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Paper No. 38
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEATHERFORD INTERNATIONAL, LLC,
WEATHERFORD /LAMB, INC., WEATHERFORD US, LP, and
WEATHERFORD ARTIFICIAL LIFT SYSTEMS, LLC,
Petitioner,

v.

PACKERS PLUS ENERGY SERVICES, INC.,
Patent Owner.

Case IPR2017-01236
Patent 9,303,501 B2

Before SCOTT A. DANIELS, NEIL T. POWELL, and
CARL M. DEFRANCO, *Administrative Patent Judges.*

POWELL, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
Inter Partes Review
37 C.F.R. § 42.108

I. INTRODUCTION

Packers Plus Energy Services Inc. ("Packers Plus") is the owner of Patent No. 9,303,501 B2 ("the '501 patent). Weatherford International, LLC, Weatherford/Lamb, Inc., Weatherford US, LP, and Weatherford Artificial Lift Systems, LLC ("Petitioner") filed a Petition (Paper 2, "Pet.") challenging claims 1–9 of the '501 patent. Rapid Completions LLC, the exclusive licensee of the '501 patent, filed a Preliminary Response (Paper 9, "Prelim. Resp."). In view of those submissions, we instituted an *inter partes* review of claims 1–9 of the '501 patent. Paper 10 ("Institution Decision" or "Dec. on Inst."). Subsequent filings include a Patent Owner Response (Papers 16, 17[1], "PO Resp."), a Petitioner Reply (Paper 20, "Pet. Reply"), and a Patent Owner Surreply (Paper 33, "PO Surreply").

We have jurisdiction over this proceeding under 35 U.S.C. § 6(b). After considering the evidence and arguments of the parties, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–9 of the '501 patent are unpatentable. *See* 35 U.S.C. § 316(e). We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a).

II. BACKGROUND

A. The '501 Patent

The '501 patent describes a method of using a tubing string for treating a particular segment of a wellbore, while sealing off other segments. Ex. 1001, Abstract. Typically, a tubing string is run into a wellbore as a conduit for oil and gas products to flow to the surface. *Id*. at 1:36–42. But

[1] Paper 16 is a private, unredacted version of the Patent Owner Response, and Paper 17 is a public, redacted version of the Patent Owner Response.

when natural formation pressure is insufficient, a well "stimulation" technique is employed, which involves injecting fracturing fluids into the formation to enlarge existing channels and thereby improve inflow into the wellbore. *Id*. at 1:43–47.

As described in the '501 patent, the tubing string includes a series of ports along its length, with a ball-actuated sliding sleeve mounted over each port, for selectively permitting the release of fluid from certain segments of the tubing string. *Id*. at 2:46–3:6, 6:44–7:39. Special sealing devices, called "solid body packers," are mounted along the length of the tubing string downhole and uphole of each port. *Id*. at 2:46–3:6, 6:11–43. The solid body packers are disposed about the tubing string and seal the annulus between the tubing string and the wellbore wall, thereby dividing the wellbore into a series of isolated segments. *Id.* at 6:25–31. When the sliding sleeve over a particular port is activated to an open position, fluid can pass into one segment of the wellbore but is prevented from passing into adjacent segments by the packers positioned on either side of the port. *Id*. at 6:49–64.

B. Related Matters

The '501 patent is involved in a concurrent district court action, *Rapid Completions LLC v. Baker Hughes Incorporated*, No. 6:15-cv-00724 (E.D. Tex.). Paper 4, 1–2. The '501 patent is also involved in instituted *inter partes* reviews in IPR2016-01380 and IPR2017-00247. *Id.* at 2. Additionally, the '501 patent is the subject of a petition for *inter partes* review in IPR2016-01232.

C. The Challenged Claims

Of the challenged claims, claim 1 is independent, and claims 2–9 depend from claim 1. Claim 1 is reproduced below.

> 1. A method for fracturing a hydrocarbon-containing formation accessible through a wellbore, the method comprising:
>
> running a tubing string into an open hole and uncased, non-vertical section of the wellbore, the tubing string having a long axis and an inner bore and comprising:
>
> a first port opened through a wall of the tubing string,
>
> a second port opened through the tubing string wall, the second port downhole from the first port along the long axis of the tubing string,
>
> a third port opened through the tubing string wall, the third port downhole from the second port along the long axis of the tubing string,
>
> a first sliding sleeve having a seat with a first diameter, the first sliding sleeve positioned relative to the first port and moveable relative to the first port between (i) a closed port position wherein fluid can pass the seat of the first sliding sleeve and flow downhole of the first sliding sleeve and (ii) an open port position permitting fluid flow through the first port from the tubing string inner bore and sealing against fluid flow past the seat of the first sliding sleeve and downhole of the first sliding sleeve,
>
> a second sliding sleeve having a seat with a second diameter smaller than the first diameter, the second sliding sleeve positioned relative to the second port and moveable relative to the second port between (i) a closed port position wherein fluid can pass the seat of the second sliding sleeve and flow downhole of the second sliding sleeve and (ii) an open port position permitting fluid flow through the second port from the tubing string inner bore and sealing against fluid flow past the seat of

the second sliding sleeve and downhole of the second sliding sleeve,

a first solid body packer mounted on the tubing string to act in a position uphole from the first port along the long axis of the tubing string, the first solid body packer operable to seal about the tubing string and against a wellbore wall in the open hole and uncased, non-vertical section of the wellbore,

a second solid body packer mounted on the tubing string to act in a position between the first port and the second port along the long axis of the tubing string, the second solid body packer operable to seal about the tubing string and against the wellbore wall in the open hole and uncased, non-vertical section of the wellbore,

a third solid body packer mounted on the tubing string to act in a position offset from the second port along the long axis of the tubing string and on a side of the second port opposite the second solid body packer, the third solid body packer operable to seal about the tubing string and against the wellbore wall in the open hole and uncased, non-vertical section of the wellbore, and

a hydraulically actuated sliding sleeve in a position offset from the third solid body packer along the long axis of the tubing string on a side of the third solid body packer opposite the second port, the hydraulically actuated sliding sleeve being positioned relative to the third port and moveable relative to the third port between (i) a closed port position in which the hydraulically actuated sliding sleeve covers the third port and (ii) an open port position in which the hydraulically actuated sliding sleeve exposes the third port to the tubing string inner bore to permit fluid flow through the third port from the tubing string inner bore,

wherein the tubing string is run into the wellbore with the first, second, and third solid body packers each in an unset position;

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