EXHIBIT E



July 22, 2013 File Number 13-13-0070

Youngquist Brothers, Inc. 15465 Pine Ridge Road Fort Myers, FL 33908

Attention:

Bill Musselwhite

Subject:

Rock Core Testing, City of LaBelle, Injection Well IW-1

Gentlemen:

As requested, vertical and horizontal permeability, unconfined compression and specific gravity tests have been completed on ten rock cores provided for testing by your firm. The cores were received on May 20, 2013 and designated as follows:

Segment Number	Core Number	Depth (feet)
1	4	2124.1 - 2125.3
2	I	2128.3 - 2129.2
3	2	2208.2 - 2209.0
4	3	2325.8 - 2326.8
5	4	2401.7 - 2402.1
6	4	2407.5 - 2408.4
7	5	2482.3 - 2483.2
8	6	2488.2 - 2488.9
9	Ö	2495.2 - 2496.2
10	7	2588.8 - 2589.5

Photographs of the vertical permeability test core specimens after cutting to length are attached.

Permeability Tests

Permeability tests were performed in general accordance with ASTM Standard D5084 "Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter" using the constant head (Method A) test method. The permeability test results are presented on the attached Hydraulic Conductivity Test Reports. A total of twenty permeability tests were performed.

Unconfined Compression Tests

Unconfined compression tests were performed in general accordance with ASTM Standard D7012 "Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures" using the unconfined test method (Method C). The unconfined compression test results are presented on the attached test reports. Unconfined compression tests were performed on nine samples.

Specific Gravity

The measured mineral specific gravities are presented on the attached test reports. The specific gravity tests were performed in general accordance with ASTM Standard D854 "Specific Gravity of Soil Solids by Water Pycnometer" using 80 to 100 gram specimens ground to pass the U.S. Standard No. 40 sieve. A total of ten specific gravity tests were performed.

The test samples were reported to be from the client-specified designations herein. The test results are indicative of only the specimens that were actually tested. The test results presented are based upon accepted industry practice as well as test method(s) listed. Ardaman & Associates, Inc. neither accepts responsibility for, nor makes claims to the final use and purpose of the test results.

Please contact us if you have any questions about the test results or require additional information.

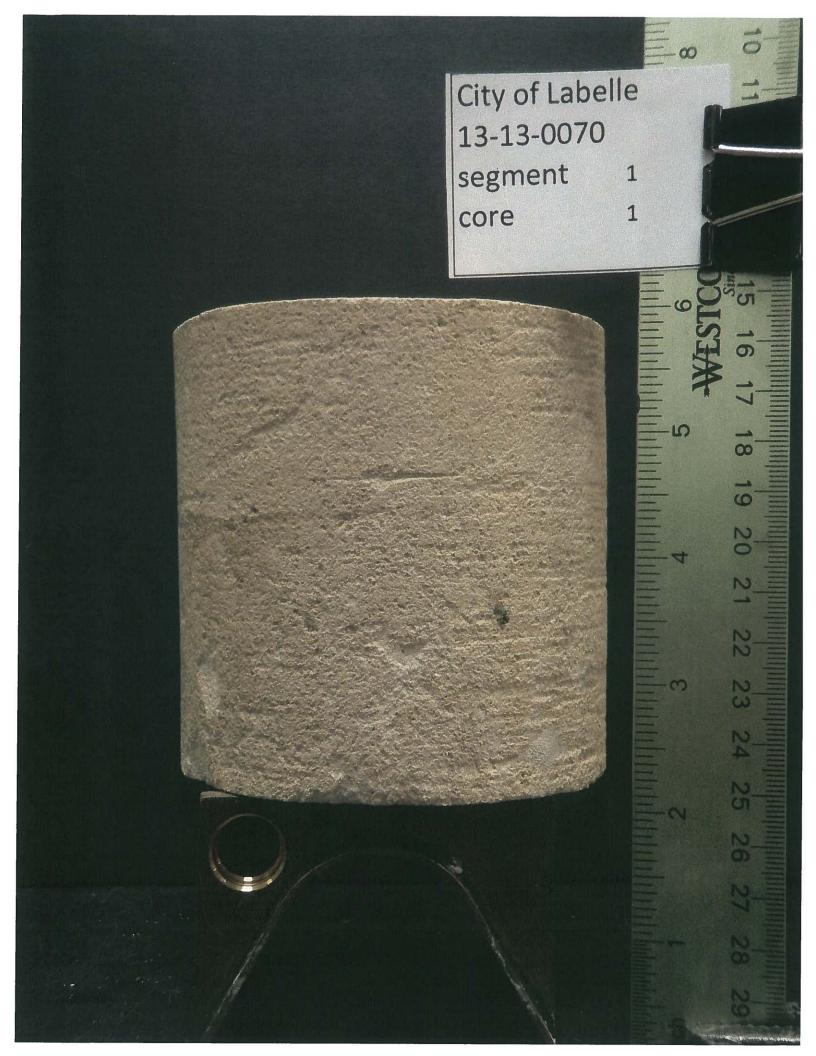
Very truly yours,

ARDAMÁN & ASSOCIATES, INC.

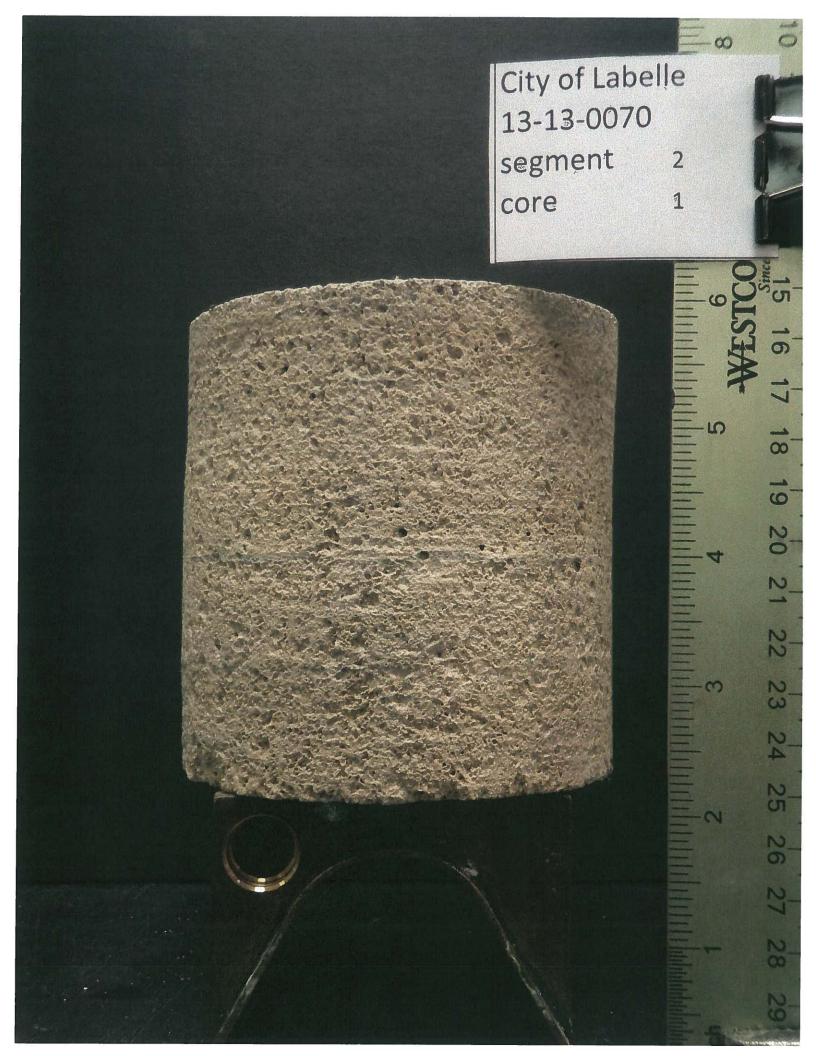
Laboratory Director

Florida License No. 31987

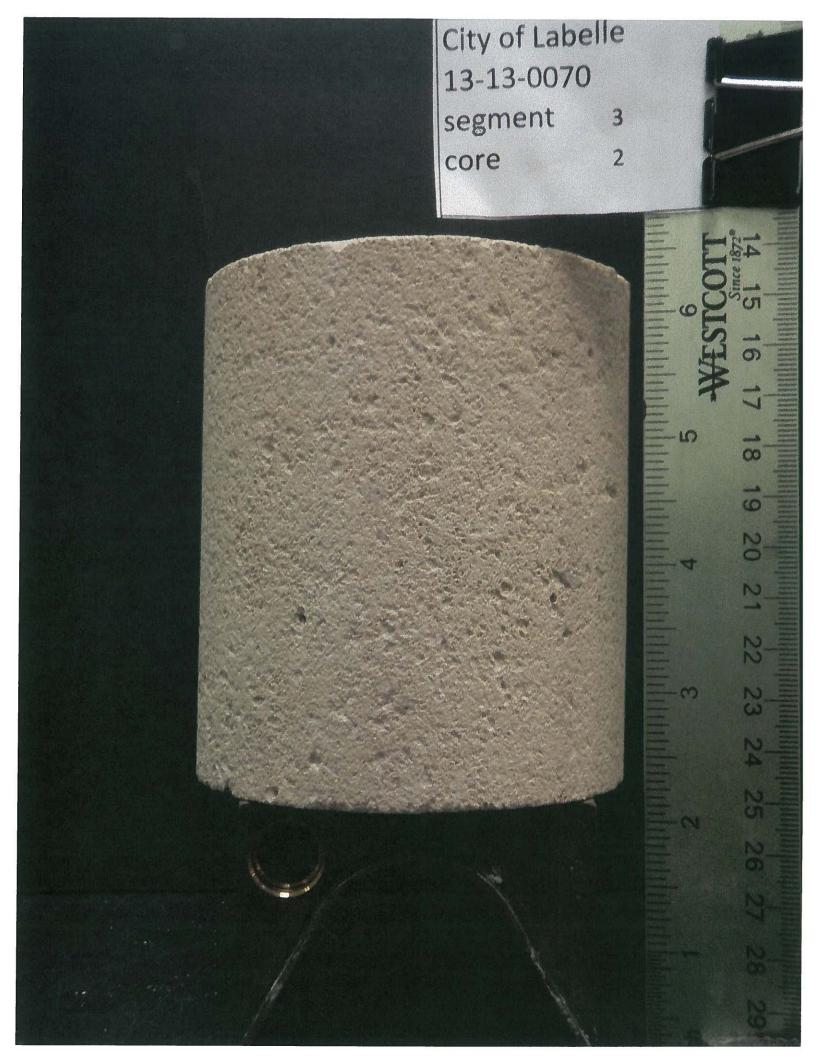
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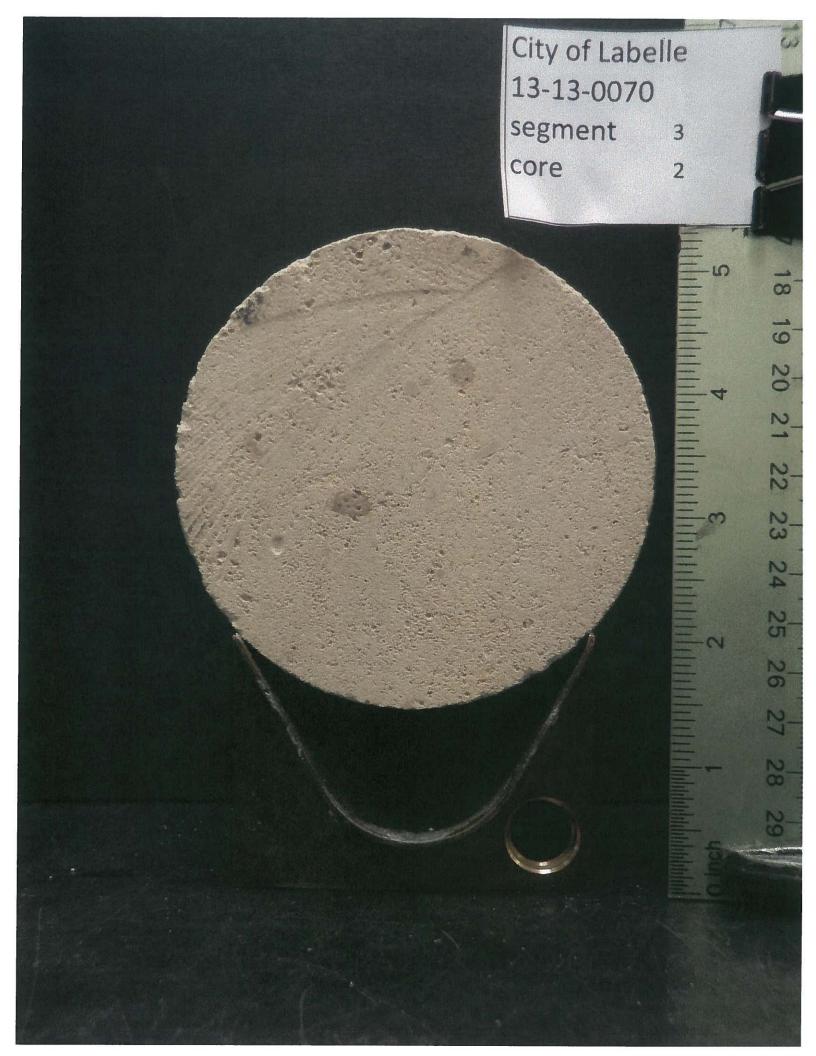


