



US005361843A

# United States Patent [19]

[11] Patent Number: **5,361,843**

Shy et al.

[45] Date of Patent: **Nov. 8, 1994**

- [54] **DEDICATED PERFORATABLE NIPPLE WITH INTEGRAL ISOLATION SLEEVE**
- [75] Inventors: **Perry C. Shy, Arlington; Christopher A. Dines, Dallas, both of Tex.**
- [73] Assignee: **Halliburton Company, Houston, Tex.**
- [21] Appl. No.: **950,456**
- [22] Filed: **Sep. 24, 1992**
- [51] Int. Cl.<sup>5</sup> ..... **E21B 43/116**
- [52] U.S. Cl. .... **166/297; 166/55.1; 166/242; 166/332**
- [58] Field of Search ..... **166/297, 55.1, 242, 166/318, 332, 285**

- 5,012,867 5/1991 Kilgore ..... 166/188
- 5,025,861 6/1991 Huber et al. .... 166/297
- 5,070,943 12/1991 Walker et al. .... 166/297
- 5,156,213 10/1992 George et al. .... 175/4.52 X

### FOREIGN PATENT DOCUMENTS

- 2240798 8/1991 United Kingdom .

### OTHER PUBLICATIONS

"New system speeds multiple zone horizontal completions", Pike, Wm. J., Ocean Industry, Mar., 1992; pp. 42-44.

*Primary Examiner*—Hoang C. Dang  
*Attorney, Agent, or Firm*—Tracy W. Druce; Dennis T. Griggs

### [56] References Cited

#### U.S. PATENT DOCUMENTS

- 3,057,295 10/1962 Christopher ..... 175/4.6
- 3,073,392 1/1963 Dinning et al. .... 166/332
- 3,465,836 9/1969 Fields ..... 166/55.1 X
- 3,542,130 11/1970 Stout ..... 166/318
- 3,583,481 6/1971 Vernotzy ..... 166/184
- 3,669,190 6/1972 Sizer et al. .... 166/315
- 3,789,923 2/1974 Garrett ..... 166/55.1
- 3,910,349 10/1975 Brown et al. .... 166/153
- 4,220,206 9/1980 Van Winkle ..... 166/318
- 4,278,131 7/1981 Jani ..... 166/332
- 4,299,287 11/1981 Vann et al. .... 166/297
- 4,450,912 5/1984 Callihan et al. .... 166/289
- 4,673,039 6/1987 Mohaupt ..... 166/281
- 4,880,059 11/1989 Brandell et al. .... 166/332
- 4,915,175 4/1990 Mashaw, Jr. .... 166/332
- 4,949,788 8/1990 Szarka et al. .... 166/285

### [57] ABSTRACT

A production nipple is suspended within an uncased bore hole in a slimhole/monobore completion. A deposit of cement is conveyed through the nipple and is spotted in the annulus across the face of the uncased well bore, with the nipple and cement deposit thereafter being perforated by a small diameter perforating gun. The production nipple has a thin walled section which is characterized by reduced resistance to perforation by a shaped explosive charge. The perforating gun is accurately positioned in registration with the dedicated nipple section by an annular locator slot formed on a coupling sub, which is engagable by a resilient latch arm carried by the perforating gun.

1 Claim, 4 Drawing Sheets

