

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIBERTY ENERGY INC. AND LIBERTY ENERGY SERVICES LLC
Petitioners

v.

U.S. WELL SERVICES, LLC
Patent Owner

Case No. IPR2025-01445
Patent 11,009,162

PETITIONERS' UPDATED EXHIBIT LIST

LIST OF EXHIBITS

Ex. No. ¹	Description
1001	U.S. Patent No. 11,009,162 to Jared Oehring <i>et al.</i> (the “162 Patent”)
1002	Declaration of Dr. Robert Durham
1003	File History for U.S. Patent No. 11,009,162 (“File History”)
1004	U.S. Patent No. 11,549,348 to Cicci <i>et al.</i> (“Cicci”)
1005	U.S. Provisional Application No. 62/941,459 (“Cicci Provisional”)
1006	U.S. Patent Publication No. 2012/0255734 to Coli <i>et al.</i> (“Coli”)
1007	Henry Liu, <i>Pipeline Engineering</i> , CRC Press, 2003 (“Liu”)
1008	Kemper Valve & Fittings Corp. – Union Swages, available at https://web.archive.org/web/20190405051213/http://www.kempervalve.com:80/unionswages.php
1009	2018 Australia Dixon Product Catalog, available at https://australia.dixonvalve.com/sites/default/files/downloadable_resources/product_literature/ADPL718%20Catalog_optimized_0.pdf
1010	Gardner Denver, Inc., Well Servicing Pump, Model GD-2500Q, Quintuplex, Operating and Service Manual, 300FWF996 Revision C, (“Gardner”) published in April 2005, Tulsa, OK, USA.
1011	American National Standard for Reciprocating Power Pumps, ANSI/HI 6.1 (2015)
1012	2018 U.S. Dixon Product Catalog
1013	Declaration of Holly Lagenfelder
1014	Declaration of Dr. Sylvia Hall-Ellis
1015	Michael Morton, “Unlocking the Earth: A Short History of Hydraulic Fracturing,” GEO ExPro, Vol. 10, No. 6, December 2013

¹ Citations to patents are made by column and line number. Citations to patent publications are made by paragraph number. Citations to Ex. 1003, Ex. 1010, and Ex. 1011 are made with reference to the Bates-stamped pagination. Citations to other exhibits are to the original page numbers found in the underlying document. All emphases are added unless otherwise indicated.

	https://geoexpro.com/unlocking-the-earth-a-short-history-of-hydraulic-fracturing/ (last accessed November 30, 2023)
1016	B.A. Wells and K.L. Wells, “Shooters – A “Fracking” History.” American Oil & Gas Historical Society, https://aoghs.org/technology/hydraulic-fracturing (last accessed November 30, 2023)
1017	Carl T. Montgomery and Michael B. Smith, “Hydraulic Fracturing: History of an Enduring Technology,” <i>Journal of Petroleum Technology</i> , Vol. 62, Issue 12 (Dec. 2010).
1018	Bourgoyne, A. T., Jr., K. K. Millheim, M. E. Chenevert and F. S. Young, Jr. (1986). Applied Drilling Engineering. <i>SPE Textbook Series</i> , Vol. 2
1019	Vassiliou, M. S., Historical dictionary of the petroleum industry, Rowman & Littlefield (2018)
1020	U.S. Patent Application Publication No. 2013/0306322 to Sanborn <i>et al.</i> entitled “System and Process for Extracting Oil and Gas by Hydraulic Fracturing” (“Sanborn”)
1021	U.S. Patent No. 11,959,371 to Oehring
1022	Waters, George, Dean, Barry, Downie, Robert, Kerrihard, Ken, Austbo, Lance, and Bruce McPherson. “ <i>Simultaneous Hydraulic Fracturing of Adjacent Horizontal Wells in the Woodford Shale.</i> ” Paper presented at the SPE Hydraulic Fracturing Technology Conference, The Woodlands, Texas, January 2009. doi: https://doi.org/10.2118/119635-MS (“Waters”)
1023	Pearson, C.M., Bond, A.J., Eck, M.E., and J.H. Schmidt. “ <i>Results of Stress-Oriented and Aligned Perforating in Fracturing Deviated Wells.</i> ” J Pet Technol 44 (1992): 10–18. doi: https://doi.org/10.2118/22836-PA
1024	Mutalik, P N, & Bob Gibson. “ <i>Case History of Sequential and Simultaneous Fracturing of the Barnett Shale in Parker County.</i> ” Paper presented at the SPE Annual Technical Conference and Exhibition, Denver, Colorado, USA, September 2008. doi: https://doi.org/10.2118/116124-MS (“Mutalik”)
1025	Mayerhofer, M. J., Lolon, E. P., Warpinski, N. R., Cipolla, C. L., Walser, D., and C. M. Rightmire. “ <i>What is Stimulated Reservoir Volume (SRV)?</i> ” Paper presented at the SPE Shale Gas Production Conference, Fort Worth, Texas, USA, November 2008. doi: https://doi.org/10.2118/119890-MS (“Mayerhofer”)

