UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

Deep Water Slender Wells Ltd, and James G. Wood, Plaintiffs, v. Shell Oil Company (or current assignee), Shell International Exploration and Production B.V., Shell International Exploration and Production Inc., Royal Dutch Shell plc, Peter Azancot; and John Does 1-10, Defendants.	Civil Action No. 12-11Cde DEMAND FOR JURY TRIAL **CONFIDENTIAL: FILED UNDER SEAL**

COMPLAINT

Plaintiffs, Deep Water Slender Wells Ltd. ("DWSW") and James G. Wood ("Wood"), bring this Complaint against Defendants, and state as follows:

INTRODUCTION

This is an action for correction of inventorship under 35 U.S.C. 256 and related relief. Plaintiffs Wood and DWSW disclosed inventive subject matter to the defendants, who subsequently filed patent applications on that subject matter and obtained a patent from the United States Patent and Trademark Office on the invention covering that subject matter. Defendants did this without disclosing their action to Wood and without listing Wood as inventor. This lawsuit seeks to correct that injustice.

PARTIES, JURISDICTION AND VENUE

1. Plaintiff Deep Water Slender Wells Ltd. ("DWSW") is a corporation organized and existing under the laws of the Isle of Man, with offices at 29-31 Hope Street, Isle of Man, as well as at 7880 San Felipe, Houston, Texas 77063.

2. Plaintiff James G. Wood ("Wood") is an individual residing in the Isle of Man.

3. On information and belief, Defendant Shell Oil Company ("Shell Oil") is a corporation organized and existing under the laws of the State of Delaware, with offices and a principal place of business at Houston, Texas.

4. On information and belief, Defendant Shell International Exploration and Production B.V. ("SIEP BV") is a corporation organized and existing under the laws of the Netherlands, with offices and a principal place of business at The Hague, The Netherlands. It is the successor-in-interest to Shell International Deepwater Services B.V. ("SIDS BV").

5. On information and belief, Defendant Shell International Exploration and Production Inc. ("SIEP Inc.") is a corporation organized and existing under the laws of the State of Delaware, with offices and a principal place of business at Houston, Texas.

6. On information and belief, Royal Dutch Shell plc ("Royal Dutch Shell") is a corporation engaged in the global oil and gas industry, organized and existing under the laws of the United Kingdom with its registered office in London, United Kingdom and its headquarters in The Hague, The Netherlands.

7. The defendants, SIEP BV, SIEP Inc., Shell Oil, and Royal Dutch Shell, are referred to collectively herein as the "Shell Defendants."

8. On information and belief, Defendant Peter Azancot ("Azancot"), is an individual residing in Cornwall, U.K.

9. This action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, and the Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

10. This Court has personal jurisdiction over the Defendants because each of them – including but not limited to the individual Peter Azancot – is and has regularly engaged in business in this District, especially in relation to the subject matter in suit. Moreover, Shell Oil and SIEP Inc. maintain a registered agent for service of process in Texas and, as described herein, have continuous and systematic contacts with this forum.

11. Venue is proper in this district under 28 U.S.C. § 1400(b) and § 1391(b) and (c).

BACKGROUND

12. The technology at issue involves offshore oil drilling platforms that are used for the construction of subsea well systems using a proprietary design that incorporates a surface blowout preventer ("SBOP") and an emergency subsea shut off and disconnect device ("SSOD"). This technology is particularly useful in combination with slender well systems, which utilize high pressure risers having a smaller diameter than conventional risers. In contrast to a 21" standard riser, slender well systems at issue here use risers with 13-16 inch diameters. The technology at issue, in particular when used with slender well systems, allows for substantially smaller platform designs and attendant reduced costs as a result of decreased riser deck size requirements, smaller storage space requirements and lighter load-bearing limits than are commonly required with conventional drilling systems and methods. They also avoid the need for a booster line, such as is commonly required with conventional drilling systems and methods, because higher fluid velocities can be maintained in the drillpipe/riser annulus which is used to bring rock cuttings to the surface. The cross-section of a slender well riser is approximately 50% of a conventional riser.

