



LWP TECHNOLOGIES 2nd EXPERT TEST RESULTS

ASX ANNOUNCEMENT

1 February 2016

- **Additional Test Results Confirm Scalability of LWP Flyash Proppants**
- **Confirmation of previously reported results under ISO Standard 13503-2**
- **Outstanding Conductivity and Permeability results under ISO Standard 13503-5**

LWP Technologies Limited (ASX: LWP) (LWP, the Company) is pleased to announce that it has received its second independent expert testing results from STIM-LAB CORE LABORATORIES for samples of its 20/40 mesh Proppants produced at its Pilot Plant at Clontarf, Brisbane.

The test results obtained from Stim-lab confirm earlier results obtained and reported by GEL that the LWP proppants significantly exceed ISO Standard 13503-2, and that outstanding results were demonstrated by our proppants under ISO 13503-5 which measures conductivity and permeability. The conductivity and permeability tests effectively measure proppant capability to allow oil and gas to flow under high pressure in a propped fracture. The test results are summarised below, and the full report is attached for shareholder information.

Proppant Crush-Resistance Test

Results were 6.7 % fines produced at a pressure of 10,000 PSI (pounds per square inch) which is well below the maximum fines permitted under the ISO standard of 10% at 4,000 PSI. Further, the LWP proppants continue to comply with the ISO standard even at 12,000 PSI with a result of 8.3 % fines.

Conductivity and Permeability

Measured pursuant to ISO Standard 13503-5, conductivity of LWP proppants are 1934 md-ft. at 8000 PSI and 1477 md-ft. at 10000PSI with Darcy's measure of permeability of 104 at 8,000 PSI and 82 at 10,000 PSI. These results confirm that LWP Proppants demonstrate the high flow characteristics of Tier 1 ceramic proppants.

Sphericity

LWP 'fly ash' proppants achieved the highest possible sphericity of 0.9 as per Krumbein's Chart, supporting the excellent conductivity and permeability results and coupled with the crush test results, places LWP ceramic proppant product in the high strength Tier 1 category.

Company Chairman Siegfried Konig said, "We are very pleased with the results obtained in this 2nd round of testing, which both confirms earlier crush test results and shows outstanding conductivity and permeability results for our LWP Proppants. These tests simulate an accelerated down-hole test and the results show that our 'fly ash' LWP proppants are a Tier 1 ceramic proppant. This further confirms LWP's ability to scale up it's technology, giving me even greater confidence that LWP can fulfill its vision for LWP proppants to become the new standard for the industry, providing significant and ongoing savings to Oil and Gas Producers."

ENDS

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About LWP Technologies

LWP Technologies Limited (LWP) is an Australian oil and gas technology company focused on commercialising next generation, fly-ash based, proppants for use in hydraulic fracturing (fracking) of oil and gas wells globally. LWP is seeking to commercialise its proppants as a cost effective, superior alternative to bauxite and clay based ceramic proppants, typically used in fracking operations currently. The Company commenced proppant production from its pilot scale proppant manufacturing plant in Queensland, Australia, in Q3, 2015. LWP plans to seek joint venture partners and/or licensing agreements to commercialise its proppant product, and deliver significant returns to shareholders.

About Proppants

Proppants are a sand-like commodity used to 'prop' open fractures in shale rocks which allows oil and gas to flow. Proppants are often the single largest cost item in the fracking process and represent a multi-billion dollar global market annually. Traditional ceramic proppants are made from clay and/or bauxite.

LWP Technologies ceramic proppants are majority manufactured from fly-ash, a by-product of coal fired power plants. The Company is of the view that its unique proppant product has the potential to lead the industry due to:

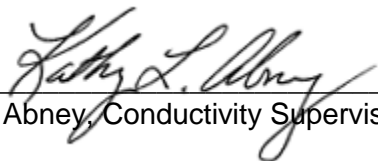
- the widespread abundant availability of fly-ash, often near to oil and gas shale resources;
- the ultra-light weight of LWP fly-ash proppants; and
- the ability of LWP proppants to withstand the very high pressures and heat of deep wells.

LWP proppants have been certified by Independent Experts to meet or exceed both the American Petroleum Institute standards and the ISO standards.

