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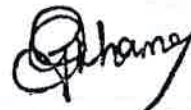
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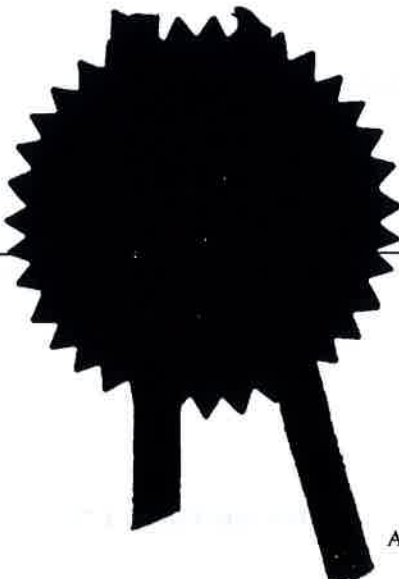
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Dated 7 October 1999



PGS - all
EXHIBIT 1081
DATE
REPORTER
Planet Depos, LLC

FOI/7750-0:00 - 9821277.1

Request for grant of a patent

(see the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
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1. Your reference

14.0123

2. Patent application number

(The Patent Office will fill in this part)

01 OCT 1998

9821277.2

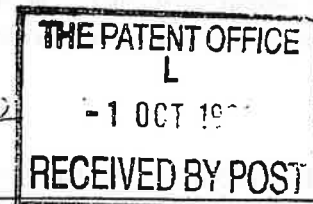
3. Full name, address and postcode of the or of each applicant *(underline all surnames)*

Geco AS
Schlumberger House
Solbraveien 23
N-1370 Asker
Norway

Patents ADP number *(if you know it)*

If the applicant is a corporate body, give the country/state of its incorporation

Norway



4. Title of the invention

SEISMIC DATA ACQUISITION EQUIPMENT CONTROL SYSTEM

5. Name of your agent *(if you have one)*

W B Batzer

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*

Geco-Prakla Technical Services Inc
Schlumberger House
Buckingham Gate
Gatwick
West Sussex RH6 0NZ

Patents ADP number *(if you know it)*

7452543001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*

Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))


Patents Form 1/77

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PGS Exhibit 1081, pg. 2

PGS v. WesternGeco (IPR2014-00689)

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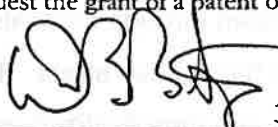
Continuation sheets of this form	-
Description	19
Claim(s)	5
Abstract	1
Drawing(s)	3 + 3 

10. If you are also filing any of the following, state how many against each item.

Priority documents	-
Translations of priority documents	-
Statement of inventorship and right to grant of a patent (Patents Form 7/77)	-
Request for preliminary examination and search (Patents Form 9/77)	1
Request for substantive examination (Patents Form 10/77)	-
Any other documents (please specify)	-

11. We request the grant of a patent on the basis of this application.

Signature



Date

30 September 1998

12. Name and daytime telephone number of person to contact in the United Kingdom

W B Batzer 01293 556259

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Patents Form 1/77

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PGS Exhibit 1081, pg. 3

PGS v. WesternGeco (IPR2014-00689)

SEISMIC DATA ACQUISITION EQUIPMENT CONTROL SYSTEM

BACKGROUND OF THE INVENTION

This invention relates generally to systems for controlling seismic data acquisition equipment and particularly to a system for controlling a marine seismic streamer positioning device.

A marine seismic streamer is an elongate cable-like structure, typically up to several thousand meters long, which contains arrays of seismic sensors, known as hydrophones, and associated electronic equipment along its length, and which is used in marine seismic surveying. In order to perform a 3D marine seismic survey, a plurality of such streamers are towed at about 5 knots behind a seismic survey vessel, which also tows one or more seismic sources, typically air guns. Acoustic signals produced by the seismic sources are directed down through the water into the earth beneath, where they are reflected from the various strata. The reflected signals are received by the hydrophones, and then digitized and processed to build up a representation of the subsurface geology.

The horizontal positions of the streamers are typically controlled by a deflector, located at the front end or "head" of the streamer, and a tail buoy, located at the back end or "tail" of the streamer. These devices create tension forces on the streamer which constrain the movement of the streamer and cause it to assume a roughly linear shape. Cross currents and transient forces cause the streamer to bow and undulate, thereby introducing deviations into this desired linear shape.

The streamers are typically towed at a constant depth of approximately ten meters, in order to facilitate the removal of undesired "ghost" reflections from the surface of the water. To keep the streamers at this constant depth,

control devices known as "birds", are typically attached at various points along each streamer between the deflector and the tail buoy, with the spacing between the birds generally varying between 200 and 400 meters. The birds have hydrodynamic deflecting surfaces, referred to as wings, that allow the position of the streamer to be controlled as it is towed through the water. When a bird is used for depth control purposes only, it is possible for the bird to regularly sense its depth using an integrated pressure sensor and for a local controller within the bird to adjust the wing angles to maintain the streamer near the desired depth using only a desired depth value received from a central control system.

While the majority of birds used thus far have only controlled the depth of the streamers, additional benefits can be obtained by using properly controlled horizontally steerable birds, particularly by using the types of horizontally and vertically steerable birds disclosed in our published PCT International Application No. WO 98/28636. The benefits that can be obtained by using properly controlled horizontally steerable birds can include reducing horizontal out-of-position conditions that necessitate reacquiring seismic data in a particular area (i.e. in-fill shooting), reducing the chance of tangling adjacent streamers, and reducing the time required to turn the seismic acquisition vessel when ending one pass and beginning another pass during a 3D seismic survey.

It is estimated that horizontal out-of-position conditions reduce the efficiency of current 3D seismic survey operations by between 5 and 10%, depending on weather and current conditions. While incidents of tangling adjacent streamers are relatively rare, when they do occur they invariably result in prolonged vessel downtime. The loss of efficiency associated with turning the seismic survey vessel will depend in large part on the seismic survey layout, but typical estimates range from 5 to 10%. Simulations have

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