13. Slender well systems using a subsea blowout preventer (that is, a blowout preventer at the sea floor) (hereinafter "subsea BOP") were used, for example, in the North Sea to drill slim (small final diameter) exploration wells in relatively shallow water. The wells were too small to be of practical use, and the drilling system did not allow for sufficient casing strings for exploration in many areas of the world.

14. The subsea location of the subsea BOP also gave rise to multiple problems, including various umbilical and control lines in order to monitor conditions and operate the subsea BOP stack, high maintenance costs, difficulty in maintaining, repairing or replacing systems as the equipment itself must be brought to the surface, and the need for higher shear force on subsea BOP rams. That is, when casing must be cut by the subsea BOP, hydraulic boosters are required on a subsea BOP ram to compensate for the loss in shear force due to hydrostatic pressure. All of these systems are subject to ocean currents and ocean storms, causing deflection and potential stress points along their lengths.

15. Moreover, the subsea BOP requires choke and kill lines to control fluid flow rate and downhole system pressure. That is, a subsea BOP requires a high-pressure pipe leading from an outlet on the subsea BOP stack to high-pressure rig pumps (known as a "kill line"). During normal well control operations, kill fluid is pumped through the drillstring and annular fluid is taken out of the well through another high pressure line (known as a "choke line") to the choke, which drops the fluid pressure to atmospheric pressure. The need for choke and kill lines extending from the sea floor to the drilling platform required substantial complexity and a larger platform to accommodate the weight. Moreover, the volumetric and frictional effects of these long choke and kill lines must be considered to control the well properly.

16. Mr. Wood and DWSW developed a technique for using SBOPs along with a SSOD for drilling wells in deep water, that could also be used with relatively smaller risers together, and further developed a technique that could be optionally used with a drill through Christmas tree structure. Mr. Wood established that his invention could provide substantial improvements for drilling deep water wells, providing robust technology that could be used in a wide variety of global situations, including but not limited to drilling and creating production wells in environments that are not benign. The benefits include dramatically lowering costs and dramatically increasing flexibility in the type of rigs that can be used for the drilling operation.

17. The use of a SBOP with very short choke and kill lines reduces the effective density exerted by a circulating fluid against the formation (known as the "ECD") and therefore allows longer downhole sections to be drilled without requiring casing to be installed. The resultant reduction in the number of casing strings required allows for the construction of wells with fewer casing strings than would be possible with a subsea BOP, and can avoid the requirement for a large diameter riser.

18. Although the use of a SBOP for drilling wells has been standard practice in shallow water since the beginning of offshore drilling, and had been used for certain wells drilled by Unocal in deep water in Indonesia from 1997. Unocal's well designs could only be used for exploration, and the technique could not be used in anything other than very benign conditions. Mr. Wood and DWSW were the first to propose a surface BOP drilling system in combination with an emergency disconnect system, or SSOD, at the sea floor. Since the circumstances under which a vessel might move outside the allowable envelope could arise extremely quickly, Mr. Wood and DWSW also proposed a SSOD that could respond by shutting the well and disconnecting the riser with a very high level of reliability within a few seconds. One example

of such an SSOD is a minimal subsea BOP stack. Although a conventional subsea BOP would include both well control and shut in capabilities, a minimal BOP as described here includes only shut in capabilities. A minimal subsea BOP "stack" combines the minimal subsea BOP, and an LRP (lower riser package, also known as lower marine riser package or LMRP). The LRP provides the control and riser disconnect functions. SSOD devices are capable not only of quickly disconnecting the riser, but also shutting off flow from the well.

19. Since at least 1997, Mr. Wood and DWSW proposed the use of a small diameter riser in deep water that would increase the water depth capability of existing drilling vessels, taking advantage of the low pressure shallow reservoirs discovered in Angola. At that time, Shell communicated to Plaintiffs that Shell did not believe it would be possible to construct a fully functional deep water well through a small diameter riser.

20. In 1998, Mr. Wood and DWSW were retained by the Shell Defendants to prepare designs for wells which could be constructed using a small diameter riser for three specific potential drilling locations in West Africa and a potential drilling location in Australia. The project was conducted pursuant to a contract entitled "Minor Services Contract" dated May 27 /June 4 1998.