1026	Roussel, Nicolas P., and Mukul M. Sharma. “ <i>Optimizing Fracture Spacing and Sequencing in Horizontal-Well Fracturing.</i> ” SPE Prod & Oper 26 (2011): 173–184. doi: https://doi.org/10.2118/127986-PA (“Roussel”)
1027	K. R. Webster, W. C. Goins, Jr., and S. C. Berry, “ <i>A Continuous Multistage Tracing Technique,</i> ” <i>Journal of Petroleum Technology</i> , vol. 17, no. 06, pp. 619-625, 1965, doi: 10.2118/977-pa. (“Webster”)
1028	A. Casero, G. Pace, B. Malone, F. Cantaloube, L. Tealdi, H. Malonga, and R. Seale, “ <i>Continuous Pumping, Multistage, Hydraulic Fracturing in Kitina Field, Offshore Congo, West Africa,</i> ” in <i>SPE International Symposium and Exhibition on Formation Damage Control</i> , 2008, vol. All Days, SPE-112442-MS, doi: 10.2118/112442-ms. [Online]. Available: https://doi.org/10.2118/112442-MS (“Casero”)
1029	S. Rassenfoss, “ <i>A Look Into What Fractures Really Look Like,</i> ” <i>Journal of Petroleum Technology</i> , vol. 70, no. 11, pp. 28-36, 2018, doi: 10.2118/1118-0028-jpt. (“Rassenfoss”)
1030	ASME Landmark “ <i>America’s First Power Generating Gas Turbine,</i> ” available at: https://www.asme.org/wwwasmeorg/media/resourcefiles/aboutasme/who%20we%20are/engineering%20history/landmarks/100-belle-isle-gas-turbine.pdf
1031	ADM Callaghan “GTS Admiral W.M. Callaghan” available at https://maritime.dot.gov/multimedia/gts-admiral-wm-callaghan
1032	GE Power & Water, <i>Power Generation Products</i> , https://web.archive.org/web/20140717214839/https://www.ge-distributedpower.com/products/power-generation
1033	GE Power & Water, GE’s TM2500+ solution offers fast, mobile, and flexible power, Aeroderivative Mobile Gas Turbine Brochure, available at: https://web.archive.org/web/20140717215045/https://www.ge-distributedpower.com/component/cck/?task=download&file=seb_media_document&id=13183
1034	Eugene A. Avallone et al., Marks’ Standard Handbook for Mechanical Engineers (11th ed. 2007)
1035	A brochure of Solar Turbines <i>Turbomachinery Systems for Oil and Gas Applications</i> advertising the “transportability” of its natural gas turbines from 2006, available at:

