

*Cause No. 03-M-2579 (BNB); Varco, L.P. v. Pason Systems  
USA Corp., in the United States District Court for the  
District of Colorado.*

JURY INSTRUCTIONS READ BY JUDGE MATSCH ON  
NOVMEBER 5, 2008

COURTS CLAIM INTERPRETATION

1 The language of the claims must be considered in the context of the art in which the  
2 invention is used. Some of the terms used have meanings that have been the subject of dispute  
3 between the parties. I have resolved their dispute and modified some of the claim language.

4 You must accept the meanings I give you and use them when you decide whether any  
5 claim of the patent has been infringed and whether any claim is invalid. My interpretation of the  
6 language should not be taken as any indication that I have a view regarding the issues of  
7 infringement and invalidity. The decisions regarding infringement and invalidity are yours to  
8 make.

9 **Claim 1**

10 The invention described in claim 1 is an automatic drilling system for automatically  
11 regulating the release of a drill string of a drilling rig drill during the drilling of a borehole. This  
12 is an apparatus claim.

13 I will now explain certain words and phrases found in claim 1.

14 "A drilling fluid pressure sensor" is a device that senses drilling fluid pressure.

15 The word "coupled" as used throughout claim 1 means connected. The phrase "a drilling  
16 fluid pressure regulator coupled to said drilling fluid sensor" means that the drilling fluid  
17 pressure regulator is connected to the drilling fluid pressure sensor.

18 In the phrase "said drilling fluid pressure regulator measuring changes in drilling fluid  
19 pressure and outputting a signal representing those changes," the words "drilling fluid pressure  
20 regulator" mean a device that measures only changes in drilling fluid pressure, over time and  
21 which will also be compared to a set reference point. The drilling fluid pressure regulator

1 generates a signal representing only those changes in drilling fluid pressure.

10

2 In the phrase "a relay coupled to said drilling fluid pressure regulator, said relay  
3 responsive to the output signal of said drilling fluid pressure regulator," the word "relay" means a  
4 device, connected to the drilling fluid pressure regulator, that communicates an electric,  
5 mechanical or pneumatic signal.

6 The phrase "said relay responsive to the output signal of said drilling fluid pressure  
7 regulator to supply a drill string control signal at an output thereof" requires no interpretation by  
8 the court.

9 "A drill string controller coupled to said relay" means a drill string controller connected  
10 to a relay.

11 The phrase "wherein a decrease in drilling fluid pressure results in said relay supplying a  
12 drill string control signal that operates said drill string controller to effect an increase in the rate  
13 of release of said drill string" requires no interpretation by the court.

14 The phrase "an increase in drilling fluid pressure results in said relay supplying a drill  
15 string control signal that operates said drill string controller to effect a decrease in the rate of  
16 release of the drill string" requires no interpretation by the court.

Insert discussion re: language in  
front of jury; <sup>must</sup> read two  
together (claim plus court's construction)

17 Claim 11

18 The invention of claim 11 is a method for automatically controlling the release of the drill  
19 string of a drilling rig drill. It is a process claim.

20 I will now explain the meaning of certain words and phrases in claim 11:

21 The phrase "measuring drilling fluid pressure" requires no explanation.

22 The phrase "producing a signal in response to changes in drilling fluid pressure" means

1 producing a signal in response to changes in drilling fluid pressure, over time which will also be  
2 compared to a set reference point.

3 The phrase "said signal representing the changes in drilling fluid pressure" means that  
4 same signal representing only those changes in drilling fluid pressure.

5 The phrase "relaying said signal to a drill string controller" means passing along that  
6 same signal to the drill string controller.

7 The phrase "controlling said drill string controller to increase the rate of release of said  
8 drill string when said signal represents a decrease in drilling fluid pressure" requires no  
9 interpretation by the court.

10 The phrase "and to decrease the rate of release of said drill string when said signal  
11 represents an increase in drilling fluid pressure" requires no interpretation by the court.

#### 12 **Claim 14**

13 The invention of claim 14 is a method for automatically regulating the release of the drill  
14 string of a drilling rig drill. It is a process or method claim.

15 I will now explain certain words and phrases found in claim 14:

16 The phrase "measuring drilling fluid pressure and bit weight" requires no explanation.

17 The phrase "producing a first signal in response to changes in drilling fluid pressure"  
18 means producing a first signal in response to changes in drilling fluid pressure, over time which  
19 will also be compared to a set reference point.

20 The phrase "said first signal representing changes in drilling fluid pressure" means that  
21 same first signal representing only those changes in drilling fluid pressure.

22 The phrase "producing a second signal in response to changes in bit weight" means

12  
1 producing a second signal that represents changes in bit weight, over time which will also be  
2 compared to a set reference point.

3 The phrase "said second signal representing changes in bit weight" means that same  
4 second signal representing only those changes in bit weight.

5 The phrase "selecting any one of said first signal, said second signal, and both said first  
6 and second signals to control the release of the drill string" means automatically choosing the  
7 first signal, or the second signal, or both the first and second signals to control the release of the  
8 drill string.

9 The phrase "relaying said selected signal or signals to a drill string controller which  
10 regulates the release [of] said drill string in response to said selected signal or signals" means  
11 passing along the selected signal or signals to a drill string controller which regulates the rate of  
12 release of the drill string in response to the selected signal or signals.