21. Mr. Wood and DWSW presented their well designs to the Shell Defendants in a report entitled "Slender Well Concept Study" dated August 31, 1998 (hereinafter "1998 Concept Study"). In the 1998 Concept Study, however, Mr. Wood and DWSW Ltd. also disclosed Mr. Wood's proprietary new concept of using a SBOP in combination with a subsea emergency shut off that would avoid the requirement for choke and kill lines:

> The use of a surface BOP stack, with a large diameter surface casing in place of a conventional marine riser may be a possibility in some areas. This would require the development of an emergency disconnect system, but would avoid the requirement for choke and kill lines.

1998 Concept Study, p. 23. As noted in the 1998 Concept Study, implementation of Mr. Wood's new concept would require development of a suitable SSOD system and a suitable SBOP. The 1998 Concept Study also proposed using this SBOP system with a drill-through Christmas tree and disclosed attendant advantages. *Id.* A drill-through Christmas tree is a structure that provides multiple tubular elements used to control the flow of oil and gas to the surface and the pressures of the well annulus.

22. On February 5, 1999, Mr. Wood gave a presentation to a number of parties interested in deep-water oil drilling off the coast of West Africa as part of a project known as the West African Deepwater Operations, or "WADO project." The Shell Defendants were among the parties who received this presentation.

23. On April 5, 1999, DWSW and SIDS BV entered into a contract entitled "Consultancy Contract" (hereinafter referred to as the "WADO Consultancy Contract"). Pursuant to the WADO Consultancy Contract, DWSW and SIDS BV worked together to design certain modifications of an existing vessel so that it could be used for drilling in deep water in the WADO project. Through work on the WADO Consultancy Contract, the Shell Defendants became aware of the economic analysis of these modifications and the tremendous benefits that could be realized through Mr. Wood's invention.

24. On June 29, 1999, Wood gave a presentation to Shell employees in the Bellaire Research Center in Houston, Texas. The presentation covered material of the 1998 Subsea BOP system, yet questions from the Shell employees related to SBOP and the design of disconnect/shut off options.

25. In September 1999, Mr. Wood and DWSW presented their project results of the WADO Consultancy Contract in a report entitled "Technical and Economic Feasibility of a Slender Well Drilling Vessel" (hereinafter, the "1999 WADO report"). This report is split in two parts: Volume I presented the portion of the report dealing with information owned by the Shell Defendants; Volume II presented the portion of the report dealing with information owned by DWSW.

26. In Volume I, DWSW and Mr. Wood discussed the design for a floating drilling installation (i.e., a vessel) for use in deep water using a conventional subsea BOP, like the designs that had been previously considered in the 1998 report. Volume I did not contain any additional information about Mr. Wood's proprietary design and invention-in-suit.

27. In Volume II, DWSW and Mr. Wood disclosed important details about Mr. Wood's proprietary design and invention using a SBOP design, subsea emergency shut off, and optional drill through Christmas tree. For example, the parts list on p. WOOJ1-005087 of Volume II disclosed a drilling configuration consisting, *inter alia,* of:

a. a "BOP Triple Unit" (see upper table, third row), which a person of skill in the art would recognize as the proposed implementation of a SBOP; and

b. [A Lower Riser Package (LRP) incorporating] a(n annular) BOP, a wellhead connector, an additional collet connector and a MUX control system, which a person of skill in the art would recognize as providing a well shut in and disconnect capabilities, i.e., an SSOD/emergency disconnect system that could be used at the seabed.

28. The import of these disclosures of the proprietary DWSW and Wood information disclosed to Shell is further confirmed when the proprietary disclosure is viewed in light of the 1998 Concept Study previously disclosed to Shell. The 1998 Concept Study first proposed Mr. Wood's idea for a SBOP configuration and noted the need for development of a drilling system containing certain features that had to be further developed. The proprietary information disclosed in Volume II included the solutions to the pertinent problems and set forth those certain features that had to be developed.

