Abstract: A method and apparatus for transporting a swab through a pipeline, or through an insert within a pipeline, according to the present invention may include coupling a swab launcher to the pipeline, the swab launcher having a launch chamber with a first inner diameter large enough to receive a swab when the swab is substantially uncompressed and a narrowing portion configured to compress the swab to fit within the pipeline, inserting the swab into the launch chamber, pressurizing the launch chamber with a compressed fluid behind the swab, and advancing the swab with the compressed fluid through the narrowing portion and into the pipeline.
(88) Date of publication of the international search report:
6 November 2008
A. **CLASSIFICATION OF SUBJECT MATTER**

**IPC:**
- B08B 9/027 (2006.01); F16L 55/18 (2006.01); F16L 55/16 (2006.01); B29C 45/14 (2006.01)

**USPC:** 134/22.11; 138/97,98; 264/516

According to International Patent Classification (IPC) or to both national classification and IPC.

B. **FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S.: 134/22.11; 138/97,98; 264/516

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used).

C. **DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 5,186,757 (Abney, Sr) 16 Feb 1993 (16.02.1993), See entire document</td>
<td>1, 6-8, 12-13, 15, 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>(US 5,891,260) Streets et al 6 Apr 1999 (06.04.1999) See entire document</td>
<td>4</td>
</tr>
<tr>
<td>Y</td>
<td>(US 4,435,872) Leikam 13 Mar 1984 (13.03.1984) see entire document</td>
<td>16-17, 19-20</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search: 17 June 2008 (17.06.2008)

Date of mailing of the international search report: 15 JUL 2008

Name and mailing address of the ISA/US
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Authorized official: Michael Kornakov
Telephone No. 271-272-1709

Form PCT/ISA/210 (second sheet) (April 2007)
INTERNATIONAL SEARCH REPORT

PCT/US07/76455

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
   because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest
☐ The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.
☐ The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.
☐ No protest accompanied the payment of additional search fees.
BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING
Group I, claim(s) 1-5, drawn to method for transporting a swab through a pipeline.

Group II, claim(s) 6-11, drawn to swab launcher.

Group III, claim(s) 12-20, drawn to a system for swab transport.

The inventions listed as Groups I, II, and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical features of groups I, II, and III are a pipeline, a swab and a swab launcher comprising a launch chamber with a first inner diameter large enough to receive a swab when the swab is substantially uncompressed and a narrowing portion configured to compress the swab to fit within the pipeline, which is known in the prior art (Abney, Sr., US 5,186,757).