	0110		
Admixture								
	1997 - E		Dosage					
Number Na	ime	(oz per 100 V	VT)				

 MBAE 90
 0.80

 2
 Polyheed 1020
 3.00

Remarks: Satisfactory

(

ENG	water and the second	SILVIC CONCRETE MIXTUR	E DESIGN	112
MIX ID:	WHB5146	Compressive Strength: 4,	000 psi at 28-Days	Created On: 9/21/05
PROJECT APPLICA PLACEME	TION:	Wisconsin Highway Bridges (' Bridge Deck Pumpable Through a 4'' Line	WHB)	
CEMENT, FLY ASH, SAND, 3/4" GRAVEL, 1.5" GRAVEL, WATER, AIR CONTENT,	Continental Davenport Continental Elm Road Casey Casey Casey Well	(ASTM C 150/TYPE I/II) (ASTM C 618/CLASS C/F) (ASTM C 33) (ASTM C 33/#67) (ASTM C 33/#4)	480 lbs. 109 lbs. 1,260 lbs. SSD 930 lbs. SSD 930 lbs. SSD 236 lbs. = 28.3 gal. 6.0 % +/- 1.5%	2.44 ft ³ 0.68 ft ³ 7.59 ft ³ 5.50 ft ³ 3.78 ft ³ 1.63 ft ³
WRA, STABILIZER, AEA,	BASF-1020 BASF-DELVO BASF-AE 90	(ASTM C 494/TYPE A) (ASTM C 494/TYPE B) (ASTM C 260)	18 oz. (3.0 oz./cwt) 12 oz. (2.0 oz./cwt) 4.0 oz.	27.12 ft ³
WATER-CEMENTITIOUS RATIO, SLUMP, CONCRETE UNIT WEIGHT, MIX SUITABILITY FACTOR,			0.40 4.00 in. 145.5 pcf 21.8	

MIXTURE ADJUSTMENT: Material variation and job site conditions may require mixture adjustments to maintain strength, water-cementitious ratio, slump, air content, and yield. DISCLAIMER: Cemstone disclaims and negates any warranty whatsoever of this concrete mix design if it is provided to, or used by, another concrete producer.

PREPARED BY:

2 all

Kevin D. Heindel, P.E.

Document Printed On: 3/15/16

Designed By: Jacob Ostendorf 3/15/16 3-15-16

PORTLAND CEMENT MANUFACTURERS - CERTIFIED SUPPLIERS	CERTIFIED SUPPLIERS		
			·
uate iast eorreot: 11/11/2015 Manufacturer	Mill Location	Cement Tynes Notes	Notes
Buzzi Unicem USA			
	Cape Girardeau, MO	1, 10	
	Greencastie, IN	1, 10	
	Festus, MO	1, 11, 01	
Continental Cement Company			
	Hannibal, MO	1, 11,11	
	Davenport, IA	(, II, IS	Plant measured from LaFarge as of 7/18/2016 - Product acceptable from either ownership
CRH Canada Groun. Inc.			
	Mississauga, Ontario, Canada‴	. 1	Plant acquited from Holdin as of 7/18/2015 - Product acceptable from either ownership
GCC of America			
	Rapid City, SD	I, II,M	Listed 5/28/2015
Illinois Cement Company	LaSaffe, IL	111	
LaFargeHolcim Corporation ***			
	Alpena, Mi	1, 11, 11	
	Bloomsdale, MO	I, II, IL(10)	
	Portland, CO	1, 11	Plant removed 4/9/2015, relisted 5/15/2015, ok to use material produced or delivered 4/9-5/15/2015
	Milaki, Greece (Heracles brand)	I, II	Plant listed 6/5/2015
	Joppa/Grand Chain, IL	1, 12	Plant listed 11/6/2015
	Exshaw, Alberta, Canada	1, 11	Plant listed 11/6/2015
Lehigh Cement Company	: ::		
	Mason City, IA	1,11	
St Marvs. Inc.			
		1	

" A merger of holoim and Lafarge has occurred in July 2015. The new name of the merged company will be LafargeHoloim. The former Lafarge plant at Davenport changed ownership to Continental Cement. The former Holoim plant at Mississauga, Ontario, Canada changed ownership to CRH Canadas Group. Do not reject cement as long as the name identified on the bill of lading or certification of compliance matches either the old names or the new names. This flexibility on names will be in effect through the end of calendar year 2015.

Listed 10/20/2015

1, 11, 11 1, 11

Charlevoix, MI Dixon, IL

<u>Note:</u> Certified MIII Test Reports accompanying all cement shipments should be reviewed at the project level. If there is any notation on the mill cert that fly ash or slag has been added as a process addition during the manufacture of the cement, the maximum percent by weight of these materials added in the field should be reduced by the same amount. If questions , call Jim Parry at 608-246-7339.

James Parry, Quality Assurance Unit Supervisor mailto:iames.parry@dot.wi.goy Phone - (608) 246-7939 E-mail: 3502 Kinsman Blvd Madison, WI Contact:

Consel - A



* May exceed 3.0% SO3 maximum based on our quarterly C 1038 results of <0.02% expansion at 14 days.

** Current Production run not available - most recent provided

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of current ASTM C 150 & AASHTO M 85 Standard Specifications for Type I and Type II(MH) Cement; ASTM C 150 & AASHTO M 85 Optional Chemical Requirements for Type I & II(MH) Low Alkali Cement.

Continental Cement Company - Davenport Plant 301 E. Front St Buffalo, IA. 52728 563-328-6222 **Certified By:**

am Olivez

Adam Oliver - Quality Manager

3/14/2016



Cement Mill Test Report Month of Issue:

March-16

Plant: **Product:** Shipped: Manufactured: **Davenport Plant, Buffalo, IA** Portland Cement Type I/II(MH) February-2016 February-2016

Additional ASTM C 150 and AASHTO M 85 Standard data

Base Cement Phase Composition

ltem	Test Result
C3S (%)	56
C2S (%)	16
C3A (%)	7
C4AF (%)	10

We certify that the above described cement, at the time of shipment, meets the chemical and physical requirements of current ASTM C 150 & AASHTO M 85 Standard Specifications for Type I and Type II(MH) Cement; ASTM C 150 & AASHTO M 85 Optional Chemical Requirements for Type I & II(MH) Low Alkali Cement.

Certified By:

Adam Ölivez

Adam Oliver - Quality Manager

3/14/2016

Continental Cement Company - Davenport Plant 301 E. Front St Buffalo, IA. 52728 563-323-2751



APPROVED Portland Cement C	soncrete Admixtures	Importanti Type A and Type D admixi	uira may not tre companying
Last update: 7/31/2016 Manufacturer	Air-Entraining Admixtures (AASHTO M154)	only use in combination in the same b Water Reducers (AASHTO M194 - Type A	Water Reducing Set Retarders (AASHTO M194 - Type D)
PINOVA, Inc. ⁽¹⁾	Vinsol		
P.O. Drawer 1517			
Brunswick , GA 31521-1617			
Ph: 912-265-3650			
ttp://www.ashland.com/			
dh mar an an an tha tha balance and the second			
1) Formerly Asbland, Inc			L
BASF Admixtures, Inc. ⁽²⁾	MasterAlr AE 200	MasterPolyheed 997	MasterSet Delvo
23700 Chagrin Blvd.	MasterAir AE 90	MasterPolyheed 1020	MasterPozzolith 80
Cleveland, OH, 44122	MasterAlr AE 400	MasterPozzolith 80	MasterSet R300
2h: 800-628-9990	MBVR Standard - Removed 4/9/2015	MaterGlenium 7500	masteroot nooo
		MasterGlenium 7511	
ww.basf-admixtures.com	MaterAir VR 10	MasterGlenium 7511	
2) formerly Degussa Admixtures Inc. (form Builders)	erly Master		
CHRYSO, Inc.	Chryso Air 260	Chryso Fluid Premia 180	Chryso Tard 100R
PO Box 190	Chryso Air TX	Chryso Fluid Optima 203	Chryso NutralSet - Removed 4/9/2015
Rockwall, TX 75039-1611		Chryso EnviroMix 159	
· · · · · · · · · · · · · · · · · · ·		Chryso EnviroMix 728	
		Chryso Plast 209	
ucild Chemical Company	Eucon AEA-92-S	Eucon MR Eucon WR	Eucon WR Eucon WR-91
9218 Redwood Road	Eucon Air Mix 200		
Seveland, OH 44110-2799	Eucon Air Mix 250	Eucon WR-91	Eucon WO
h: 800-321-7628	Eucon AEA-92	Plastol 6420	
www.euclidchemical.com		Eucon MRX	
Fritz-Pack Concrete Admixtures	Air Plus	1	FR-1
821 Eastover Circle	Super Air Plus		Delayed Set Standard
desguite, TX 75149			Delayed Set Mini
itp://www.fritzpak.com/			
Beneral Resource Technology	Polychem AE	Polychem 400NC	Polychem R
987 Center Court	Polychem VR	Polychem SPC	Polychem 400 NG
			Polychem 400 NG
agan, MN 55121	Polychem SA	Polychem Paver Plus	
00-324-8154	Polychem SA-50	KB-1200	
51-454-4151			
ww.gnlinc.com			
Premier Concrete Admixtures 08 Cedar Street	ConAir ConAir 260	Optifio 50 Optifio 500	Prolong L Optifio 500
O Box 277	CONAN 200	Optifio MR	Optifio 50
		Optifio Plus	opinio ao
Pioneer, OH 43554		Optilio Fide	
00-503-3418 Itp://www.premiereadmix.com/		Optifio 700	
		LC-400	LC-400R
tusstech, Inc			LUMUN
1208 Decimal Drive	RVR-15	LC-400P	
oulsville KY 40299		FinishEase-NC	1
h: 502-267-7700			
ww.RussTechnet.com	I I		
ika Corporation	Sika Alr 260	Sikament 686	Plastiment ES
01 Polito Avenue	Sika Air 360	Plastocrete 161	Sikatard 440
yndenHurst, NJ 07071	Sika Multi-Air 25	Sikaplast 200	Plastocrete 161
h; 201-933-6800	Sika AEA-14	Sikaplast 300 GP	
ww.sikausa.com		Sika Viscocrete 1000	
R Grace and Company	Darex II AEA	WRDA 82	Recover
2 Whittemore Avenue	Daravair 1000	MIRA 62	Daratard 17
	Daravair 1000	ADVA Cast 600	WRDA 82
ambridge MA	Daravair M Daravair 1400	MIRA 110	TINDA VE
h: 617-498-4555		ZYLA 630	
ww.grace.com		Damcem 50 - Removed 4/9/2015	
		ADVA 140M - Removed 4/9/2015	

Conlact: James Parry, Quality Assurance Unit Supervisor 3502 Kinsman Bivd Madison, Wi

Phone - (608) 246-7939 E-mall: james.parry@dol.wi.gov



	03 30 00	Cast-in-Place Concrete
\cap	03 40 00	Precast Concrete
3	03 70 00	Mass Concrete

MasterAir[®] AE 90

Air-Entraining Admixture

Formerly MB-AE 90*

Description

MasterAir AE 90 airentraining admixture is for use in concrete mixtures. It meets the requirements of ASTM C 260, AASHTO M 154 and CRD-C 13.

Applications

Recommended for use in:

- Concrete exposed to cyclic freezing and thawing
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

Features

Ready-to-use in the proper concentration for rapid, accurate dispensing

Benefits

- Improved resistance to damage from cyclic freezing and thawing
- Improved resistance to scaling from deicing salts
- Improved plasticity and workability
- Reduced permeability increased watertightness
- Reduced segregation and bleeding

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing, and adequate concrete strength, assuming the use of sound aggregates and proper mixing, transporting, placing, consolidation, finishing and curing techniques. MasterAir AE 90 admixture can be used to obtain adequate freeze-thaw durability in a properly proportioned concrete mixture, if standard industry practices are followed.

Air Content Determination: The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173/C 173M, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method." The air content of lightweight concrete should only be determined using the Volumetric Method. The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138/C 138M, "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1.5%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.



Conver. CZ

Guidelines for Use

Dosage: There is no standard dosage for MasterAir AE 90 admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete-making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique. The amount of entrained air required under actual job conditions. In a trial mixture, use 0.25 to 4 fl oz/cwt (16-260 mL/100 kg) of cementitious material. Measure the air content of the trial mixture, and, if needed, either increase or decrease the quantity of MasterAir AE 90 admixture to obtain the desired air content.

In mixtures containing water-reducing or set-control admixtures, the amount of MasterAir AE 90 admixture needed may be somewhat less than the amount required in plain concrete.

Due to possible changes in the factors that can affect the dosage of MasterAir AE 90 admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement.

If an unusually high or low dosage of MasterAir AE 90 admixture is required to obtain the desired air content, consult your local sales representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add MasterAir AE 90 admixture to the concrete mixture using a dispenser designed for air-entraining admixtures, or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate. If the concrete mixture contains fine lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions of water to air-entrained concrete. Furthermore, an air content check should be performed after post-batching addition of any other materials to an air-entrained concrete mixture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterAir AE 90 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: MasterAir AE 90 admixture may be used in combination with any BASF admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

Storage and Handling

Storage Temperature: MasterAir AE 90 admixture should be stored and dispensed at 31.°F (-0.5 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If MasterAir AE 90 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: MasterAir AE 90 admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterAir AE 90 admixture has been exceeded.

Safety: Chemical goggles and gloves are recommended when transferring or handling this material.

Packaging

MasterAir AE 90 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterAir AE 90 admixture

Additional Information

For additional information on MasterAir AE 90 admixture, or its use in developing a concrete mixture with special peformance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

Limited Warranty Notice

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* MB-AE 90 became MasterAir AE 90 under the Master Builders Solutions brand, effective January 1, 2014.

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BASF Corporation Admixture Systems www.master-builders-solutions.basf.us United States 23700 Chagrin Boulevard Cleveland, Ohio 44122-5544 Tel: 800 628-9990 # Fax: 216 839-8821 Canada 1800 Clark Boulevard Brampton, Ontario L6T 4M7 Tel: 800 387-5862 # Fax: 905 792-0651



	03 30 00	Cast-in-Place Concrete
\circ	03 40 00	Precast Concrete
3	03 70 00	Mass Concrete

MasterPolyheed® 1020

Mid-Range Water-Reducing Admixture

Formerly PolyHeed 1020*

Description

MasterPolyheed 1020 admixture is a patentpending readyto-use mid-range water-reducing admixture. MasterPolyheed 1020 admixture, is very effective in producing concrete with different levels of workability and with enhanced finishing characteristics. MasterPolyheed 1020 admixture meets ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- All concrete applications where superior workability, pumpability and finishability qualities are desired, in particular, flatwork, pumped concrete and pervious concrete
- Concrete containing manufactured sand and harsh concrete mixtures

Features

- Based on MasterGlenium[®] technology
- Dosage flexibility provides up to 20% water reduction
- Reduced water content for a given level of workability
- Provides better slump retention
- Provides excellent workability
- Enhanced later-age strength
- Excellent finishability, even with manufactured sands and in lean mixtures

Benefits

- Can be used in a wide variety of concrete mixtures as a multi-purpose admixture meeting the performance requirements for ASTM Type A or Type F admixtures
- Faster setting at higher dosages compared to other mid-range water-reducing admixtures
- Enhanced flowability, strength and durability
- Reduces effort required to finish
- Lowers in-place cost
- Increases service life of structures

Performance Characteristics

Setting Time: Concrete produced with MasterPolyheed 1020 admixture sets faster than a mixture containing a typical mid-range water-reducing admixture.

Mixture Data: 517 lb/yd³ (307 kg/m³) of Type I/II cement; slump 5 in. (125 mm); non-airentrained concrete; Admixture dosage adjusted for 8% water reduction.

Setting Time

	Initial Set	Difference over Reference
Mixture	(h:min)	(h:mín)
Reference	4:48	-
Ref. Mid-Range Water-Reducer	6:12	+1:24
MasterPolyheed 1020 admixture	5:18	+0.30



Jorce 1.C3

Compressive Strength: Concrete produced with MasterPolyheed 1020 admixture achieves higher compressive strength at later ages compared to plain concrete and concrete mixtures produced with a typical mid-range water-reducing admixture.

Mixture Data: 517 lb/yd³ (307 kg/m³) of Type I/II cement; slump 5 in. (125mm); non-air-entrained concrete; Admixture dosage adjusted for 12% water reduction.

Compressive Strength, psi (MPa)

Mixture		7-Day	28-Day
Plain	1330 (9.2)	3670 (25.3)	5080 (35.0)
Reference MRWR*	1760 (12.1)	5160 (35.6)	6720 (46.3)
MasterPolyheed 1020			
admixture	. ,	5370 (37.0)	7150 (49.3)

*Mid-Range Water-Reducer

Note: The data shown are based upon controlled laboratory tests. Reasonable variations from the results shown here may be experienced as a result of differences in concrete making materials and jobsite conditions.

Guidelines for Use

Dosage: MasterPolyheed 1020 admixture has a recommended dosage range of 3 to 12 fl oz/cwt (195 to 780 mL/100 kg) of cementitious materials for most concrete mixtures. A dosage range of 3 to 5 fl oz/cwt (195 to 325 mL/100 kg) is typical for Type A applications and up to 12 fl oz/cwt (780 mL/100 kg) for mid-range and high-range applications. Because of variations in concrete materials, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

Mixing: MasterPolyheed 1020 admixture can be added with the initial batch water or at the end of the batching sequence.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterPolyheed 1020 admixture will neither initiate nor promote corrosion of reinforcing or prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterPolyheed 1020 admixture.

