

Filed on behalf of Baker Hughes, a GE Company, LLC

By: Herbert D. Hart III  
George F. Wheeler  
Aaron F. Barkoff  
Peter J. Lish  
McAndrews, Held & Malloy, Ltd.  
500 W. Madison St., 34<sup>th</sup> Floor  
Chicago, IL 60661  
Tel: 312-775-8000  
Fax: 312-775-8100  
E-mail: hhart@mcandrews-ip.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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BAKER HUGHES, a GE COMPANY, LLC  
(f/k/a BAKER HUGHES INCORPORATED),  
Petitioner,

v.

LIQUIDPOWER SPECIALTY PRODUCTS INC.  
(f/k/a LUBRIZOL SPECIALTY PRODUCTS, INC.),  
Patent Owner.

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Case IPR2016-01901  
Patent No. 8,450,249 B2

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**PETITIONER'S UPDATED EXHIBIT LIST**

Petitioner's Updated Exhibit List

IPR2016-01901

U.S. Patent No. 8,450,249 B2

EXHIBIT	DESCRIPTION
1001	U.S. Patent No. 8,022,118 B2 (“the 118 patent”)
1002	U.S. Patent No. 8,426,498 B2 (“the 498 patent”)
1003	U.S. Patent No. 8,450,249 B2 (“the 249 patent”)
1004	U.S. Patent No. 8,450,250 B2 (“the 250 patent”)
1005	Holtmyer, Marlin D. and Chatterji, Jiten, “Study of Oil Soluble Polymers as Drag Reducers,” <i>Polymer Engineering and Science</i> , vol. 20, no. 7, 1980 (“the Holtmyer Publication”).
1006	U.S. Patent No. 3,758,406, “Methods and Compositions for Reducing Frictional Pressure Loss in the Flow of Hydrocarbon Liquids,” granted 9/11/1973 (“the Holtmyer Patent”)
1007	European Patent Application No. EP 0,882,739 A2, High molecular weight polymer and producing method the same and drag reducer, published 12/9/1998 (“Inaoka”)
1008	Carnahan, Norman F., “Precipitation of Asphaltenes in Heavy Oil and Tar Sands,” in <i>Asphaltenes and Asphalts, 2</i> , Developments in Petroleum Science 40B, Elsevier Science B.V., 2000 (“Carnahan”)
1009	Strausz, O.P. and Lown, E.M., <i>The Chemistry of Alberta Oil Sands, Bitumens and Heavy Oils</i> , Alberta Energy Research Institute, Calgary, 2003 (“Strausz”)
1010	<i>Curriculum Vitae</i> of Thomas H. Epps III, Ph.D.
1011	Brandrup et al., <i>Polymer Handbook</i> , 4 <sup>th</sup> ed., John Wiley & Sons, Inc., 1999 (“Brandrup”)
1012	Young & Lovell, <i>Introduction to Polymers</i> , 2nd ed., CRC Press, 1991 (“Young & Lovell”)
1013	Odian, George, <i>Principles of Polymerization</i> , 4th ed., John Wiley & Sons, Inc., 2004 (“Odian”)
1014	Zakin, J.L. and Hunston, D.L., “Effect of Polymer Molecular Variables on Drag Reduction,” <i>J. Macromol. Sci.-Phys.</i> , B18(4), 795-814 (1980)

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*IPR2016-01901*

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1015	Mowla, D. and Naderi, A., "Experimental study of drag reduction by a polymeric additive in slug two-phase flow of crude oil and air in horizontal pipes," <i>Chemical Engineering Science</i> 61, 1549-1554, available online as of November 4, 2005
1016	Burger et al., "Studies of Drag Reduction Conducted over a Broad Range of Pipeline Conditions when Flowing Prudhoe Bay Crude Oil," <i>Journal of Rheology</i> , 24(5), 603-626 (1980)
1017	Buckley, J.S., et al., "Asphaltene Precipitation And Solvent Properties of Crude Oils," <i>Petroleum Science and Technology</i> , vol. 16, no. 3-4, 1998
1018	Ferguson, K.R., et al., "Microbial Pilot Test for the Control of Paraffin and Asphaltenes at Prudhoe Bay," Society of Petroleum Engineers, Inc., 1996
1019	U.S. Pat. Appl. No. 11/615,539, Preliminary Amendment, Mar. 10, 2008
1020	U.S. Pat. Appl. No. 11/615,539, Request for Reconsideration to Office Action, Jun. 24, 2009
1021	U.S. Pat. Appl. No. 11/615,539, Request for Reconsideration to Office Action, Apr. 8, 2010
1022	U.S. Pat. Appl. No. 11/615,539, Response to Final Office Action, Aug. 27, 2010
1023	U.S. Pat. Appl. No. 11/615,539, Affidavit Under 37 CFR 1.132, signed by Ray L. Johnston, Aug. 13, 2010
1024	U.S. Pat. Appl. No. 11/615,539, Office Action, Nov. 18, 2010
1025	U.S. Pat. Appl. No. 11/615,539, Response to Office Action, Apr. 8, 2011
1026	U.S. Pat. Appl. No. 11/615,539, Notice of Allowance and Fees Due, May 11, 2011