29. On information and belief, Peter Azancot, the named inventor on the '390 Patent, had access to these disclosures of Mr. Wood and DWSW. In particular, Mr. Azancot's superior, Chris Hakulin (to whom Mr. Azancot reported), was a regular participant in the meetings outlined above and received the reports from Mr. Wood and DWSW discussed herein. Mr. Azancot himself was present in some of the meetings where Mr. Wood's concept was discussed. In particular, Mr. Azancot arrived in Houston during the summer of 2000 and was one of the primary Shell representatives investigating the deep water slender well technology. Although Mr. Azancot was in Houston assisting Mr. Hakulin from mid-2000 to early 2001, he then disappeared rather suddenly and was replaced, initially by Colin Leach and latterly by Tim Newman.

30. On April 30, 2001, the Defendants filed a first provisional patent application in the U.S. Patent and Trademark Office ("PTO"), Ser. No. 60/287,358, that disclosed and sought to claim Mr. Wood's invention.

31. On June 15, 2001, the Defendants filed a second provisional patent application in the PTO, Ser. No. 60/298,804, that disclosed and sought to claim Mr. Wood's invention.

32. On June 17, 2002, the Defendants filed utility patent application in the PTO, Ser. No. 10/173,130, that disclosed and sought to claim Mr. Wood's invention.

33. The utility patent application issued to Shell Oil Company on January 6, 2004, as U.S. Patent Number 6,672,390 ("the '390 patent").

34. The information described in Plaintiffs' 1998 Concept Study and the Confidential and Proprietary 1999 report is functionally equivalent to everything that was subsequently patented by Defendants in the '390 patent. For example, claims 1 and 2 of the '390 patent claim each of the elements disclosed in these reports and discussed above:

> 1. A subsea well system comprising:
>
> (a) an offshore platform located at sea level, said platform positioned generally above a target formation of interest;
>
> (b) a blowout preventer stack connected to said platform, wherein said stack is positioned above sea level and controlled from above sea level;
>
> (c) a high pressure riser extending from said platform down toward a subsea wellbore penetrating a portion of the seabed above said target formation, wherein said riser has a first end located above sea level connected to said blowout preventer stack, and a second end located near the seabed and positioned above the well-head of said wellbore, and wherein said riser is utilized in drilling though the wellbore into said formation and in producing product from said formation;
>
> (d) a drill-thru Xmas tree positioned at the wellhead, wherein said drill-thru Xmas tree comprises an upper end and a lower end, and wherein said upper is connected to said second end of said riser;
>
> (e) a drill string extending from said platform down toward said formation, wherein said drill string is internally received by said riser, and wherein a riser annulus is created between said riser and said string.
>
> 2. The system of claim 1 further comprising:
>
> (f) a subsea shut off and disconnector device positioned between said tree and riser.

35. The Defendants did not ever disclose to the PTO that Mr. Wood had previously invented and disclosed to the Defendants the technology claimed in the '390 patent.

36. If the Defendants had disclosed to the PTO that Mr. Wood had previously invented and disclosed to the Defendants the technology claimed in the '390 patent, the PTO would have required that Mr. Wood should be included as inventor of the '390 patent.

37. Recent events in offshore oil and gas drilling have established the importance of Mr. Wood's invention beyond any shadow of doubt.

38. The report by the National Academy of Engineering and National Research Council of the National Academies on the causes of the Deepwater Horizon explosion, fire and oil spill specifically identified maintenance and monitoring issues with the subsea BOP as a primary cause. Macondo Well–Deepwater Horizon Blowout: Lessons for Improving Offshore Drilling Safety, pp. 54-56. By contrast, a SBOP provides clear advantages and mitigation in both maintenance and monitoring of risks such as those that caused the Deepwater Horizon Blowout. These include a BOP that is remote from the seabed that would have allowed containment of potentially explosive gases and reduction in ECD that may have prevented the loss of control of the well among other advantages.