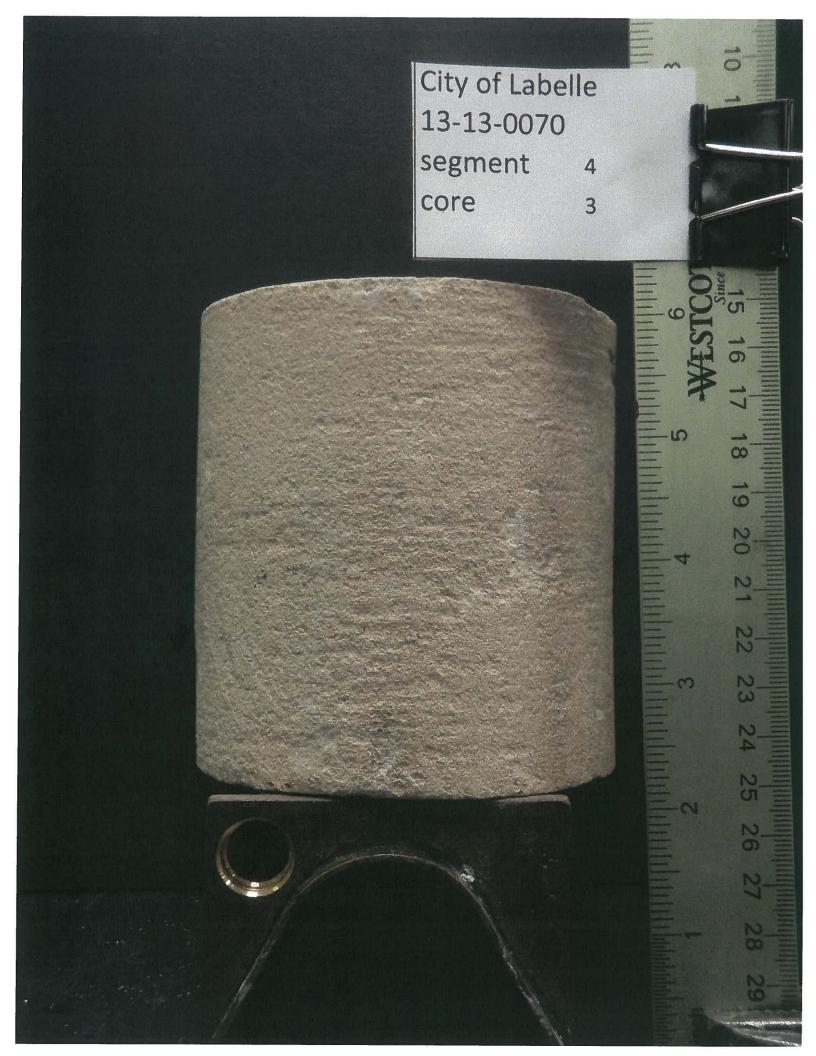


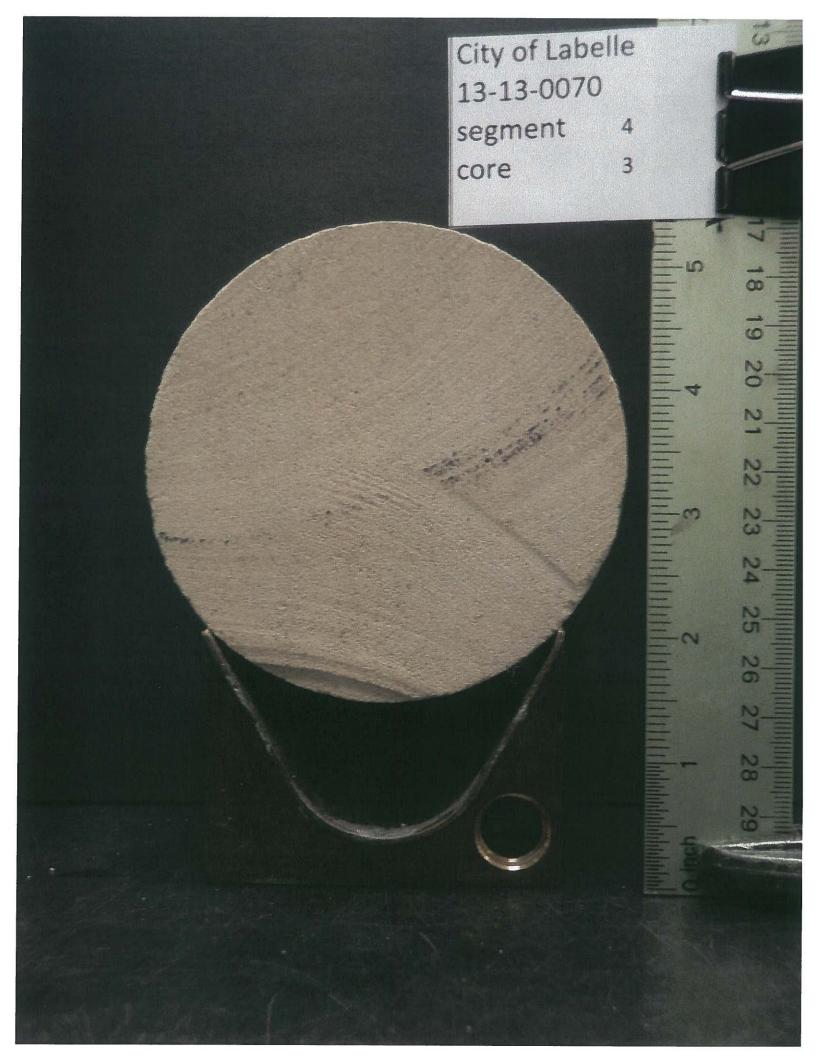






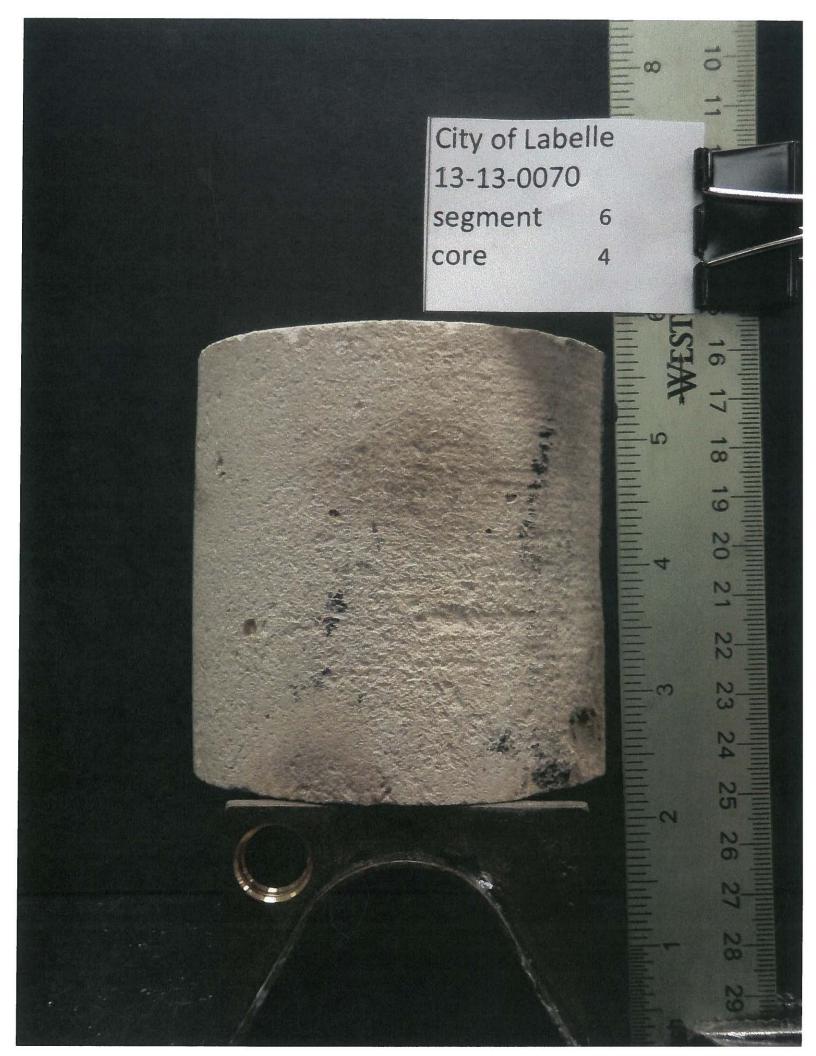


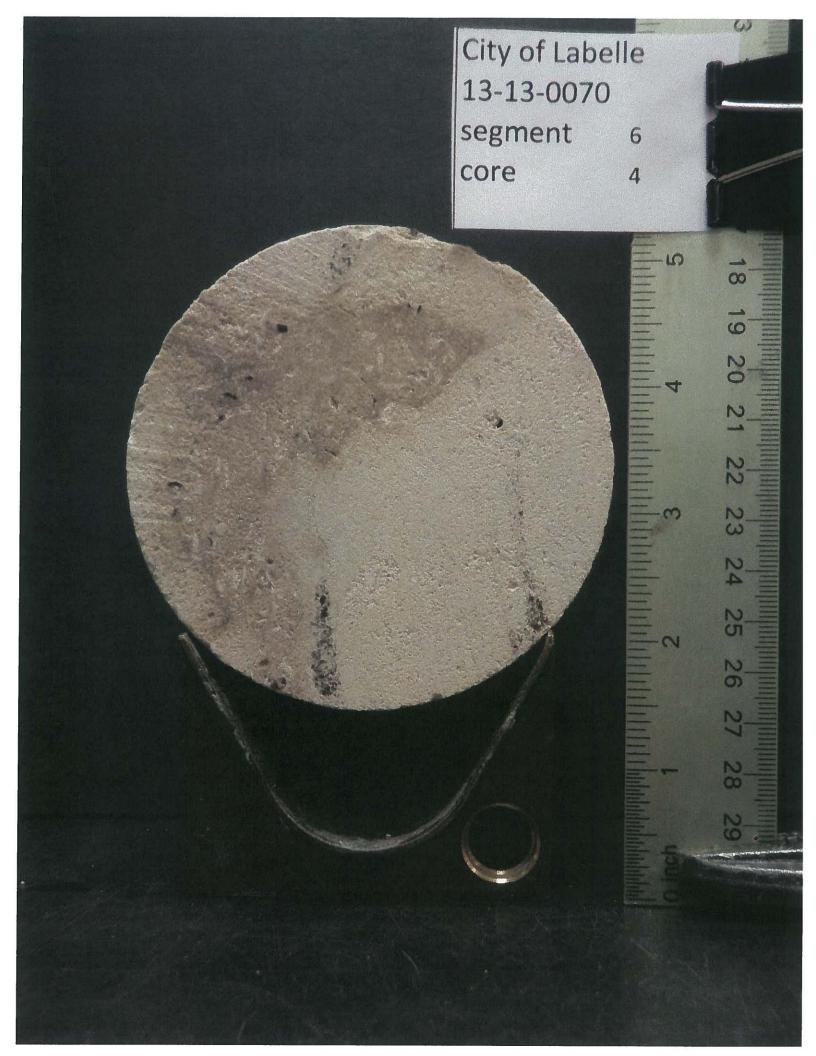


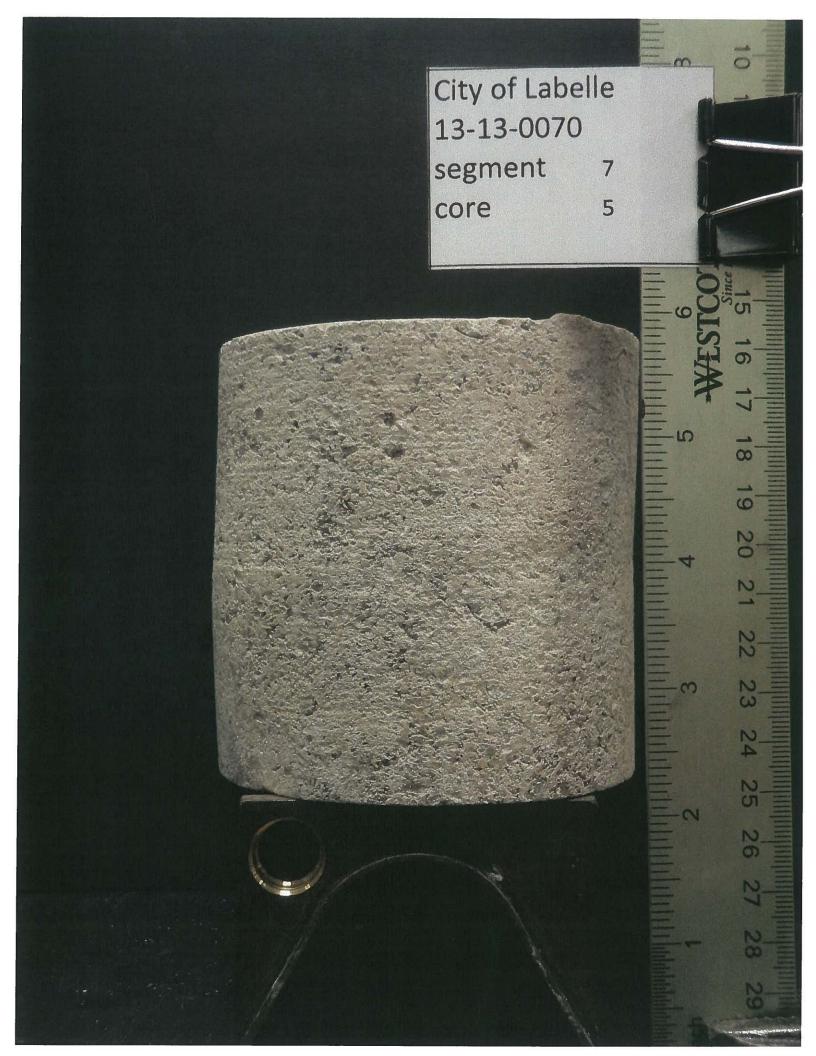


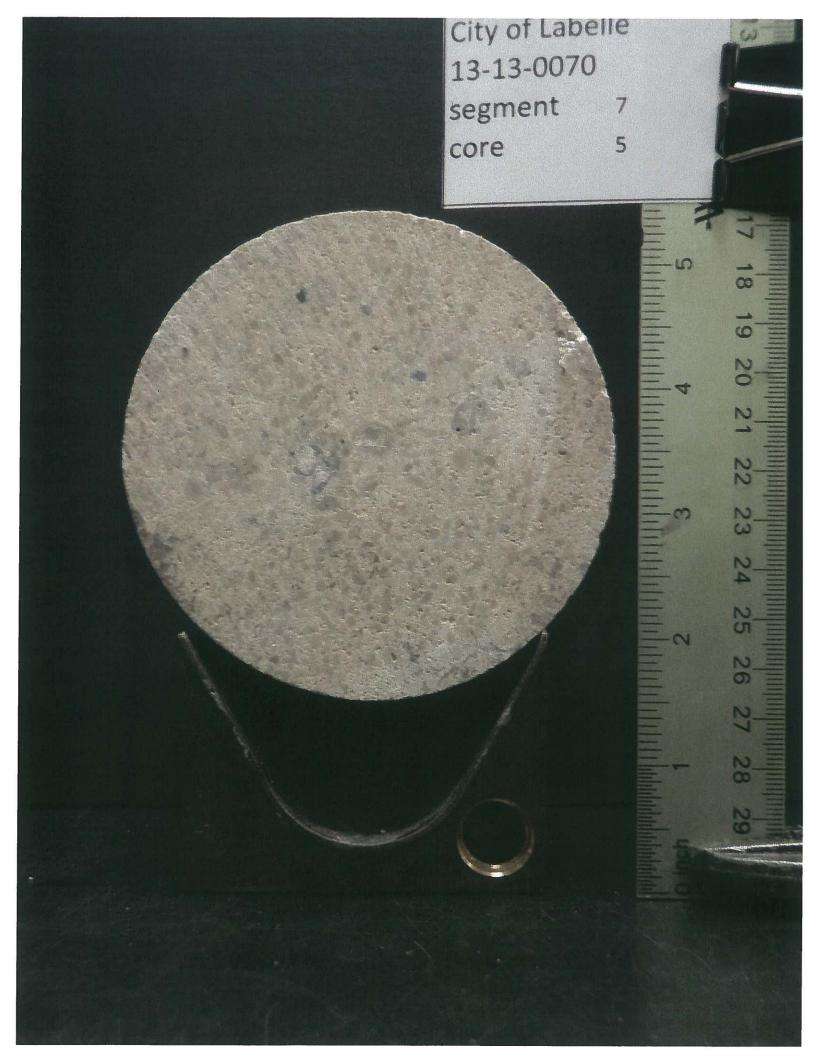


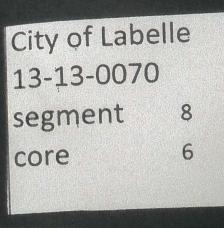
City of Labelle 13-13-0070 segment core





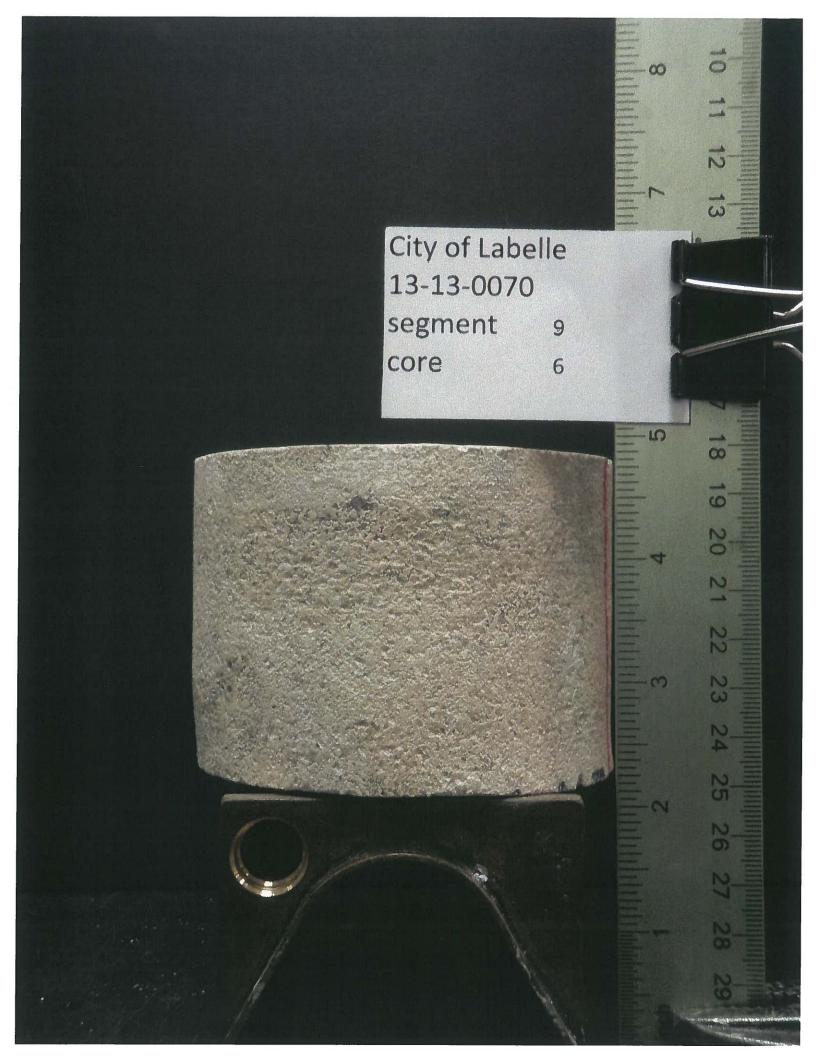




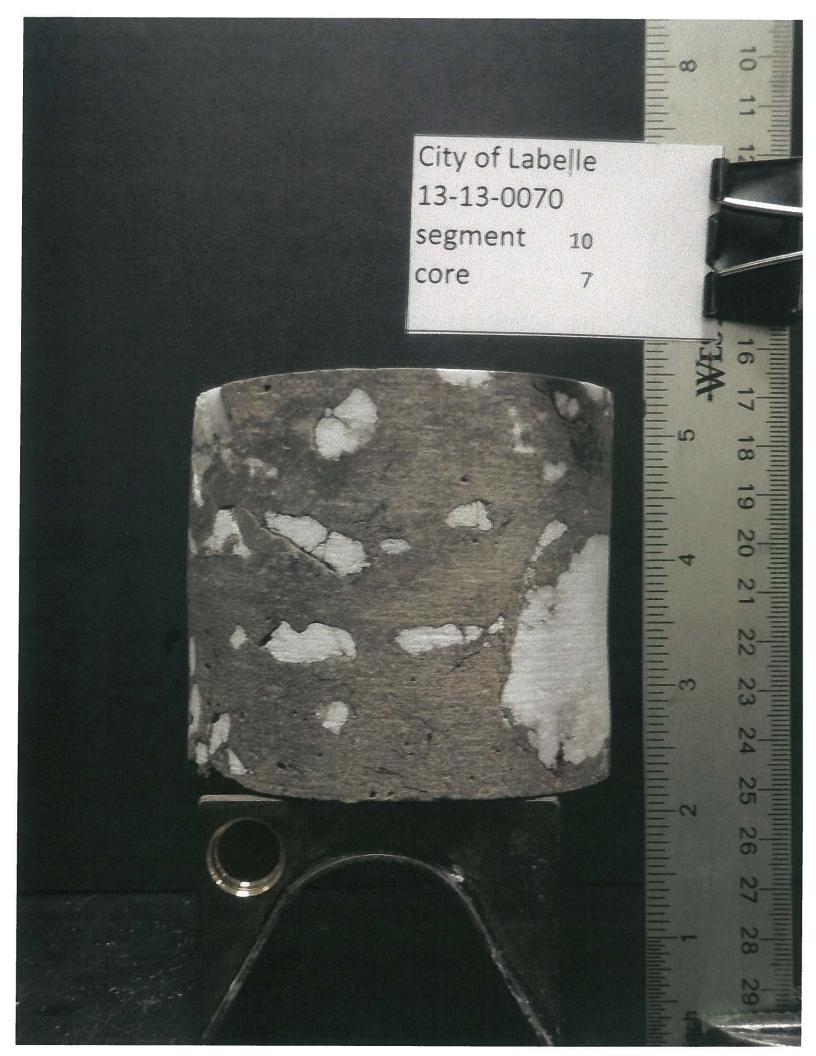


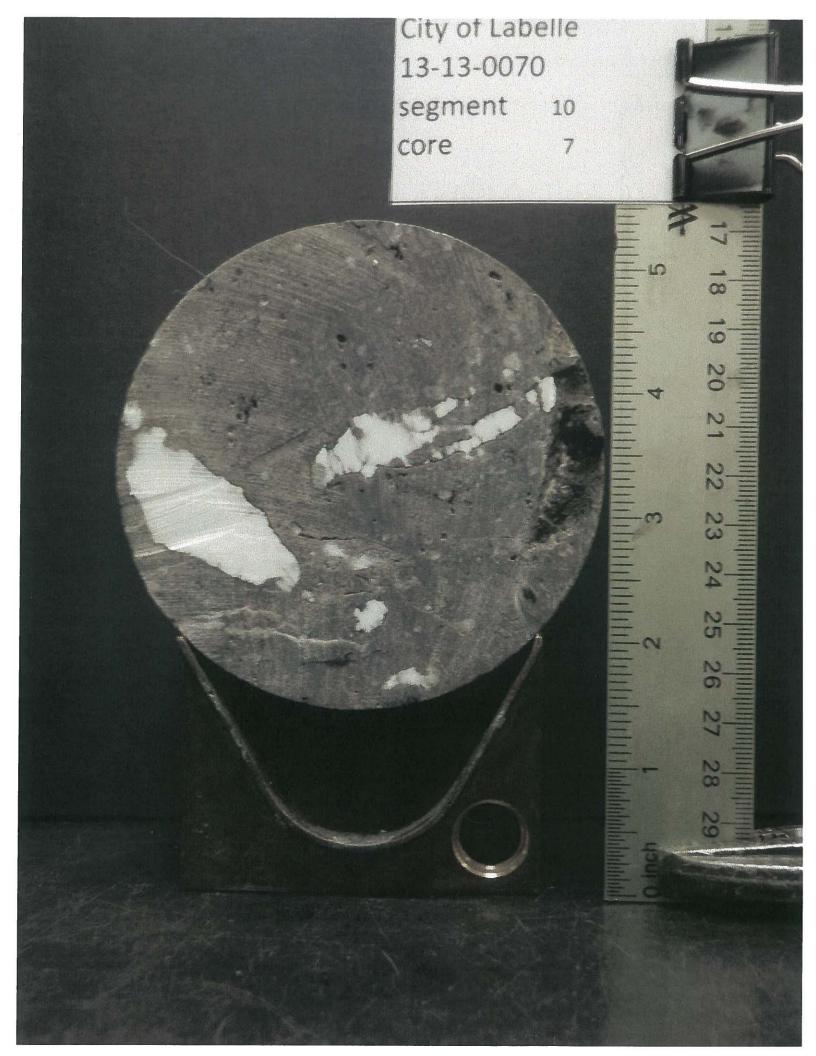


City of Labelle 13-13-0070 segment 8 core 19 23 25 26









CLIENT:Youngquist Brothers, Inc. PROJECT: City of LaBelle, Injection Well IW-1	Inc. ion Well IW-1	INCOMING LABORATORY SAMPLE NO.: SEGMENT 1, CORE 1 DEPTH: 2124.1'-2125.3'	NO.: SEGMENT 1, CORE 1
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/1-1V).: <u>130070/1-</u> 1V
DATE SAMPLE RECEIVED: <u>05/20/13</u>	:0/13 SET UP: 05/30/13	SAMPLE DESCRIPTION: <u>Light brown limestone</u>	n limestone
DATE REPORTED: <u>07/22/13</u>			
ASTM D5084 TEST METHOD:		SPECIMEN DATA:	
☑ A - Constant Head	ant Head	As-Received Diameter (inch): 4	
□ B - Falling	y Head; Constant Tailwater	As-Received Length (inch): 14.7/12.0*	Length Trimmed:
□ F - Const	☐ C - railing head, hishing Lailwater ☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	图 Vertical □ Horizontal
B-FACTOR: 86 (stable) %	☐ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, G _s : 2.73	☐ Assumed 图 Measured (ASTM D854)
	Δσ _c (psi):8, 16, 21	PERMEANT: 図 Deaired Tap Water ☐ Other	r 🗆 Other

		Initia	Initial Conditions	SI				Te	Test Conditions	ns		Fina	Final Conditions	S	Hydraulic
) (mp)	(c) (c)	(cm³)	w _c (%)),4 (pcf)	u	s (%)	δ _c (psi)	u _b (psi)	avg	Q (cm³)	t (days)	(6)	%) (%)	s %	Conductivity k ₂₀ (cm/sec)
10.02	10.02 79	790.31	16.8	114.7	0.327	95	30	160	26	2.3	-	1452.6	16.9	95	7.4E-06

COMMEN I S: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. *First length is total sample length. Second length is useable length at full core diameter. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: The Form SR-2B: Rev. 0

Date: 64|24|77

CLIENT:Youngquist Brothers, Inc.	lnc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 1, CORE 1	NO∴ SEGMENT 1, CORE 1
PROJECT: City of LaBelle, Injection Well IW-1	ion Well IW-1	DEPTH: <u>2124.1'-2125.3'</u>	
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/1-1H	.:_130070/1-1Н
DATE SAMPLE RECEIVED: 05/20/13	20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown limestone	limestone
DATE REPORTED: <u>07/22/13</u>			
ASTM D5084 TEST METHOD:		SPECIMEN DATA:	
	ant Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No
□ B - Fallin	□ B - Falling Head; Constant Tailwater	As-Received Length (inch): 14.7/12.0*	Length Trimmed: ☑ Yes ☐ No
□ F - Const	☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	☐ Vertical 图 Horizontal
B-FACTOR: 90 (stable) %	☐ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, G _s : 2.73	☐ Assumed 图 Measured (ASTM D854)
	Δσ _c (psi): 5, 11, 18	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other

		Initi	Initial Conditions	ns				Tŧ	Test Conditions	SŪ		Fins	Final Conditions	2	Hydraulic