**Conductivity and Permeability of the Submitted Samples of
20/40 LWP 1215-2040 Ceramic Proppant (Tested in Duplicate)
At 2 lb/ft² and at 2,000 - 10,000 psi Closure Stresses
At 250 °F for 50 Hr. between Ohio Sandstone
And Selected ISO 13503-2/API RP19C Evaluations**

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Kathy Abney, Conductivity Supervisor

P.O. Number: Quote of 12-8-15 and
Prepayment received 12-14-15

File Number: SL 11925

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January 26, 2016

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Dear Mr. Corbin;

STIM-LAB has completed the evaluations of the requested conductivity of the samples submitted by your firm marked 20/40 LWP 1215-2040 appearing as ceramic proppant arriving at Stim-Lab on January 12, 2016. The samples were evaluated in duplicated at 2 lb/ft² at 250 °F and long-term for 50 hours at 2000, 4000, 6000, 8000, and 10,000 psi closure stress between Ohio Sandstone. The selected ISO 13503-2/API RP19C evaluations are also included.

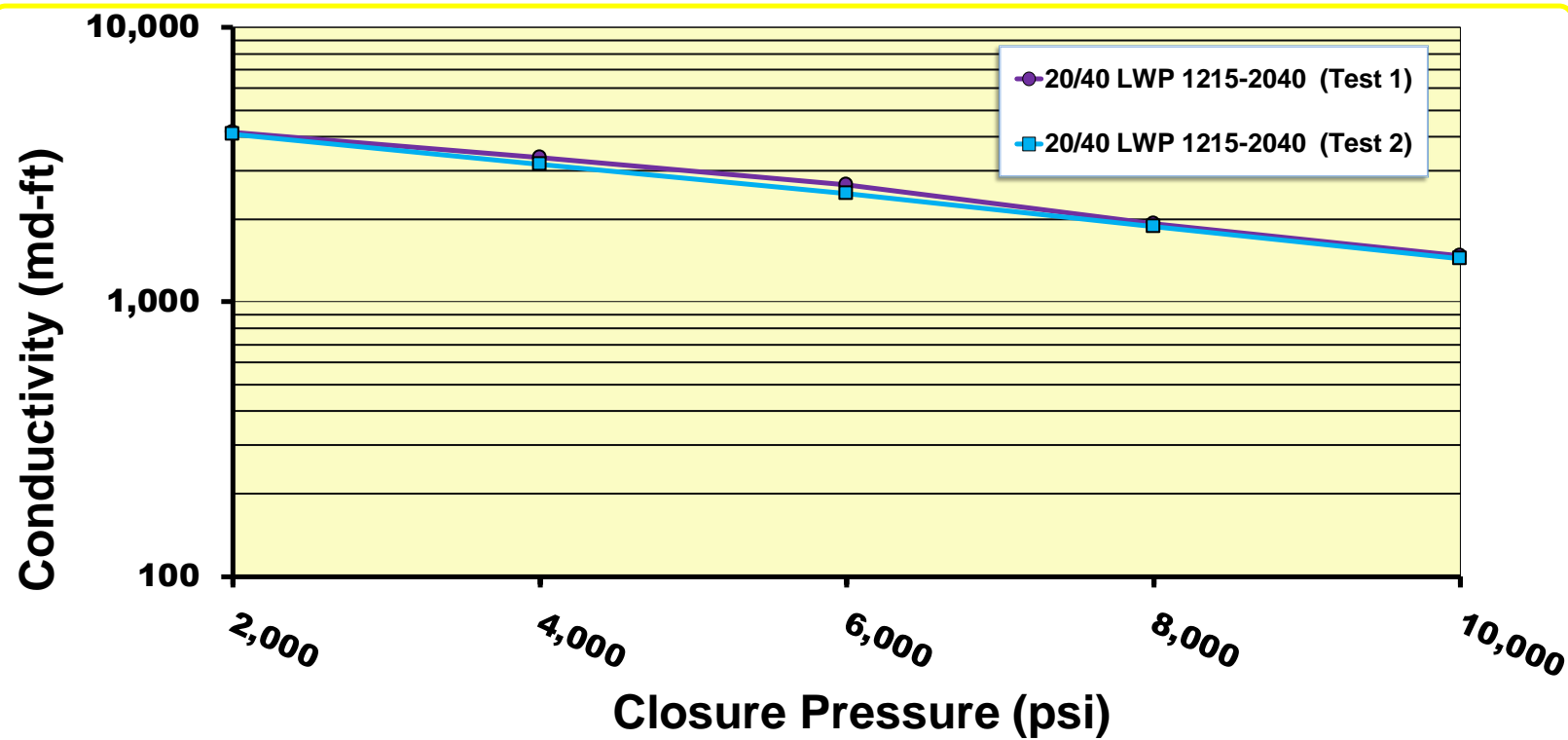
The procedures are outlined in the following section of this report. Figures 1 and 2 contain a summary of conductivity and permeability vs. stress. The conductivity data is presented in Tables 1 - 2. The sieve analyses of the samples are provided in Table 3. The remaining ISO 13503-2/API RP19C data is presented in Tables 4. Pictures of the representative sample are provided in Figures 3.

