NO. CV-44,964

HALLIBURTON ENERGY SERVICES,	§	IN THE DISTRICT COURT OF
INC. and HALLIBURTON GROUP	ŝ	
CANADA,	6	
Plaintiffs	8	
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VS.	š	
	å	
PACKERS PLUS ENERGY SERVICES.	ŝ	MIDLAND COUNTY, TEXAS
INC.: PACKERS PLUS ENERGY	Š	
SERVICES, INC. USA: PACKERS PLUS	ŝ	
ENERGY SERVICES (U.S.A.) LIMITED	š	
PARTNERSHIP: DANIEL THEMIG:	ŝ	×
PETER KRABBEN, and KENNETH	a a	
DAT TO AT	8	129 TH THE CIAL DISTRICT
PALIZAI,	8	2301 H JUDICIAL DIGI KICI
Defendants		

AFFIDAVIT OF KEVIN TRAHAN

l, Kevin O. Trahan, of the township of The Woodlands, in the State of Texas, MAKE OATH AND SAY THAT:

 I am over eighteen (18) years of age, am competent to give this affidavit, and do so voluntarily and based upon my personal knowledge of the facts stated herein.

2. I am currently, and have been since 2004, president of Trahan Oilfield Consulting, LLC, whose principal office is in Conroe, TX. Trahan Oilfield Consulting, LLC provides design engineering services and technical expert services to oil and gas service companies. I have been retained by Packers Plus Energy Services in connection with the above referenced lawsuit. I am an expert in the field of oil and gas well drilling and completion technology.

WEATHERFORD INTERNATIONAL, LLC, et al.

EXHIBIT 1011

WEATHERFORD INTERNATIONAL, LLC, et al. v. PACKERS PLUS ENERGY SERVICES, INC.

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1

 I was employed by Baker Hughes from 1992 to 1998 within the Baker Oil Tools division where I performed engineering duties including design, development, testing, patenting, selling, and installation of packers and associated equipment.

4. I was employed by Weatherford International from 1998 to 2003 where for a period of time I was the Vice President of Marketing Support for the completion systems division. In this capacity I oversaw the process for determining the patentability of new Weatherford completion products and technologies, including packers and associated equipment.

5. Packers have been used in the oil and gas business for more than 75 years for isolating annular space between the outside of an internal string of pipe and the inside of an external string of pipe or the inside of a well borehole. Packers with dual packing elements have been used for more than 50 years.

6. The Rockseal packer is a tool that is manufactured by Packers Plus Energy Services. It is a dual packing element packer on a single body and utilizes a centrally located hydraulic setting device. The concept of the Rockseal in and of itself, in my expert opinion, is not unique, novel, innovative, or patentable. A packer with dual packing elements on a single body with a centrally located hydraulic setting device is not unique, novel, or patentable, and it was not unique, novel, or patentable in 1999. Packers with these features have existed many years, dating back at least as far as 1979. Top Tool Company developed a dual element packer that utilized dual packing elements, a single body, and a centrally located hydraulic setting device. The tool employed additional features that were specifically applicable to perforation washing. U.S. patent number 4,279,306 (see Exhibit A) depicts a tool with these features and

2

was issued in 1981 (filed 1979). Baker Oil Tools has a packer that is very similar to the Top Tool Company packer. The Baker Oil Tools packer is known as the Model C Packing Element Circulating Washer. This packer is specifically described and shown in US patent number 4,498,536 (Exhibit B) which was applied for in 1983 and which issued in 1985. Baker's Model C packer is specifically mentioned by name in Exhibit B on page 5. On page 3 (drawing pages sheet 2 of 2), Figure 3 shows the Model C packer in the run-in position and figure 4 shows the Model C packer in the set position. Exhibit C is a document that I created which shows the detailed functionality of the Model C packer versus the Rockseal packer in a simple format. For the purposes of the exhibit the packing elements are depicted as compression springs. Compression springs are shown because they are energizing members that are more common to the general public. It is well known by those skilled in the art of oilfield packers that packing elements, as well as slip and cone anchoring devices, require energizing in order to perform their intended purpose. In a large number of cases the "energizing" is accomplished by relative stroking of components that retain the energizing element (spring, packing element, or slip and cone anchoring device) so that the retaining components get closer together, therefore compressing the spring, packing element, or anchoring mechanism. Page 1 of Exhibit C shows a figure that mimics the Baker Model C packer and lists its components with the packing elements shown as springs. Additionally, the features of the Model C that exist in the Rockseal packer are listed. Page 2 of Exhibit C shows the figure from page 1, except that it is in the set or energized position with a detailed description of the tool functionality. Based on these facts and information, it is obvious to me that a

3

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packer that utilizes dual packing elements on a single body with a centrally located hydraulic setting device was not unique, novel, innovative, or patentable in 1999.

7. Halliburton was assigned a patent in 1986 (filed 1984) that has essentially the same functionality as the Top Tool packer and the Baker Model C packer. Patent number 4,569,396 is Exhibit D of this affidavit. This patent details a packer that has dual packing elements, a single body and a centrally located hydraulic setting device.

8. The Rockseal packer has 2 additional features that are not utilized in the Top Tool packer or the Baker Model C packer. The Rockseal packer utilizes an "anti-preset" device as well as a ratcheting locking mechanism for storing energy in the energizing elements once setting of the packer is complete. The reason the Top Tool packer and the Baker Model C packer do not have these features is they were designed for a slightly different application than the Rockseal packer. The Rockseal packer was designed to set one time and to maintain sealing performance after the hydraulic setting pressure is released. The Top Tool packer and the Baker Model C packer are designed to set and unset on multiple occasions during the same installation. There have been many other oil and gas well tools designed and installed that utilize an anti-preset device and ratcheting locking mechanism. One such tool is the Guiberson G-77 packer. The G-77 packer has a single mandrel with at least 2 energizing elements and a hydraulic setting device between 2 of the energizing elements. Additionally, the G-77 has an anti-preset device and a ratcheting locking mechanism that stores the setting force in the energizing elements once the hydraulic setting pressure is released from the packer. Exhibit E is a document that I created which shows the detailed functionality of the G-77 packer versus the Rockseal packer

4

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in a simple format. Page 1 of Exhibit E details the features and components of the G-77 as well as a list of its features that match the features of the Rockseal packer. The G-77 has a single body, 2 energizing elements (1 packing element & 1 anchoring element), a centrally located hydraulic setting device, an anti-preset device, and a ratcheting locking mechanism. Exhibit F is U.S. patent number 5,103,901, which was issued to Dresser Industries and is no longer maintained. This patent shows a packer which is hydraulically set that utilizes an anti-preset device and a ratcheting lock mechanism.

Packing Elements of many different configurations have been used in 9. cased hole as well as open hole. There are packing elements that have been developed over the years that are potentially better suited to open hole applications where the borehole may not be as consistent or as consolidated as a cased hole. It is a fact that packing elements which were initially designed for cased hole have been used in open hole. The success of conventional compression set packing elements when used in open hole has been mixed. Reliability is largely dependent on the competence of the open hole formation in which a packer is set. If the borehole of the well has discontinuities, fractures, or cracks, that are adjacent to and run along the axis of the wellbore and the discontinuities are of greater length than a set packing element, then a packing element will not seal satisfactorily. It is accepted in the industry that these types of discontinuities exist in many wellbores and predicting the location of them in a cost effective manner prior to setting a packer is typically not possible. It is also understood that some areas of the same wellbore may have areas where there is continuity, therefore allowing a packer to seal effectively. Therefore,

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