H (cm)	D (cm)	V (cm³)	w _c (%)	γ _d (pcf)	u	s (%)	$\overline{\sigma}_{c}$ (psi)	(isd)	Bva	O (cm³)	t (days)	WDS (9)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.38	5.07	128.83	16.9	115.1	0.325	96	30	160	47	2.1	-	237.54	16.9	96	1.3E-05
COMMEN	TS: (1) Hor	izontal pem	neability tes	COMMENTS: (1) Horizontal permeability test specimen wa	was cross-	-cored fror	n the corres	s cross-cored from the corresponding vertical test specimen	rtical test s	pecimen					

*First length is total sample length. Second length is useable length at full core diameter.

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Where: H = Specimen height; D = Specimen diameter, V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; $\overline{\sigma}_c$ = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k_{20} = Saturated hydraulic conductivity at 20° C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 04/24/17

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 2, COBE 1	NO.: SEGMENT 2, CORE 1	
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: 2128.3'-2129.2'		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO: 130070/2-1V	:: 130070/2-1V	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 05/30/13	SAMPLE DESCRIPTION: Light brown limestone	limestone	
DATE REPORTED: 07/22/13			
ASTM D5084 TEST METHOD:	SPECIMEN DATA:		
图 A - Constant Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☐ Yes	SS IX
☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 10.7/9.0*		oN □ se
☐ C - Falling Head; Rising Tailwater			
☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	☑ Vertical	☐ Horizontal
B-FACTOR: 93 (stable) %	SPECIFIC GRAVITY, Gs. 2.75	☐ Assumed 图 Measured (ASTM D854)	
Δσ _c (psi): <u>8, 16, 21</u>	PERMEANT: 図 Deaired Tap Water ☐ Other_	□ Other	

		Initi	Initial Conditions	SL				Ĭ	Test Conditions	Su		Fine	Final Conditions	શ	Hvdraulic
H (cm)	(cm)	V (cm³)	w _c (%)	yd (pcf)	С	σ <u>%</u>	σ _c (psi)	u _b (psi)	lavg	O (cm³)	t (days)	WDS (g)	%) (%)	s %	Conductivity k ₂₀ (cm/sec)
10.17	10.04	805.15	13.3	124.0	0.277	95	30	160	26	6.1	-	1600.0	1600.0 13.4	96	4.9E-05
COMMEN	TS: (1) Cor	re sample w	vas cut to le	COMMENTS: (1) Core sample was cut to length, air-dried,	ed, deairec	1 under vac	Suum for a	ninimum o	deaired under vacuum for a minimum of 24 hours, and then	and then se	deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while	deaired tap	water from	the botto	m up while

maintaining the Vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. *First length is total sample length. Second length is useable length at full core diameter.

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Checked By: W

Date: Orlin

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 2, CORE 1	NO.: SEGMENT 2, CO	RE 1
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: <u>2128.3'-2129.2'</u>		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/2-1H	.: 130070/2-1H	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: <u>Light brown limestone</u>	limestone	
DATE REPORTED: <u>07/22/13</u>			