Thank you and LWP Technologies for allowing STIM-LAB to perform this test series. If you have any questions, please do not hesitate to call.

Sincerely,

Kathy Abney
Conductivity Supervisor



Figure 1Long-Term Conductivity with 2% KCl between Ohio Sandstone at 250 °F at 2 lb/ft²

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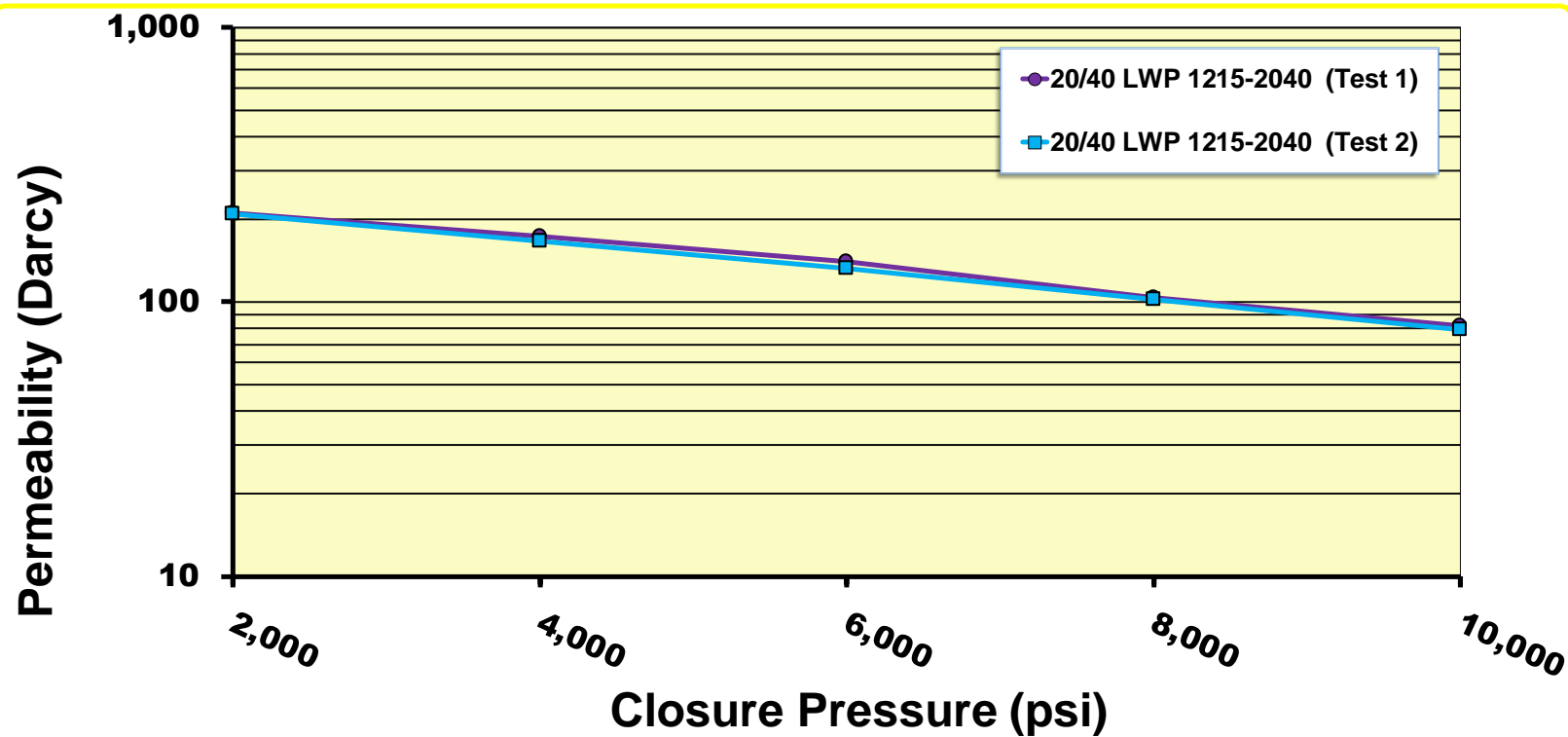
Stress (psi)

