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Workover Report

Lyco Energy Corp
Skurich Rothe 43-6
NE SE Section 6, T5N, R63W
Weld County, Colorado

Purpose: Complete Niobrara Zone

Dates: 11-10-87 to 11-18-87

11-10-87 MIRU D.J.R. Rig No. 2. Dowell loaded hole with 88 BBL 2% KCL water and reverse circulated hole with 140 BBL 2% KCL water. Cleaned out to PBTD of 6829'. N.U. 6" 900 Ser. B.O.P. on 6" 900 wellhead flange. Pulled and stood back 207 jts 2 3/8" 4.7#/ft J-55 EUE 8 rd tubing. Tubing was landed at 6693' with notched collar & S.N.. Tubing was used when run originally and one collar was thin and was replaced. Great Guns perforated:
Niobrara "C" 6670', 6666', 6659', 6649', 6645', 6638'
Niobrara "B" 6594', 6588', 6584', 6579', 6574', 6570'
Niobrara "A" 6496', 6493', 6487', 6481' with 1 JSPF with 3 1/8" select fire casing gun. Reshot 1 hole at 6570' because suspected misfire. All charges shot on inspection. TLTR 88 BLW. SWI. SDFN.

DC=\$3334

CC=\$3334

11-11-87 PBTD= 6829'. Well on vacuum. Ran Baker Mod "G" RBP and "Retrievomatic" packer on 2 3/8" tubing to 2100'. Packer set down. Suspect paraffin in casing. Pulled packer and RBP. Ran Baker 4 1/2" casing scraper on 2 3/8" tubing to 6789'. Pulled scraper. Ran Baker Mod. "G" RBP and "Retrievomatic" packer on 2 3/8" tubing to 6702'. Set RBP @ 6702', pulled packer to 6438'. SWI. SDFN. TLTR= 88 BLW

DC=\$2965

CC=\$6299

11-12-87 PBTD=6829'. RBP @ 6712'. Ran packer to 6669'. Spotted 1/2 sx of 10-20 sand on RBP. Pulled packer to 6539. Let sand settle 30 min. Spotted 500 gal acid across perfs 6570'- 6670'. Set packer @ 6539". Acidized perfs 6570'-6670' with 500 gal 7 1/2 % HCL @ 3 BPM. BDP= 5400 psi. ISIP = 2400 psi 5 min SIP= 100 psi. Good ball action but no ball off. Circulated sand and balls off of RBP, retrieved RBP and reset @ 6539'. Reset packer @ 6442'.

Acidized perfs 6481'-6496' with 250 gal 7 1/2 % HCL
 Acid down 2 3/8 " tbg. BDP= 5000 psi, ATP=4900 psi,
 ATR= 3 BPM. "Invertafraced" perfs 6481'-6496' with
 6384 gals of 2 % KCL water (gelled and ungelled)
 with 1,000# of floating "Inverta" material.
 MTP=6400 psi, ATP=5900 psi, ATR=8 BPM, ISIP=3450
 psi, 5 min SIP=3400 psi. Total load to recover to
 this point 223 BLW. Moved RBP to 6712', reset.
 Tested RBP to 2000 psi, held O.K. Pulled and laid
 down 2 3/8" tubing and packer. Removed BOP,
 installed Lyco's 4" 5000 psi full open valve on 4
 1/2" casing thread. Dowell fraced perfs 6481'-6670'
 down 4 1/2", 11.6 #/ft, N-80 casing with 107,100
 gal YFG 40, 15,000# 100 mesh sand and 340,000# 20-
 40 sand as follows:

| Gallons: | Conc sand @ perfs: | #/stage: | Cum sand: |
|----------|--------------------|-------------|------------|
| | | | 100m 20/40 |
| 500 | 0 | 7 1/2 % HCL | |
| 15,000 | 0 | Pad | 0 |
| 5,000 | 1 ppg Fla 100 | 5,000 | 5000 |
| 5,000 | 2 ppg Fla 100 | 10,000 | 15,000 |
| 5,000 | 2 ppg 20-40 | 10,000 | 10,000 |
| 15,000 | 3 ppg 20-40 | 45,000 | 55,000 |
| 25,000 | 4 ppg 20-40 | 100,000 | 155,000 |
| 25,000 | 5 ppg 20-40 | 125,000 | 280,000 |
| 10,000 | 6 ppg 20-40 | 60,000 | 340,000 |
| 4,200 | flush to perfs | ----- | ----- |