ASTM D5084 TEST METHOD: B. A - Constant Head B. B - Falling Head; Constant Tailwater C - Falling Head; Rising Tailwater C - Falling Head; Rising Tailwater F - Constant Volume; Falling Head - Rising Tailwater B-FACTOR: 90 (stable) %	SPECIMEN DATA: As-Received Diameter (inch): 4 As-Received Length (inch): 10.7/9.0* TEST SPECIMEN ORIENTATION: SPECIFIC GRAVITY, Gs: 2.75	Diameter Trimmed:	匿 Yes □ No 匿 Yes □ No 匿 Horizontal 2854)
Δσ _c (psl):5,11,18	PERMEANT: ☑ Deaired Tap Water ☐ Other	□ Other	

		Initi	Initial Conditions	Su				Ĭ	Test Conditions	SI		Fin	Final Conditions	S	Hydraulic
H (cm)	D (cm)	V (cm³)	w _c (%)	γ _d (pcf)	c	s (%)	යි (psi)	u _b (psi)	iavg	O (cm³)	t (days)	WDS (g)	w (%)	s (%)	Conductivity k_{20} (cm/sec)
6.30	5.07	127.04 13.4	13.4	122.9	0.284	93	30	160	22	5.8	-	250.18	13.4	93	3.4E-04
COMMEN *First leng	ITS: (1) Hor	rizontal perr ample lengt	meability tes	COMMENTS: (1) Horizontal permeability test specimen was cross-cored from the corresponding vertical test specimen. *First length is total sample length—Second length is useable length at full one diameter.	was cross	-cored fron	s cross-cored from the corresp	sponding ve	ertical test s	pecimen.					

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Checked By: Form SR-2B: Rev. 0

Date: 04/22/

CLIENT: Youngquist Brothers, Inc.	lnc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 3, CORE 2	NO∴ <u>SEGMENT 3, COI</u>	RE 2
PROJECT: City of LaBelle, Injection Well IW-1	on Well IW-1	DEPTH: 2208.2'-2209.0'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/3-2V	: 130070/3-2V	
DATE SAMPLE RECEIVED: 05/20/13	0/13 SET UP: 05/29/13	SAMPLE DESCRIPTION: Light brown limestone	limestone	
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	ant Head	As-Received Diameter (inch): 4	Diameter Trimmed:	☐ Yes ⊠ No
□ B - Falling	☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 10.7/8.5*	Length Trimmed:	⊠ Yes □ No
□ F - Const	⊔ C - railing Head; Kising Tailwater □ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	⊠ Vertical	☐ Horizontal
B-FACTOR: 90 (stable) %	□ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, Gs. 2.73	☐ Assumed 図 Measured (ASTM D854)	854)
	Δσ _c (psi): 7, 11, 17	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

		Init	nitial Conditions	ns				Ţ	Test Conditions	SI		Fine	Final Conditions	2	Hydraulic
π 🤅) ۵	> (, W _c	P,L		S	છું	ਤੰ		σ"	,	SQM	, Wc	S	Conductivity k ₂₀
(B)	(5)	(dn)	(%)	(pct)	=	(%)	(isd)	(lsd)	lavg	(cm²)	(days)	(B)	(%)	(%)	(cm/sec)
11.36	9.99	890.43	17.1	114.9	0.325	26	30	160	15	7.3	1	1640.1	17.1	26	1.1E-04
COMMEN	TS: (1) Co	re sample w	as cut to le	COMMENTS: (1) Core sample was cut to length, air-dried		under vac	in for a	minimin of	24 hours	and then sa	deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tan water from the bottom un while	deaired tan	Water from	the hotte	oliday on m

Commission (1) Oue sample was cut to lengin, an uned, dealled under vacuum of a minimum of 24 hours, and then saturated with dealred tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. Second length is useable length at full core diameter. *First length is total sample length.

