

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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UNITED STATES OF AMERICA, )  
Department of Justice )  
Antitrust Division )  
325 7<sup>th</sup> Street, N.W., Suite 500 )  
Washington, D.C. 20530, )  
Plaintiff, )  
v. )  
HALLIBURTON COMPANY, )  
3600 Lincoln Plaza )  
500 North Akard Street )  
Dallas, Texas 75201-3391, )  
and )  
DRESSER INDUSTRIES, INC. )  
2001 Ross Avenue )  
Dallas, Texas 75221, )  
Defendants. )

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Ci CASE NUMBER 1:98CV02340  
JUDGE: Stanley Sporkin  
DECK TYPE: Antitrust  
DATE STAMP: 09/29/98

**COMPLAINT**

The United States of America, acting under the direction of the Attorney General of the United States, brings this civil action to obtain equitable and other relief against defendants and alleges as follows:

1. The United States seeks to block the proposed merger of Halliburton Company ("Halliburton") and Dresser Industries, Inc. ("Dresser"), because it would combine two of only four companies that compete to provide logging-while-drilling ("LWD") tools and services for oil

and natural gas drilling projects. The merger would also combine two of the four companies that are the only sources of current and likely future innovations in new or improved LWD tools.

2. LWD services are particularly important for companies engaged in offshore oil and gas exploration and drilling, because they provide data on the type of formation being drilled, whether there is oil in the formation, and the ease with which the oil can be extracted from the formation. The LWD tools also provide these data during the drilling so that changes can be made without interrupting the drilling process, thereby increasing productivity and efficiency.

3. If Halliburton and Dresser merge, the reduction in competition likely will lead to higher prices for LWD services, a reduction in LWD service quality, and a slowdown in the pace of LWD-related innovation. As a result, the proposed merger violates Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

## I.

### **JURISDICTION, VENUE, AND DEFENDANTS**

4. The United States brings this action under Section 15 of the Clayton Act, as amended, 15 U.S.C. § 25, to restrain defendants from violating Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

5. Halliburton is a Delaware corporation, with its principal offices in Dallas, Texas. Halliburton is a major worldwide provider of products and services for the exploration, development, and production of oil and natural gas. In 1997, Halliburton had revenues of over \$8 billion. Halliburton manufactures LWD tools at a facility in Fort Worth, Texas, and provides LWD services from sales and service centers located throughout the world.

6. Dresser is a Delaware corporation, with its principal offices in Dallas, Texas. Dresser is a major worldwide provider of products and services for the exploration, development, and production of oil and natural gas. In 1997, Dresser had revenues of about \$7.5 billion. Dresser (through its Sperry-Sun Division) manufactures LWD tools at a facility in Houston, Texas, and provides LWD services from sales and service centers located throughout the world.

7. Halliburton and Dresser are engaged in interstate commerce and in activities substantially affecting interstate commerce. The Court has subject matter jurisdiction over this action and jurisdiction over the parties pursuant to Section 12 of the Clayton Act, 15 U.S.C. § 22, and 28 U.S.C. §§ 1331 and 1337.

8. The defendants transact business and are found within the District of Columbia. Venue is proper in this District under 15 U.S.C. § 22 and 28 U.S.C. § 1391(c).

## II.

### **TRADE AND COMMERCE**

#### **A. The Relevant Product Market**

9. Virtually all oil and natural gas in the United States is discovered and gathered by drilling wells, onshore and offshore, that range from several hundred feet to several miles in depth. Wells are drilled using a drill pipe (or "drill string"), which is a heavy-walled pipe assembled end-to-end in sections. The drill string is suspended from the mast of a drilling rig and lowered gradually as the earth is penetrated. As the drill string is rotated, the earth is cut by a drill bit attached to the end of the drill string or to a motor that is attached to the end of the drill string. As the depth of the well increases, additional sections of drill pipe are added to the drill string.

10. Oil and gas companies rely on oilfield service companies for products and services that enable them to drill for oil and natural gas efficiently. It is increasingly common for oil and gas companies to drill non-vertical, or "directional" wells, particularly offshore. This drilling technique allows the driller to avoid placing multiple rigs at a site or moving the rig, thereby decreasing the total cost of drilling for multiple reserves. But to drill directionally, the driller must be able to determine the precise direction the drill bit is moving during the drilling operation. Measurement-while-drilling ("MWD") tools enable the driller to do this by transmitting data from the drill bit as it proceeds. These data allow the driller to adjust the drilling path as necessary.