Compatibility: MasterPolyheed 1020 admixture is compatible with most admixtures and can be used in combination with other BASF admixtures, unless stated otherwise. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

MasterPolyheed 1020 admixture is designed to be used with MasterAir[®] VR 10 and MasterAir AE 90 air-entraining admixtures when the production of air-entrained concrete is desired. **Do not use MasterPolyheed 1020 admixture in combination with naphthalene-based admixtures. Erratic performance in slump may be experienced.**

Storage and Handling

Storage Temperature: MasterPolyheed 1020 admixture should be stored between 35 and 105 °F (2 and 41 °C). If MasterPolyheed 1020 admixture freezes, thaw at 40 °F (5 °C) or above and completely reconstitute using mild mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: MasterPolyheed 1020 admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of PolyHeed 1020 admixture has been exceeded.

Dispensing: Consult your local sales representative for the proper dispensing equipment for MasterPolyheed 1020 admixture.

Packaging

MasterPolyheed 1020 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes, and by bulk delivery.

Related Documents

Safety Data Sheets: MasterPolyheed 1020 admixture

Additional Information

For additional information on MasterPolyheed 1020 admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

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* Polyheed 1020 became MasterPolyheed 1020 under the Master Builders Solutions brand, effective January 1, 2014.

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^{IIII} 01/14
^{IIIII} PRE-DAT-0088

BASF Corporation Admixture Systems www.master-builders-solutions.basf.us United States 23700 Chagrin Boulevard Cleveland, Ohio 44122-5544 Tel: 800 628-9990 # Fax: 216 839-8821 Canada 1800 Clark Boulevard Brampton, Ontario L6T 4M7 Tel: 800 387-5862
 Fax: 905 792-0651



Cast-in-Place Concrete	03 30 00	
Precast Concrete	03 40 00	\cap
Mass Concrete	03 70 00	3

MasterSet[®] DELVO

Formerly DELVO Stabilizer*

Description

MasterSet DELVO readvto-use, liquid admixture is used for making more uniform and predictable high-performance concrete. MasterSet **DELVO** admixture retards setting time by controlling the hydration of portland cement and other cementitious materials while facilitating placing and finishing operations. MasterSet DELVO admixture meets ASTM C 494/C 494M requirements for Type B, retarding, and Type D, water-reducing and retarding, admixtures.

Applications

Recommended for use in:

- Stabilization of concrete washwater
- Stabilization of returned plastic concrete
- Stabilization of freshly batched concrete for long hauls
- ax4™ Concrete
- Pumped concrete, shotcrete (wet mix) and conventionally-placed concrete
- Plain, reinforced, precast, prestressed, lightweight and normal weight concrete

Pervious concrete

Features

- Reduced water content required for a given workability
- Retarded setting time characteristics
- Improved workability

Benefits

- Provides flexibility in the scheduling of placing and finishing operations
- Solution Offsets the effects of slump loss during extended delays between mixing and placing
- Reduces waste associated with concrete washwater and returned concrete
- Increased strength compressive and flexural

Performance Characteristics

Rate of Hardening: The temperature of a concrete mixture and the ambient temperature (forms, earth, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing.

One of the functions of MasterSet DELVO admixture is to retard the set of concrete. Within the normal dosage range, it will generally extend the working and setting times of concrete containing normal portland cement, fly ash, slag cement and silica fume approximately 1 hour to 5 hours compared to a plain concrete mixture. This depends on job materials and temperatures. Trial mixtures should be made under approximate job conditions to determine the dosage required.

Compressive Strength: Concrete produced with MasterSet DELVO admixture will develop higher early (within 24 hours) and higher ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions. When MasterSet DELVO admixture is used in heat-cured concrete, the length of the preheating period should be increased until the initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.



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Guidelines for Use

Dosage: MasterSet DELVO admixture is recommended for use at a dosage of 4 ± 1 fl oz/cwt ($260 \pm 65 \text{ mL}/100 \text{ kg}$) of cementitious materials for most concrete mixtures using average concrete ingredients. Because of variations in job conditions and concrete materials, dosages other than the recommended amounts may be required. In such cases, contact your local sales representative. For concrete washwater and returned concrete stabilization, utilize MasterSet DELVO charts to determine the appropriate dosage rates.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterSet DELVO admixture will neither initiate nor promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally-added calcium chloride or other chloride-based ingredients.

Compatibility: MasterSet DELVO admixture may be used in combination with any BASF admixture. When used in conjunction with another admixture, each admixture must be dispensed separately into the mixture.

Storage and Handling

Storage Temperature: MasterSet DELVO admixture should be stored above freezing temperatures. If MasterSet DELVO admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: MasterSet DELVO admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterSet DELVO admixture has been exceeded.

Packaging

MasterSet DELVO admixture is supplied in specially designed 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterSet DELVO admixture

Additional Information

For more information on MasterSet DELVO admixture, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

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* Delvo Stabilizer became MasterSet DELVO under the Master Builders Solutions brand, effective January 1, 2014.

@ BASE Corporation 2014 @ 04/14 @ PRE-DAT-0021

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Test Number: 0 - 131 - 0002 - 2014 Labsite: Wisconsin Department of Transportation Materials Laboratory Testing System Tests On: Bureau of Technical Services-Central Lab Water for concrete Truax Center, 3502 Kinsman Blvd. Type: V - VERIFICATION Madison, WI 53704 Main Project ID: 0617-06-00 DISTRICT 6 GENERAL TESTING

Page 1 of 1

ŘMS 4/6/14

WATER

Quantity:

Date Sampled:	Date Received:	Date Tested:
01/02/14	01/15/14	02/18/14
By: DAVE HOREJSI	By: NW REGION	By: PAT FITZGIBBON
Source:	Legal Description: , , Section: , T: N, R: ,	County:

AASHTO - T26

Water Source: NW CEMSTONE NEW RICHMOND 21					
Chemi	cal Analysis:	Specifications			
	Acidity (ml of 0.1 N	NaO4 to neutralize 200 ml)	0	2 Max	
	Alkalinity (ml of 0.1	N HCI to neutralize 200 ml)	3	15 Max	
	Sulfates (%)	ASTM D516	0.00%	0.05 Max	
	Chlorides (%)	ASTM D512	0.01%	0.1 Max	
Physic	al				
	Organic Solids(%)		0.03	0.04 Max	
	Inorganic Solids (%)	0.00	0.15 Max	
Mortar Strength:					
Age(da	ys) Test(T)	Standard(S)	T/S (%)		
3	14.82	16.15	91.73%	90 - 110	
7	22.27	21.01	106.01%		

Remarks: Satisfactory NW CEMSTONE NEW RICHMOND 21

CART 0-131-0002-2014

Test Number: 0 - 162 - 0007 - 2015

Materials Laboratory Testing System Tests On: Fine & coarse aggregate for concrete Type: V - VERIFICATION

Main Project ID: 0617-06-00 DISTRICT 6 GENERAL TESTING

Labsite:

Madison, WI 53704

Wisconsin Department of Transportation Bureau of Technical Services-Central Lab Truax Center, 3502 Kinsman Blvd.

Page 1 of 1 $\frac{1}{4/6/16}$ n $\frac{1}{4/6/16}$ ab FWEA66.

Date Sampled:	Date Reques	sted / Received:	Date Tested:	
12/08/14	01/16/15		01/16/15	
By: David Horejsi / 101647	By: NW REG	ION	By: Richard Tracy /	101240
Source: CASEY	PIT	Legal Description: , SE, Section: 16, T:	30 N, R: 18, W	County: ST. CROIX

Multiple Gradation

SIEVE ANALYSIS (AASHTO T-11. T-27 & T248): Remarks: Satisfactory

	Percentage Passing					
Sieve Size Metric (English)	#2 Coarse Aggregate	Specs STANDARD	#1 Coarse Aggregate	Specs STANDARD	Fine Gradation	Specs Standard
50.0 (2")		100 Min				
37.5 (1 1/2")		90 - 100				
31.5 (1 1/4")						
25.0 (1")		20 - 55		100 Min		
19.0 (3/4")		0 - 15		90 - 100		
12.5 (1/2")						
9.5 (3/8")		0 - 5		20 - 55		100 Min
4.75 (#4)				0 - 10	100	90 - 100
2.36 (#8)				0 - 5	93	
1.18 (#16)					78	45 - 85
0.600 (#30)					52	
0.425 (#40)						
0.300 (#50)					15	5 - 30
0.150 (#100)					2	0 - 10
75 μm (#200)					0.5	0 - 3.5

Liquid Limit (AASHTO T-89):	Fineness Modulus: 2.59
Plasticity Index (AASHTO T-90):	Specific gravity Absorption
LA Wear (AASHTO T-96)	Coarse Aggregate (AASHTO T-85)
@ 100 Revolutions (%):	Specific Gravity
@ 500 Revolutions (%):	Absorption
Soundness (AASHTO T-104) (%):	Fine Aggregate (AASHTO T-84)
Freeze-Thaw (AASHTO T-103) (%):	Specific Gravity 2.652
Organic Plate Number (AASHTO T-21): 1	Absorption 0.695%
Air Correction (%) (AASHTO T-152):	
Chert (%) (AASHTO T-113)	

Test Number: 0 - 225 - 0065 - 2015

Materials Laboratory Testing System Tests On: Aggregate Quality Type: CDE - CONTRACTOR DATA ENTRY

Main Project ID: 0617-06-00 DISTRICT 6 GENERAL TESTING

Labsite:

Wisconsin Department of Transportation Bureau of Technical Services-Central Lab Truax Center, 3502 Kinsman Blvd. Madison, WI 53704

4/6/14

Page 1 of 1

CORESE 20ALSE AGGSECANES

Date Sampled:	Date Reque	ested / Received:	Date Tested:	
12/08/14	01/12/15		01/12/15	
By: Patrick Savage / 102476	By: NW REG	GION	By: Troy Tabor / 10	1951
Source: CASEY	PIT	Legal Description: , SE, Section: 16,	T: 30 N, R: 18, W	County: ST. CROIX

Material:

Aggregate Source:

Name:	CASET	
Турө:	PIT	County: St Croix
Location:	, SE, SECTION 16,	T30N, R18W

SIEVE ANALYSIS (AASHTO T-11, T-27 & T248)

Sleve Size	Percent Passing			
Metric (English)	As Rec'd	Pass 4.75mm		
150.0 (6")	100			
75.0 (3")	100			
50.0 (2")	100			
37.5 (1 1/2")	100			
31.5 (1 1/4")	100			
25.0 (1")	100			
19.0 (3/4")	98			
12.5 (1/2")	76			
9.5 (3/8'')	53			
4.75 (#4)	4			

Allowed Usage:

HMA <e-3, hma="">=E-3, CO</e-3,>	NCRETE, OGBC, Base Aggregate
Liquid Limit (AASHTO T-89)): NON-COH
Plasticity Index (AASHTO T	-90): NP
Crushed Particles (%):	61
Lightweight Particles (%): (/	AASHTO T-113)
LA Wear (AASHTO T-96)	
@ 100 Revolutio	ns (%): 4.4 🗸
@ 500 Revolution	ns (%): 4.4 ons (%): 19.6 \$) (%): 2.2
Soundness (AASHTO T-104	\$) (%): 2.2 🗸
Freeze-Thaw (AASHTO T-1	03) (%):
Specific Gravity and Abso	rption
Coarse Aggregate (AAS	SHTO T-85)
Specific Gravil	iy: 2.640
Absorption:	1.633%

Remarks: Satisfactory Test data provided by American Engineering Testing





Lafarge Material Performance Center 1	263 Lakeview Drive	Romeoville, IL	60446 1-63	0-243-4699
			annan - Sonn on a san sain an ann an an ann an ann ann ann ann a	
FLY ASH SOURCE:	ELM ROAD UNIT 2	CLASS C		
COMPOSITE DATE:	11-Jan-16 to	15-Jan-16		
SAMPLE IDENTIFICATION:	ER2160111-011	5		
			SPECIFIC/	TIONS
			ASTM C 618	AASHTO M 295
CHEMICAL ANALYSIS		_	CLASS C	<u>CLASS C</u>
SiO2 (silicon dioxide), %		34.88		
Al2O3 (aluminum oxide), %		17.92		
Fe2O3 (iron oxide), %	list) Rov	5.79		
SIO2+Al2O3+Fe2O3, %	2	58.59	50 Min	50 Min
CaO (calcium oxide), %	2	26.66		
MgO (magnesium oxide), %		5.86		
SO3 (sulfur trioxide), %	=	2.12	5.0 Max	5.0 Max
Molsture content, %		0.06	3.0 Max	3.0 Max
Loss On Ignition, %	4604 807	0.20	6.0 Max	5.0 Max
Na2O (sodium oxide), %	2	1.95		
K2O (potassium oxide), %		0.44		
PHYSICAL ANALYSIS				
Fineness, amount retained on #325 sieve, %	_	14.5	34 Max	34 Max
variation, points from average		14.5	5 Max	5 Max
vanation, points nom average			0 WIGA	0 max
Density, Mg/m3		2.7		
variation from average, %	83	-0.7	5 Max	5 Max
Strength Activity Index				
with Portland Cement				
at 7 days, % of cement control	8	96	75 Min	75 Min
Cement: Lafarge Alpena Type VI				
Water Requirement				
% of cement control		94	105 Max	105 Max
Soundness, autoclave expansion	1			
or contraction, %		0.04	0.8 Max	0.8 Max

The test results for this composite sample comply with the applicable specifications of ASTM C 618 and AASHTO M 295. This fly ash source is approved for use by the following state agencies:

<u>3/1/2016</u> **Brian Borowski Report Date**

ASTM C 618 Note 1 - Finely divided materials may tend to reduce the entrained air content of concrete. Hence, if a mineral admixture is added to any concrete for which entrainment of air is specified, provision should be made to ensure that the specified air content is maintained by air content tests and by use of additional air-entraining admixture or use of an air-entraining admixture in combination with air-entraining hydraulic cement.

Brian Borowski Quality Assurance Manager Lafarge North America

.



KMS 5/12/16

Analytical Testing Service Laboratories, Inc. P.O. Box 1118, Joplin, Missouri 64802 (417) 782-6573

Mineral Resource Tech. Inc., A CEMEX Co. 929 Gessner, Suite 1900 Houston Houston, Texas 77024 1-813-671-2266 ext.114

February 11, 2016

Attn: Oscar Jaramillo

Re: 07029 - Rush Island Fly Ash Sample - Monthly Composite - December 2015

	AASHTO-M295 Class "C" <u>Requirements</u>	ASTM C-618 Class "C" <u>Requirements</u>	Actual
Fineness (+325 Mesh)	34% Max	34% Max	14.00%
Moisture Content	3% Max	3% Max	0.12%
Density g/cm ³ C188	****	****	2.82
Density Variation	5.0% Max	5.0% Max	0.46%
Loss on Ignition	5% Max	6% Max	0.75%
Soundness	0.8% Max	0.8% Max	0.08%
S.A.I., 7 Days	75% Min	75% Min	106.90%
S.A.I., 28 Days	75% Min	75% Min	112.10%
Water Req. % Control	105% Max	105% Max	95.00%
Silica SiO₂	****	****	29.31%
Aluminum Oxide Al_2O_3	****	****	19.50%
Ferric Oxide Fe ₂ O ₃	****	****	5.15%
Total	50% Min	50% Min	53.96%
Sulfur Trioxide SO ₃	5% Max	5.0% Max	1.96%
Calcium Oxide CaO	****	****	33.32%
Magnesium Oxide MgO	****	****	7.21%
Available Alkalies Na ₂ O	1.50%Max	****	0.88%

We certify the above was tested in accordance with ASTM C-618 & AASHTO-M295

Analytical Testing Service Laboratories, Inc.