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Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ̄_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Checked By: Form SR-2B: Rev. 0

Date: 04/22/177

CLIENT: Youngquist Brothers, Inc.	nc.	INCOMING LABORATORY SAMPLE NO.: <u>SEGMENT 3, CORE 2</u>	NO.: SEGMENT 3, COF	₹E 2
PROJECT: City of LaBelle, Injection Well IW-1	on Well IW-1	DEPTH: <u>2208.2'-2209.0'</u>		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/3-2H	.: 130070/3-2H	
DATE SAMPLE RECEIVED: 05/20/13	0/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown limestone	limestone	
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	int Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No	⊠ Yes □ No
☐ B - Falling	☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 10.7/8.5*	Length Trimmed:	⊠ Yes □ No
☐ C - Falling	Head; Rising Tailwater			
☐ F - Consta	□ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	☐ Vertical 图	图 Horizontal
B-FACTOR: 92 (stable) %	□ Beginning of Test; 函 End of Test	SPECIFIC GRAVITY, G _s : 2.73	☐ Assumed 図 Measured (ASTM D854)	854)
	Δσ _c (psi): 11, 19, 25	PERMEANT: 図 Deaired Tap Water ☐ Other_	□ Other	

		Initi	Initial Conditions	ns				ř	Test Conditions	SI		Fina	Final Conditions	SI	Hydraulic
H (cm)	D (cm)	V (cm³)	w _c (%)	7d (pcf)	u	s (%)	ō _c (psi)	u _b (psi)	iavg	O (cm³)	t (days)	WDS (g)	» (%	s (%)	Conductivity k ₂₀ (cm/sec)
6.51	5.07	131.17	16.9	115.2	0.323	26	30	160	41	6.1	-	242.26	17.1	98	8.9E-05
COMMEN	TS: /1) Ho	rizontal nam	no shilify to	OMMON STITUTE CONTROL OF THE CONTROL	00000	0000	4	1 2 2							

COMMEN I S. (1) Horizontal permeability test specimen was cross-cored from the corresponding vertical test specimen. *First length is total sample length. Second length is useable length at full core diameter. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

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Checked By: W Sorm SR-2B: Rev. 0

Date: 07/24/17

CLIENT: Youngquist Brothers, Inc.	lnc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 4, CORE 3	NO∴ SEGMENT 4, CO	RE 3
PROJECT: City of LaBelle, Injection Well IW-1	on Well IW-1	DEPTH: 2325.8'-2326.8'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/4-3V	:: 130070/4-3V	
DATE SAMPLE RECEIVED: 05/20/13	0/13 SET UP: 06/03/13	SAMPLE DESCRIPTION: Light brown limestone	limestone	
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	ant Head	As-Received Diameter (inch): 4	Diameter Trimmed:	☐ Yes 図 No
☐ B - Fallinç	☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 12.0/9.5*	Length Trimmed:	⊠ Yes □ No
	☐ C - Falling Head; Kising Tailwater ☐ E Constant Molumo: Folling Dood Bising Tailunder			
	☐ F - Constaint volune, Falling nead - Rising Tallwater	IEVI VPECIMEN ORIENIALION:	× Vertical	☐ Horizontal
B-FACTOR: 94 (stable) %	☐ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, G _s : 2.73	☐ Assumed 図 Measured (ASTM D854))854)
	Δσ _c (psi): 5, 12, 19	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

	Initi	Initial Conditions	SI				ř	Test Conditions	sus		Fins	Final Conditions	S	Hydraulic
H D (cm)	ر (مسعً)	w _c (%)	(pd) P,L	u	s (%)	δ _c (psi)	u _b (isd)	iavg	Q (cm³)	t (days)	SQW (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
10.64 10.04	842.60	11.7	128.0	0.248	96	30	160	18	2.1	-	1728.7	11.7	26	1.3E-05

COMMENIS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. Second length is useable length at full core diameter. *First length is total sample length.

electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc. Physical and The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client.

Where: H = Specimen height; D = Specimen diameter, V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Kev. 0

Date: 07-12/17

CLIENT: Youngquist Brothers, Inc.		INCOMING LABORATORY SAMPLE NO.: SEGMENT 4, CORE 3	NO.: SEGMENT 4, COR	E 3
PROJECT: City of LaBelle, Injection Well IW-1	IW-1	DEPTH: 2325.8'-2326.8'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/4-3H	.: 130070/4-3H	
DATE SAMPLE RECEIVED: 05/20/13	SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown limestone	limestone	
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head		As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No	g Yes □ No
☐ B - Falling Head; Constant Tailwater	Sonstant Tailwater	As-Received Length (inch): 12.0/9.5*	Length Trimmed: B	⊠ Yes □ No
☐ C - Falling Head; f	Rising Tailwater			
☐ F - Constant Volur	□ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	□ Vertical 🗵	图 Horizontal
B-FACTOR: <u>94 (stable)</u> % □ Be _C ⊠ Enc	□ Beginning of Test; 函 End of Test	SPECIFIC GRAVITY, G _s : 2.73	☐ Assumed 图 Measured (ASTM D854)	354)
Δσ _c (psi):	si):_5, 10, 17	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

		Initi	Initial Conditions	ns				ľ	Fest Conditions	Su		Fins	Final Conditions	δ	Hydraulic
H (cm)	Cm)	(cm³)	w _c (%)	γ _d (pcf)	u	s (%)	σ _c (psi)	(isd)	lavg	Cm ³)	t (days)	WDS (g)	%) (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.65	5.07	134.02	11.7	128.6	0.245	86	30	160	38	1.5	-	276.16	11.7	86	1.3E-05
COMMEN	TS: (1) Ho	COMMENTS: (1) Horizontal permeability test	meability te	COMMENTS: (1) Horizontal permeability test specimen was	was cross	-cored fror	n the corre	sponding ve	is cross-cored from the corresponding vertical test specimen.	pecimen.					

*First length is total sample length. Second length is useable length at full core diameter.

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Checked By: Form SR-2B: Rev. 0

Date: 07/24/10

CLIENT: Youngquist Brothers, Inc.	Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 5, CORE 4	NO.: SEGMENT 5, CO	RE 4
PROJECT: City of LaBelle, Injection Well IW-1	on Well IW-1	DEPTH: <u>2401.7</u> '-2402.1'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/5-4H).: 130070/5-4H	
DATE SAMPLE RECEIVED: <u>05/20/13</u>	:0/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown dolomitic limestone with vugs	dolomitic limestone wi	th vugs
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	ant Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No	⊠ Yes □ No
□ B - Fallinç	☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 4.5/3.5*	Length Trimmed:	✓ No
□ C - railin □ F - Const	⊔ C - Falling Head; Hising Tallwater □ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	□ Vertical	图 Horizontal
B-FACTOR: 86 (stable) %	☐ Beginning of Test; 区 End of Test	SPECIFIC GRAVITY, Gs: 2.85	☐ Assumed	3
			Measured (ASTM D834)	7834)
	Δσ _c (psi):_5, 11, 18	PERMEANT: ☒ Deaired Tap Water ☐ Other	· 🗆 Other	

		Init	Initial Conditions	us				F	Test Conditions	SU		Fin	Final Conditions	દ્ય	Hydraulic
H (cm)	(cm)	(cm³)	, w _c (%)	γ _d (pcf)	u	σ (%	ō _c (psi)	u _b (psi)	iavg	o (cm ₃)	t (days)	WDS (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.38	5.07	128.81	8.4	141.2	0.206	85	30	160	23	2.2	-	291.41	8.5	93	9.5E-05
COMMEN*	TS: (1) Hor	rizontal pen ample lengi	meability te	COMMENTS: (1) Horizontal permeability test specimen was cross-cored from the corresponding vertical test specimen. *First length is total sample length. Second length is useable length at full core diameter.	was cross	-cored fror	n the corre	sponding v	ertical test s	pecimen.					

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 042/12

CLIENT: Youngquist Brothers, Inc.	nc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 5, CORE 4	NO.: SEGMENT 5, CO	RE 4
PROJECT: City of LaBelle, Injection Well IW-1	on Well IW-1	DEPTH: <u>2401.7</u> '-2402.1'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/5-4V).: 130070/5-4V	
DATE SAMPLE RECEIVED: 05/20/13	0/13 SET UP: 05/29/13	SAMPLE DESCRIPTION: Light brown dolomitic limestone with vugs	dolomitic limestone wi	th vuas
DATE REPORTED: <u>07/22/13</u>				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	ant Head	As-Received Diameter (inch): 4	Diameter Trimmed:	☐ Yes ⊠ No
☐ B - Falling	☐ B - Falling Head; Constant Tailwater ☐ C - Falling Head: Bising Tailwater	As-Received Length (inch): 4.5/3.5*	Length Trimmed:	⊠ Yes □ No
☐ F - Constant Volume; F	not Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	🗷 Vertical	☐ Horizontal
B-FACTOR: 95 (stable) %	☐ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, G _s : <u>2.85</u>	☐ Assumed 图 Measured (ASTM D854))854)
	Δσ _c (psi): 7, 11, 17	PERMEANT: 図 Deaired Tap Water ☐ Other	· 🗆 Other	

		Initi	Initial Conditions	SL				F	Test Conditions	Su		Fing	Final Conditions	જ	Hydraulic
H (cm)	D (cm)	V (cm³)	%) (%)	7d (pcf)	c	s (%)	ر ود (psi)	(isd)	iavg	Cm ³)	t (days)	WDS (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
8.16	10.03	10.03 643.72	8.4	138.6	0.221	85	30	160	24	2.6	-	1429.7	8.5	98	2.2E-05
COMMEN	TS: (1) Col	re sample w	vas cut to le	COMMENTS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with a maintaining the vacuum (2) Final we from horizontal permeability, took experience. WINS calculated from the vacuum (2)	ed, deairec	1 under va	cuum for a	minimum o	f 24 hours, a	and then sa	deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while	deaired tap	water from	the botto	m up while

niaminaming ure vacuum. (z/ rimat we from norizonial permeability test specimen. WDS calculated from measured wet mass and final we. *First length is total sample length. Second length is useable length at full core diameter.

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 0422/02

CLIENT: Youngquist Brothers, Inc.	nc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 6, CORE 4	NO.: SEGMENT 6, CO	RE 4
PROJECT: City of LaBelle, Injection Well IW-	on Well IW-1	DEPTH: 2407.5'-2408.4'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/6-4V	. 130070/6-4V	
DATE SAMPLE RECEIVED: 05/20/13	0/13 SET UP: 05/30/13	SAMPLE DESCRIPTION: <u>Light brown to brown limestone</u>	to brown limestone	
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
☑ A - Constant Head	int Head	As-Received Diameter (inch): 4	Diameter Trimmed:	☐ Yes ⊠ No
□ B - Falling	☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 11.5/9.0*	Length Trimmed:	⊠ Yes □ No
☐ C - Falling Head; Risir	Head; Rising Tailwater			
☐ F - Constant Volume;	int Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	☑ Vertical	☐ Horizontal
B-FACTOR: 94 (stable) %	☐ Beginning of Test; 区 End of Test	SPECIFIC GRAVITY, G _s : 2.75	☐ Assumed 図 Measured (ASTM D854))85 4)
	Δσ _c (psi):_8, 16, 21	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

		Initi	Initial Conditions	ns			i	Ţ	Test Conditions	suc		Fins	Final Conditions	<u>s</u>	Hydraulic
(ma)	D (cm)	(cm³)	(%) M°	hy (pcf)	c	s (%)	ο̄ _c (psi)	u _b (isd)	javg	Q (cm³)	t (days)	(6)	%) (%)	s (%)	Conductivity k ₂₀ (cm/sec)
9.81	9.84	746.04	14.9	120.5	0.298	62	30	160	26	1.3	-	1440.4	14.9	26	1.5E-05

COMMENTS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we *First length is total sample length. Second length is useable length at full core diameter. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 0420

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 6, CORE 4	NO.: SEGMENT 6, CORI	E 4
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: 2407.5'-2408.4'		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/6-4H	:: 130070/6-4H	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown to brown limestone	to brown limestone	
DATE REPORTED: 07/22/13			
ASTM D5084 TEST METHOD:	SPECIMEN DATA:		
☑ A - Constant Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No	I Yes □ No
☐ B - Falling Head; Constant Tailwater ☐ C - Falling Head: Rising Tailwater	As-Received Length (inch): 11.5/9.0*	Length Trimmed:	⊠ Yes □ No
☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	□ Vertical 区	图 Horizontal
B-FACTOR: <u>91 (stable)</u> % ☐ Beginning of Test; 図 End of Test	SPECIFIC GRAVITY, Gs. 2.75	☐ Assumed 図 Measured (ASTM D854)	54)
Δσ _c (psi): 9, 16, 21	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

		Init	Initial Conditions	ns				Ţ	Test Conditions	SI		Fins	Final Conditions	ω ω	Hydraulic
H (cm)	G (cm)	V (cm³)	w _c (%)	ya (pcf)	u	s (%)	δ _c (psi)	u _b (psi)	iave	Gm ³)	t (days)	WDS (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.13	5.07	123.63	14.9	119.4	0.304	94	30	160	48	4.1	-	236.52	14.9	94	3.0E-05
COMMEN	ITS: (1) Ho	rizontal pen	COMMENTS: (1) Horizontal permeability test specim	COMMENTS: (1) Horizontal permeability test specimen was	was cross	as cross-cored fror	n the corre	as cross-cored from the corresponding vertical test specimen.	ertical test s	pecimen.					

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc. *First length is total sample length. Second length is useable length at full core diameter.

Where: H = Specimen height; D = Specimen diameter, V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{sot} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity, and G_s = Specific gravity.