20/40 LWP 1215-2040 (Test 1)

20/40 LWP 1215-2040 (Test 2)

	2,000	4,000	6,000	8,000	10,000
20/40 LWP 1215-2040 (Test 1)	4162	3351	2666	1934	1477
20/40 LWP 1215-2040 (Test 2)	4097	3173	2492	1883	1431

***Sample Data Represents the 50 Hour Conductivity Value at the Given Closure Stress**

Figure 2Long-Term Permeability with 2% KCl between Ohio Sandstone at 250 °F at 2 lb/ft²

January 13 - 25, 2016

Stress (psi)

20/40 LWP 1215-2040 (Test 1)

20/40 LWP 1215-2040 (Test 2)

	2,000	4,000	6,000	8,000	10,000
20/40 LWP 1215-2040 (Test 1)	212	174	140	104	82
20/40 LWP 1215-2040 (Test 2)	209	166	132	102	79

***Sample Data Represents the 50 Hour Permeability Value at the Given Closure Stress**

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Table 1

Conductivity and Permeability of
2 lb/ft² 20/40 LWP 1215-2040 (Test 1)

Submitted by LWP Technologies at Stim-Lab on January 12, 2016
In 2% KCl between Ohio Sandstone Core

Hrs at Closure & Temperature	Closure (psi)	Temp (° F)	Conductivity (md-ft)	Width (in)	Permeability (Darcy)
-14	1000	75	5158	0.239	259
-2	1000	250	4330	0.237	219
0	2000	250	4163	0.236	212
10	2000	250	4162	0.236	212
20	2000	250	4162	0.236	212
30	2000	250	4162	0.236	211
40	2000	250	4162	0.236	212
50	2000	250	4162	0.236	212
0	4000	250	3657	0.233	188
10	4000	250	3458	0.232	179
20	4000	250	3412	0.232	176
30	4000	250	3385	0.231	176
40	4000	250	3366	0.231	175
50	4000	250	3351	0.231	174
0	6000	250	2806	0.229	147
10	6000	250	2715	0.228	143
20	6000	250	2694	0.228	142
30	6000	250	2682	0.228	141
40	6000	250	2673	0.228	140
50	6000	250	2666	0.228	140
0	8000	250	2244	0.226	119
10	8000	250	2043	0.224	109
20	8000	250	1996	0.224	107
30	8000	250	1969	0.223	106
40	8000	250	1949	0.223	105
50	8000	250	1934	0.223	104
0	10000	250	1705	0.220	93
10	10000	250	1557	0.218	86
20	10000	250	1522	0.218	84
30	10000	250	1502	0.217	83
40	10000	250	1488	0.217	82
50	10000	250	1477	0.217	82

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			Sieve	% Retained
			16	0.0
			18	0.0
			20	0.0
			25	7.8
Median Dia. =	0.547	mm	30	25.6
	0.0215	inch	35	28.9
Mean Dia. =	0.558	mm	40	32.8
	0.0220	inch	45	4.8
			50	0.0
			pan	0.0
			Total	100.0
			% In Size as -20+40	95.1

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Table 2

Conductivity and Permeability of
2 lb/ft² 20/40 LWP 1215-2040 (Test 2)

Submitted by LWP Technologies at Stim-Lab on January 12, 2016
 In 2% KCl between Ohio Sandstone Core

Hrs at Closure & Temperature	Closure (psi)	Temp (° F)	Conductivity (md-ft)	Width (in)	Permeability (Darcy)
-14	1000	75	5085	0.239	256
-2	1000	250	4471	0.237	226
0	2000	250	4133	0.236	211
10	2000	250	4110	0.235	210
20	2000	250	4104	0.235	209
30	2000	250	4101	0.235	209
40	2000	250	4099	0.235	209
50	2000	250	4097	0.235	209
0	4000	250	3542	0.233	183
10	4000	250	3302	0.232	171
20	4000	250	3247	0.231	168
30	4000	250	3214	0.230	167
40	4000	250	3191	0.230	166
50	4000	250	3173	0.230	166
0	6000	250	2751	0.228	145
10	6000	250	2582	0.227	137
20	6000	250	2543	0.226	135
30	6000	250	2521	0.226	134
40	6000	250	2504	0.226	133
50	6000	250	2492	0.226	132
0	8000	250	2200	0.225	117
10	8000	250	1994	0.223	107
20	8000	250	1946	0.223	105
30	8000	250	1918	0.222	104
40	8000	250	1899	0.222	103
50	8000	250	1883	0.222	102
0	10000	250	1706	0.220	93
10	10000	250	1527	0.218	84
20	10000	250	1486	0.218	82
30	10000	250	1462	0.218	81
40	10000	250	1444	0.217	80
50	10000	250	1431	0.217	79