John K. Cupp, Manager

Cure&Seal- Non Trafficked Str

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Cure & Seal Compounds for Non-Trafficked Surfaces on Structura	Surfaces on Structural Masonry	YI	
Date last edited: 8/13/2014 PERMANNT PRODUCTS FOR GENERAL USE			
Product Name	Manutacturer	Date Approved	
Certivex AC 1315 HG Certivex AC 1315 Concrete Stain	Vexcon Chemicals 7420 State Road	4/18/2003 (name change 5-27-2003) 4/18/2003	
Certivex Guard Clear	Philadelphia, PA 19135	1/22/2010	
Certivex Guard Chemically Active Concrete Stain (CACS)	www.vexcon.com	1/22/2010	
Duraguard 105- Ciear Duraguard 105- Gray	Chemmasters Chemmasters	4/1/2001	
•			2 4
Super Rez-Seal	The Euclid Chemical Company ⁽¹⁾ 19218 Redwood Road Cleveland, Ohio 441100	12/4/2006	ms Ildli
	800-321-7628 http://www.euclidchemical.com/		16
TK- Kure and Seal 1315	TK Products	12/1/2005 (name change 8/11/14)	
TK-20-tean TK-DOT Stain- Gray TK-AS-1 Achtro Seal 1315	TK Products TK Products	41/2001 4/1/2001	
	IN Products	8/13/2014	
Care must be taken <u>No</u> f to apply any of these products to concrete surfaces where bonding Do <u>nof</u> apply to surfaces where Concrete Protective Surface Treatments are required.	ding	of subsequent concrete pours is needed .	
REMOVARI E PRODICTS FOR TEMPOPARY LIVE			
Product Name	Manufacturer	Date Approved	
EZ Strip Cure	Chemmasters	12/1/2001	
Clear Resin CureJ11W	Dayton Superior	4/13/2012 (name change 4-13-2012) ●	
TK 2519 DC WB	TK Products	12/1/2001	

Spec Rez	SpecChem	10/2/2009
These removable products shall only be used for surfaces where s	ubsequent application of architectural c	used for surfaces where subsequent application of architectural coatings or special
surface finish is required. These products may be removed after o	ompletion of the curing period with a 20	s may be removed after completion of the curing period with a 2000-3000 PSI high messure water blact

watel rd ngin ō 2000 5 (1) Formerly Tamms Industries

Contact: James Parry, Quality Assurance Unit Supervisor 3502 Kinsman Blvd Madison, Wl

Phone - (608) 246-7939 E-mail: james.parry@dot.wi.gov

Page 1

Test Number: CEM001.535 - 132 - 0005 - 2016 Materials Laboratory Testing System Tests On: Concrete Mix Design Type: DR - DESIGN REVIEW Main Project ID: 1020-01-83				Lab Site Cemstone Ready Mix - New Richmond CRM- New Richmond Dave Horejsi 1190 Cty G New Richmond, WI 54017				Page 1 of 1
Hudson - Baldw	in							
CTH J Bridge B	-55-0259							
194				D		D-4- T	- 4 - 1-	
Date Sampled:		04/05/	Requested /	Keceivea:		Date Te 04/05/1		
04/05/12 By: David Horejsi /	01647	04/05/ By: ST			,	By: ST/		
Source:	101011	<i>by</i> : 01		al Descriptio	n: Section:	•		County:
132 Main Concrete	Miv Design - I	Ratch Woights a	and Proport	ione				
I32 Main Concrete Fest Number: CEM Design Mix ID Description	-	- 0005 - 2016	and Proport		Grade :	A-FA		
fest Number: CEM Design Mix ID	001.535 - 132 C WHB5146 4000 PSI	- 0005 - 2016	and Proport		Grade :	A-FA		
ēst Number: CEM Design Mix ID Description	001.535 - 132 C WHB5146 4000 PSI	- 0005 - 2016	and Proport	Net Mi>	Grade : ‹Water: / Lbs)	Water Cement	Air Content: (%)	
Test Number: CEM Design Mix ID Description Cementitous Mate Cement:	001.535 - 132 C WHB5146 4000 PSI erial Fly Ash:	- 0005 - 2016		Net Mi>	< Water:	Water		
Test Number: CEM Design Mix ID Description Cementitous Mate Cement: (lbs)	001.535 - 132 C WHB5146 4000 PSI erial Fly Ash: (lbs) 109	- 0005 - 2016	Total :	Net Mix (Gals 28	< Water: / Lbs) 233.24	Water Cement Ratio	(%) 6	
Test Number: CEM Design Mix ID Description Cementitous Mate Cement: (lbs) 480	001.535 - 132 C WHB5146 4000 PSI erial Fly Ash: (lbs) 109 s	- 0005 - 2016 Slag content: (lbs)	Total :	Net Mix (Gals 28	< Water: / Lbs) 233.24	Water Cement Ratio 0.40	(%) 6	
Test Number: CEM Design Mix ID Description Cementitous Mate Cement: (lbs) 480 Aggregate Source	001.535 - 132 - C WHB5146 4000 PSI erial Fly Ash: (lbs) 109 s CASE	- 0005 - 2016 Slag content: (lbs)	Total :	Net Mix (Gals 28	c Water: / Lbs) 233.24 eight (lbs):	Water Cement Ratio 0.40 Absorption	(%) 6	·
Test Number: CEM Design Mix ID Description Cementitous Mate Cement: (Ibs) 480 Aggregate Source Coarse 1:	001.535 - 132 - C WHB5146 4000 PSI erial Fly Ash: (lbs) 109 s CASE	Slag content: (lbs) Source:	Total :	Net Mix (Gals 28	(Water: / Lbs) 233.24 eight (Ibs): 930	Water Cement Ratio 0.40 Absorption 9	(%) 6	·
Test Number: CEM Design Mix ID Description Cementitous Mate Cement: (lbs) 480 Aggregate Source Coarse 1: Coarse 2:	001.535 - 132 C WHB5146 4000 PSI erial Fly Ash: (lbs) 109 s CASE CASE	Slag content: (lbs) Source:	Total :	Net Mix (Gals 28	(Water: / Lbs) 233.24 eight (Ibs): 930	Water Cement Ratio 0.40 Absorption 9	(%) 6	

Admixture

6 .

- Canada and

		Dosage
Number	Name	(oz per 100 WT)
1	MB AE 90	0.80
2	Polyheed 1020	3.00

Remarks: Satisfactory

Verified Date: 03/08/2016

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Verified By: DAVID HOREJSI

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	Materials Laboratory Testing System Tests On: Miscellaneous Materials Type: V - VERIFICATION							
\ :	Main Project ID: 1020-01-83 Hudson - Baldwin CTH J Bridge B-55-0259 J 94							
	Date Sampled:		Date Reques	ted / Received:	09/06/			
	By: RYAN M. S Source: CASEY	IREK	PIT	Legal Description: , SE,		YAN M. SIREK : 18, W	County: ST. CROIX	
	Manufacturer: Material:	CEMESTONE NEW RICH CONCRETE MASONRY I			Other Ass	sociated Proje	ects:	
	Supplier: Remarks: Description QMP Structures Su	immary						
	Structure Item 502.0100 CONCRE	ETE MASONRY BRIDGES	Plan QuantityFi	nal Quantity 537 CY	520 CY			
	QC Plan Received' QC Plan Reviewed QC Plan contains in Reviewed by: JES Date: 04/06/16	? Yes tems listed in Standard Spe	ec. 701, 715, &	Special provisions? Ye	28			
	Mix Design(s) Rece Reviewed by: RYA Date Reviewed: 04							
ач	Concrete Supplier Cemestone Ready	& Location: Mix Plant, New Richmond '	WI					
	Data Entered in the	ting frequency met?Yes MRS?Yes neAggregate Quality #Test CASEY PIT CASEY PIT	ed during produ 225-0065-201 225-0065-201 162-0007-207	5 5				
	Monitoring QC San Compressive Stren Cemestone Ready	npling/Testing gth Curing & Testing - Qua Mix Plant, New Richmond,	lified Laborator	y Name & Location:				
		personnel CST certified thro Name: JAKE OSTENDORI		s Certification # 105880				
	All fresh mix sampli QC Sampler(s)/Tes	ing/testing personnel certific ter(s) Name: JAKE OSTEI Name: NOLAN PA	NDORM	CP?Yes / No Certification #1 Certification #1				
	Testing frequencies	imely per specifications?Ye met for slip form?N/A met for hand pours?Yes	9S					
	Final original docun Date Submitted: 7/ Reviewed by: Ryar Date reviewed: 7/2	n M. Sirek						
Ć	MRS entry complete Department reviewe Incentive / disincen	ed?Yes ed?Yes tive items addressed? Yes	,					
	QV Sampling/Testir	ıg						

DATE: LOCATION LOT/SUBLOT: Verified Date: 10/07/2016 AIR: SLUMP: TEMP: Verified By: RYAN SIREK MIT/MTS TEST #

Materials Laboratory Testing System Tests On:

Miscellaneous Materials Type: V - VERIFICATION

Main Project ID: 1020-01-83

Hudson - Baldwin

CTH J Bridge B-55-0259

194

Date Sampled: Di		Date Requested / Received:			Date Entered:	Date Entered: 09/06/16		
By: RYAN M. SIREK						By: RYAN M. SIRE	<	
Source: C	ASEY		PIT	Legal Des	scription: , SE, Se	ction: 16, T: 30 N, R: 18, W	County: ST. CROIX	
4/13/2016 4/25/2016 6/07/2016 6/15/2016	PIER FOOTING NORTH ABUTMENT 1 SUPERSTRUCTURE PARAPET	1/1 1/2 2/1 2/2	6.7% 5.3% 6.4% 4.7%	3.25" 2.75" 4.00" 2.25"	69 DEG 68 DEG 67 DEG 78 DEG	6-130-0004-2016 6-130-0006-2016 6-130-0025-2016 6-130-0037-2016		
	rification Test #: (s)/Tester(s) Name: RY	AN M. SIREK		Certifie	cation #104589			

Remarks:

Due to fly ash shortage Cemestone switched fly ash sources between substructure and superstructure. All QC and QV testing indicated compliance with the WisDOT standards. Appropriate testing results were submitted in a timely manor and reviewed. Standard deviation for QC Lot 83-1 and QC Lot 83-2 were above the required 350 so no inscentive is warrented.

DESIGN/FINAL COMPUTATIONS 0121.00 2005 Dimension (COMPUTATIONS

\$ 1020-01-83 CTH 5 BRIDGE B-55-259 502.0100 CONDUCTIE MASONORY BRIDGES CEMESTONE WEW BICH MOUD LOT# 1 PLAN RANDOM TEST LOCATON QTY 1 5804 4509 SOUTH ABUT MENT 6,7814 X PIER 73 CY 0,3174 2309 X 40 09 58 04 NORTH ABITMENT × 0.6940 Supprest puctors LOT # Z 29704 × 0,5592 DECK 166 09 5104 × 0,3453 1809 PALAPETS B-55-0259 3/20/16 1020-01-83 IH 94 ST. CROW RVAN M STEEK CTH J BRIDGE RANDOM # QV SOZ. DICO CONVERTE MASONRY BRIDGES

Warmaha Department of Structure mine
Test Number: 6 - 130	- 0004 - 2016		Lab Site	1	Page 1 of 2
Materials Laboratory T Concrete Cylinders Type: V - VERIFICA		sts On:	6-NW REGION- Eau Cl WisDOT NW REGION 5009 Highway 53 South Eau Claire, WI 54701	- Eau Claire Lab (LAN	ONLY)
Main Project ID: 1020)-01-83				
Hudson - Baldwin					
CTH J Bridge B-55- I 94	0259				
Date Sampled:		Date Requested / R	Received:	Date Tested:	
04/13/16		04/15/16		05/11/16	
By: Ryan Sirek / 10458	9	By: NW REGION E	C	By: Patrick Savage	/ 102476
Source:		Legal	Description: , , Section: , T:	N, R: ,	County:
Compressive S	trength of Cylinde	rs: AASHTO T-22			
Grade:		Class:	AE		
Cement content:	480 lb	Brand/Mill:	LaFarge-Davenport, IA	Type:	: 11
Fly Ash	🔿 Pozzolan				7
Content:) 190 lb	Source:	LaFarge-Oak Creek	Class	: C
Slag content:	lb	Source:		Grade	: 100

	Content:	190 lb	Source: LaFarge-Oak Creek	Class:
	Slag content:	lb	Source:	Grade:
Sa	mple Location: 23C	Y-Pier Footing		Lot:
Con	crete Supplier: Cem	stone-Roberts		Sublot:

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Ad	mixtı	ires:
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Brand and Trade Name	Dosage Rate (oz)
1 Polychem AE	.83
2 Polyheed 1020	3.00
3 BASF-DELVO	2.00

Aggt. Source Names:

Fine: CASEY

Coarse: CASEY

Coarse 2/ Other:

(

Cylinde	r Information:					Compressive	Rate of	Date
Cylinder	Cylinder	Diameter	Area	Max Load	Age	Strength	Loading	Tested
Number	Made For	inches	inches ²	lbs	Days	Psi	Psi/second	
1A	STRUCTURE	6.01	28.33	169,220	28	5,973.0	33	5/11/2016
1B	STRUCTURE	6.02	28.44	167,150	28	5,876.4	33	5/11/2016
Total Ag	igregate: 3,120	lb/cy	Fine	Aggregate: %		Slum	p: 3.25 in	ches
						Net A	ir: 6.7 %	

Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

Test Number: 6 - 130 - 0004 - 2016	Lab Site	Page 2 of 2
Materials Laboratory Testing System Concrete Cylinders Type: V - VERIFICATION	WisDOT NV	DN- Eau Claire V REGION- Eau Claire Lab (LAN ONLY) ay 53 South, IH 94 VI 54701
Main Project ID: 1020-01-83		· · · · · · · · · · · · · · · · · · ·
Hudson - Baldwin		
CTH J Bridge B-55-0259		
194		
Date Sampled:	Date Requested / Received:	Date Tested:
04/13/16	04/15/16	05/11/16
By: Ryan Sirek / 104589	By: NW REGION EC	By: Patrick Savage / 102476
Source:	Legal Description: , ,	Section: , T: N, R: , County:

Remarks:

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Canadala

Test Numb	oer: 6 - 130) - 0006 - 2016		Lab S	ite		Pag	ge 1 of 2
Concre	Laboratory Ite Cylinders / - VERIFICA		sts On:	WisD0 5009 I		GION- Eau Claire South, IH 94	Lab (LAN ON	LY)
Hudsor CTH J	e ct ID: 1020 n - Baldwin Bridge B-55							
194								
Date Sam	pled:		-	ted / Received:		Date Tes		
04/25/16	Sale / 404E0	0	04/27/16			05/23/16		100
	Sirek / 10458	9	By: NW REGI	ONEC		By: Ambe	er Bever / 103	180
Source:				Legal Descriptio	on: , , Sectio	n: , T: N, R: ,		County:
Cor	npressive S Grade:	trength of Cylinde		-22 Iass: AE				
•			-				Thomas d	
Ceme	nt content:	480 lb	Brand	I/Mill: Continen	tal- Hanniba	al, MO	Type: 1	
	- Fly Ash Content:	O Pozzolan	So	urce: LAFARG	E - OAK CF	REEK	Class: C	:
Sla	ag content:	lb	So	urce:			Grade: 1	 00
	•	42 CY - PIER NOR					Lot: 1	
•								
Concret	e Supplier:	Cemstone, (Plant #	21) New Richr	mond			Sublot: 2	
Admixtur	'es:							
	Brand and	Trade Name		Dosage R	ate (oz)			
1	MB AE 90				.83			
2	Polyheed 1	020			3.00			
3	Delvo				2.00			
Aggt. Sou	ırce Names	:						
Fine: C	CASEY							
Coarse: C	CASEY							
Coarse 2/ Other:								
Cvlinder	[•] Informatio					0	Dette of	Data
Cylinder Number	Cylinder Made For	Diameter	Area	Max Load	Age	Compressive Strength	Rate of Loading	Date Tested
NUTIDO	made i vi	inches	inches ²	lbs	Days	Psi	Psi/second	
2A	STRUCTUR	E 6.00	28.27	191,147	28	6,760.4	33	5/23/2016
2B	STRUCTUR	E 6.00	28.27	194,851	28	6,891.4	32	5/23/2016
2C	STRUCTUR	E 6.00	28.27					
Total Agg	gregate: 3,1	20 lb/cy	Fine	Aggregate: 40 °	%		i p: 2.75 in ir: 5.3 %	ches

Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

Test Number: 6 - 130 - 0006 - 2016	5 Lab Site	Page 2 of 2
Materials Laboratory Testing Syste Concrete Cylinders Type: V - VERIFICATION	WisDOT NW F	REGION- Eau Claire Lab (LAN ONLY) 53 South, IH 94
Main Project ID: 1020-01-83		
Hudson - Baldwin		
CTH J Bridge B-55-0259		
194		
Date Sampled:	Date Requested / Received:	Date Tested:
04/25/16	04/27/16	05/23/16
By: Ryan Sirek / 104589	By: NW REGION EC	By: Amber Bever / 103186
Source:	Legal Description: , , See	ction: , T: N, R: , County:

Remarks:

-

Storage Temp Hi: 74*F Low: 54*F

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Test Number: 6 - 130 - 0025 - 2016 Materials Laboratory Testing System Test Concrete Cylinders Type: V - VERIFICATION			Lab Site Page 1 of 6-NW REGION- Eau Claire WisDOT NW REGION- Eau Claire Lab (LAN ONLY) 5009 Highway 53 South, IH 94 Eau Claire, WI 54701					
Main Proj Hudso CTH J	ect ID: 1020- on - Baldwin I Bridge B-55-0	01-83		Eau Cia	ire, vvi 547	01		
194			Data Damastad	/ Decelurate		Data Taa	tade	
Date Sam	ipled:		Date Requested	/ Receivea:		Date Tes		
06/07/16	Sinal I 404E90		06/09/16	EC		07/05/16 By: Tuck	05/16 Tucker Stapelmann / 1059	
By: Ryan	Sirek / 104589		By: NW REGION	EC		By: TUCK	er Stapermann	7 105990
Source:			Leg	al Descriptio	n: , , Sectio	n:,T:N,R:,		County:
Co	empressive Str	ength of Cylinder	s: AASHTO T-22					
	Grade: A	\-FA	Class	s: AE				
Cem	ent content:	480 lb	Brand/Mil	I: Continent	al-Davenpo	ort, IA	Type: 1	
	- 🔴 Fly Ash	🔿 Pozzolan						7
	Content:	109 lb	Source	. MIN. RES	. TECH - F	RUSH ISL	Class: C	
	Content.	10010			Source			
LS		lb	Source	9:			Grade: 1	00
	lag content:	lb						00
Samp	lag content: le Location: 1	lb 66 CY / LOAD #17	- SUPER STRUC	TURE	<u> </u>		Lot: 2	00
Samp	lag content: le Location: 1	lb	- SUPER STRUC	TURE			Lot: 2 Sublot: 4	00
Samp Concre	lag content: de Location: 1 de Supplier: (lb 66 CY / LOAD #17	- SUPER STRUC	TURE	- <u></u> -		Lot: 2	00
Samp	lag content: de Location: 1 de Supplier: C dres:	lb 66 CY / LOAD #17 Cemstone, (Plant #	- SUPER STRUC	d	ato (oz)		Lot: 2 Sublot: 4	DO
Samp Concre Admixtu	lag content: de Location: 1 de Supplier: C ures: Brand and T	lb 66 CY / LOAD #17 Cemstone, (Plant #	- SUPER STRUC	TURE			Lot: 2 Sublot: 4	DO
Samp Concre Admixtu	lag content: ble Location: 1 bte Supplier: C ures: Brand and Ti 1 MB AE 90	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83		Lot: 2 Sublot: 4	
Samp Concre Admixtu	lag content: de Location: 1 de Supplier: C ures: Brand and T MB AE 90 2 MasterPolyhe	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	00
Samp Concre Admixtu	lag content: ble Location: 1 bte Supplier: C ures: Brand and Ti 1 MB AE 90	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83		Lot: 2 Sublot: 4	00
Samp Concre Admixtu	lag content: de Location: 1 de Supplier: C ures: Brand and T MB AE 90 2 MasterPolyhe	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	00
Samp Concre Admixtu	lag content: ble Location: 1 ble Supplier: C irres: Brand and T MB AE 90 2 MasterPolyhe 3 BASF - DELV	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	00
Samp Concre Admixtu 2 2 3 4 4 3 4 3 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	lag content: ble Location: 1 ble Supplier: C ures: Brand and T MB AE 90 2 MasterPolyhe 3 BASF - DELV burce Names: CASEY	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	00
Samp Concre Admixtu	lag content: ble Location: 1 ble Supplier: C ures: Brand and T MB AE 90 2 MasterPolyhe 3 BASF - DELV burce Names: CASEY	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	00
Samp Concre Admixtu 2 2 3 4 3 4 3 4 3 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	lag content: ble Location: 1 ble Supplier: C ures: Brand and Tr 1 MB AE 90 2 MasterPolyhe 3 BASF - DELV burce Names: CASEY CASEY	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name eed 1020 'O	- SUPER STRUC	TURE d Dosage Ra	.83 3.00		Lot: 2 Sublot: 4	
Samp Concre Admixtu 2 3 Admixtu 2 3 4 3 5 4 5 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	lag content: ble Location: 1 ble Supplier: C irres: Brand and Tr MB AE 90 2 MasterPolyhe 3 BASF - DELV Durce Names: CASEY CASEY CASEY	Ib 66 CY / LOAD #17 Semstone, (Plant # rade Name eed 1020 /O	- SUPER STRUC 21) New Richmon	TURE d Dosage Ra	.83 3.00 2.00	Compressive	Lot: 2 Sublot: 4 Rate of	Date
Samp Concre Admixtu Admixtu 2 2 3 4 2 2 3 4 2 3 3 4 2 3 3 4 2 3 3 4 5 5 7 7 8 7 8 7 7 8 7 8 7 8 7 8 7 8 7 8	lag content: le Location: 1 lete Supplier: C ures: Brand and Tr MB AE 90 2 MasterPolyhe 3 BASF - DELV Durce Names: CASEY CASEY CASEY er Information: Cylinder	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name eed 1020 'O Diameter	- SUPER STRUC 21) New Richmon Area	TURE d Dosage Ra 2 2 Max Load	.83 3.00 2.00 Age	Strength	Lot: 2 Sublot: 4 Rate of Loading	Date
Samp Concre Admixtu 2 2 3 4 4 3 4 3 4 3 5 5 5 5 5 1 5 1 5 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 5 1	lag content: ble Location: 1 ble Supplier: C irres: Brand and Tr MB AE 90 2 MasterPolyhe 3 BASF - DELV Durce Names: CASEY CASEY CASEY	Ib 66 CY / LOAD #17 Semstone, (Plant # rade Name eed 1020 /O	- SUPER STRUC 21) New Richmon	TURE d Dosage Ra	.83 3.00 2.00		Lot: 2 Sublot: 4 Rate of	Date
Samp Concre Admixtu Admixtu 2 2 3 4 2 3 4 3 4 3 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	lag content: le Location: 1 lete Supplier: C ures: Brand and Tr MB AE 90 2 MasterPolyhe 3 BASF - DELV Durce Names: CASEY CASEY CASEY er Information: Cylinder	Ib 66 CY / LOAD #17 Semstone, (Plant # rade Name eed 1020 'O Diameter inches	- SUPER STRUC 21) New Richmon Area	TURE d Dosage Ra 2 2 Max Load	.83 3.00 2.00 Age	Strength	Lot: 2 Sublot: 4 Rate of Loading	Date Tested
Samp Concre Admixtu Admixtu 2 2 3 Aggt. So Fine: Coarse: Coarse 2/ Other: Cylinder Jumber QV2-1A	lag content: le Location: 1 lete Supplier: C ures: Brand and Tri MB AE 90 2 MasterPolyhe 3 BASF - DELV 2 MasterPolyhe 3 BASF - DELV CASEY CASEY CASEY CASEY er Information: Cylinder Made For	Ib 66 CY / LOAD #17 Cemstone, (Plant # rade Name eed 1020 'O Diameter inches 6.03	- SUPER STRUC 21) New Richmon Area I inches ²	TURE d Dosage Ra 2 Max Load lbs	.83 3.00 2.00 Age Days	Strength Psi	Lot: 2 Sublot: 4 Rate of Loading Psi/second	Date Tested 7/5/201
Samp Concre Admixtu 2 3 Aggt. So Fine: Coarse 2/ Other: Cylinder Sylinder Number QV2-1A QV2-1B	lag content: le Location: 1 le Location: 1 lete Supplier: C mes: Brand and T MB AE 90 2 MasterPolyhe 3 BASF - DELV purce Names: CASEY CASEY er Information: Cylinder Made For STRUCTURE	Ib 66 CY / LOAD #17 Semstone, (Plant # rade Name eed 1020 /O Diameter inches 6.03 6.03	- SUPER STRUC 21) New Richmon Area inches ² 28.51	Max Load Ibs 164,660	.83 3.00 2.00 Age Days 28	Strength Psi 5,775.4	Lot: 2 Sublot: 4 Rate of Loading Psi/second 34	

Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

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Test Number: 6 - 130 - 0025 - 20	16 Lab Site	Page 2 of 2
Materials Laboratory Testing Sys Concrete Cylinders Type: V - VERIFICATION	WisDOT NW F	REGION- Eau Claire Lab (LAN ONLY) 53 South, IH 94
Main Project ID: 1020-01-83		
Hudson - Baldwin		
CTH J Bridge B-55-0259		
194		
Date Sampled:	Date Requested / Received:	Date Tested:
06/07/16	06/09/16	07/05/16
By: Ryan Sirek / 104589	By: NW REGION EC	By: Tucker Stapelmann / 105998
Source:	Legal Description: Se	ction: . T: N. R: . County:

Remarks:

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				u Claira	Pa	90 / 0/ 4		
Materials Laboratory Testing System Tests C Concrete Cylinders Type: V - VERIFICATION			s On:	: 6-NW REGION- Eau Claire WisDOT NW REGION- Eau Claire Lab (L 5009 Highway 53 South, IH 94 Eau Claire, WI 54701				
Hudso	ject ID: 1020-01 on - Baldwin J Bridge B-55-025							
Date Sam	npled:	1	Date Requested / I	Received:		Date Test	ted:	
06/15/16		(6/17/16			07/13/16		
By: Ryan	Sirek / 104589	f	By: NW REGION E	С		By: Ambe	er Bever / 103	186
Source:			Lega	l Descriptic	on: , , Section:	, T: N, R: ,		County:
Co	ompressive Strei Grade: A-f	ngth of Cylinders ⊏∆	: AASHTO T-22 Class:	ΔF				
C		480 lb			lal Davannar	+ 1A	Туре: 1	
Cem	ent content:		Branu/iviiir.	Commen	tal-Davenpor	i, 1A	iypo,	
	─● Fly Ash (Content:) Pozzolan 109 lb	Source:	Min. Res.	Tech - Rush	Isl	Class: (
	lag content:	lb	Source:				Grade:	
	-	CY / Load #2 - Pa					Lot: 2	
	ne Locadon. 15	017 Ludu #2 - Pa	laper				LUI, 1	
-	ata Sunnliar: Ca	metone (Plant # 2	1) New Richmond				Sublot: 3	
-	ete Supplier: Ce	mstone, (Plant # 2	1) New Richmond				Sublot:	
-		mstone, (Plant # 2	1) New Richmond				Sublot:	
Concre Admixtu	ures: Brand and Tra	de Name	1) New Richmond	Dosage R			Sublot:	
Concre Admixtu	ires:	de Name	1) New Richmond	Dosage R	ate (oz) .83		Sublot:	
Concre Admixtu	ures: Brand and Tra	de Name 0	1) New Richmond	-			Sublot:	
Concre Admixtu	ures: Brand and Tra 1 MasterAir AE 9	de Name 0	1) New Richmond	-	.83		Sublot:	
Concre Admixtu	Brand and Tra Brand and Tra MasterAir AE 9 MasterPolyhee 3 Delvo	de Name 0	1) New Richmond	-	.83 3.00		Sublot:	
Concre Admixtu	Brand and Tra Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo Durce Names:	de Name 0	1) New Richmond	-	.83 3.00		Sublot:	
Concre Admixtu Aggt. So Fine:	Brand and Tra Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo Delvo Durce Names: CASEY	de Name 0	1) New Richmond	-	.83 3.00		Sublot:	
Concre Admixtu Aggt. So Fine:	Brand and Tra Brand and Tra MasterAir AE 9 2 MasterPolyhee 3 Delvo Durce Names: CASEY CASEY	de Name 0	1) New Richmond	-	.83 3.00		Sublot:	
Concre Admixtu Aggt. Sc Fine: Coarse 2/ Other:	Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo Durce Names: CASEY CASEY	de Name 0		-	.83 3.00		Sublot:	
Concre Admixtu Aggt. So Fine: Coarse 2/ Other: Cylinde	Brand and Tra Brand and Tra MasterAir AE 9 MasterPolyhee Delvo Delvo Durce Names: CASEY CASEY CASEY	de Name 0 d 1020	· · · · ·		.83 3.00 2.00	Compressive	Rate of	Date
Concre Admixtu Aggt. So Fine: Coarse 2/ Other: Cylinder	ares: Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo burce Names: CASEY CASEY CASEY er Information: Cylinder	de Name 0	Area Ma	ax Load	.83 3.00 2.00 Age	Compressive Strength	Rate of Loading	Date
Concre Admixtu Aggt. So Fine: Coarse 2/ Other: Cylinder Number	ares: Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo burce Names: CASEY CASEY CASEY er Information: Cylinder Made For	de Name 0 d 1020	· · · · ·		.83 3.00 2.00	Compressive	Rate of	Date Tester
Concre Admixtu Aggt. So Fine: Coarse 2/ Other: Cylinder Number	ares: Brand and Tra 1 MasterAir AE 9 2 MasterPolyhee 3 Delvo burce Names: CASEY CASEY CASEY er Information: Cylinder	de Name 0 d 1020 Diameter	Area Ma inches²	ax Load	.83 3.00 2.00 Age	Compressive Strength	Rate of Loading	Date

Cylinder	Cylinder	Diameter	Area	Max Load	Age	Strength	Loading	Tested
Number	Made For	inches	inches ²	lbs	Days	Psi	Psi/second	
QV2-2A	STRUCTURE	6.03	28.60	150,945	28	5,278.6	36	7/13/2016
QV2-2B	STRUCTURE	6.03	28.54	153,212	28	5,368.5	37	7/13/2016
QV2-2C	STRUCTURE	6.04	28.69		28			7/13/2016
Total Ag	gregate: 3,120	lb/cy	Fine	Aggregate: 40 9	%		•	ches
						Net A	ir: 4.7 %	

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Lab certifies strength is per ASTM C39. Other data not certified. Conical break unless otherwise noted.

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Materials Laboratory Testing System Tests On: **Concrete Cylinders**

Type: V - VERIFICATION

Main Project ID: 1020-01-83 Hudson - Baldwin CTH J Bridge B-55-0259 194

Date Sampled:

06/15/16 By: Ryan Sirek / 104589

Source:

Page 2 of 2 Lab Site 6-NW REGION- Eau Claire WisDOT NW REGION- Eau Claire Lab (LAN ONLY) 5009 Highway 53 South, IH 94 Eau Claire, WI 54701

Date Requested / Received:	Date Tested:	
06/17/16	07/13/16	
By: NW REGION EC	By: Amber Bever / 103186	
Legal Description: , , Section	i:,T:N,R:, Coun	ty:

Remarks:

Took Number		0004 0040					Page 1 of 3		
Test Number: 6 - 806 - 0001 - 2016					Lab Site 6-NW REGION- Eau Claire				
Materials Laboratory Testing System Tests On:								laire Lab (LANLONE)	
Concrete Strength Testing					WisDOT_NW REGION- Eau Claire Lab (LAN ONLY) 5009 Highway 53 South, IH 94				
Type: IA -	Type: IA - INDEPENDENT ASSURANCE					Eau Claire, WI 54			
Main Project	ID: 1020	-01-83							
Hudson -	Baldwin					Qty Represente	d:		
CTH J Brid	dge B-55-0)259			U	nits Represente	d:		
194									
Date Receive	d:	E	Date Tested:		Date	Sampled			
05/11/16		C	05/11/16		05/1	1/16			
By: NW REGI	ON, EC	E	By: Jacob Osten	dorf / 105880	By: 、	Jacob Ostendorf	/ 105880		
Source:			Legal Desc	ription: , , Section	on: , T: N, R:	3	Cou	nty:	
HTCP Certi	fied Tester	r Jacob Ostendo	rf	HTCP Teste	er ID / Comp	any 10588	0 : Cemstone	Ready Mix	
Re	eviewed B	y Howard Marg		Observed T	est Type	QC			
Revi	iewed Dat	e 05/11/2016		Follow Up I	Required	No			
Comm	ents								
								I discussed on site:	
-lt was	noted the t	e value having a n lemperatures of th suggestion maybe	e water tank flue	ctuated greatly a	nd sometime	s out-of-toleranc			
				······		Compressive	Rate of	Date	
Cylinder In	formation	•				Strength		Tested	
Cylinder C	Cylinder	Diameter	Area	Max Load	Age	Strength	Loading	103100	
Cylinder C			Area inches ²	Max Load Ibs	Age Days	Psi	Loading Psi/second	leated	
Cylinder C Number M 16041311 ST Rate of loadir	Cylinder Made For RUCTURE ng standa	Diameter inches E 6.01 rds	inches² 28.37	lbs 160,950	Days 28	Psi 5,673.5	Ū.	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl	Cylinder Made For RUCTURE ng standa pe = 35 +, le N =	Diameter inches E 6.01 rds /- 7 psi/sec (990	inches ² 28.37 Ibs/sec +/- 20 X or Nothing =	ibs 160,950 00 lbs/sec); Scr Not Applicable	Days 28 ew Type = (Psi 5,673.5	Psi/second		
Cylinder C Number M 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING A</u>	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/	inches ² 28.37 I Ibs/sec +/- 20 X or Nothing = AASHTO M-201	ibs 160,950 00 lbs/sec); Scr Not Applicable	Days 28 ew Type = (Psi 5,673.5	Psi/second		
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING / Y C	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en	inches ² 28.37 I Ibs/sec +/- 20 X or Nothing = ASHTO M-201 vironment.	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23)	Days 28 ew Type = (Psi 5,673.5	Psi/second		
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7:	lbs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F	Days 28 ew Type = (Psi 5,673.5 0.5 in./min]	Psi/second		
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y N	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai	inches ² 28.37 I Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu	Days 28 ew Type = (-). um Hydroxide	Psi 5,673.5 0.5 in./min] e.	Psi/second		
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y To Y C	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically i	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu recorded - tempe	Days 28 ew Type = (-). um Hydroxide	Psi 5,673.5 0.5 in./min] e.	Psi/second		
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0	Cylinder Made For TRUCTURE ng standa pe = 35 +, le N = CURING A Y C Y To Y To Y C Y C Y C Y C Y C Y C Y R	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curr /ater in storage tar uring temperature ecording thermom	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in the verified ever	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu recorded - tempe ery six months.	Days 28 ew Type = (-). um Hydroxide erature charts	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING / Y C Y Tr Y C Y Tr Y C Y Tr Y C Y R Y V	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in eter verified even beter verified even beter verified even	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0	Cylinder Made For 'RUCTURE ng standa pe = 35 +, le N = CURING / Y C Y T Y C <	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curr /ater in storage tau uring temperature ecording thermomer erification reference //ATERIALS AND	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in eter verified even beter verified even beter verified even	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING / Y C Y Tr Y C Y C Y C Y Tr Y C Y C Y C Y Tr Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curr /ater in storage tau uring temperature ecording thermomer erification reference //ATERIALS AND	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 hks(if used) satu s automatically in heter verified even beter verified even beter verified even ce thermometer PROCEDURES	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y Tr Y C Y C Y C Y Tr Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C	Diameter inches 5 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature ecording thermomerification reference /ATERIALS AND Used	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically n eter verified eve ce thermometer PROCEDURES ent.	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 1.1	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y C Y To Y C Y To Y C Y To Y C Y To Y C Y To Y To Y To Y To Y To Y To Y To Y To	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tau uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cem	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically n eter verified eve ce thermometer PROCEDURES ent.	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 1.1 1.2	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING / Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y N Y C Y N Y C Y N Y N Y N Y N Y N Y N Y N Y N Y N Y N Y N	Diameter inches inches 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature ecording thermome ecording thermome infication reference /ATERIALS AND Used eat hydraulic cemi igh-strength gypsu	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically n eter verified eve ce thermometer PROCEDURES ent.	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number C 16041311 ST 16041311 ST Rate of loadir [Hydraulic Typ] Y = Acceptable LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUID 1.0 Capping 1.1 1.2 1.3 2.0 Capping 2.1	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING A Y C Y <t< td=""><td>Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cerini igh-strength gypsu ulfur mortar.</td><td>inches² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in the eter verified events automatically in the eter verified events the thermometer PROCEDURES ent. im cement.</td><td>ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable</td><td>Days 28 ew Type = (). um Hydroxide erature charts e - accurate a</td><td>Psi 5,673.5 0.5 in./min] e. s on file.</td><td>Psi/second 35</td><td>6/8/2016</td></t<>	Diameter inches E 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cerini igh-strength gypsu ulfur mortar.	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in the eter verified events automatically in the eter verified events the thermometer PROCEDURES ent. im cement.	ibs 160,950 00 lbs/sec); Scr Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number C 16041311 ST 16041311 ST Rate of loadir [Hydraulic Typ] Y Y = Acceptable 1.0 LABORATORY 1.0 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUINATION 1.1 1.2 1.3 2.0 Capping 2.1 2.2 2.1	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING A Y C Y Ta Y C Y <	Diameter inches inches 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cerine igh-strength gypsu ulfur mortar.	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 hks(if used) satu s automatically in the eter verified events automatically in the ter verified events the thermometer PROCEDURES ent. im cement.	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu recorded - tempe ery six months. is NIST traceable (AASHTO T-23)	Days 28 ew Type = (). um Hydroxide erature charts e - accurate a	Psi 5,673.5 0.5 in./min] e. s on file.	Psi/second 35	6/8/2016	
Cylinder Number C 16041311 ST 16041311 ST Rate of loadir [Hydraulic Typ] Y = Acceptable LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUID 1.0 Capping 1.1 1.2 1.3 2.0 Capping 2.1 2.2 2.3	Cylinder Made For TRUCTURE ng standa pe = 35 +, le N = CURING / Y C Y <	Diameter inches inches 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic ceme igh-strength gypsu ulfur mortar.	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in the eter verified events automatically in the eter verified events automat	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu recorded - tempe ery six months. is NIST traceable (AASHTO T-23)	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 1.1 1.2 1.3 2.0 Capping 2.1 2.2 2.3 2.4	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = CURING / Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C Y N G Materials X Ni X Si Plates X X Pi X N X N X N X N X N X N X N X N X N X	Diameter inches inches 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cemei igh-strength gypsu ulfur mortar. 4" glass plate. 45-inch machined plished granite pla all cases plates a	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 nks(if used) satu s automatically in the er verified events a thermometer PROCEDURES ent. im cement. metal plate. te 3-inch or great re at least 1-incl	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F urated with Calciu recorded - tempe ery six months. is NIST traceable (AASHTO T-23)	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016	
Cylinder Number C 16041311 ST 16041311 ST Rate of loadir [Hydraulic Typ] Y = Acceptable ABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUID 1.0 Capping 1.1 1.2 1.3 2.0 Capping 2.1 2.2 2.3 2.4 2.5	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y To Y To Y To Y To Y To Y To Y To	Diameter inches 5 6.01 rds /- 7 psi/sec (990 5 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature ecording thermome ecording thermome ecording thermome dater in storage tar uring temperature ecording thermome autor storage tar uring temperature ecording thermome autor storage tar uring temperature ecording thermome ///////////////////////////////////	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7: nks(if used) satu s automatically in the eter verified events automatically in the eter verified events the thermometer PROCEDURES ent. im cement. metal plate. te 3-inch or great re at least 1-inch 02 inches.	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable 3 (AASHTO T-23)	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 2.1 2.2 2.3 2.4 2.5 JNBONDED CA	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y To Y To Y To Y To Y To Y To Y To	Diameter inches inches 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tai uring temperature ecording thermomerification reference /ATERIALS AND Used eat hydraulic cemei igh-strength gypsu ulfur mortar. 4" glass plate. 45-inch machined plished granite pla all cases plates a	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7: nks(if used) satu s automatically in the eter verified events automatically in the eter verified events the thermometer PROCEDURES ent. im cement. metal plate. te 3-inch or great re at least 1-inch 02 inches.	ibs 160,950 00 lbs/sec); Scru Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable 3 (AASHTO T-23)	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 2.1 2.2 2.3 2.4 2.5 JNBONDED CA 1.0 Pads	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y C Y C Y To Y C Y C Y C Y C Y C Y C Y C Y C Y C Y C	Diameter inches 5 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature ecording thermome ecording thermome rification reference /ATERIALS AND Used eat hydraulic cerific igh-strength gypsu ulfur mortar. 4" glass plate. 45-inch machined plished granite pla all cases plates a late is plane to 0.0 STOMERIC PADS	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 hks(if used) satu s automatically beter verified events automatically beter verified events the thermometer PROCEDURES ent. im cement. metal plate. te 3-inch or great re at least 1-incl 02 inches. - NEOPRENE	ibs 160,950 00 lbs/sec); Scru- Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable 3 (AASHTO T-23) ater thick. h greater in diam (ASTM C-1231)	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016 (1 degree F).	
Cylinder Number 16041311 ST Rate of loadir [Hydraulic Typ Y = Acceptabl LABORATORY 1.0 2.0 3.0 4.0 5.0 6.0 CAPPING EQUI 1.0 Capping 2.1 2.2 2.3 2.4 2.5 UNBONDED CA	Cylinder Made For RUCTURE ng standa pe = 35 +, le N = <u>CURING /</u> Y C Y To Y To Y C Y To Y To Y To Y C Y To Y To Y C Y To Y C Y To Y C Y To Y C Y To Y C Y To Y C Y To Y To Y To Y C Y To Y C Y To Y C Y To Y To Y C Y To Y To Y To Y C Y To Y To Y To Y To Y To Y To Y To Y To	Diameter inches 5 6.01 rds /- 7 psi/sec (990 Exception AND STORAGE (/ ured in a moist en emperature of curi /ater in storage tar uring temperature ecording thermome ecording thermome rification reference /ATERIALS AND Used eat hydraulic cerific igh-strength gypsu ulfur mortar. 4" glass plate. 45-inch machined plished granite pla all cases plates a late is plane to 0.0 STOMERIC PADS	inches ² 28.37 Ibs/sec +/- 20 X or Nothing = AASHTO M-201 vironment. ing room [70] (7 hks(if used) satu s automatically in the eter verified events automatically in the events in cement. in c	ibs 160,950 00 lbs/sec); Scru- Not Applicable , T-23) 3 +/- 3 degrees F arated with Calciu recorded - tempe ery six months. is NIST traceable 3 (AASHTO T-23) (AASHTO T-23) atter thick. h greater in diam (ASTM C-1231) 6", diameter mini	Days 28 ew Type = (-). um Hydroxide erature charts e - accurate a <u>1)</u>	Psi 5,673.5 0.5 in./min] e. s on file. and readable to 0	Psi/second 35	6/8/2016	

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Test Number:	: 6-	806 - 0001 - 2016			Page 2 of 3				
Materials Laboratory Testing System Tests On: Concrete Strength Testing Type: IA - INDEPENDENT ASSURANCE					6-NW REGION- Eau Claire WisDOT NW REGION- Eau Claire Lab (LAN ONLY) 5009 Highway 53 South, IH 94 Eau Claire, WI 54701				
Main Project									
Hudson -					Qty Re	epresented:			
CTH J Bri	idge B-	-55-0259			Units Re	epresented:			
194									
Date Receive	d:		Date Tested:		Date Sampl	ed			
05/11/16			05/11/16		05/11/16				
By: NW REGI	ON, E		By: Jacob Ostendor	f/105880	By: Jacob (Dstendorf / 105880			
Source:			Legal Descript	tion: , , Section: , T:	N, R: ,	County:			
HTCP Certi	fied Te	ester Jacob Ostend	dorf	HTCP Tester ID /	Company	105880 : Cemstone Ready Mix			
R	eviewe	d By Howard Marg	1	Observed Test Ty	pe QC				
Rev	iewed	Date 05/11/2016		Follow Up Requi	red No				
Comm	ients								
-We dis -It was	scusse noted	d the value having a the temperatures of	a notched square to h	ave the cylinder per ated greatly and son	pendicular in netimes out-c	ceptions were noted and discussed on site: the compression machine. f-tolerance. This is a concern and should			
Y = Acceptab	ole	N = Exception	X or Nothing = No	ot Applicable					
1.4	Y	If more than 100 number of reuses	uses allowed, are tes s of the pads?	t results and staistic	cal analysis de	ocumentation available to establish the permissible			
1.5	Y	Elastomeric pads	are not used for acc	eptance testing of c	oncrete belov	v 1500 psi or above 12000 psi.			
1.6	Y		ompliance documenta ometer), M2BC614(6			oprene caps to be compliant to ATM 2000, line call out meter).			
2.0 Retaine	ers								
2.1	Y	Steel.							
2.2	X	Aluminum alloy.		1.40704 6.4					
2.3	Y	Inside ring diame	ter is between 102%	and 107% of the cy	linder diamete	er {approximately 6 1/8-inch(6.12) to 6 7/16-inch(6.42)			
2.4	Y	Bearing surface is	s within 0.002" of plar	ne.					
2.5	Y					0.01" deep or greater than 0.05 square inches in ameter of 1/4-inch (0.25-inch) about the size of a			
TESTING PRO	CEDU	RES (AASHTO T-22	2. CMM 8.70)						
1.0	Y	Cylinders checke	d for perpendicularity	to the axis(neither a	end can depa	rt from the perpendicular axis by more than 1/8").			
2.0	Y		quivalent presented for		•				
3.0	Y					n 1/8", no depressions greater than 1/8").			
4.0	Ý		nt to grind, saw or ca			ance ends.			
5.0 6.0	Y Y		e rod and straight edg			s at mid-height of the cylinder ALL cylinders are			
0.0	•	measured.	ned by averaging 2 d	idineters measured	at nynt anyle	s at mid-height of the cylinder - ALL cylinders are			
7.0	Y	Proper caliper or	micrometer presented	d for measurement.					
8.0	Y		ed to nearest 0.01".						
9.0	Y	•	as soon as practicable	e after removal from	moist storag	е.			
10.0	Y		n a moist condition.	ing blocks					
11.0 12.0	Y Y		centered on the bear within 6 hours on 7-da	÷	nurs on 28-d	av cylinder			
13.0	Ŷ	Load applied cont		shock (rate of loadi		to 1/2 the anticipated load for the first half, but must			
14.0	Y	•	to failure a well-del	•	n is develope	d.			
DOCUMENTAT	ION								
1.0 2.0	Y Y	Maximum load rea Type of failure rea							
Verified Date:									
vermen Date:	0012	Verifie	ed By: HOWARD M						

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Test Number: 6 - 806 - 0001 - 2016			Lab Site	Page 3 of 3
Materials Laboratory Testing System Tests On: Concrete Strength Testing Type: IA - INDEPENDENT ASSURANCE			6-NW REGION WisDOT NW F	REGION- Eau Claire Lab (LAN ONLY) 53 South, IH 94
Main Project ID: 1020-01-83				
Hudson - Baldwin			Qty Represen	ted:
CTH J Bridge B-55-0259			Units Represen	ted:
194				
Date Received:	Date Tested:		Date Sampled	
05/11/16	05/11/16		05/11/16	
By: NW REGION, EC	By: Jacob Ostendor	f/105880	By: Jacob Ostendo	rf / 105880
Source:	Legal Descript	tion: , , Section: , T:		County:
oonte.	Legal Descript		IN, IX. ,	County.
HTCP Certified Tester Jacob Osten	dorf	HTCP Tester ID / C	company 1058	80 : Cemstone Ready Mix
Reviewed By Howard Marg	9	Observed Test Typ	De QC	
Reviewed Date 05/11/2016		Follow Up Require	ed No	
Comments				
	a notched square to h the water tank fluctua	ave the cylinder perp ated greatly and som	endicular in the com etimes out-of-tolerar	were noted and discussed on site: pression machine. nce. This is a concern and should
Y = Acceptable N = Exception	X or Nothing = No	ot Applicable		
3.0 Y Appearance of the	ne concrete recorded.			
4.0 Y Compressive stre	ength calculated and r	recorded.		
5.0 Y Results are grap	hed and the rate of loa	ading is recorded p	print-out is available.	
6.0 Y Printout of test id	lentifies test results ar	nd cylinder number.		
	on file and organized (ned for five years).	
	ears readily available.			
9.0 Y Tester and laboration	atory name on report a	and graph printout.		
COMPRESSIVE TESTING MACHINE (A/				
	leted by [CalCert] on	[12/22/2015] (calibra	te every 12 months).	
2.0 Machine manufa	cturer: [Lane]			
3.0 Machine Type:				
3.1 Y Hydraulic				
3.2 X Screw Type	.			
4.0 Steel Bearing Blo 4.1 Y Blocks meet	the size and toleranc	e requirements of A/		
	arallel to each other.		Norti 0 1-22.	
	es are cleaned before	each test		
5.0 Load Indicator:				
	ligital) display accur	rate within 1.0% of th	e max load applied.	
	used) readable to nea			e max load applied.
Remarks: Satisfactory				
Test procedures followed all WisDOT and on site:				
 We discussed the value having a notched -It was noted the temperatures of the wate should 				
be addressed. A suggestion maybe to add A notched steel square is being used per l		r a circulating pump.	UPDATE 5/12/16:	

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Adamate

Concrete Structure Summary Report Project: 1020-01-83 Hudson - Baldwin

Printed On 10/10/2016 at 11:17 AM

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Lot ID	Subiot Count	Pay Eqn	Mix Design ID	Spec. Limit	Avg. Comp. Str	Std. Dev.	LQI	PWL	Lot Vol.	Est. Strength Adj \$	Est. Total Strength Adj \$	Appr. Cu. Yds.	Appr. Final Adj \$	Review Status
	By: JACOB													
0183-1	5	QMP 2.01	C WHB5146	4000	5273.1	542.0	2.35	100.0	235	0.00	0.00	235.00	0.00	Final Review Ryan M Sirek 09/28/16
0183-2	6	QMP 2.01	C WHB5146	4000	5087.1	387.9	2.80	100.0	300	0.00	0.00	300.00	0.00	Final Review Ryan M Sirek 09/28/16

Appr. Final Adj. Total \$ 0.00

Authorized By:

Printed Name:

- WI Transporation Builders Assoc. (http://www.wtba.org/)
- U.S. DOT (https://www.transportation.gov)
- Contact Atwood Systems (http://www.atwoodsystems.com/contactasi.htm)
- Atwood Administration (http://www.atwoodsystems.com/integratedlogin/)

Go to...

\checkmark

Project 1020-01-83 Hudson - Baldwin

	P	rint (structuresreviev	v/ProjectSummary.cfm?projid=1020-01-83)
STRUCTURES DATA:	Summary	Moisture Content	P200

Moisture Content Data

Date Tested: 04/11/2016		Time Tested: 07:30							
Verified On: 04/20	0/2016	By: Jacob O	By: Jacob Ostendorf						
Aggregate	Source	Wet Aggt. (grams)	Dry Aggt. (grams)	Moisture Content (%)	Washed Dry Aggt. (grams)	Pct. Passing 200 Sieve (%)			
Fine	CASEY	550.0	537.3	2.36	536.0	0.2			
Coarse 1	CASEY	6029.0	5931.0	1.65	5915.5	0.3			
Coarse 2	CASEY	15572.0	15402.0	1.10	15320.0	0.5			
Coarse 3		0.0	0.0	0.00	0.0	0.0			

Date Tested: 04/18/2016		Time Tested	Time Tested: 08:00						
Verified On: 04/2	20/2016	By: Jacob O	By: Jacob Ostendorf						
Aggregate	Source	Wet Aggt. (grams)	Dry Aggt. (grams)	Moisture Content (%)	Washed Dry Aggt. (grams)	Pct. Passing 200 Sieve (%)			
Fine	CASEY	550.0	531.0	3.58	529.9	0.2			
Coarse 1	CASEY	5500.0	5412.0	1.63	5395.0	0.3			
Coarse 2	CASEY	15121.0	14958.0	1.09	14871.0	0.6			

View Structures Data

Page 3 of 3

Coarse 3	0.0	0.0	0.00	0.0	0.0

Date Tested: 04/25/2016		Time Tested: 06:00							
Verified On: 04/26	5/2016	By: Jacob O	stendorf						
Aggregate	Source	Wet Aggt. (grams)	Dry Aggt. (grams)	Moisture Content (%)	Washed Dry Aggt. (grams)	Pct. Passing 200 Sieve (%)			
Fine	CASEY	550.0	525.8	4.60	523.8	0.4			
Coarse 1	CASEY	5533.0	5405.0	2.37	5385.5	0.4			
Coarse 2	CASEY	15374.0	15168.0	1.36	15082.0	0.6			
Coarse 3		0.0	0.0	0.00	0.0	0.0			

Date Tested: 05/03/2016		Time Tested	Time Tested: 06:30						
Verified On: 05/0	5/2016	By: Jacob O	stendorf						
Aggregate	Source	Wet Aggt. (grams)	Dry Aggt. (grams)	Moisture Content (%)	Washed Dry Aggt. (grams)	Pct. Passing 200 Sieve (%)			
Fine	CASEY	550.0	534.0	3.00	532.7	0.2			
Coarse 1	CASEY	5694.0	5604.0	1.61	5582.0	0.4			
Coarse 2	CASEY	15552.0	15284.0	1.75	15216.0	0.4			
Coarse 3		0.0	0.0	0.00	0.0	0.0			