Checked By: Physical Physical Porm SR-2B: Rev. 0

Date: 04/24/19

S:\PROJECTS\2013\13-13-0070\FORM SR-2B REV, 3.DOCX

CLIENT: Youngquist Brothers, Inc.		INCOMING LABORATORY SAMPLE NO.: SEGMENT 7. CORE 5	NO: SEGMENT 7. CC	ORES
PROJECT: City of LaBelle, Injection Well IW-1		DEPTH: 2482.3'-2483.2'		
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO: 130070/7-5V	:: 130070/7-5V	
DATE SAMPLE RECEIVED: 05/20/13	SET UP: 06/03/13	SAMPLE DESCRIPTION: Light brown limestone with trace anhydrite lenses	limestone with trace	anhydrite lenses
DATE REPORTED: 07/22/13				
ASTM D5084 TEST METHOD:		SPECIMEN DATA:		
		As-Received Diameter (inch): 4	Diameter Trimmed:	□ Yes ⊠ No
☐ B - Falling Head; Constant Tailwater	tant Tailwater	As-Received Length (inch): 10.0/8.5*	Length Trimmed:	Ma Yes □ No
☐ C - Falling Head; Rising Tailwater	g Tailwater			
☐ F - Constant Volume; F	□ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	X Vertical	☐ Horizontal
B-FACTOR: 93 (stable) % 🗆 Beginning of Test; 🗷 End of Test	ng of Test; Fest	SPECIFIC GRAVITY, Gs: 2.80	☐ Assumed 図 Measured (ASTM D854)	D854)
Δσ _c (psi): <u>5, 12, 19</u>	5, 12, 19	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

		Initi	Initial Conditions	SI				ľ	Test Conditions	ST.		Fins	Final Conditions	દ્ય	Hydraulic
н (сш)	D (cm)	v (cm³)	%) (%)	ya (pcf)	c	s (%)	σ̄ _c (psi)	u _b (psi)	avg	O (cm ³)	t (days)	SDW (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
10.11	10.04	799.76	8.4	136.7	0.218	84	30	160	22	1.3	-	1751.5	8.4	84	5.9E-06
COMMEN	ITS: (1) Co.	Point tip through the some clames and (1) (SINEWHO)	01 04 41.0 001	in the day											

COMMEN IS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final w, from horizontal permeability test specimen. WDS calculated from measured wet mass and final w. Second length is useable length at full core diameter. *First length is total sample length.

electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 04/22/12

C:DOCUMENTS AND SETTINGS/LAN.WILDMAN/DOCUMENTS/PROJECTS/11/13-13-0003/FORM SR-2B REV. 1.DOCX

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 7, CORE 5	NO.: SEGMENT 7, CORE	D.
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: 2482.3'-2483.2'		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/7-5H).: 130070/7-5H	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown limestone with trace anhydrite lenses	limestone with trace anhyd	drite lenses
DATE REPORTED: <u>07/22/13</u>			
ASTM D5084 TEST METHOD:	SPECIMEN DATA:		
☑ A - Constant Head	As-Received Diameter (inch): 4	Diameter Trimmed: 医Y	⊠ Yes □ No
☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 10.0/8.5*	Length Trimmed:	ĭ Yes □ No
☐ C - Falling Head; Kising Laliwater			
☐ F - Constant Volume; Falling Head - Hising Lallwater	TEST SPECIMEN ORIENTATION:	☐ Vertical 图 Hc	☑ Horizontal
B-FACTOR: <u>79 (stable)</u> % □ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, Gs. 2.80	☐ Assumed 図 Measured (ASTM D854)	(4
Δσ _c (psi): <u>8, 15, 22, 30</u>	PERMEANT: ☑ Deaired Tap Water ☐ Other	∵ □ Other	

		Initi	Initial Conditions	ns Ins				ř	Test Conditions	S S		Fina	Final Conditions	s	Hydraulic
H (cm)	Cm)	ر (cm³)	w _c (%)	γ _d (pcf)	u	s (%)	ர _் (psi)	u _b (psi)	lavg	Cm ³)	t (days)	SQM (6)	% (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.61	5.07	133.51	8.4	138.4	0.208	89	30	160	52	2.3	3	296.16	8.4	68	5.6E-06
COMMEN	TS: (1) Ho	izontal perr	neability tes	COMMENTS: (1) Horizontal permeability test specimen was	was cross	-cored fror	n the corre	sponding ve	ss cross-cored from the corresponding vertical test specimen.	pecimen.					

*First length is total sample length. Second length is useable length at full core diameter.

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 0422/09

CLIENT: Youngquist Brothers, Inc. PROJECT: City of LaBelle, Injection Well IW-1	ic. n Well IW-1	INCOMING LABORATORY SAMPLE NO.: <u>SEGMENT 8, CORE 6</u> DEPTH: <u>2488.2'-2488.9'</u>	NO.: SEGMENT 8, CC	NE 6
FILE NO.: 13-13-0070 DATE SAMPLE RECEIVED: 05/20/13	/13 SET UP: 05/29/13	LABORATORY IDENTIFICATION NO.: 130070/8-6V SAMPLE DESCRIPTION: Brown limestone with anhydrite lenses	:: 130070/8-6V stone with anhydrite le	nses
DATE REPORTED: <u>07/22/13</u>				
ASTM D5084 TEST METHOD:	METHOD: A - Constant Head B - Falling Head; Constant Tailwater C - Falling Head; Rising Tailwater F - Constant Volume; Falling Head - Rising Tailwater Beginning of Test; E End of Test Δσ _c (psi): 7, 11, 17	SPECIMEN DATA: As-Received Diameter (inch): 4 Diameter As-Received Length (inch): 8.5/7.0* Length T TEST SPECIMEN ORIENTATION: ☑ Vertica SPECIFIC GRAVITY, G₅: 2.87 ☑ Assum ☑ Measu PERMEANT: ☒ Deaired Tap Water ☐ Other	Diameter Trimmed: □ Ye Length Trimmed:	☐ Yes 區 No 區 Yes ☐ No ☐ Horizontal ☐ B554)

		Initi	Initial Conditions	Su				Ĭ	Test Conditions	Suc		Fin	Final Conditions	S	Hydraulic
ΞŒ	<u>∂</u>	(cm ³)	%) (%)	γ _d (pcf)	u	s (%)	റ് റ	u _b		O (Em3)	t (dave)	SOM	w _c	တ ်	Conductivity k ₂₀ (cm/sec)
7.76	10.01	10.01 610.55	1.9	158.9	0.113	4	30	160	30	1.9	1	1555.1	2.0	46	1.4E-07
1,440	() () () L			O AN OCTALINATION]].								1

COMMEN IS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final w_c from horizontal permeability test specimen. WDS calculated from measured wet mass and final w_c. Second length is useable length at full core diameter. *First length is total sample length.

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B; Rev. 0

ate: 071212

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO∴ SEGMENT 8, CORE 6	NO.: SEGMENT 8, COR	E 6
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: <u>2488.2'-2488.9'</u>		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/8-6H	.: 130070/8-6Н	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Brown limestone with anhydrite lenses	stone with anhydrite lens	es
DATE REPORTED: 07/22/13			
ASTM D5084 TEST METHOD:	SPECIMEN DATA:		
☑ A - Constant Head	As-Received Diameter (inch): 4	Diameter Trimmed: ☒ Yes ☐ No	∃Yes □ No
☐ B - Falling Head; Constant Tailwater ☐ C - Falling Head: Rising Tailwater	As-Received Length (inch): 8.5/7.0*	Length Trimmed: B	× Yes □ No
☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	□ Vertical	图 Horizontal
B-FACTOR: <u>74 (stable)</u> % □ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, G _s : 2.87	☐ Assumed 区 Measured (ASTM D854)	154)
Δσ _c (psi): <u>6, 13, 19, 28</u>	PERMEANT: ☑ Deaired Tap Water ☐ Other	□ Other	

		Initi	Initial Conditions	Su				Te	Test Conditions	Su		Fins	Final Conditions	2	Hydraulic
H (cm)	D (cm)	V (cm³)	w _c (%)	y _d (pcf)	c	s (%)	δ _c (psi)	(isd) ⁹ n	gve	O (cm³)	t (days)	WDS (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.70		5.07 135.27	2.0	161.3	660'0	53	30	160	47	1.5	ო	349.71	2.0	53	2.0E-08
COMMEN	ITS: (1) Ho	rizontal per	COMMENTS: (1) Horizontal permeability test specimen was cross-cored from the corresponding vertical test specimen.	st specimen	was cross	-cored fror	n the corre	sponding ve	ertical test s	pecimen.					

First length is total sample length. Second length is useable length at full core diameter.

electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc. Physical and The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 9, CORE 6	RE 6
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: 2495.2'-2496.2'	
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/9-6V	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 05/29/13	SAMPLE DESCRIPTION: Light brown dolomitic limestone	
DATE REPORTED: 07/22/13		
ASTM D5084 TEST METHOD:	SPECIMEN DATA:	
函 A - Constant Head	As-Received Diameter (inch): 4 Diameter Trimmed:	□ Yes 🗷 No
☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 12.0/11.0*	
☐ C - Failing head, hising Failwater ☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION: 国 Vertical	☐ Horizontal
B-FACTOR: 93 (stable) % ☐ Beginning of Test; 图 End of Test	SPECIFIC GRAVITY, Gs. 2.82)854)
Δσ _c (psi): 5, 12, 18	- PERMEANT: ☑ Deaired Tap Water ☐ Other	

		Initi	Initial Conditions	SL	i			ř	Test Conditions	SU		Fig	Final Conditions	S	Hydraulic
± (mo)	Cm)	(cm ₃)	(%) %	(jod) P,(c	s (%)	ਰੂ (psi)	u _b (psi)	javg	Gm ³)	t (days)	SQW (g)	w _c (%)	s (%)	Conductivity k ₂₀ (cm/sec)
7.26	10.02 571.87	571.87	10.8	131.7	0.252	06	30	160	30	1.3	-	1207.1	10.9	92	3.9E-06

Comment of the sample was cut to length, an unled, dealled under vacuum for a minimum of 24 hours, and then saturated with dealred tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. *First length is total sample length. Second length is useable length at full core diameter The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc. Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity;

and G_s = Specific gravity.

Checked By:
Form SR-2B: Rev. 0

Date: 04/24/22

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 9, CORE 6
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: <u>2495.2</u> '-2496.2'
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/9-6H
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Light brown dolomitic limestone
DATE REPORTED: 07/22/13	
ASTM D5084 TEST METHOD: ■ A - Constant Head □ B - Falling Head; Constant Tailwater □ C - Falling Head; Rising Tailwater □ F - Constant Volume; Falling Head - Rising Tailwater B-FACTOR: 97	SPECIMEN DATA: As-Received Diameter (inch): 4 Diameter Trimmed: E Yes No As-Received Length (inch): 12.0/11.0* Length Trimmed: E Yes No TEST SPECIMEN ORIENTATION: Vertical E Horizontal SPECIFIC GRAVITY, Gs: 2.82 Assumed Assumed E Measured (ASTM D854)
Δσ _c (psi): 11, 19, 25	PERMEANT: ☑ Deaired Tap Water ☐ Other

		Initi	Initial Conditions	SU				ř	Fest Conditions	SI		Fina	Final Conditions	S	Hydraulic
(cm)	(cm)	V (cm³)	w _c (%)	y _d (pcf)	u	s (%)	ō̄ _c (psi)	u _b (psi)	lavg	O (em ₃)	t (days)	(6)	%) (%)	s (%)	Conductivity k ₂₀ (cm/sec)
6.71	2.07	135.66	10.5	131.7	0.252	88	30	160	40	1.4	_	286.32	10.9	85	7.2E-06
COMMEN	TS: (1) Ho	rizontal perr	neability tea	COMMENTS: (1) Horizontal permeability test specimen was	was cross	-cored fror	n the corres	sponding ve	cross-cored from the corresponding vertical test specimen.	pecimen.					

*First length is total sample length. Second length is useable length at full core diameter.