	https://web.archive.org/web/20061102043710/http://mysolar.cat.com/cda/files/127587/7/bo&g.pdf
1036	Solar Turbines - Titan 130 Generation Set, available at: https://web.archive.org/web/20060318215809/http://mysolar.cat.com/cda/layout?m=36056&x=7
1037	Solar Turbines - Gas Turbine Products for the Oil and Gas Industry, available at: https://web.archive.org/web/20060712013257/http://mysolar.cat.com/cda/layout?m=35881&x=7
1038	U.S. Patent No. 2019/0249754 to Oehring
1039	CRC Press Books, About Us, available at https://www.routledge.com/corporate/about-us/crc-press?srsId=AfmBOoo4LdrPswlrDh199mp0iAWleSZK26v7xZFamobLssWyPVplVts
1040	Dixon Product Literature website, available at https://australia.dixonvalve.com/en/knowledge-center/references-and-education/product-literature
1041	Amazon.com Dixon Frac Fitting, HUF100300CS, available at https://www.amazon.com/Dixon-FEMALE-SUB-FIG-HUF100300CS/dp/B00LT0TT2U
1042	Dixon History: 100 years, available at https://australia.dixonvalve.com/en/about-dixon/history
1043	Dixon History: First Commercial Hydraulic Fracturing Wells Drilled, March 17, 1949, available at https://australia.dixonvalve.com/en/about-dixon/history
1044	Gardner Denver, <i>Operating and Servicing Manual: Well Servicing Pump Model GD-2500Q QUINTUPLEX</i> , August 2005, available at, https://web.archive.org/web/20120917102614/http://www.quincieoilfield.com/pdf/3.0%20Gardner%20Denver/2500/GD2500Q%20Op%20&%20Service%20Manual.pdf
1045	Socket Weld Fittings Types and Applications – Complete Specification, ASME B16.11-2004 available at: https://web.archive.org/web/20180210052553/https://www.octalsteel.com/socket-weld-pipe-fittings/ .
1046	Cambridge English Dictionary, definition of “weld,” https://web.archive.org/web/20170709094317/https://dictionary.cambridge.org/dictionary/english/weld
1047	Collin’s English Dictionary definition of “quintuplex”: https://www.collinsdictionary.com/dictionary/english/quintuplex

1048	Jacobs, Trent. “ <i>The Shale Evolution: Zipper Fracture Takes Hold</i> ,” JPT Technology Writer, October 2014, (2014): 60–67
1049	Turbines: Solar Mobile Turbomachinery, available at https://www.solarturbines.com/en_US/solutions/oil-and-gas/solar-mobile-turbomachinery.html
1050	CNC Flow Control, Oilfield Solutions: Valves, Fittings, & Flow Lines
1051	GTS Admiral W.M. Callaghan, available at https://www.maritime.dot.gov/multimedia/gts-admiral-wm-callaghan
1052	Caterpillar Acquires Kemper Valve & Fittings Corp. Press Release, available at: https://www.cat.com/en_US/news/engine-press-releases/caterpillaracquireskempervalfittingscorporationexpandingcatwel.html
1053	Affidavit of Duncan Hall, dated June 7, 2021
1054	MARC record for ANSI/HI 6.1-6.5 (2015), available at: https://catalog.lindahall.org/discovery/sourceRecord?vid=01LINDAHALL_INST:LHL&docId=alma999258734905961&recordOwner=01LINDAHALL_INST
1055	Hydraulic Fracturing Institute Reciprocating Pump Standards: available at https://web.archive.org/web/20150808112714/http://estore.pumps.org/Standards/Reciprocating/Hardcopy.aspx
1056	Claim Listing
1057	Variable Speed Pumping: A Guide to Successful Applications
1058	Langewis, C. et al., “Practical Hydraulics for Positive Displacement Pumps for High-Pressure Waterflood Installations,” <i>Journal of Petroleum Engineering</i> 173 (1971)
1059	October 27, 2025 Stipulation

Respectfully submitted,

BAKER BOTTS L.L.P.

A handwritten signature in black ink, appearing to read "Chad C. Walters". The signature is fluid and cursive, with the first name "Chad" being more legible than the last name "Walters".

Chad C. Walters (Reg. No. 48,022)

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Date: October 28, 2025

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CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6(e), the undersigned certifies that on the 28th day of October 2025, a complete and entire copy of this **PETITIONERS' UPDATED EXHIBIT LIST and EXHIBIT 1059** were served on Patent Owner via electronic mail at the following addresses:

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Date: October 28, 2025