

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLORADO  
Senior District Judge Richard P. Matsch

Civil Action No. 03-cv-02579-RPM

VARCO, L.P.,

Plaintiff,

v.

PASON SYSTEMS USA CORP.,

Defendant.

---

RULING ON CLAIMS CONSTRUCTION ISSUES

---

Varco, L.P. is the holder of United States Patent Number 5,474,142 ('142 Patent or "Bowden Patent") issued for an automatic drilling system to be used in the operation of a drilling rig to bore holes in underground formations in the onshore and offshore oil and gas exploration industry. The rig consists of a derrick from which a drill bit and pipes are suspended in a drill string held by a cable coiled around a drum with a brake that controls the release of the drill string in the bore hole. The desired objective in operating the brake is to maintain the maximum rate of penetration of the formation which varies according to the material the bit encounters.

In manual operation of a drilling rig in a vertical hole, the operator uses the weight on the bit to determine when to release the drill string support cable to lower the drill string placing increased weight on the bit. Before the patented inventions, automatic drillers also controlled the cable drum brake according to weight on the bit. The inventor, Bobbie J. Bowden, sought to enable the automatic driller to control the

release of the drill string in response to measurements of drilling fluid pressure, drill string torque and drill string RPM in addition to weight on bit so that directional or horizontal boreholes may be drilled. The Bowden patent consists of both apparatus and method claims. In this civil action, Varco alleges that Pason Systems USA Corp. ("Pason") has an automatic driller that infringes the apparatus in Claim 1 and the methods in claims 11 and 14.

The parties have sought a ruling on their respective contentions as to the construction of the language of these claims in an attempt to narrow the issues of infringement and invalidity before trial. In considering the briefs submitted, the Court has attempted to avoid anticipating the consequences of its rulings and, accordingly, some of the disputes will be reserved for ruling in the course of the trial.

#### Claim 1

1. An automatic drilling system for automatically regulating the release of the drill string of a drilling rig during the drilling of a borehole, comprising:

a drilling fluid pressure sensor;

a drilling fluid pressure regulator coupled to said drilling fluid pressure sensor, said drilling fluid pressure regulator measuring changes in drilling fluid pressure and outputting a signal representing those changes;

a relay coupled to said drilling fluid pressure regulator, said relay responsive to the output signal of said drilling fluid pressure regulator to supply a drill string control signal at an output thereof; and

a drill string controller coupled to said relay wherein a decrease in drilling fluid pressure results in said relay supplying a drill string control signal that operates said drill string controller to effect an increase in the rate of release of said drill string and an increase in

drilling fluid pressure results in said relay supplying a drill string control signal that operates said drill string controller to effect a decrease in the rate of release of the drill string.

'142 Patent, col. 24, ll. 37-58.

Pason seeks to limit the “drilling fluid pressure regulator” to the device described in the specifications particularly Element 200, describing a Bourdon tube pneumatic device. That argument is rejected. It violates the principles of claim construction that ordinarily the claim is not limited to the described preferred embodiment and the doctrine of claim differentiation because dependent Claim 5 includes the same limitations advocated by Pason.

Conversely, Varco construes “drilling fluid pressure regulator” to describe a device that is capable of detecting and responding to electrical, mechanical, hydraulic or pneumatic signals. Drilling fluid, often referred to as “drilling mud” and “pressure” are terms with established meaning in the drilling industry. The term drilling fluid pressure regulator must be understood in the context of the use of measurement of changes in drilling fluid pressure and producing a signal representing changes in drilling fluid pressure. It is therefore coupled with the drilling fluid pressure sensor.

Pason accepts that the “relay” coupled to the drilling fluid pressure regulator to supply a drill string control signal includes “a device that communicates an electric, mechanical or pneumatic signal” as Varco contends but argues that coupled to requires that the relay device be attached at the output of the drilling fluid pressure regulator. That is an undue restriction which would exclude coupling by tubes, lines or pipes that transmit hydraulic or pneumatic signals as described in the preferred embodiments.

Coupled means connected.

Pason contends that “measuring change” of the Claim 1 and response to changes in drilling fluid pressure in Claim 11 and changes in drilling fluid pressure and changes in bit weight in Claim 14 must mean either changes in time or a change from a set-point but cannot be both. The argument is not persuasive. The goal of maintaining an optimum parameter constant necessarily requires measurement of changes over time which will also be compared to a set reference point.

Claim 14 was the subject of the preliminary injunction hearing and the ruling of the Federal Circuit Court of Appeals. It is a method claim using either drilling fluid pressure or bit weight or both in combination to control the release of the drill string. It is an independent claim, as is Claim 11 for the use of drilling fluid pressure as the controlling parameter. The structure for producing a signal in response to changes in drilling fluid pressure in these method claims are not limited to the structure for measuring changes or outputting a signal described in Claim 1 as Pason seems to suggest.

Pason’s “*Markman*” brief raises a number of language construction issues that are related to its contentions of invalidity and prosecution history. They cannot be resolved without an evidentiary hearing and the Court declines to proceed with a *Markman* hearing, recognizing that the necessary evidence will be presented in the jury trial and the Court’s ruling on disputed claims language will be addressed in the jury instructions when the significance of these respective views to the questions before the jury can be evaluated.

Accordingly, this ruling does not address many of Pason's contentions and follows the Court's view that pre-trial claims construction is of little value in advancing the adjudication of the controlling issues. This case should proceed to trial without further delay. Accordingly, it is

ORDERED, that a pre-trial conference will be convened as soon as it can be scheduled in consultation with counsel.

DATED: January 10<sup>th</sup>, 2008.

BY THE COURT:

s/Richard P. Matsch

---

Richard P. Matsch, Senior District Judge