January 13 - 25, 2016

			Sieve	% Retained
			16	0.0
			18	0.0
			20	0.0
			25	7.8
Median Dia. =	0.547	mm	30	25.6
	0.0215	inch	35	28.9
Mean Dia. =	0.558	mm	40	32.8
	0.0220	inch	45	4.8
			50	0.0
			pan	0.0
			Total	100.0
			% In Size as -20+40	95.1

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Table 3

Pre-Test Sieve Analysis of Submitted Samples
 Submitted by LWP Technologies at Stim-Lab on January 12, 2016
 ISO 13503-2, Section 6, "Sieve Analysis"

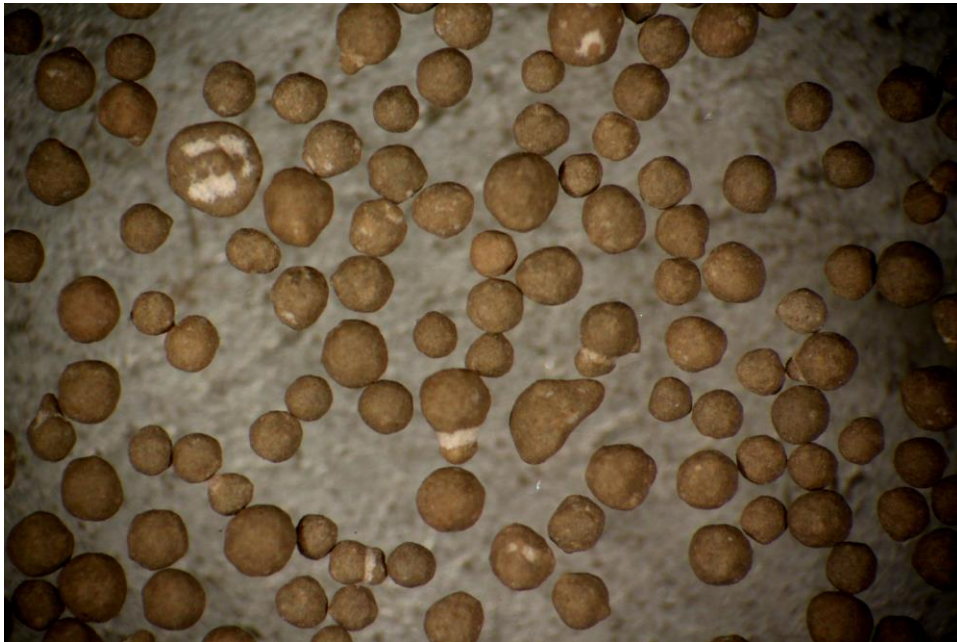
Sample I.D. US Standard Sieve No.	LWP Technologies 20/40 LWP 1215-2040 - Ceramic Proppant	
	Weight %	
	Retained	Cumulative
8	0.0	0.0
10	0.0	0.0
12	0.0	0.0
14	0.0	0.0
16	0.0	0.0
18	0.0	0.0
20	0.0	0.0
25	7.8	7.8
30	25.6	33.4
35	28.9	62.3
40	32.8	95.1
45	4.8	99.9
50	0.0	100.0
60	0.0	100.0
70	0.0	100.0
80	0.0	100.0
100	0.0	100.0
120	0.0	100.0
140	0.0	100.0
170	0.0	100.0
200	0.0	100.0
pan	0.0	100.0
total	100.0	
in-size	95.1	% In Size as -20+40
ISO Median Diameter (mm) or d ₅₀ , 6.5.3	0.547	
ISO Mean Diameter (mm) 6.5.2	0.558	