Water was heated to 75 F. Water was gelled and
 crosslinked "on the fly". ATR= 30 BPM, MTP= 5780
 psi, ATP=4600 psi, FTP= 5250 psi., ISIP= 4350 psi,
 5 " SIP=3890 psi, 10 " SIP= 3630 psi, 15" SIP= 3500
 psi. TLTR=2773 BLW. SWI, SDFN. Finished job 7:30
 PM.

DC= \$56,053

CC = \$62,352

11-13-87 RBP @ 6712'. Hooked up well for flow back. Flow tested perfs 6481'-6670' thru 4 1/2" casing. 15 1/2 hr SICP 1850 psi. Opened well on 10/64" choke to test tank @ 11:00 AM.

| Time: | FCP: | Choke: | BFPH | Cum Recovery |
|---------|------|--------|-----------------|--------------|
| 11-12 | 1200 | 10/64" | 19 | 19 |
| 12-1 | 950 | " | 25 | 44 |
| 1-2 | 1050 | 7/64 | 11 | 55 |
| 2-3 | 850 | " | 13 | 68 |
| 3-4 | 820 | " | 20 | 88 |
| 4-5 | 720 | " | 12 | 92 |
| 5-6 | 950 | " | 12 | 104 |
| 6-7 | 540 | " | 4 | 108 |
| 7-8 | 420 | 10/64 | 16 | 124 |
| 8-9 | 360 | " | 13 | 137 |
| 9-10 | 280 | " | 14 | 151 |
| 10-11 | 420 | " | 7 | 158 |
| 11-1 am | 400 | " | 6.5/hr 13 total | 171 |
| 1-2 | 400 | " | 13 | 184 |
| 2-3 | ---- | " | 0 | 184 |
| 3-4 | 350 | " | 4 | 188 |
| 4-5 | 320 | " | 9 | 197 |
| 5-6 | 300 | " | 4 | 201 |

SI

11-13-87 Cont.d

DC= 500

CC= \$62,852

11-14-87

| Time: | FCP: | Choke: | BFPH: | Cum Recovery |
|-----------|------|---------------|-------------|--------------|
| 6-8 am | S I | SICP= 650 psi | | |
| 8-9 | 100 | 10/64" | 4 | 205 |
| 9-10 | 80 | " | 14 | 219 |
| 10-1 pm | 80 | " | 18 / 3 hrs | 237 |
| 1-3:30 pm | 80 | " | 9 / 2.5 hrs | 251 |

11-15-87 To 8:00 am 11-15-87: F 73 BLW on 12/64" choke, FCP=80 psi Cum Recovery 324 BLW, 5% Oil. TLTR= 2449 BLW.

11-16-87 RBP @ 6712'. Flow testing perfs 6481'-6670' thru 4 1/2" casing. F 111 BLW in 24 hours. FCP= 150 psi on 12/64" choke. Total recovery 435 BLW. TLTR= 2338 BLW. Oil Cut 10%.

DC=\$500

CC=\$63,852

11-17-87 RBP @ 6712'. Flow testing perfs 6481'-6670' thru 4
1/2" casing. F 97 BLW in 24 hrs on 12/64" choke.
FCP=240 psi. Oil cut 12%, making sand. Cum recovery
532 BLW. TLTR= 2241 BLW.
DC=\$500 CC=\$ 64,352

11-18-87 RBP @ 6712'. Flow testing perfs 6481'-6670' thru 4
1/2" casing. F 108 BLW in 24 hours on 12/64" choke.
FCP= 270 psi. Oil cut 12%. Cum. Recovery 640 BLW.
TLTR=2133 BLW
DC=\$500 CC=\$64,852

Turned over to pumper.
FINAL REPORT
