

HSR-BARR 1-16
NE/NE 16-3N-67W
Weld County, CO

WELL COMPLETION REPORT
PERFORATE AND FRACTURE CODELL

8/12/92 The service unit was moved in and rigged up. The bit, scraper, and tubing were picked up and run into the hole to PBSD at 7190 where the hole was circulated clean with 2% KCL water. The tubing was pulled out of the hole. Bran-Dex Wireline ran a cement bond log across the Codell/Niobrara formations with fair bond noted throughout. Halliburton pressure tested the casing to 6000 psi and held it for 30 minutes. Bran-Dex Wireline perforated the Codell formation from 7061 - 7073 with two shots per foot and from 7074 - 7078 with one shot per foot, for a total of 31 holes. The notched collar, seating nipple, 214 joints of 2-3/8" Quanex tubing, and a three foot blast joint were run into the hole and landed at 7007 K.B. The service unit was rigged down and moved off.

08/14 Halliburton fractured the Codell down both tubing and casing at 20 bpm at 4600 psi with 350,000# 20/40 mesh sand and 75,155 gallons of gelled fluid. ISDP 3540 psi; 5 min. 3484 psi; 10 min. 3414 psi; 15 min. 3355 psi. The well was shut in for two hours to allow all gel to break. The well flowed to the frac tank for 16 hours and made 603 bw (33%) at 550/0 psi.

08/15 The well flowed the the frac tank for 24 hours and made 240 bw at 400/1100 psi. A total of 843 bw (46%) have been recovered.

8/16 The well flowed to the frac tank for 24 hours and made 72 bw at 300/900 psi. A total of 915 bw (50%) have been recovered.

08/17 The well flowed to the frac tank for 24 hours and made 67 bw at 250/800 psi. A total of 982 bw (54%) have been recovered.

08/18 The well flowed to the frac tank for 24 hours and made 44 bw at 250/750 psi. A total of 1026 bw (57%) have been recovered.

08/19 The well flowed to the frac tank for 24 hours and made 36 bw at 200/700 psi. A total of 1062 bw (59%) have been recovered.

08/20 The service unit was moved in and rigged up. One hundred fifteen (115) barrels of 2% KCl water were pumped down the hole to kill the well. Sand was tagged at 7078' and cleaned out to PBSD at 7190' where the hole was circulated clean. Tubing was re-landed at 7037' K.B. with 215 joints in the hole. Fourteen swab runs were made but the well would not flow. Shut in.

08/21 to 08/25 Awaiting pipeline hook-up.

08/26 Turned Codell down line @ 16:00 hours on 08/26/92.

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NE/NE 16-3N-67W
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WELL COMPLETION REPORT
PERFORATE AND FRACTURE CODELL/NIOBRARA

8/12/92 The service unit was moved in and rigged up. The bit, scraper, and tubing were picked up and run into the hole to PBTD at 7190 where the hole was circulated clean with 2% KCL water. The tubing was pulled out of the hole. Bran-Dex Wireline ran a cement bond log across the Codell/Niobrara formations with fair bond noted throughout. Halliburton pressure tested the casing to 6000 psi and held it for 30 minutes. Bran-Dex Wireline perforated the Codell formation from 7061 - 7073 with two shots per foot and from 7074 - 7078 with one shot per foot, for a total of 31 holes. The notched collar, seating nipple, 214 joints of 2-3/8" Quanex tubing, and a three foot blast joint were run into the hole and landed at 7007 K.B. The service unit was rigged down and moved off.

08/14 Halliburton fractured the Codell down both tubing and casing at 20 bpm at 4600 psi with 350,000# 20/40 mesh sand and 75,155 gallons of gelled fluid. ISDP 3540 psi; 5 min. 3484 psi; 10 min. 3414 psi; 15 min. 3355 psi. The well was shut in for two hours to allow all gel to break. The well flowed to the frac tank for 16 hours and made 603 bw (33%) at 550/0 psi.

08/15 The well flowed the frac tank for 24 hours and made 240 bw at 400/1100 psi. A total of 843 bw (46%) have been recovered.

8/16 The well flowed to the frac tank for 24 hours and made 72 bw at 300/900 psi. A total of 915 bw (50%) have been recovered.

08/17 The well flowed to the frac tank for 24 hours and made 67 bw at 250/800 psi. A total of 982 bw (54%) have been recovered.

08/18 The well flowed to the frac tank for 24 hours and made 44 bw at 250/750 psi. A total of 1026 bw (57%) have been recovered.

08/19 The well flowed to the frac tank for 24 hours and made 36 bw at 200/700 psi. A total of 1062 bw (59%) have been recovered.

08/20 The service unit was moved in and rigged up. One hundred fifteen (115) barrels of 2% KCl water were pumped down the hole to kill the well. Sand was tagged at 7078' and cleaned out to PBTD at 7190' where the hole was circulated clean. Tubing was re-landed at 7037' K.B. with 215 joints in the hole. Fourteen swab runs were made but the well would not flow. Shut in.

09/10 The service unit was moved in and rigged up. Halliburton pumped 220 barrels of 2% KCl water down the annulus to kill the well. Tubing was lowered and sand was tagged at 7160'. The BOP was installed and the tubing was pulled out of the hole. Bran-Dex Wireline perforated the "A" bench @ 6793, 95, 97, 6800, 03, 05, 07,

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09, 11; the "B" bench @ 6855, 57, 59, 61, 63; and the "C" bench @ 6912, 21, 44 with 1 spf for a total of 17 holes. The notched collar, seating nipple, 204 joints of tubing and a three-foot blast joint were run back into the hole and landed at 6685' KB. The wellhead was flanged up and the service unit was rigged down. Halliburton spotted sand over the Codell perforations at 7021' with 26 barrels of water.

09/11 Halliburton pumped 1250 gallons of 7-1/2% HCl acid plus 30 frac balls down the tubing to break down the "A", "B" and "C" benches of the Niobrara. Good ball action was noted and the perforations did ball out. The balls were surged off and allowed to fall to bottom. The well was shut in awaiting fracture treatment.

Halliburton fractured the Niobrara down both casing and tubing at 18 bpm at 4850 psi with 176,500# 20/40 mesh sand and 63,345 gallons of gelled fluid when a total screen out occurred. The hole was circulated clean and shut in for two hours to allow all gel to break. A total of 1508 bw were used during the job. The well flowed to the frac tank for 15-1/2 hours and made 477 bw (32%) at 300/20 psi.

09/12 The service unit was moved in and rigged up. One hundred twenty (120) barrels of 2% KCl water were pumped down the hole to kill the well. Sand was tagged at 6992' and cleaned out to 7190' where the hole was circulated clean. Tubing was re-landed at 7037' KB with 215 joints in the hole. The service unit was rigged down and moved off. The well was shut in for a pressure buildup.

09/23 Turned Codell/Niobrara down line on 09/15/92 @ 09:30 hours.