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Table 4		
Sample ID: LWP 1215-2040 LWP Technologies January 12, 2016		
Measurement of Properties of Proppants Used In Hydraulic Fracturing and Gravel-Packing Operations		
ISO 13503-2:2006/API RP19C:2008, Section 7, "Proppant Sphericity and Roundness"		
* mean of a 20 count		
<u>Sphericity =</u>	<u>0.9</u>	
<u>Roundness =</u>	<u>0.7</u>	
<u>Clusters =</u>	<u>Approx. 1 of Every 100 Grains Contained Clusters</u>	
Recommended Sphericity and Roundness for high strength proppants = 0.7 or greater (ISO/DIS 13503-2/Amd.1:2009)		
ISO 13503-2:2006/API RP19C:2008, Section 8, "Acid Solubility"		
* mean of 3 analyses		
<u>Acid Sol. Percent =</u>	<u>5.4%</u>	
Recommended Maximum Acid Solubility for ceramic proppants and resin coated ceramic proppants = 7.0%		
Tested as per ISO 13503-2:2006/API RP19C:2008, 100ml of 12:3 HCl:HF* with 5 grams of sand or proppant at 150°F for 30 minutes, *Other acids may be specified, depending on desired application		
ISO 13503-2:2006/API RP19C:2008, Section 9, "Turbidity Test"		
<u>Turbidity =</u>	<u>51</u>	<u>NTU</u>
Method 1: Turbidity, suggested maximum proppant turbidity = equal or less than 250 NTU (ISO/DIS 13503-2/Amd.1:2009)		
ISO 13503-2:2006/API RP19C:2008, Section 10, "Procedures for Determining Proppant Bulk Density, Apparent Density"		
<u>Bulk Density =</u>	<u>1.45</u>	<u>g/cm³</u>
<u>Bulk Density =</u>	<u>90.5</u>	<u>lb/ft³</u>
<u>Apparent Density = (Oil)</u>	<u>2.60</u>	<u>g/cm³</u>
ISO 13503-2:2006/API RP19C:2008, Section 11, "Proppant Crush-Resistance Test"		
<u>Stresses Tested (psi)</u>	<u>% Fines -20+40 crush prep</u>	
7000	2.3%	
8000	3.3%	
9000	4.9%	
10000	6.7%	
12000	8.3%	
13000	10.1%	
K-Value =	<u>12K</u>	
The highest stress level which proppant generates no more than 10% crushed material, rounded down to the nearest 1000psi = K-Value		

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Figure 3
20/40 - LWP 1215-2040 Ceramic Proppant



Testing Equipment-

1. Hydraulic Load Frame – 4 post design with post diameter of 2.5 in. or 3.5 in. capable of holding within ≤ 50 psi of the target stress for 50 hr.
2. Test Fluid Drive System – Bladder accumulator capable of maintaining less than 1.0% variations in pressure fluctuations. The system is removed of oxygen through nitrogen purge over copper to 15 ppb.
3. Closure Pressure Control – Teledyne ISCO D-Series, Model 260D, syringe pump equipped with Rosemount 10,000 psi Transducer.
4. ΔP Monitoring – Rosemount 0.9 psi Transducer.
5. Flow Control – Bronkhorst LIQUI-FLOW® mass flow meter/controller (L23-RBD-22-K-70S and C%I-ITU-22-K) down stream flow meter/controller.
6. User interface - National Instruments Data Acquisition Hardware.
7. Computer – Dell Optiplex.
8. Temperature Control – PID Temperature controllers.
9. Silica Saturation – High pressure cylinder with a capacity of 300 mL loaded with 20/40 - 50 mL and 70/140 – 250 mL washed northern white frac sand. The cylinder is held in a thermal jacket. The temperature of the sand columns is held at 30 °F above the test temperature during the collection of data once heated. There is no temperature applied for the initial cold readings. There is a 7 micron filter attached to the back side of the sand column prior to prevent inclusion of suspended silica particles into the proppant pack.
10. Conductivity Cell Stack – The system has a maximum capacity of 4 conductivity cells stacked similar to that shown in Figure A.