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{avg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 04 22/12

CLIENT: Youngquist Brothers, Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 10, CORE 7	NO∴ <u>SEGMENT 10, COR</u> I	E 7
PROJECT: City of LaBelle, Injection Well IW-1	DEPTH: <u>2588.8'-2589.5</u> '		
FILE NO.: 13-13-0070	LABORATORY IDENTIFICATION NO.: 130070/10-7V	:: 130070/10-7V	
DATE SAMPLE RECEIVED: 05/20/13 SET UP: 05/29/13	SAMPLE DESCRIPTION: Brownish-gray dolomitic limestone with anhydrite	ray dolomitic limestone wit	h anhydrite
DATE REPORTED: 07/22/13	enses		
ASTM D5084 TEST METHOD:	SPECIMEN DATA:		<u> </u>
☐ B - Falling Head; Constant Tailwater	As-Received Length (inch): 9.0/8.5*	Length Trimmed:	N C S C S C S C S C S C S C S C S C S C
☐ C - Falling Head; Rising Tailwater ☐ F - Constant Volume; Falling Head - Rising Tailwater	TEST SPECIMEN ORIENTATION:	⊠ Vertical □ F	☐ Horizontal
B-FACTOR:% ☐ Beginning of Test; ☐ End of Test	SPECIFIC GRAVITY, Gs. 2.87	☐ Assumed 區 Measured (ASTM D854)	4
Δσ _c (psi):	PERMEANT: 図 Deaired Tap Water ☐ Other	□ Other	

	Initial Conditions				Te	Test Conditions	SUS		Fine	Final Conditions	S	Hydraulic
$\begin{array}{cccc} H & D & V & w_c \\ (cm) & (cm) & (cm^3) & (\%) \end{array}$)ya P,(u	s (%)	ō _c (psi)	u _b (isd)	iavg	Q (cm³)	t (days)	WDS (6)	w _c (%)	s %	Conductivity k ₂₀ (cm/sec)
8.73 10.07 694.93 1.1	169.2	0.055	99	8	160	78	2.1	1	1883.4	1.4	89	1.9E-08

COMMEN IS: (1) Core sample was cut to length, air-dried, deaired under vacuum for a minimum of 24 hours, and then saturated with deaired tap water from the bottom up while maintaining the vacuum. (2) Final we from horizontal permeability test specimen. WDS calculated from measured wet mass and final we. Second length is useable length at full core diameter. *First length is total sample length. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{svg} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k_{2σ} = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 04/2/19

CLIENT: Youngquist Brothers, Inc.	Inc.	INCOMING LABORATORY SAMPLE NO.: SEGMENT 10, CORE 7	NO.: SEGMENT 10, CORE 7
PROJECT: City of LaBelle, Injection Well IW-1	tion Well IW-1	DEPTH: 2588.8'-2589.5'	
FILE NO.: 13-13-0070		LABORATORY IDENTIFICATION NO.: 130070/10-7H).: 130070/10-7H
DATE SAMPLE RECEIVED: 05/20/13	20/13 SET UP: 06/09/13	SAMPLE DESCRIPTION: Brownish-g	SAMPLE DESCRIPTION: Brownish-gray dolomitic limestone with anhydrite
DATE REPORTED: 07/22/13		lenses	
ASTM D5084 TEST METHOD: MA - Constant Head DB - Falling Head; C C - Falling Head; R C - Falling Head; R DF - Constant Volum B-FACTOR: 89 (stable) % Degi	METHOD: ☑ A - Constant Head ☐ B - Falling Head; Constant Tailwater ☐ C - Falling Head; Rising Tailwater ☐ F - Constant Volume; Falling Head - Rising Tailwater	SPECIMEN DATA: As-Received Diameter (inch): 4 As-Received Length (inch): 9.0/8.5* ailwater TEST SPECIMEN ORIENTATION: SPECIFIC GRAVITY, Gs: 2.87	Diameter Trimmed:
	焰 End of Test Δσ _c (psi): <u>9, 16, 21</u>	窗 Measu	Measured (ASTM D854) □ Other

		lnit	Initial Conditions	SU				Ţ	Test Conditions	Sui		Fin	Final Conditions	ડા	Hydraulic
H (cm)	α (m ₀)	(cm³)	w _c (%)	Ya (pcf)	u	(%) S	σ _c (psi)	(isd)	i avg	(cm ₃)	t (days)	WDS (9)	w _c (%)	s %	Conductivity k ₂₀ (cm/sec)
6.35	5.07	128.31	1.4	168.9	0.057	64	30	160	46	2.9	ю	347.27	1.4	99	1.8E-08

COMMENTS: (1) Horizontal permeability test specimen was cross-cored from the corresponding vertical test specimen. *First length is total sample length. Second length is useable length at full core diameter. The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter, V = Volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; σ_c = Isotropic effective confining stress; u_b = Back-pressure; i_{sop} = Average hydraulic gradient; Q = Flow volume; t = Test duration; k₂₀ = Saturated hydraulic conductivity at 20°C; n = Total porosity; and G_s = Specific gravity.

Checked By: Form SR-2B: Rev. 0

Date: 04|22|12

S:VPROJECTSV2013\13-13-0070VFORM SR-2B REV. 3.DOCX

CLIENT: Youngquist Brothers, Inc.	INCOMING SAMPLE NO.: Segment 1, Core 1
PROJECT: City of LaBelle, Injection Well IW-1	BORING: - SAMPLE: -
FILE NO.: 13-13-0070	_ DEPTH: 2124.1-2125.3 ⊠ ft; □ m
	LABORATORY IDENTIFICATION NO.: 130070/1-1
DATE SAMPLE RECEIVED: 05/20/13	_ SAMPLE DESCRIPTION: Light brown limestone
DATE TEST SET-UP: 06/04/13	_
DATE REPORTED: 07/22/13	_

Specin	men Dimer	nsions	Initi	al Conditi	ons	Rate of I	Loading	Time to	Unconfined	Young's	Modulus
H (cm)	D (cm)	H/D	w _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, $\sigma_a(ult)$ (lb/in ²)	Tangent Modulus, E ₅₀ (lb/in²)	Ratio [E ₅₀ / σ_a (ult
20.75	9.95	2.1	4.7	124.1	34	0.028	0.13	2.2	3,237	1.4E06	432
									TEST	PROCEDURE	S
250	0.0								ASTM Standard I for specimen prepair Temperature Capping Material Comments:	oaration (°C): <u>20.1</u> ☐ None ☑ Lab-St	
200	0.0	•								EN PREPARA	
150	0.0								Original Core Dia Specimen Sub-Co ☐ Yes ☑ No		
AXIAL STRESS (tsf)									☑ <u>0.029"</u> : Doe	riterion of ≤ 0.02 es Not Satisfy C	20 inches criterion
AXIAL ST	0.0									riterion of ≤ 0.43 s Not Satisfy C	3% riterion
50	0.0								■ Specimen (Capped – Not A riterion of ≤ 0.00	pplicable
n									G _s : 2.73	□ Assum ☑ Measu	
		0.2 0	4 0.6		1.0	1.2 1.4	1.6	1.8 2.0	FAII	LURE SKETCH	
				A^Ir	AL OT IVAIN	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		į		Z	

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Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; & = Vertical displacement rate; G_s = Specific gravity; and E₅₀ = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By:

Date: 04 22/25

CLI	ENT:	: Yo	oungquity of I	<u>iist Brot</u> aBelle	thers, Ind Injection	c. Well!				IPLE NO.: <u>Seg</u> - SAMF		re 1
FILE	E NC).: <u> </u>	3-13-00	070				DEPTH	H: <u>2128.3-</u>			⊠ ft; □ m
DAT	TE TI	EST S	ET-UP	P: <u>06/0</u>		13				RIPTION: Light		
DAT	ΓE R	EPOR	RTED:_	07/22 <i>i</i> ·	13							
Spe	ecime	n Dimer	nsions	Init	ial Conditi	ons	Rate of	Loading	Time to	Unconfined Compressive	Young's Tangent	Modulus
H (cm		D (cm)	H/D	W _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Strength, $\sigma_a(\text{ult}) (\text{lb/in}^2)$	Modulus, E ₅₀ (lb/in ²)	Ratio [E ₅₀ / σ_a (ult)]
10.5	7	5.07	2.1	7.8	123.3	54	0.025	0.23	0.9	2,280	1.3E06	570
											T PROCEDURE	·
	180.0								T1	ASTM Standard I for specimen preparture (Capping Material:	paration (°C): <u>19.7</u> : □ None ⊠ Lab-St	tone
	100.0											
	160.0											
	140.0		-							SPECIM	MEN PREPARA	TION
	120.0		•							Original Core Dial Specimen Sub-Co ☑ Yes ☐ No	meter (inch): ored for Testing	<u>4</u> j:
ESS (tsf)	100.0										traightness (Pro riterion of ≤ 0.02 es Not Satisfy 0	20 inches
AXIAL STRESS (tsf)	80.0									Specimen Side P	arallelism (Prod riterion of ≤ 0.43	cedure P2) 3%
₹	60.0										es Not Satisfy C atness (Proced)	
	40.0									☑ Specimen (☐ Satisfies Ci	Capped – Not A riterion of ≤ 0.00	Applicable 01 inches
	20.0										Satisfy Criterion ————————————————————————————————————	
	0.0		<u> </u>							G _s : <u>2.75</u>	☐ Assum ☑ Measu	
	C	0.0 (0.2 0).4 0.6		1.0 AL STRAIN	1.2 1.4	1.6	1.8 2.0	FAII	LURE SKETCH	1
The tes	ot data	and all		d project in				a hald in confir	dense and disc	closed to other parties	Showith the qu	At-circuit on of the
Client.	Physi	ical and	electronic	records of	f each proje	ect are ke	ept for a minimu	um of 7 years.	Test samples	s are kept in storage in accepted by Ardaman	for at least 10 wo	orking days after

Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; $\dot{\epsilon}$ = Vertical displacement rate; G_s = Specific gravity; and E_{50} = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

PR	OJE	Γ: <u>Υα</u> CT: <u>Ci</u> O.: <u>13</u>	ty of La	ist Brot aBelle, I	hers, In njection	c. n Well I	W-1	BORIN	/IING SAM IG: H:_2208.2-:	IPLE NO.: <u>Seg</u> SAMF 2209 0	ment 3, Cor PLE:	e 2 ⊠ ft; □ m
DA ⁻	TE S TE T	SAMPL TEST S	E REC ET-UP		5/13	/13		LABOR	RATORYI	DENTIFICATIO RIPTION: Light	N NO.: 1300 brown limes	70/3-2
Spe	ecime	en Dimer	sions	Initi	al Condit	ions	Rate of I	Loading	Time to	Unconfined Compressive	Young's	Modulus
H (cm		D (cm)	H/D	w _c (%)	Yd (lb/ft³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Strength, σ _a (ult) (lb/in²)	Tangent Modulus, E ₅₀ (lb/in ²)	Ratio $[E_{50}/\sigma_a(ult)]$
10.4	4	5.06	2.1	10.9	118.2	67	0.044	0.42	1.0	2,234	6.5E05	291
										TEST	PROCEDURE	s
										ASTM Standard I for specimen prep Air Temperature (Capping Material:	earation °C): <u>19.7</u>	
	180.0	, F	1						T	Comments:		
	160.0	,		•							-	
	140.0									SPECIM	EN PREPARA	TION .
	120.0		•							Original Core Dian Specimen Sub-Co	meter (inch): pred for Testing	4
AXIAL STRESS (tsf)	100.0		•							☐ No Specimen Side St ☐ Satisfies Cr ☑ 0.023": Doe	iterion of ≤ 0.02	0 inches
AL STRI	80.0		•							Specimen Side Pa	arallelism (Proc	edure P2)
₹	60.0	· [.								☑ <u>2.9%</u> : Doe	·=	
	40.0									Specimen End Fla Specimen (Satisfies Cr	Capped – Not A iterion of ≤ 0.00	pplicable
	20.0			•						☐ Does Not S G _s : 2.73	☐ Assum	
	0.0		0.2 0.	4 0.6	0.8	1.0	1.2 1.4	1.6	1.8 2.0	FAII		
					AXI	AL STRAIN	(%)			FAIL	URE SKETCH	

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; $\dot{\varepsilon}$ = Vertical displacement rate; G_s = Specific gravity; and E_{50} = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Date:_

	T: <u>Y</u> ECT: <u>C</u>				ic. n Well IV	N-1			IPLE NO.: <u>Seg</u> - SAMI		re 3
FILE N	IO.: <u>1</u>	3-13-00	70				DEPT	H: 2325.8-	2326.8		⊠ ft; □ m
DATE	SAMPL TEST S REPOR	ET-UP	: <u>06/08</u>	5/13	'13				DENTIFICATIC RIPTION: <u>Light</u>		
Specim	nen Dimei	nsions	Initi Wo	al Condit	ions	Rate of	Loading	Time to Failure	Unconfined Compressive	Young's Tangent	Modulus Ratio

Speci	men Dimer	nsions	Initi	al Conditi	ons	Rate of I	Loading	Time to	Unconfined	Young's	Modulus
H (cm)	D (cm)	H/D	w _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, σ _a (ult) (lb/in²)	Tangent Modulus, E ₅₀ (lb/in ²)	Ratio [E ₅₀ / σ _a (ult)]
10.18	5.07	2.0	7.9	127.4	64	0.034	0.33	0.9	3,127	1.2E06	384
									TEST	PROCEDURE	S
25	50.0								ASTM Standard I for specimen prepair Temperature (Capping Material:	earation °C): <u>19.7</u> □ None ⊠ Lab-St	one
20	0.0	•							Original Core Dia		4
	0.0	•							Specimen Sub-Co Yes No Specimen Side St Satisfies Co	raightness (Pro iterion of ≤ 0.02	ocedure S1) 20 inches
AXIAL STRESS (tsf)	0.0								 ☑ 0.023": Doe Specimen Side Paragraph ☑ Satisfies Carrow ☑ 0.70%: Doe Specimen End Flag 	arallelism (Proc iterion of ≤ 0.43 es Not Satisfy C atness (Procedi	edure P2) 3% criterion ure FP2)
50	0.0								☑ Specimen (☐ Satisfies Cr☐ Does Not S	iterion of ≤ 0.00)1 inches
(0.0	0.2 0.	4 0.6	0.8	1,0	1,2 1,4	1.6	1.8 2.0		Measu	red
	,	0.	. 5.0		AL STRAIN		1.5	2.0	FAIL	URE SKETCH	