11. In addition to MWD tools, the oil and gas companies use LWD tools, especially when drilling non-vertical wells offshore. While the drilling is ongoing, sensors in these tools send back data that allow the drillers to evaluate the formation through which the drill bit is cutting. These formation evaluation data assist the driller in locating oil and gas reserves. Because LWD tools transmit formation data while the drilling is ongoing, the driller can detect changes in downhole pressure, prevent the drill bit from straying from the zone of oil and gas, and thereby reduce the time and risk of drilling. LWD tools are mounted on the drill string, along with MWD tools, at the drill bit. Because it is necessary that the MWD tools and LWD tools be compatible, customers who want to use both types of tools on a particular drilling project usually obtain them from the same company.

12. There are four types of LWD tools, each of which provides different information about the formation: (1) gamma ray; (2) resistivity; (3) neutron density; and (4) sonic. LWD gamma ray tools identify the type of formation through which the drill string is cutting, and are often combined with other types of LWD tools. Data from LWD resistivity tools help detect the

presence of oil, gas, and water in the formation. Data from LWD neutron density and sonic tools help determine how porous the formation is. Knowing the relative porosity helps the driller determine the amount of liquid in the formation and the formation's permeability.

13. There is no realistic substitute for LWD services in offshore drilling. While information about the formation can also be obtained through wireline logging, that technique does not provide data while drilling is ongoing. Instead the drilling must be stopped, the drill string must be removed, and the drilling rig must remain idle while the wireline log is made -- a period of time that can last more than a day. For offshore drilling projects, when the idled rig costs are added to the cost of wireline logging, the aggregate cost of wireline logging services is significantly greater than the cost of using LWD services. The ability of LWD tools to provide formation evaluation while the drilling is ongoing is particularly important, because the operator can save time and lower costs by better guiding of the drill bit towards promising formations.

14. A small but significant and nontransitory increase in LWD services would not cause a significant number of customers drilling offshore wells to substitute other methods of evaluating formations, such as wireline logging.

15. The provision of LWD services for offshore drilling projects is a line of commerce and a relevant product market within the meaning of Section 7 of the Clayton Act.

#### **B. The Relevant Geographic Market**

16. United States customers need LWD services available locally from firms with a reputation in the area. Because geological and environmental conditions vary from region to region around the world, a provider in one region is not automatically considered an option in

another. Providers of LWD services must have tools physically available in an area and also must maintain service centers in the area in the event that tools malfunction.

17. The United States is a relevant geographic market for this relevant product market within the meaning of Section 7 of the Clayton Act.

### **C. Concentration and Entry**

18. The United States market for offshore LWD tools and services is highly concentrated; only four companies compete. Dresser is the second largest provider of LWD services for U.S. offshore drilling projects, with about 27% of total revenues. Halliburton is the fourth largest provider, accounting for about 18% of total revenues. Total 1997 revenues of LWD services provided to U.S. offshore drilling projects were almost \$160 million.

19. The United States market for offshore LWD tools and services would become substantially more concentrated if Halliburton and Dresser merge. Using a measure of market concentration called the Herfindahl-Hirschman Index ("HHI") (defined and explained in Appendix A), the proposed transaction will increase the HHI in this market by nearly 1000 points to a post acquisition level of approximately 3600.

20. Successful entry into the provision of U.S. offshore LWD tools and services is difficult, time-consuming, and costly. The development of the full range of LWD tools that Halliburton, Dresser, and the other two firms have would take a number of years and require a large investment. Even if a new entrant could develop the LWD tools, it would have to engage in extensive testing and establish its reputation with customers for high quality products and for reliability in the operation of the tools. Customers require that their LWD suppliers have well-

established reputations, because offshore drilling costs are very high and the cost of delay due to failure of the LWD tools can be great.

21. Experience in drilling, significant research and development departments, and the provision of drilling services on a global scale have been the characteristics of virtually all companies responsible for the development and commercialization of new and improved LWD tools. Today only four firms engage in the development and commercialization of new and improved LWD tools, including Halliburton and Dresser. Like Halliburton and Dresser, the other two companies offer drilling services, including LWD services, throughout the world. All four companies have extensive engineering programs underway to devise new LWD tools or improve existing tools. Halliburton and Dresser respond to each other's innovation efforts, as well as to those of the two others. Customers rely on the competition among these four firms for technological innovation in the development, commercialization, and improvement of LWD tools to produce the highest quality tools in as short a period as possible, because these developments assist the oil and natural gas companies in recovering greater quantities of oil and gas reserves, particularly offshore.