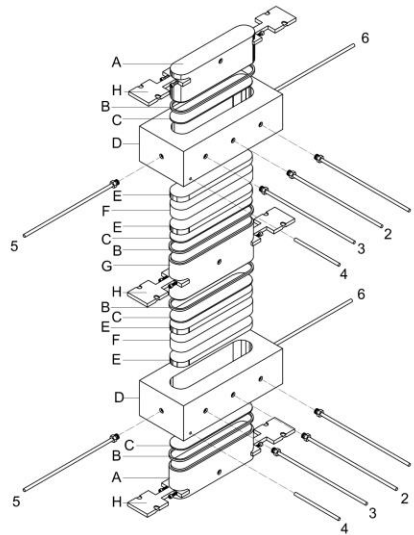


Figure A: Example of Conductivity Cell

Loading the Sample-

The sample is loaded at 64 g. This is $\sim 2.00 \text{ lb/ft}^2$. Through in-depth studies, it was determined that no one cell is exactly the same width as another and changes with time. We have normalized our loading to 64.00 g to minimize the mis-loading of each cell. This allows for a more uniform consistency between multiple cells. All the cells used in this study were redesigned based on a detailed engineering study to maximize the resistance to expansion from use and still have a total weight that can be handled. Actual Cell Dimensions are 9.5 in. by 4.5 in. by 2.75 in. which is larger than the suggested cell dimensions of 9.0 in. by 4.0 in. by 2.75 in.

The sample is placed into a vibratory feeder, and fed into a pluviation device. Once sample is pluviated into the cell, a leveling device is used to level the proppant throughout the dimensions of the cell.

Once the sample is leveled, the top core is placed onto the proppant and the cells assembled (up to 4 in a stack) in similar fashion as shown in Figure A.

Loading the Test Cells into the Hydraulic Press and Startup Protocol

The cells are loaded into the press and the closure pressure is set to a minimum of 800psi. A carpenter's square is used to ensure the vertical alignment of the cells.

2% KCl is flowed through the cell to saturate the proppant pack and remove any residual air.

The ΔP lines are attached and the plumbing of the manifold is purged through the ΔP lines to remove any air trapped in the entire system.

The internal pressure of the system is brought to 400 psi. The system is checked for leakage. The closure pressure of the system is set to 1400 psi (1000 psi absolute stress). Flow is initiated through the cells and an initial room temperature conductivity reading is taken for each cell in the series.

Initial absolute stress of 1000 psi is maintained for a minimum of 12 hours for resin coated products and 2 hours for uncoated products at the required test temperature. Back pressure is maintained at 400 psi. After the initial stress of 1000 psi and time is achieved, the stress is raised to 2000 psi and maintained for 50 hours. Subsequent test stresses are raised in 2000 psi increments at 100 psi/min. All subsequent test stresses are also maintained for 50 hours at the given stress.

Acquiring data –

Conductivity is measured at 2000, 4000, 6000, 8000, and 10,000 psi closure stress at 250 °F.

The test fluid for the conductivity testing was 2% KCl. Flow rates are controlled with a Bronkhorst Liqui-Flow[®] mass flow meter/controller. The test flow rates were cycled at $\sim 2 \text{ mL/min}$, $\sim 3 \text{ mL/min}$, $\sim 4 \text{ mL/min}$, $\sim 3 \text{ mL/min}$, and $\sim 2 \text{ mL/min}$ or to maintain a ΔP of at least a

minimum of 0.002 psi. Each rate was maintained for 3 minutes. After the 15 minute cycle, the cell is switched to the next cell in the test series and the cycle repeated. During the non-monitoring time, the other cells are held at a constant flow of ~2 mL/min. Once data is collected on all cells, the cycle returns to the first cell in the test series and the above protocol continued. This schedule is maintained throughout the 50 hours of data collection at each stress.

Pack widths are measured every 5 hours and recorded as described in the “**Width Measurement**” section.

The transducer zero is checked every 5 hours and if necessary is re-zeroed with a HART 475 Field Communicator.

The raw data is monitored in real time saving one point every 10 seconds. The relevant data collected is as followed: Flow rate (mL/min), ΔP (psi), and Temperature (°F). These are used with the Conductivity Equation (“**Data Processing to Arrive at Conductivity and Permeability Values**”) to arrive at the calculated conductivity value.

Temperature/Viscosity Correlation –

In order to correct for the temperature effect on viscosity of 2% KCl, the Laliberté equation was utilized.

Mark Laliberté, “Model for Calculating the Viscosity of Aqueous Solutions”, *J. Chem. Eng. Data*, **2007**, 52, 321-335.

Data Processing to Arrive at Conductivity and Permeability Values –

1. All of the relevant data collected is processed in Excel. The conductivity calculated as previously described is plotted against elapsed time (min.) for given closure stress.
2. A Logarithmic regression is drawn through all of the collected data and an equation of the regression is generated. $Y=mx+b$ where Conductivity = Slope*LN(time)+intercept
3. The resulting equation is used to calculate the conductivity at given time.
4. Note: The reported zero hour number is established at Time = 30 min.