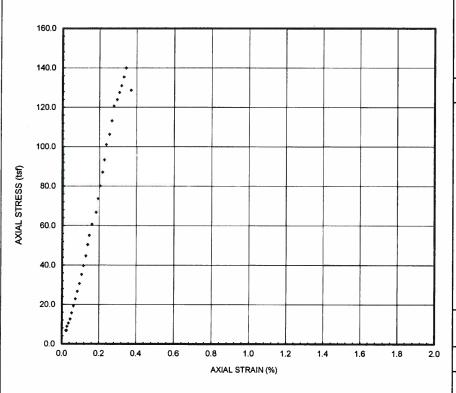
The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; ἐ = Vertical displacement rate; G_s = Specific gravity; and E_{so} = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By: M Date: 07/22/09

CLIENT: Youngquist Brothers, Inc.	INCOMING SAMPLE NO.: Segment 6, Core 4
PROJECT: City of LaBelle, Injection Well IW-1	BORING: - SAMPLE: -
FILE NO.: 13-13-0070	DEPTH: 2407.5-2408.4
	LABORATORY IDENTIFICATION NO.: 130070/6-4
DATE SAMPLE RECEIVED: 05/20/13	SAMPLE DESCRIPTION: Light brown limestone
DATE TEST SET-UP: 06/05/13	
DATE REPORTED: 07/22/13	

Specin	nen Dimei	nsions	Initi	al Conditi	ons	Rate of I	Loading	Time to	Unconfined	Young's	Modulus
H (cm)	D (cm)	H/D	w _c (%)	Y₄ (lb/ft³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, σ _a (ult) (lb/in²)	Tangent Modulus, E ₅₀ (lb/in ²)	Ratio [E ₅₀ / σ_a (ult)]
10.47	5.07	2.1	7.7	128.1	62	0.025	0.24	1.4	1,943	6.1E05	314
									TEST	PROCEDURE	S
									ASTM Standard I		A] and D4543



Air Temperature (°C): 19.7

Capping Material:

□ None

Comments:

SPECIMEN PREPARATION

Original Core Diameter (inch): Specimen Sub-Cored for Testing:

Yes

□ No

Specimen Side Straightness (Procedure S1)

Satisfies Criterion of ≤ 0.020 inches

□ ____: Does Not Satisfy Criterion

Specimen Side Parallelism (Procedure P2)

☐ Satisfies Criterion of ≤ 0.43%

☑ 2.4%: Does Not Satisfy Criterion

Specimen End Flatness (Procedure FP2)

☑ Specimen Capped - Not Applicable

☐ Satisfies Criterion of ≤ 0.001 inches

☐ Does Not Satisfy Criterion

2.75

□ Assumed

Measured

FAILURE SKETCH



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H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; ἐ = Vertical displacement rate; G_s = Specific gravity; and E₅₀ = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By:

CLIEN PROJI	T: <u>Y</u> ECT: <u>C</u>	oungquate of La	ist Brot Belle,	hers, Ind Injection	c. ı Well I	W-1	BORIN	IG:	PLE NO.: <u>Seg</u> SAMF 2483.2	LE:	
DATE DATE	SAMPI TEST S	E REC	EIVED: :06/0:	<u>05/20/</u> 5/13	13		LABOR SAMP	RATORY I LE DESCF	DENTIFICATIO RIPTION: <u>Light</u>	N NO.: 1300	70/7-5
Specin	nen Dime	nsions	Initi	al Conditi	ons	Rate of	Loading	Time to	Unconfined	Young's	Modulus
H (cm)	D (cm)	H/D	w _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, σ _a (ult) (lb/in²)	Tangent Modulus, E ₅₀ (lb/in ²)	Ratio [E ₅₀ / σ _a (ult)]
10.66	5.07	2.1	6.6	138.8	83	0.039	0.36	1.2	5,045	2.5E06	496
									TEST	PROCEDURE	S
									ASTM Standard I for specimen prep Air Temperature (Capping Material:	earation °C): <u>19.5</u> □ None ⊠ Lab-St	one
400	0.0								Comments:	····	
350			••								
330									055011		
300	.0							-		EN PREPARAT	-
250	.0	•							Original Core Diar Specimen Sub-Co ☑ Yes ☐ No	ored for Testing	:
AXIAL STRESS (tsf)	.0	•							Specimen Side St Satisfies Cr Description	iterion of ≤ 0.02 Not Satisfy Cri	0 inches terion
S 150	.0	•							Specimen Side Pa ☐ Satisfies Cr ☑ 2.0%: Does	iterion of ≤ 0.43 Not Satisfy Cri	% terion
100 50		•	•						Specimen End Fla ☑ Specimen (☐ Satisfies Cr ☐ Does Not S	Capped – Not A iterion of ≤ 0.00	pplicable 1 inches
									G _s : 2.80	□ Assum ☑ Measu	
	0.0	0.2 0.	4 0.6		1.0	1.2 1.4	1.6	1.8 2.0	FAIL	URE SKETCH	
				AAIP	AL STRAIN	(**)					

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Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; ἐ = Vertical displacement rate; G_s = Specific gravity; and E₅₀ = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By: Date: 07/24/19

CLIENT: Youngqui PROJECT: City of La				IPLE NO.: <u>Seg</u> - SAMF		
FILE NO.: 13-13-00	70	D	EPTH: 2488.2-2	 2488.9		⊠ ft: □ m
DATE SAMPLE RECE DATE TEST SET-UP: DATE REPORTED:	06/05/13	S/		DENTIFICATIC RIPTION: <u>Light</u>		
Specimen Dimensions	Initial Conditions	Rate of Loading	Time to	Unconfined	Young's	Modulus

Specimen Dimensions		Initial Conditions		Rate of Loading		Time to	Unconfined	Young's	Modulus			
H (cm)	D (cm)	H/D	w _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, σ _a (ult) (lb/in²)	Tangent Modulus, E ₅₀ (lb/in²)	Ratio [E ₅₀ / σ _a (ult)]	
10.43	5.07	2.1	3.3	154.6	60	0.023	0.22	2.5	5,878	2.2E06	374	
									TEST PROCEDURES			
450	0.0								ASTM Standard I for specimen prepair Temperature (Capping Material:	oaration (°C): <u>19.7</u> ☐ None ☑ Lab-St	<u> </u>	
400	0.0							,	SDECIM	EN DREDADA:	FION	
350.0									SPECIMEN PREPARATION			
300	0.0		:						Original Core Diameter (inch):4 Specimen Sub-Cored for Testing: E Yes			
(tst) SS	0.0	:	•									
AXIAL STRESS (tsf)												
₹ 150	0.0								国 <u>1.6%</u> : Does Specimen End Fla			
100	0.0								☑ Specimen (☐ Satisfies Cr☐ Does Not S	Capped – Not A iterion of ≤ 0.00	pplicable	
50			•						G _s : 2.87			
O	0.0	0.2 0.4	4 0.6	0.8	1.0	1.2 1.4	1.6 1	.8 2.0	FAIL	URE SKETCH		
				AXIA	AL STRAIN	(70)				p de la companya della companya dell		

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Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; $\dot{\epsilon}$ = Vertical displacement rate; G_s = Specific gravity; and E_{50} = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By:	Tm	Date: 04/22/92
		Butto.

CLIENT: Youngquist Brothers, Inc.	INCOMING SAMPLE NO.: Segment 9, Core 6
PROJECT: City of LaBelle, Injection Well IW-1	BORING: SAMPLE:
FILE NO.: 13-13-0070	DEPTH: <u>2495.2-2496.2</u> ⊠ ft; □ m
	LABORATORY IDENTIFICATION NO.: 130070/9-6
DATE SAMPLE RECEIVED: 05/20/13	SAMPLE DESCRIPTION: Light brown dolomitic
DATE TEST SET-UP: 06/04/13	limestone
DATE REPORTED: 07/22/13	

Specimen Dimensions			Initial Conditions			Rate of Loading		Time to	Unconfined	Young's	Modulus	
H (cm)	D (cm)	H/D	w _c (%)	Y _d (lb/ft ³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Compressive Strength, $\sigma_a(ult)$ (lb/in ²)	Tangent Modulus, E ₅₀ (lb/in ²)	Ratio [E ₅₀ / σ _a (ult)]	
20.60	10.04	2.1	5.2	137.7	53	0.016	0.08	7.2	5,910	1.4E06	237	
									TEST PROCEDURES			
450	450.0								ASTM Standard D7012 [Method A] and D4543 for specimen preparation Air Temperature (°C): 20.1 Capping Material: □ None □ Lab-Stone Comments: □			
			1									
400	0.0		\mathcal{T}									
350	0.0								SPECIM	EN PREPARA	ΓΙΟΝ	
300).0								Original Core Diameter (inch): 4 Specimen Sub-Cored for Testing: □ Yes ☑ No			
AXIAL STRESS (tsf)									Specimen Side Straightness (Procedure S1) ☐ Satisfies Criterion of ≤ 0.020 inches ☑ 0.027": Does Not Satisfy Criterion			
AXIAL ST	0.0								☑ <u>1.2%</u> : Doe	iterion of ≤ 0.43 s Not Satisfy C	3% riterion	
100	1.0								Specimen End Fla Specimen C Satisfies Cr Does Not S	Capped – Not A iterion of ≤ 0.00	pplicable	
50.									G _s : 2.82	□ Assum ☑ Measu		
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 AXIAL STRAIN (%)								FAILURE SKETCH				
				ANIA	E OTTAIN (<i>∾</i> 1			Ž,			

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Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; ἐ = Vertical displacement rate; G_s = Specific gravity; and E₅₀ = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By:

Date: 07/22/77

CLIENT: Youngquist Brothers, Inc.	INCOMING SAMPLE NO.: Segment 10, Core 7
PROJECT: City of LaBelle, Injection Well IW-1	BORING: - SAMPLE: -
FILE NO.: 13-13-0070	DEPTH: <u>2588.8-2589.5</u>
	LABORATORY IDENTIFICATION NO.: 130070/10-7
DATE SAMPLE RECEIVED: 05/20/13	SAMPLE DESCRIPTION: Brownish-gray dolomitic
DATE TEST SET-UP: 06/05/13	limestone with anhydrite lenses
DATE REPORTED: 07/22/13	

Specimen Dimensions		Initial Conditions			Rate of Loading		Time to	Unconfined Compressive	Young's Tangent	Modulus		
H (cm)	D (cm)	H/D	W _c (%)	Ya (lb/ft³)	S (%)	έ (cm/minute)	έ (%/minute)	Failure (minutes)	Strength, σ _a (ult) (lb/in ²)	Ratio [E ₅₀ / σ _a (ult)]		
10.46	5.07	2.1	3.7	162.1	100	0.007	0.07	4.5	6,192	4.0E06	646	
									TEST	PROCEDURE	S	
500	0.0								ASTM Standard I for specimen prepared for Temperature (Capping Material:	oaration (°C): <u>19.7</u> : □ None ⊠ Lab-St		
450	0.0	1.										
400	0.0								SPECIM	EN PREPARA	TION	
350	0.0								Original Core Diameter (inch): 4 Specimen Sub-Cored for Testing:			
300	0.0	•							☐ No Specimen Side St	traightness (Dr	ocedure S1)	
s) 250	0.0								Specimen Side Straightness (Procedure S1) ☐ Satisfies Criterion of ≤ 0.020 inches ☐ 0.026": Does Not Satisfy Criterion Specimen Side Parallelism (Procedure P2) ☐ Satisfies Criterion of ≤ 0.43%			
AXIAL STRESS (tsf)	0.0											
₹ 150	0.0								☑ <u>0.56%</u> : Doe	-		
100	0.0								Specimen End Fla ■ Specimen (□ Satisfies Call □ Does Not S	Capped – Not A riterion of ≤ 0.00	opplicable Inches	
50		•							G _s : 2.87	☐ Assum	ned	
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 AXIAL STRAIN (%)								FAILURE SKETCH				
										\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		

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Where: H = Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; ἐ = Vertical displacement rate; G_s = Specific gravity; and E₅₀ = Young's tangent modulus at 50% of unconfined compressive strength unless indicated otherwise.

Checked By:

Date: 01/22/27

EXHIBIT E

Core Sections Between 2,475 And 2,600 Feet With Anhydrite Infilling



Core Sections Between 2,475 And 2,600 Feet With Anhydrite Infilling