22. Successful innovation of LWD tools is unlikely by any firm that lacks the scope and scale of operations possessed by the four current market participants. An established revenue base and reputation are necessary to support LWD innovation, and a successful LWD research and development program is unlikely to be created in a reasonable amount of time for the same reasons that new entry into LWD services is difficult.

23. There are no other domestic or foreign firms whose entry or expansion in the LWD services would be likely, timely and sufficient to thwart an anticompetitive price increase, or

to prevent the slowdown or lessening of innovation that the merger of Halliburton and Dresser would likely produce.

**D. Anticompetitive Effects**

24. Competition among Halliburton, Dresser, and the other two firms has given customers lower prices and better services for LWD services and has provided customers with new and improved LWD tools. The proposed merger will remove one of only a few significant suppliers from an already concentrated market. The increase in concentration will make an increase in the price of offshore LWD services in the United States through anticompetitive coordination by the few remaining firms easier and more likely.

25. The merger of Halliburton and Dresser would also eliminate one of only a few firms responsible for the development, commercialization, and improvement of LWD tools. As a result of this reduction in competition, the rate of innovation would likely be slower.

**III.**

**VIOLATIONS ALLEGED**

26. The effect of the proposed merger of Halliburton and Dresser would likely be to lessen competition substantially in interstate trade and commerce in violation of Section 7 of the Clayton Act.

27. Unless restrained, the transaction will likely have the following effects, among others:

- a. actual and potential competition between Halliburton and Dresser will be eliminated;



- b. competition generally in the provision of LWD services will likely be substantially lessened;
- c. prices for LWD services will likely increase; and
- d. competition in the development, commercialization, and improvement of LWD tools will likely be substantially lessened.

#### IV.

#### **REQUEST FOR RELIEF**

**WHEREFORE**, Plaintiff requests:

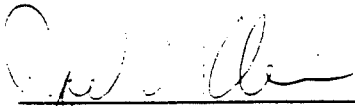
1. That the proposed merger of Halliburton and Dresser be adjudged to violate Section 7 of the Clayton Act;
2. That the defendants be permanently enjoined from carrying out the Agreement and Plan of Merger dated February 25, 1998, or from entering into or carrying out any agreement, understanding, or plan to merge;
3. That plaintiff be awarded its costs of this action; and

4. That plaintiff have such other relief as the Court may deem just and proper.

Dated: September 29, 1998.

Respectfully submitted,

FOR PLAINTIFF UNITED STATES



Joel I. Klein  
Assistant Attorney General



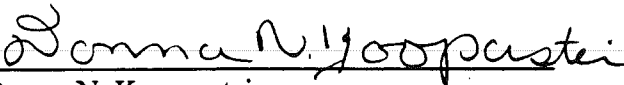
John M. Nannes  
Deputy Assistant Attorney General



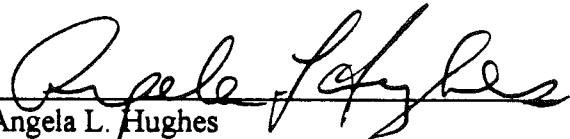
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## APPENDIX A DEFINITION OF "HHI"

The term "HHI" means the Herfindahl-Hirschman Index, a commonly accepted measure of market concentration. The HHI is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of 30, 30, 20, and 20 percent, the HHI is 2,600 ( $30^2 + 30^2 + 20^2 + 20^2 = 2,600$ ). The HHI takes into account the relative size and distribution of the firms in a market. It approaches zero when a market is occupied by a large number of firms of relatively equal size and reaches its maximum of 10,000 when a market is controlled by a single firm. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.

Markets in which the HHI is between 1000 and 1800 are considered to be moderately concentrated, and markets in which the HHI is in excess of 1800 points are considered to be highly concentrated. Transactions that increase the HHI by more than 100 points in highly concentrated markets presumptively raise significant antitrust concerns under the Department of Justice and Federal Trade Commission 1992 Horizontal Merger Guidelines.