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http://www.atwoodsystems.com/iibv2/viewStructuresData.cfm?txtProj=1020-01-83

10/10/2016

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Structures Summary Report For Lot 0183-2

Printed On 10/10/2016 at 10:51 AM

Contract:	20151208021	County:	ST CROIX
Project ID:	1020-01-83	Lot ID:	0183-2
Project ID.	1020-01-85	Lot ID.	0105-2
Description:	Hudson - Baldwin	Highway:	CTHJ
Testing Company:	CEMSTONE	Tested By:	JACOB OSTENDORF
Pay Equation:	QMP 2.01	Number of Sublots:	6
Spec. Limit:	4000		
Lot Volume:	300.00	Average Comp Strength:	5087.10
Standard Deviation:	387.90	LQI:	2.80
Percent Within Limit:	100.0	Adj / Cu. Yds:	0.00
Est. Total Strength Adj.:	\$ 0.00	Mix Design:	C WHB5146
Reviewed By:	RYAN M SIREK	Date Reviewed:	09/28/16
Reviewer Approved Lot \$ Adj.:	\$ 0.00	Reviewer Approved Lot Volume:	300.00

Sublot Details

4,000
4,000
4,000
4,000
4,000
4,000

Air Slump Details

						Befo	ore Pumping		
Sublot ID	Date Poured	Time Poured	Test Type	Ticket Nbr	Load Size	Slump	Net Air Pct	Slump	Net Air Pct
83-2-1	06/07/2016	03:30	QC	3770765	10.00	3.00	7.50	3.00	5,90
83-2-2	06/07/2016	04:25	QC	3770770	9.50			4.00	4.70
83-2-3	06/07/2016	04:45	QC	3770776	9.50	4.00	7.50	3.00	6.50
83-2-4	06/07/2016	04:50	QC	3770783	9.50			4.00	7.50
83-2-5	06/07/2016	06:25	QC	3770789	9.50			4.00	6.90
83-2-6	06/07/2016	06:45	QC	3770797	9.50			4.00	6.70

Reviewed By: <u>JAN M. SIVEK</u> Printed Name: <u>RYAN M. SIVEK</u>

Print Report

Page 1 of 2

Structures Sublot Summary Report For Lot 0183-2

Printed On 10/10/2016 at 10:51 AM

Contract:	20151208021	County:	ST CROIX
Project ID:	1020-01-83	Lot ID:	0183-2
Description:	Hudson - Baldwin	Highway:	CTH J
Testing Company:	CEMSTONE	Tested By:	JACOB OSTENDORF
Pay Equation:	QMP 2.01	Number of Sublots:	6
Spec. Limit:	4000		
Lot Volume:	300.00	Average Comp Strength:	5087.10
Standard Deviation:	387.90	LQI:	2.80
Percent Within Limit:	100.0	Adj / Cu. Yds:	0.00
Est. Total Strength Adj.:	\$ 0.00	Mix Design:	C WHB5146
Reviewed By:	RYAN M SIREK	Date Reviewed:	09/28/16
Reviewer Approved Lot \$ Adj.:	\$ 0.00	Reviewer Approved Lot Volume:	300.00

Sublot ID	Sublot Vol (Cu. Yds.)	Date & Time Poured	Test Type	Slump	Net Air Pct	PCCTEC1 /ACT Name	Cyl ID 1	Stength (PSI)	Cyl ID 2	Stength (PSI)	Cyl 1 + 2 Avg Strength (PSI)	Certified Concrete Strength Tester /ACT Name	Qualified Lab/ Testing Company Name
83-2-1	50	06/07/16 03:30	QC	3.00	5.9	Jacob Ostendorf / 105880	160607- 1-1	5337.1	160607- 1-2	5274.7	5305.9	JACOB OSTENDORF	CEMSTONE
83-2-2	50	06/07/16 04:25	QC	4.00	4.7	JACOB OSTENDORF	160607- 2-1	5378.4	160607- 2-3	5711.0	5544.7	JACOB OSTENDORF	CEMSTONE
83-2-3	50	06/07/16 04:45	QC	3.00	6.5	JACOB OSTENDORF	160607- 3-2	5335.5	160607- 3-3	5105.3	5220.4	JACOB OSTENDORF	CEMSTONE
83-2-4	50	06/07/16 04:50	QC	4.00	7.5	JACOB OSTENDORF	160607- 4-1	4476.9	160607- 4-2	4813.4	4645.2	JACOB OSTENDORF	CEMSTONE
83-2-5	50	06/07/16 06:25	QC	4.00	6.9	JACOB OSTENDORF	160607- 5-1	5111.3	160607- 5-3	5349.4	5230.4	JACOB OSTENDORF	CEMSTONE
83-2-6	50	06/07/16 06:45	QC	4.00	6.7	JACOB OSTENDORF	160607- 6-1	4552.5	160607- 6-2	4599.2	4575.9	JACOB OSTENDORF	CEMSTONE

Reviewed By: <u>JZ M Sul</u> Printed Name: <u>RYAN M. STEER</u>

Structures Sublot Summary Report For Lot 0183-1

Printed On 10/10/2016 at 10:49 AM

^	ST CROIX	County:	20151208021	Contract:
	0183-1	Lot ID:	1020-01-83	Project ID:
	стнј	Highway:	Hudson - Baldwin	Description:
	JACOB OSTENDORF	Tested By:	CEMSTONE	Testing Company:
	5	Number of Sublots:	QMP 2.01	Pay Equation:
			4000	Spec. Limit:
	5273.10	Average Comp Strength:	235.00	Lot Volume:
	2.35	LQI:	542.00	Standard Deviation:
	0.00	Adj / Cu. Yds:	100.0	Percent Within Limit:
	C WHB5146	Mix Design:	\$ 0.00	Est. Total Strength Adj.:
	09/28/16	Date Reviewed:	RYAN M SIREK	Reviewed By:
	235.00	Reviewer Approved Lot Volume:	\$ 0.00	Reviewer Approved Lot \$ Adj.:

Subiot ID	Sublot Vol (Cu. Yds.)	Date & Time Poured	Test Type	Slump	Net Air Pct	PCCTEC1 /ACT Name	Cyl ID 1	Stength (PSI)	Cyl ID 2	Stength (PSI)	Cyl 1 + 2 Avg Strength (PSI)	Certified Concrete Strength Tester /ACT Name	Qualified Lab/ Testing Company Name
83-1-1	47	04/13/16 03:44	QC	3.75	6.7	JACOB OSTENDORF	160413- 1-2	5243.0	160413- 1-3	5282.2	5262.6	JACOB OSTENDORF	CEMSTONE
83-1-2	47	04/22/16 04:15	QC	3,25	6.0	JACOB OSTENDORF	160421- 1-1	5085,1	160421- 1-3	5195.6	5140.4	JACOB OSTENDORF	CEMSTONE
83-1-3	47	05/04/16 10:00	QC	3.25	4.8	JACOB OSTENDORF	160504- 1-1	6032.3	160504- 1-3	6315.0	6173.7	JACOB OSTENDORF	CEMSTONE
83-1-4	47	05/04/16 10:00	QC	3.75	6.0	JACOB OSTENDORF	160504- 2-2	4532,2	160504- 2-3	4911.0	4721.6	JACOB OSTENDORF	CEMSTONE
83-1-5	47	06/15/16 10:30	QC	3.50	5.7	JACOB OSTENDORF	160615- 1-2	4876.3	160615- 1-3	5258,5	5067.4	JACOB OSTENDORF	CEMSTONE

Reviewed By: <u>Jan M. Star</u> Printed Name: <u>RYAN M. Star</u> I

Page 1 of 2

Structures Summary Report For Lot 0183-1

Printed On 10/10/2016 at 10:49 AM

Contract:	20151208021	County:	ST CROIX
Project ID:	1020-01-83	Lot ID:	0183-1
Description:	Hudson - Baldwin	Highway:	CTH
Testing Company:	CEMSTONE	Tested By:	JACOB OSTENDORF
Pay Equation:	OMP 2.01	Number of Sublots;	5
Spec. Limit:	4000		
Lot Volume:	235.00	Average Comp Strength:	5273.10
Standard Deviation:	542.00	LQI:	2.35
Percent Within Limit:	100.0	Adj / Cu. Yds:	0.00
Est, Total Strength Adj.:	\$ 0.00	Mix Design:	C WHB5146
Reviewed By;	RYAN M SIREK	Date Reviewed:	09/28/16
Reviewer Approved Lot \$ Adj.:	\$ 0.00	Reviewer Approved Lot Volume:	235.00

Sublot Details

Sublot ID	Date & Time Poured	Sublot Cu Yd	Avg Comp Strength	Lot Spec
83-1-1	04/13/2016 03:44	47.00	5262.60	4,000
83-1-2	04/22/2016 04:15	47.00	5140.30	4,000
83-1-3	05/04/2016 10:00	47.00	6173.60	4,000
83-1-4	05/04/2016 10:00	47.00	4721.60	4,000
83-1-5	06/15/2016 10:30	47.00	5067.40	4,000

Air Slump Details

						Befo	ore Pumping		
Sublot ID	Date Poured	Time Poured	Test Type	Ticket Nbr	Load Size	Slump	Net Air Pct	Slump	Net Air Pct
83-1-1	04/13/2016	03:44	QC	3725300	10.00			3.75	6.70
83-1-2	04/22/2016	04:15	QC	3732833	8.50			3.25	6.00
83-1-3	05/04/2016	10:00	QC	3741990	9.50			3.25	4.80
83-1-4	05/04/2016	10:00	QC	374215	9.50			3.75	6.00
83-1-5	06/15/2016	10:30	QC	3779973	9.50			3.50	5,70

Reviewed By: <u>M. M. S.</u> Printed Name: <u>RYAN</u> M. SRUEL

http://www.atwoodsystems.com/iibv2/printReport.cfm?prnDiv=dStructReport_2535_1 10/10/2016

		STU IG SERVIC	N/E	40
		CONCRETE MIXTUR	E DESIGN	
MIX ID:	WHB5146	Compressive Strength: 4,		Created On: 9/21/05
PROJEC APPLIC/ PLACEM	ATION:	Wisconsin Highway Bridges (Bridge Deck Pumpable Through a 4" Line		
CEMENT, FLY ASH, SAND, 3/4" GRAVEL, 1.5" GRAVEL, WATER, AIR CONTENT,	Continental Davenport Continental Elm Road Casey Casey Casey Well	(ASTM C 150/TYPE I/II) (ASTM C 618/CLASS C/F) (ASTM C 33) (ASTM C 33/#67) (ASTM C 33/#4)	480 lbs. 109 lbs. 1,260 lbs. SSD 930 lbs. SSD 930 lbs. SSD 236 lbs. = 28.3 gal. 6.0 % +/- 1.5%	2.44 ft ³ 0.68 ft ³ 7.59 ft ³ 5.50 ft ³ 3.78 ft ³ 1.63 ft ³
WRA, STABILIZER, AEA,	BASF-1020 BASF-DELVO BASF-AE 90	(ASTM C 494/TYPE A) (ASTM C 494/TYPE B) (ASTM C 260)	18 oz. (3.0 oz./cwt) 12 oz. (2.0 oz./cwt) 4.0 oz.	27.12 ft ³
WATER-CEMENT SLUMP, CONCRETE UNIT MIX SUITABILIT	WEIGHT,		0.40 4.00 in. 145.5 pcf 21.8	

MIXTURE ADJUSTMENT: Material variation and job site conditions may require mixture adjustments to maintain strength, water-cementitious ratio, slump, air content, and yleid. DISCLAIMER: Cemstone disclaims and negates any warranty whatsoever of this concrete mix design if it is

provided to, or used by, another concrete producer.

PREPARED BY:

Sand Se.

Kevin D. Heindel, P.E.

Document Printed On: 3/15/16

Designed By: Jacob Ostendorf 3/15/16 3-15-16

Random Numbers

Estimated Total Yards 537 CY

Job 1020-01-83

100	55-1	250 Cut	oic Yards	
LOU	22-1	250 Cul	ncrarus	
Sub L	ot Size	50 Cubic Yards		
Suble	ot ID #	026	50-1	
Sublot	Random	Yards		
0260-1-1	0.899858	45.0		
0260-1-2	0.190199	59.5		
0260-1-3	0.13986	107.0		
0260-1-4	0.523786	176.2		
0260-1-5	0.05178	202.6		

50

Lot	287 Cut	
Suble	47.83 Cu	
Suble	026	
Sublot	Random	Yards
0260-2-1	0.438637	21.0
0260-2-2	0.128044	54.0
0260-2-3	0.399883	114.8
0260-4-4	0.812318	182.3
0260-2-5	0.337569	239.5
0260-2-6	0.159156	258.0

		,
PI	FL	FORTHOLS



ENGINEERING	S SERVICES
Sampl	le Report
General Information	Test Results
Technician: Sake	Sample ID: 60413-
Date: 4/13/16	Concrete Temperature: 66
Time: 3:44	Ambient Temp: 43°
Mix#: WHBS146	Base / Form Temp:
Plant #: 321 Truck 887	slump: 3,27
Ticket #: 1725306	W/C Ratio: 0.386
Contractor: LUNCA Const	Air Content: 6.7%
Project: IH 94 CAY J Budy	Unit Weight:
Sample Location: Job Site T budge	Set Time:
Laboratory Present:	Days Cylinders are to be broke: 1 3
Weather Conditions: Misht 11 10004	7 28 2 56 90
Admixtures	Yield
AEA: 44002	(W) Unit Weight: (Ibs/ft^3)
WR: 3.30 cm+	(W1) Weight of Material Batched: (lbs)
HRWR:	(yd) Yards Batched: (yd^3)
Other: TO 1.00CWT	(W2) Unit Weight = W1 / Yd: (lbs/ft^3)
Other:	Yield = W2 / W: (ft^3/yd^3)
Other:	
2	arks (Be Specific):
(18 Time = 3:11	Lot 0183-1
6,7%	Shlot 1-1
2 1/4 h	
1450	
987	
_	ngineering Services

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White - Office

Samp	le Report	
General Information	Test Results	
Technician: Jacob Oktencikat	Sample ID:	
Date: 4/19/16		
Time: 3:356 m	Ambient Temp: らつ	
Mix#: 4/1185146	Base / Form Temp: 🗙	
Plant #: 21 11.1K H 9.85	Slump: 3,51	
Ticket #: 3729939	W/C Ratio: () 385	
Contractor: I unda Construction	Air Content: 7%	
Project: (ounty Road I budge	Unit Weight: 🔀	
Sample Location: On Site	Set Time:	
Laboratory Present: 🔀	Days Cylinders are to be broke: 1	3
Weather Conditions: β_{ONO}	7 28 56	90
Admixtures	Yield	
AEA: 4.4007	(W) Unit Weight:	(lbs/ft^3)
WR: 3.00ant	(W1) Weight of Material Batched:	(lbs)
HRWR:	(yd) Yards Batched:	(yd^3)
Other: Delvo 1. Dewt	(W2) Unit Weight = W1 / Yd:	(lbs/ft^3)
Other:	Yield = W2 / W:	(ft^3/yd^3)
Other:		
Notes / Rem	arks (Be Specific):	
Omo test = 12, 3 yards		
"Inital test Results"	4/13/2016 = 40	yords
	4/19/1016 = 23.	juds
	جری موتع	-63yord
Striping Cylpder to be Broke =		I
2025 Centre Point Boulevard, S	ingineering Services uite 300, Mendota Heights, MN 55120 292 ● Fax: (651) 688-0124	
White - Office Yellow - Lab Pink - Customer		10/16/12

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CE EN S	STONE
	e services
General Information	Test Results
Technician: Jacoh Ostendor F	Sample ID: 160421-1
Date: $4/\lambda 1/16$	Concrete Temperature: 63°
Time: 4:15am	Ambient Temp: 45
Mix#: (1/HBS)46	Base / Form Temp: 🗡
Plant #: 21 Truct # 981	Slump: 3,25
Ticket #: 373 2833	W/C Ratio: 0,375
Contractor: LUNUA	Air Content: 6.096
Project:	Unit Weight:
Sample Location: On Site Rmp	Set Time:
Laboratory Present:	Days Cylinders are to be broke: 1 3
Weather Conditions: Dark	7 28 2 56 90
Yards Ordered 17	
Admixtures	Yield
AEA: 4.1002	(W) Unit Weight: (lbs/ft^3
WR: Z. ODINT	(W1) Weight of Material Batched: (Ibs
HRWR:	(yd) Yards Batched: (yd^3
Other: Delvo T. Dewt	(W2) Unit Weight = W1 / Yd: (lbs/ft^3
Other:	Yield = W2 / W: (ft^3/yd^3
Other:	
Notes / Rem	arks (Be Specific):
Rondom # 72.3 vords Initar	1 Results 4/13/2016 40 yords
Schlot 1-2 Air	= 7.090 4/19/2016 23 VICTUS
Lot 0183-1 5/0m	
tem	
Stripping (ylinders 6	Moistures + P200 4/18/16 = 50 yours
	Ingineering Services
	uite 300, Mendota Heights, MN 55120