****All Conductivity Data shown in the data tables are processed via the above methods****

The permeability is calculated from the conductivity value and the width at the given time using the below referenced equations. The equations used are displayed below

$$\text{Conductivity } (kW) = 26.78\mu Q / (\Delta P)$$

$$Q = \text{Flow Rate (mL/min)} \quad \mu = \text{Viscosity} \quad \Delta P = \text{Change in pressure}$$

$$\text{Permeability } (k) = \text{Conductivity (md-ft)} * .012 / \text{width (in.)}$$

Width Measurement – “To accurately measure the width of the proppant pack, the variations in sandstone thickness, the compressibility of the sandstone and the compression and thermal expansion of the metal shall be taken into account” Reference ISO 13503-5.

1. Pistons of the respective stack are placed between the platens of the press and subjected to a closure pressure of 8,000 psi. The widths are then taken at the 4 corners of the pistons. This is recorded as the zero widths of the pistons.
2. Each piece of the Ohio Sandstone that is used for the test series is measured at 4 corners of the sandstone wafer. These widths must be within 0.003 in of each other or the sandstone core is discarded and a new one selected.
3. Each shim (top and bottom) is measured at each end. The overall width is averaged to determine the shim width.
4. Items 1-3 are added together to determine the width of the test stack per each cell. This is without any proppant in place.
5. During the test, the widths are taken every 5 hours at each of the 4 points on the width slat.
6. Zero width factors are subtracted from the test width to arrive at a pack width, per given closure pressure and time, at each of the 4 corners. This is further averaged to determine the overall uncorrected proppant pack width.
7. In order to correct the proppant pack width, the expansion of metal factor is subtracted and the compression of core factor is added to arrive at the actual proppant pack width per given stress.

Material Properties Testing Procedures

Acid solubility was conducted as described in ISO 13503-2:2006, Section 8

Turbidity was conducted as described in ISO 13503-2:2006, Section 9.

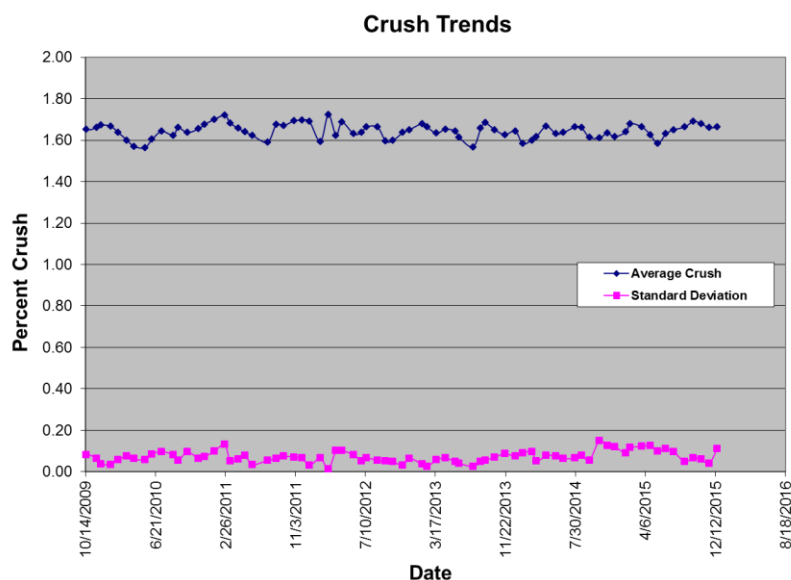
Bulk density was conducted as described in ISO 13503-2:2006, Section 10. Cylinder was calibrated as described in ISO 13503-2:2006, Section 10.3.2.

Crush Resistance testing was conducted as follows:

1. Sample was prepared as described in ISO 13503-2:2006, Section 11.4.
2. The Pluviator was used to load all samples into the cell.
3. Stress was applied at a rate of 2000psi per minute until the final pressure was reached. The test was aborted if the target stress was missed by more than 2.5%.
4. The target stress was held for 2 minutes. After 2 minutes, the stress was released and the test cell was removed from the press.
5. The sample was then transferred in to the sieve stack as described in ISO 13503-2:2006, Section 11.4.2 and placed in the shaker and shook for 10 minutes.
6. The material in the pan was then weighed and the weight was recorded.
7. The crush was calculated using ISO 13503-2:2006, Equation 13.

Certificates of Intent to Comply

Crush Resistance Test



Monthly blind crush tests are conducted with the same sample and are tracked for QC in 2009. During 2011, we started submitting this sample randomly as a test sample so that it was a single blind test.