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1027	Martinez-Palou, R. et al., "Transportation of Heavy and Extra-Heavy Crude Oil by Pipeline: A Review," <i>J. Pet. Sci. Eng.</i> 75:274-82, 2011
1028	Conoco CDR <sup>®</sup> 102 Flow Improver, filed in U.S. Pat. Appl. No. 381,232, issued as U.S. Pat. No. 4,983,186, Jan. 8, 1991
1029	ConocoPhillips LP <sup>™</sup> 300 Product Datasheet, accessed at <a href="https://web.archive.org/web/20040604182725/http://liquidpower.com/ProductSolution/ProductSolution.asp">https://web.archive.org/web/20040604182725/http://liquidpower.com/ProductSolution/ProductSolution.asp</a>
1030	ConocoPhillips LP <sup>™</sup> 400 Product Datasheet, accessed at <a href="https://web.archive.org/web/20040604182725/http://liquidpower.com/ProductSolution/ProductSolution.asp">https://web.archive.org/web/20040604182725/http://liquidpower.com/ProductSolution/ProductSolution.asp</a>
1031-33	<i>Reserved</i>
1034	U.S. Pat. Appl. No. 13/208,063, Office Action, Dec. 3, 2012
1035	U.S. Pat. Appl. No. 13/208,063, Amendment and Response to Office Action, Jan. 16, 2013
1036	U.S. Pat. Appl. No. 13/208,063, Notice of Allowance and Fees Due, Dec. 13, 2013
1037-38	<i>Reserved</i>
1039	Transcript of Deposition of Brian Dunn, Ph.D., (excerpt), <i>Lubrizol Specialty Prods., Inc. v. Baker Hughes Inc.</i> , No. 4:15-cv-02915 (S.D. Tex.), Feb. 9, 2016
1040	Horn, A.F. et al., "High Viscosity Crude Drag Reduction," <i>Pipeline &amp; Gas Journal</i> , pages 22-25, June 1986.
1041	Declaration of Professor Thomas H. Epps, III
1042-60	<i>Reserved</i>
1061	Morrison, Robert Thornton and Boyd, Robert Neilson, "Organic Chemistry," Second Edition, 1966, page 109

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1062	Meyer, Richard and Attanasi, Emil, "Heavy Oil and Natural Bitumen—Strategic Petroleum Resources," <i>U.S. Geological Survey Fact Sheet 70-03</i> August 2003 – Online Version 1.0.
1063	PowerPoint, BH013805-15 (redacted version of Ex. 2082)
1064	PowerPoint, BH014546, BH014554 (redacted version of Ex. 2083)
1065-67	<i>Reserved</i>
1068	Transcript of Conference Call, August 29, 2017
1069	Amended Protective Order
1070	List (Confidential)
1070	List (Redacted)
1071	E-mail of August 21, 2017
1072	Transcript from August 25, 2017 cross-examination of Brian Dunn, Ph.D. (Confidential)
1073	ConocoPhillips ExtremePower™ brochure titled "Heavy Oil Market Study"
1074	Technical Services Report, LSPI_DRA_0057359-68 (Confidential)
1075	Technical Services Report, LSPI_DRA_0057402-30 (Confidential)
1076	Technical Services Report, LSPI_DRA_0057431-36 (Confidential)
1077	Transcript from the deposition of Yung Nam Lee, Ph.D., Director of Engineering and Technical Services for Patent Owner, in Civil Action No. 4:15-cv-02915, March 16, 2017 – pages 103, 120, 126 (Confidential)
1078	Technical Service Report, LSPI_DRA_0060152-63 (Confidential)
1079	Srinivasan & Watkinson, <i>Fouling of Some Canadian Crude Oils, Heat Exchanger Fouling and Cleaning: Fundamentals and Applications</i> , Engineering Conferences International, 2003

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