Phone: (651) 688-9292 • Fax: (651) 688-0124

White - Office

	ple Report
General Information	Test Results
Technician: Jacob Ostenchar	Sample ID:
Date: 4-2+16	Concrete Temperature:
Time: 11:20GM	Ambient Temp: 50°
Mix#: WHB5146	Base / Form Temp: 🧡
Plant #: 2	Slump: , , , , , , , , , , , , , , , , , , ,
Ticket #: 3734444 Truck 863	W/C Ratio:
Contractor: Lunch	Air Content: 5.5%
Project: 1070-01-83	Unit Weight: 🔀
Sample Location: Job Site Ste	Set Time: 🔀
Laboratory Present:	Days Cylinders are to be broke: 1 3
Weather Conditions:	7 28 2 56 90
Admixtures	Yield
MEA: 4,1000-	(W) Unit Weight: (lbs/ft^3
WR: 3. OCN+	(W1) Weight of Material Batched: (lbs
HRWR:	(yd) Yards Batched: (yd^3
Other: De VO 2. Q-UT	(W2) Unit Weight = W1 / Yd: (lbs/ft^3
Other:	Yield = W2 / W: (ft^3/yd^3
Other:	
	1
<i>p</i>	emarks (Be Specific): 83 - 1 - 3 = 149.9 yords
Initail Results Sublat - (018	$\frac{1}{2} = \frac{1}{2} = \frac{1}$
	+ AM unic
j.	= WALLOK
	Pacowash + Mashirs = 4125/16
Comstana	- Engineering Services

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Pink - Customer

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HELLS	SUTHA	PUT
Ingine Samo	services le Report	
General Information	Test Results	
Technician: Jacob Ostendorf	Sample ID: $160504 - 1$	
Date: 5/4/2016	Concrete Temperature: 680	
Time: (^) 3(_)	Ambient Temp: 540	
Mix #: WHB5146	Base / Form Temp: 🔀	
Plant #: ()21 Truct # 703	Slump: 3.)5	
Ticket #: 3741990	W/C Ratio: 0.379	
Contractor: Lunda Construction	Air Content: 4.896	
Project: (0)0-01-87	Unit Weight:	
Sample Location: On Site	Set Time:	
Laboratory Present: 🗡	Days Cylinders are to be broke: 1 3	
Weather Conditions: W_{n}	7 28 2 56 90	
Admixtures	Yield	
HEA: 4 3002	(W) Unit Weight:	(lbs/ft^3
WR: 3, ODenut	(W1) Weight of Material Batched:	(lbs
HRWR:	(yd) Yards Batched:	(yd^3
Other: Delip 2 Ocw+	(W2) Unit Weight = W1 / Yd:	(lbs/ft^3
Other:	Yield = W2 / W:	(ft^3/yd^3
Other:		
		10 Minut 2012 10 10 10 10 10 10 10 10 10 10 10 10 10
	arks (Be Specific):	1110 -
5.blot 0260-1-3 149.9	$\frac{AS \ ot \ 914 \ 016 = 1}{6141}$	<u>190 price</u>
MARINE TEST	5/4/2016 = 6	Y MARINE
Sunpsee 5	CIPINS CYTHORIES JOOYO	CTOR
$\frac{A_{1}C}{Lem O} \frac{1}{67^{\circ}} \frac{P_{2}OO + 6}{P_{2}OO + 6}$	radation done 5/3/2016	1 William 2000 - Control of Co
	ngineering Services	
	uite 300, Mendota Heights, MN 55120	

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	STONE	CUTH DRY T
ENGINEERIN	IG SERVICES	K-<-/.
	ple Report	
General Information Technician: Jacob OstervorF	Test Results Sample ID: $60504-2$	
Technician: Sacob OsterOosF Date: 5/4/2016	Sample ID: 60509-6 Concrete Temperature: 68°	
Time: $1:00$ (1)	Ambient Temp: 610	
Mix #: WHB5146	Base / Form Temp: ×	
Plant #: 02	Slump: 3.75	
Ticket #: 3742154 truck# 731	W/C Ratio: () 386	
Contractor: Unda Construction	Air Content: 6.0%	
Project: 020-01-82	Unit Weight:	
Sample Location: On Site	Set Time:	
Laboratory Present:	Days Cylinders are to be broke: 1 3	
Weather Conditions: Mrdy / Scm	7 28 7 56	90
Admixtures	Yield	
AEA: 4.8002	(W) Unit Weight:	(lbs/ft^3)
WR: 3 ODaut	(W1) Weight of Material Batched:	(Ibs)
HRWR:	(yd) Yards Batched:	(yd^3)
Other: DX. VO J. Oc. wt	(W2) Unit Weight = W1 / Yd:	(lbs/ft^3)
Other:	Yield = W2 / W:	(ft^3/yd^3)
Other:		
	narks (Be Specific):	1 Ilda 1
Schlot 0260-1-4 186.3 yards	As of 4125120	16 Mappine
D. THEN	5/4/201	$> U \cup (I \cap C)$
DIN DIN	0 + gradation Obre 5/3/20	16
	0 + gradaton Obre 5/3/20 Engineering Services	f %~
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	e Report
General Information	Test Results
Technician: Jacob OstenubeE	Sample ID: 160515-
Date: 6-15-16	Concrete Temperature: 770
Time: 10:30	Ambient Temp: 70°
Mix#: WHB 5146	Base / Form Temp:
Plant #: 0 21 Truck # 76 ?	Slump:
Ticket #: 773973	W/C Ratio:
Contractor: Lunda	Air Content:
Project: (TH J 1021-01-83	Unit Weight: 📉
Sample Location: On Site	Set Time:
Laboratory Present:	Days Cylinders are to be broke: 1 3
Weather Conditions: (1999) (1999)	7 28 56 90
,	
Admixtures	Yield
EA: 1002	(W) Unit Weight: (Ibs/ft^
wr: 3.00 cut	(W1) Weight of Material Batched: (Ik
HRWR:	(yd) Yards Batched: (yd^
Other: De 102. Ocut	(W2) Unit Weight = W1 / Yd: (lbs/ft^
Other:	Yield = W2 / W: (ft^3/yd^
Other:	
Notes / Remar	ks (Be Specific):
Lot 0183-1	
5.16+ 83-1-5	
NOD 6	Dore 6/14/16
Cometono. Eng	incoring Services

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Sampl	le Report	
General Information	Test Results	
Technician: Sacoh Ostenvlort	Sample ID: 160-1007-1	
Date: 6-7-2016	Concrete Temperature: 690	
Time: 7:30am	Ambient Temp: 50	
Mix #: 6/HB5146	Base / Form Temp: 🔀	
Plant #: 022 Truck # 908	Slump: <u>3</u> . O	
Ticket #: 3770765	W/C Ratio: 0.384	
Contractor: Lunda Construction	Air Content: 5.99/2	
Project: 1020-01-83 (TH 5	Unit Weight:	
Sample Location: (TH J Baidae	Set Time:	
Laboratory Present:	Days Cylinders are to be broke: 1 3	
Weather Conditions: DJSK	7 28 56 90	
Admixtures	Yield	
AEA: 11.5007	(W) Unit Weight:	(lbs/ft^3)
WR: 3. Mut	(W1) Weight of Material Batched:	(lbs)
HRWR:	(yd) Yards Batched:	(yd^3)
Other: Delip Z. Dr. vt	(W2) Unit Weight = W1 / Yd:	(lbs/ft^3)
Other:	Yield = W2 / W: (ft	t^3/yd^3)
Other:		
Notes / Rema	arks (Be Specific):	
Rondom # 289		
Lot 83-2		
5.66+ 83-2-1		
		terration-territoria

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Engineering		
Samp	le Report	
General Information	Test Results	
Technician: Sacob OsterdarF	Sample ID: 160607-2	
Date: 6-7-2016	Concrete Temperature: 680	
Time: 4:39am	Ambient Temp: $51^{\mathcal{D}}$	
Mix#: WHB5146	Base / Form Temp: 🗡	
Plant #: 021 Truck #	Slump: 4.0	
Ticket #: 3770770	W/C Ratio: 0.386	
Contractor: Lunda Construction	Air Content: 4.7%	1110-02010-mm-0110-040-020-02
Project: 1020-01-83 CTH5	Unit Weight:	
Sample Location: (TH, J Badge	Set Time:	
Laboratory Present:	Days Cylinders are to be broke: 1 3	1
Weather Conditions: DUSK	7 28 56 90	
Admixtures	Yield	
AEA: 1.5002	(W) Unit Weight: (Ib	os/ft^3)
WR: 3-00cm+	(W1) Weight of Material Batched:	(lbs)
HRWR:	(yd) Yards Batched:	(yd^3)
Other: DeVO 2.00 aut	(W2) Unit Weight = W1 / Yd: (lb	os/ft^3)
Other:	Yield = W2 / W: (ft^3	3/yd^3)
Other:		
	arks (Be Specific):	
Rondom # 69.1		72-47-76-700-700-700-700- ²¹
Lot 83-2		V.(
Sublot 83-2-2		

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	STURE
Sam	ple Report
General Information	Test Results
Technician: Sacub OstenderF	Sample ID: 160807-3
Date: 6-7-2016	Concrete Temperature: 68
Time: 445am	Ambient Temp: 53
Mix#: 4/435146	Base / Form Temp: 🥕
Plant #: 02 Truck #	<u>Slump: 3.00</u>
Ticket #: 3770776	W/C Ratio: 0.385
Contractor: Lunde Construction	Air Content: 6-5%
Project: 1020-01-83 (165	Unit Weight:
Sample Location: (TH J Baudye	Set Time:
Laboratory Present:	Days Cylinders are to be broke: 1 3
Weather Conditions: Dus K/ claudy	7 28 56 90
/	
Admixtures	Yield
<u>AEA: 1.50</u>	(W) Unit Weight: (lbs/ft^3)
WR: 3.00cut	(W1) Weight of Material Batched: (Ibs)
HRWR:	(yd) Yards Batched: (yd^3)
Other: Delvo Z. ODant	(W2) Unit Weight = W1 / Yd: (Ibs/ft^3)
Other:	Yield = W2 / W: (ft^3/yd^3)
Other:	
Notes / Rer	narks (Be Specific):
Random # 127.5	
Lot 83-2	
s. b.lot 83:2-3	

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√hite - Office

Yellow - Lab

GENS	STONE	
Sampl	le Report	
General Information	Test Results	
Technician: Jacob Osterdor F	Sample ID: 160667-4	
Date: 6-7-2016	Concrete Temperature: 70	
Time: S. 45	Ambient Temp: 55°	
Mix#: 41485146	Base / Form Temp: 🗡	
Plant #: 022 Truck #-688	slump: 400	
Ticket #: 377	W/C Ratio: 0-382	
Contractor: Lender Construction	Air Content: 7. 39/1	
Project: 1020-01-83 (THJ	Unit Weight:	
Sample Location: CTH J Budge	Set Time:	
Laboratory Present:	Days Cylinders are to be broke: 1 3	
Weather Conditions:	7 28 56 90	
Admixtures	Yield	
AEA: (.50	(W) Unit Weight:	(lbs/ft^3)
WR: 3. ODant	(W1) Weight of Material Batched:	(lbs)
HRWR:	(yd) Yards Batched:	(yd^3)
Other: De VO 1.00 cut	(W2) Unit Weight = W1 / Yd:	(lbs/ft^3)
Other:	Yield = W2 / W:	(ft^3/yd^3)
Other:		
Notes / Rema	rks (Be Specific):	
Random # 192.1		
Lot 83-2		
S. blot 83-2-4		tali everyan watara 10150000 may a tatata yang

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CEMS	TOL	<u>//E</u>	37					
Sample	e Repo	s rt						
General Information			Test Re	sults				
Technician: Jacob Ostendur	Sample ID: $167607-5$							
Date: 6- 2-16	Concret	e Temperatu	ire: 700					
	Ambien	t Temp: 🛛 🗧	- 80		2,94,007,000,000,000,000,000,000,000,000,00			
Mix #: WHB 5146	Base / Form Temp: 🚬						•	
Plant #: ()21 Truck # 658	Slump: 4.0							
Ticket #: 3770784	W/C Rat	tio: () .	385					
Contractor: Linda Construction	Air Cont	ent: 6	90					
Project: 1020-01-83 (TH.5	Unit We	ight:		2944 9 800 KD1220000 Ay11224000				
Sample Location: (TH J Boudge	Set Time	2:						
Laboratory Present:	Days Cy	linders are t	o be broke: 1		3		and water operation of the first of the second s	
Weather Conditions: Sanny	7	28	56		90	ļ		
/								
Admixtures			Yiel	d				
AEA: (1.507	(W) Uni	t Weight:	-				(lbs/ft^3)	
WR: 3.COcut	(W1) W	eight of Mat	erial Batched:				(lbs)	
HRWR:	(yd) Yard	ds Batched:			- Anima Sayan Adabili yagi		(yd^3)	
Other: Delto Z.Oc.t	(W2) Un	it Weight =	W1 / Yd:				(lbs/ft^3)	
Other:	Yield = ۱	N2 / W:				(ft^3/yd^3)	
Other:								
Notes / Remar	ks (Be Spec	cific):						
Rendom # 224.8								
Lot 83-2								
5.blot 83-2-5								
						14002 vitatio		
	10007-000-00000000000000000000000000000	2022 000 00 000 000 000 000 000 000 000				ta processo de Celebra		

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White - Office

Yellow - Lab

Pink - Customer

<u> </u>	STONE						
Samp	o services						
General Information	Test Results						
Technician: Jacob Ostendif	Sample ID: 60607-6						
Date: ()-7-)0(6	Concrete Temperature: 70						
Time: 6: 1500	Ambient Temp: 58						
Mix#: WH85146	Base / Form Temp:						
Plant #: 1000 002 Truct # 903	Slump: 4.0						
Ticket #: 3770797	W/C Ratio: 0.389						
Contractor: Linda Construction	Air Content: 6.7						
Project: 1020-01-83 (TH 3	Unit Weight:						
Sample Location: (TH J Bridge	Set Time:						
Laboratory Present:	Days Cylinders are to be broke: 1 3						
Weather Conditions:	7 28 56 90						
Admixtures	Yield						
AEA: 1.502	(W) Unit Weight: (lbs/ft^3)						
WR: 3.0000 +	(W1) Weight of Material Batched: (lbs)						
HRWR:	(yd) Yards Batched: (yd^3)						
Other: Dalle 2. Occut	(W2) Unit Weight = W1 / Yd: (lbs/ft^3)						
Other:	Yield = W2 / W: (ft^3/yd^3)						
Other:							
Notes/Remain Ronworm # 250.9	arks (Be Specific):						
Lot 83-2							
S.blot 83-2-6							

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Pink - Customer

10/16/12

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Date Sam	pled	5/3/1	1.	Sample W	alaht	م وجو جر مر ا		
Date Reci	ived	513/1	<u>/.</u>			15552.0		
Date Com	pleted	513/16	the second s	Dry Weight		15284		
Aggregate			a second s	Moisture		1.8%		
Sampled					/eight	15216,	0	
Tested By			StevelorE	P200 %		0.45		
Sieve		LOCOD C	astado E	Contraction of the contraction of the contraction of the	and the second design of the	1 1/2	11	
2"	Anount	Retained	Retained Amount		Precent	Passing	Spec	
1.5"	1-0-		000		100		100	
1"		and the second	000	100			90-100)
<u>.</u> 3/4"	6904.0		45.4		54.6	-	20-55	and the second secon
the second s	14620.		46.2		3.8		0-15	The second s
3/8"	15102	0	_99.3	······	07		0-5	
#200	15195		99.9	in familie and a surface of the surf	D.T		<u></u>	Personal Contract of Contract
Pan	15205		100		$\frac{v}{n}$		والمحاصر فالمحاصر فيستعما والمحاط	

Date Sam	pled	5/3/1	6	Sample W	alaht	11.05	
Date Reci	ived	518/11	And the owner of the owner owner	Dry Weigh	Contraction of the local division of the loc	5695	
Date Corr	pleted	51B1		Moisture 9		3004	2
Aggregate			and the second secon	Washed W		1.6%	A.
analy (b)			P200 %	reigin	5582.0		
Tested By		Sech 1	sterdoc	And the second se	Size	<u> </u>	
Sieve	Amount	Retained		Passing	Precent		l .
1"	0		[7]		100	Children and the second se	Spec
3/4"	111.0	and the second secon	717	ىلىنىلىدىن- ى قىتىن چېرىكىتىكىنىكىكىكىكىك	4R.C	and the second	100
3/8"	2741.0	2	49.1	ана странција и странција и У	Company of the second sec	<u></u>	90-100
14	5500.	h	98.6	¢	50.9		20-55
8	5538		<u> </u>	2	1.4		0-15
1200	5568		dan		0.8		0-5
Pan	5580.	Statistics of the second state of the second s	99.8		0.2		The second s
	<u></u>		100	and the second	O		