39. On December 7, 2011, the Shell Defendants and the Noble Corporation announced the introduction into U.S. Territorial waters of a new offshore drilling rig, known as "PRD 12000" (for "Pressurized Riser Drilling") or the "Noble Bully I," that would soon commence operations:

> Shell and Noble Corporation announce the Gulf of Mexico arrival of the Noble Bully I, a state-of-the-art offshore drilling rig that is designed to raise the bar in terms of safety and performance.
>
> * * *

> The Noble Bully I has now arrived in the Gulf of Mexico from Singapore and will complete commissioning and acceptance testing this month before beginning operations.

On information and belief, the Noble Bully I has been designed to use the significant improvements conferred by Mr. Wood's invention and claimed in the '390 patent.

COUNT I
CORRECTION OF INVENTORSHIP

40. Plaintiffs re-allege and incorporate paragraphs 1-39 above.

41. Defendants erred in naming Mr. Peter Azancot as sole inventor of the subject matter claimed in the '390 Patent.

42. Defendants erred in not naming Mr. Wood as an inventor of the subject matter claimed in the '390 Patent. The error in not naming Mr. Wood as an inventor in the '390 Patent arose without any deceptive intention on Mr. Wood's part.

43. Pursuant to 35 U.S.C. § 256, an order correcting inventorship is appropriate, adding Mr. James Wood as a named inventor of the subject matter claimed in the '390 Patent, and removing Mr. Peter Azancot as a named inventor of the subject matter claimed in the '390 Patent.

COUNT II
DERIVATION

44. Plaintiffs re-allege and incorporate paragraphs 1-43 above.

45. The subject matter of the '390 patent owned by the Shell Defendants was derived from Mr. Wood's involvement in the development of that subject matter.

COUNT III
UNJUST ENRICHMENT

46. Plaintiffs re-allege and incorporate paragraphs 1-45 above.

47. The Defendants have been unjustly enriched through their action of obtaining the '390 patent without disclosing Mr. Wood's involvement in the development of that subject matter and without including Mr. Wood as inventor of the '390 patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully demand the following relief against Defendants:

(a) That the Court enter an order finding that Mr. James Wood is the inventor of the subject matter validly claimed in the '390 Patent;

(b) That the Court enter an order finding that Mr. Peter Azancot is not the inventor of the subject matter claimed in the '390 Patent;

(c) That the Court order the Director of the Patent and Trademark Office to correct inventorship by adding James Wood as the inventor of the subject matter claimed in the '390 Patent;

(d) That the Court order the Director of the Patent and Trademark Office to correct inventorship by removing Peter Azancot as the inventor of the subject matter claimed in the '390 Patent;

(e) That Defendants be directed to maintain the '390 Patent in full force and effect until the aforementioned actions can be implemented by the Director of the Patent and Trademark Office;

(f) That this Court ascertain and award Plaintiffs their damages for any unjust enrichment by the Defendants in this action; and

(g) That this Court grants such other relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

In accordance with Federal Rule of Civil Procedure 38(b), Plaintiffs, Deep Water Slender Wells Ltd. and James G. Wood, demand a trial by jury on all issues so triable.

Respectfully Submitted,

/s/ Daniel A. Boehnen
Daniel A. Boehnen
Attorney-In-Charge
(Motion to Appear Pro Hac Vice pending)
McDonnell Boehnen Hulbert & Berghoff LLP
300 S. Wacker Drive
Chicago, IL 60606
Ph: 312-913-0001
Fax: 312-913-0002

ATTORNEY-IN-CHARGE FOR PLAINTIFFS, DEEP WATER SLENDER WELLS, LTD AND JAMES G. WOOD

OF COUNSEL:

Grantland G. Drutchas
Anthoula Pomrening
(Motions to Appear Pro Hac Vice pending)
McDonnell Boehnen Hulbert & Berghoff LLP
300 S. Wacker Drive
Chicago, IL 60606
Ph: 312-913-0001
Fax: 312-913-0002

T. Michael Wall
Texas Bar No. 20757300
Southern District ID No. 811
Gardere Wynne Sewell LLP
1000 Louisiana Street, Suite 3400
Houston, Texas 77002-5011
Ph. 713-276-5791
Fax: 713-276-6791