Date Sam	oled	51311	6	Sample W	eight	550,0	``	
Date Reciv	/ed	5/3/1		Dry Weigh	and a state of the	534.0		
Date Com	pleted	5/3/16	And a subject of the	Moisture	and a state of the	3.0		
Aggregate	Source	Liney St	Contraction of the local division of the loc	Washed W		532.7	No. of Concession, Name	
Sampled B	Y	Juio 0		P200 %		0.24		
Tested By			Ostabl		Size	Concrete Sand	4	
Sieve	Amount	Retained		Passing	the second s	Passing	<u>Spe</u>	
3/8"	0		\mathcal{O}		100	1 403118		
#4	1.6		0.3	ŢŎĸŢŢŢĊĊŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎ	44.7		90-1	
#8	71.2		133	**************************************	86.7		90-1	.00
#16	121.4		22.7	a y na vienne se and a tha an	77.2		45-8	25
#30	315.8		54,1		40,9			
#50	479.3		89.8	17 (27 C C C C C C C C C C C C C C C C C C C	10.2		53	in
#100	527.8		99.2	+	0.8		0-1	the second s
#200	533.0		99.8		0.2	······································	0-3.	Commentation of the second
Pan	533.9		100		0	**************************************		

oth J gradation

Date Sam	pled	6/210	2,911	Comple 14			
Date Reciv	ved	61212		Sample W		1560.	<u> </u>
Date Com	pleted			Dry Weigh		1550	3
Aggregate		61212	A Designation of the local division of the l	Moisture		0.6.	3
Sampled B	uplad Bu		STORE AND ADDRESS OF THE OWNER OF THE OWNER OF THE OWNER	Washed W	/eight	15389	/
Tested By		Samo	Ostante	P200 %		0.79	
Sieve	Amount	Detering	Ostarder		Size	1 1/	2''
2"		retained	Retained Amount		Passing Precent		Spec
1.5"			- 0		100	2	100
1"	7/50	ala ana pao ina amang ana ama ang ang	-2		100	> 1	90-100
3/4"	-1604		49		50.	3	20-55
3/8"	15220	4 <u>0</u>	98,	9	1.1		0-15
#200	10 57	1.0	44,-	7	0.3		0-5
the second se	15366	.0	qq_c	(OIT		0-0
Pan	1538	5.0	100		\overline{O}		and and an

Date Sam	pled			Sample W	aight	1 Facur		
Date Reciv	/ed	01212	And and a second se	Dry Weigh	Contraction of the second s	5700	0	
Date Com	pleted	61212	A Designment of the second	Moisture 9	and a loss of the	5605.	0	
Aggregate	A CONTRACTOR OF		/10	Statistics of the local division of the loca		1.7%		
Sampled B	ampled Dec		Osterdet	Washed W P200 %	eight	5583		
Tested By	and an		asterike	alarman and a second	C :	0,59%		
Sieve	Amount	Retained		Passing		3/4"		
1″	0		00		Precent Passing		Spec	
3/4"	147	$\overline{\mathcal{O}}$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		0		100	and the second se
3/8"	3526		Statement of the second se	63.2		1	90-100	
#4	5389.	Non-Sold Survey in survey of the survey of t			36,8	5	20-5	5
#8		\sim	96.	and the second	3.4		0-15	
#200	5523	el la	<u> </u>	and the second se	1.0		0-5	
Pan	57/3	>	<u> </u>	1	0,1			
	22 80	<u> </u>	_ 100		0			and the second

Date Sam	oled	6/2/	ZOLA	Sample W	eight	6577		Ì
Date Reciv	ved	61212	OIh	Dry Weigh	and the second se	5326	an a	
Date Com	pleted	61212	South States of the second sta	Moisture %		3.1%		ř.
Aggregate	Source	lasey		Washed Weight			2	
Sampled B	у	Jacob	Ostorde			532,2	7/	
Tested By			Ostacke	C Schollip Handward and American	Size	O,269 Concrete Sar		
Sleve	Amount	Retained		Passing	and the second se	Passing	Sp	<u>.</u>
3/8"	0		0		10			
#4	6.7)	1.3	ana ana amin'ny sorana amin'ny sorana amin'ny sorana amin'ny sorana amin'ny sorana amin'ny sorana amin'ny sora	- GR	<u> </u>	90-1	
#8	54.	6	10,	3	89		20-1	.00
#16	174.	7	32	Ř	17	2	45-	0E
#30	326,	1	61	Z	20	5	40**	00
#50	451.	-7	84.3	3	16	5	53	
#100	523	.8	98	5	1,2	<u> </u>	0-1	and the second se
#200	531.	6	99.0	7	<u></u>	/	0-3	and the second design of the s
Pan	532.0	2	1017	L		· · · · · · · · · · · · · · · · · · ·	0-3.	.5

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CTH J gradietion

Date Sam	pled	612120	016	Icomala M			New York Concerning of the second	
Date Reci	ved	6121201		Sample W		15531		
Date Com	pleted			Dry Weight		15410	0	
Aggregate		612120	B	Moisture %		0.8%		
Sampled E		Casey		Washed W	eight	15302	ρ	
Tested By	,	Jacob (P200 %		0,719		
Sieve		Jacob C	2stanbirF	Aggregate	Size		2"	
	Amount	Retained	Amount	Passing		Passing	Spec	
2"	0		0		100	>		
1.5"	362.	O]	2.6		Q.7	/	100	
1"	7948	$\cdot D$	5)	2	766		90-100	
3/4"	15020	1	00 -	2			20-55	
3/8"	15268	3.0	<u> </u>	>	<u>_1.8</u>		0-15	
200	15 224			<u>p</u>	<u> </u>	<u> </u>	0-5	- antipolog
Pan	1529		99.0		0.1		and a second	<u>ىلىلىمىسىكى تۇسىمىمى</u>
	L'JAT,	LO I	100		Ó		anan a fa anna dà ann a' an a'	

Date San	npled			Sample W	oight	6-11	
Date Rec	ived	6/2/20		Dry Weigh		556b	\mathcal{O}
Date Con	npleted	ted 6121201		Moisture 9		5439	
Aggregat	e Source			Washed W		3.2%	2
Sampled			Stendark	P200 %	eigni	5416.0	2
Tested By	1	Statement of the second s	octorbe		Sizo	0.42	
Sieve	Amount	Retained		Passing		3/4 Passing	L
1"	\Box		\mathcal{O}		Precent Passing		Spec
3/4"	156,	0	~~~~		160		100
3/8"		Contraction of the second s	<u> </u>		4/./		90-100
#4	5652		1025		32.5		20-55
#8	5366.	ρ	99.1		0,9	/	0-15
#200					0.5		0-5
7200 Pan		0	49.9	and the second	0.1		
-ali	5414	U	100		0		مروار بيني ميرين يې مېرون ديني مېرون يې مې مې مې د بې وې

Date Sam	pled	6/2/2	016	Sample W	eight	601	7	ļ
Date Reciv	ved	612120		Dry Weigh	And the second se	532.	0	
Date Com	pleted	6/2/20	out out of the second se	Moisture 9	the second s		0	
Aggregate	Source	laser	and the second se	Washed Weight		531.4	p	
Sampled B	Зγ		SterchrF	P200 %	4.D	-231.7		
Tested By			ostandarf		Size	Concrete Sa	Sand	
Sieve	Amount	Retained		Passing	A DESCRIPTION OF THE OWNER AND ADDRESS OF THE OWNER ADDR	Passing	Spe	20
3/8"	0		D		101)		
#4	7.1	and the constraint of the second s	1.3		98.	7	10	and the second
#8	52.2		98		90.2		90-1	.00
#16	163.	1	30.7		69.3		45-85	
#30	322.	1	60,	Ź	39.			4 4
#50	444,	2	845	>	15,5		53	0
#100	315	9	97.		2.9		0-1	The second s
#200	530	.6	94.	9	Dil	<u></u>	0-3.	
Pan	531,	3	100	0	D		4	
Date Sampled 3/14/1		16	Sample W	'eight	16058			
----------------------	--------	--	-----------	--	-------	---------	--	
Date Recived 3/14/11				15970				
		3/14/16		Moisture %		0.6%	1478-47 Carpennin (1979-1999)	
Aggregate		Luxy 5	toctorle	Washed Weight		15871		
Sampled	Ву			P200 %		0.62		
Tested By	(and the second s	Ostendarf		Size	1 1/2	II	
Sieve	Amount	Retained		Passing		Passing	Spec	
2"	0		Ø		100		100	
1.5"	0		0		100			
1"	8746		55.3	5 mm	44.5		90-100	
3/4"	15328	-1222	96.6	ana dan mana da ang mana kana da ang mang mang mang mang mang mang mang	3.4		20-55	
3/8"	115727	and the second	99.2		0.8		0-15	
#200	115840		94.9	and the second	R		0-5	
Pan	15860		100		0.1		Endersemmenter (1910-1919) - 1910-1910 - 1910-1910 - 1910-1910 - 1910-1910 - 1910-1910 - 1910-1910 - 1910-1910	

Date Sampled 3/14/16		4	Sample W	eight	5566.4		
Date Rec	Date Recived 3/14/16				and the second	5458.0	Contraction of Contra
Date Con	pleted	3/14/16		Moisture 9		2.0%	
Aggregate Source Cused S		and the second	Washed Weight		5452		
		Sacob Q		P200 %		0.11	and the second
Tested By	/			Aggregate	Size	3/4"	
Sieve	Amount	Retained		t Passing		t Passing	Spec
1"	0		6		100	and the second	100
3/4" 3/8"	185, O	and the second se	3.4	an a	46.6	and the second	90-100
3/8"	3344.0		29.9	a and a second	38.6		20-55
14	5409.0	,	44.2		0.8	No. of Concession, Name of	0-15
18			and the second	a a dana amang papakan na mana dan sana	<u> </u>	<u> </u>	0-15
#200	5443.0	(The second strong states	44.4	,	0.1		
Pan	5450.0		100		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		

Date Sam	pled	3/14/16		Sample W	eight	365.6		
Date Reciv	ved	3/14/1	6	Dry Weigh	and the second se	548.1	and the second se	
Date Com	pleted	3/14/16	7	Moisture 9	the second s	3.20%		
Aggregate	and the second se	lucer 57	bationle	Washed W	/eight	547.6		
Sampled B	Ŷ		and the second se	P200 %		0.09		
Tested By			astendart	Aggregate	Size	Concrete Sand		
Sieve	Amount	Retained		Passing	-	nt Passing	Spec	Jacon Kipg
3/8"	\bigcirc		0		101	The second s	100	
#4	0.3		0.05	,	99.9	5	90-100	
¥8	29.0		5.3		94			6
#16	97.7		17.8	ويالتمرادين وسوعت معاري وبالمادة	82		45-85	home and a second
#30	268.4		490		51.	0		B ^a lanaan
<i>‡</i> 50	480.9		87.8	Y CANNEL COURSE IN THE COURSE INTE COURSE IN THE COURSE INTE	12.2	-	530	1975 Beddier
<u> </u>	341.4		98.9		Î.T	and the second	0-10	acterizari
#200	546.7		99.9		<i>D</i> . 1		0-3.5	-
Pan	547.4		100	17	D		Contraction of the second s	WARDOW /

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Date Sam	pled	04/11/1	1.	Sample W	a lade à		and provide and a second s
Date Recived 04/////		A PARTY OF THE OWNER		and the second design of the s	15572.		
Date Com	Character Character Street Str	and the second se	Construction of the second	Dry Weigh		15402.0	2
Aggregate	and descent protocol and a second	04/11/16	Color Society of the color of t	Moisture 9		1.1%	
Sampled I		Usey 5		Washed Weight		15320.	0
Charles and the second second second		Jacob C	Starb F	P200 %	and the second se		6
Tested By		Sach C	3stead F	Aggregate	Size		
Sieve	Amount	Retained	and the second se	t Passing		Passing	
2"	0		1		Hard States and S	Contraction of the contraction o	Spec
5"	0		- n		100		100
11	8644	0	- U		100	And Property Control of Control o	90-100
/4"			56,5		43.5	5	20-55
STATISTICS IN CONTRACTOR OF THE OWNER OWNER OWNER OWNER OWNER OWNE	14900.		47.3		d.7		0-15
/8"	15258.		99.8		0.3		0-5
200	15282	0	99.8	and the second design of the s	0.2		V"3
an	13306.	D	100		0	and the second	

Date San	npled	04/11/	11.	Sample W	ojaht	1 (-) /	
Date Rec	ived	041111		Dry Weigh		6029.	
Date Con	pleted	04/11/1	Conference of the second	Moisture 9		5431.	0
Aggregat	and the second state of th	A second s	Conception of the second state of the second s			1.1%	
Sampled	The second se		Livery stactifile Jucob Ostendorf				5
Tested By			Ostarbill	and the second se	Sizo	0.269	
Sieve	Amount	Retained		Passing		3/4 Passing	
L"	$\square D$		\overline{D}		100	rassing	Spec
1/4"	113 6)	<u> </u>		100		100
/8"	1110	anna the second statement of the			<u> 98,1</u>		90-100
4	4452.0	Protocol and the second s	75,3	5	24.7		20-55
8	57420	ann de minister an	91.1		2.9		0-15
	5868,0		49.3		0.7		0-5
200	5903,0		49.9		0.1		
'an	5911,D		100		$\overline{\mathcal{D}}$		۵٬۰۰۰ <u>۵ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰</u>

Date Sam	pled	04/11	116	Sample W	eight			
Date Reci	ived	04/1/1	and a second	Dry Weigh	the second s	550,0		
Date Com	pleted	04/11/18	Contraction of the local division of the loc	Moisture 9	and the second se	531.5		
Aggregate	e Source	a successive and and included in the second	tectorik	Contraction in the second s		2.4%		
Sampled	Ву					536.0		
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83-1-1

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Date: Time: Specimen (D#) Specimen Type: Specimen Length Specimen Area: (SQ

Peak (CB): Peak (PSI):

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96-01-16 19,03111 158566 1-3 2 12,000 ADMET

HESUKTS

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Rede of loading 34,67 Jos = 1020-01-83

83-1-Z

- 96-61-16' 89-58166 158606 15+ 8/2, 12.000 29-321, 176870. ADMET

RESULTS

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83-1-

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6032 W

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Ratic officaciona 34111 SON # 1020-01-83

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RESULTS

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83-1-3



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REGULTS

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83-1-4

Rate of loading 31.22 335. # 1020-61-83

10010 125.0

Time (sec)

65-01-16,14,163,156, 169,66,2-39, 612,100 162,169, 161169

RESULTS

Dater Dere: Timet Specimen 1D# Specimen Typet, Specimen LengVi r Specimen Area 180

Peak (LB)i Peak (PSI):

Load (LBi)

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83-1-4

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ø8-1ø1-16 10108:36 160504:21 CYLINDER 12,000 28:700

141182 4919

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06-81-16 1818.03 160508 2-1 2 12.000 . 28.295 126660 ADMET

RESULTS

Date: Time: Specimen IDan Specimen Type: Apadimen Length (Specimen Area (Sc

Peak (LE). Peak (Ps).

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83-1-4

Rate of loading 21, 77

555# 0000007 1000-01-833

第966条列

83-1-5 ं ह 07-11-16 07:47:31 188615.1-2.2 12:000 238653 139728 . 4876 ADMET Rate of leading 33.16 Sob # 1020-01-83 RESULTS Dates 07-13-16 Time Ø7:47:31 Specimen 104; 160615.1 Specimen Type: Specimen Length (N Specimen Area (SCN) CYLINDER 12.000 28.65.1 Peak (LB): Peak (PSI): 139720 4076 Load (LG) 150000 的正式通道 Patrick All 1250800 100000 75800 60200 23008 Ø 0.0 2610 50.0 70.00 100.0 125.0 Time (suc)

83-11-5-16 07:103-25, 240625, 2-32 12,9806 24,558 150170 , 5258

RESULTS Rate of lowing 35.02 506 # 1020-01-83 and Market B Date: 07-13-16 Time: Specimen ID#: 87-12-11 46121Speanman Sypame 07:42:28 160615,1 56¥ 56666 **CYLINDER** 4633 Specimen Length (12.000 Specimen Area (SCIM): 28.558 Peak (LA): Peak (PSI): 150170 5258 LOBG (LB) 200000



lot 1 83-1-5 97-13-10 67.52356 160615.1+1 9 12.668 228 369 ADMET 136190 4881 Rate of loading 36.72 Job#1020-01-83 RESULTS Dale: 07-18-18 Time: Specimen ID#1 Specimen Type: 07:52:56 160615.1 Specimen Length (M Specimen Ares (SC N CYLINDER 12.000 28.869 Peak (LB): Peak (PSI): 136190

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THE !! A FRAME AND 120.0 150.0 150.6 Time (1566) 180.0

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RESULTS Date: Tinja: Specimen 10#: Specimen Type: Sweaimen Langin (Specimen Area (50

Peak (15); Peak (1991);

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ø Time (sec) 100.0

Rate of loading 35.6

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83-2-1

87-05-16 07:11:43 160607-11-722 12.000 28 276 149120 5275 AOMET

RESULTS

Date: Time:

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120:8 Time (sec)

Retre of localing 33.89 Job # 1020-01-83

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07403416.07107400 16658711-327 12,000 ADMET

RESULTS

Dater Specimen IDe Specimen Type Specimen Length Specimen Length (Specimen Aree (Sp

Preek (r. Bin) Gente /PSI (r

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07-96-16 07:07:08 160507:1 CYLINDER 12,000

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07-00-16 07-21-18 160600, 2-2 2 12 000 28 274 152878 ADMET

RESULTS

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Load (CB) 2000000

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RESULTS

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RESULTS

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83-2-3

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RESULTS

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Rate on loading 35.25 505 4710240 +83

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ADMET REGULTS Date Times Specifien (Da Openmen Types Specifien (Jorda) Specifien (Jorda)

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83-2-4 dar. 07-86-16 08;22:36 168607.0-1 2. 12.008 ADMET RESULTS

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Load (US)

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TIME (SEC)

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01-05-16-08-27:00 168687 5-1 2 12.000 ADMET

RESULTS

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Peak TLB): Peak (PSI):



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87-05-16-86.522168 388697.3-5-7 12.868 27 858, 119248 ADMET

RESULTS

Date: Timer

Specimen (DF) Specimen (Type) Specimen Length (Specimen Area (60

Peak (PSI)

ALCONT (MAL)

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83-2-5

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REGULTS

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83-2-6

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