

E R OPERATING COMPANY

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Norman, Oklahoma 73072

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SCOTT #4-13
Sec 13-21S-35W
Kearny Co., KS

CONTRACTOR: Abercrombie Rig #8

API # 15-093-215790000

05-28-97	Building location.
05-29-97	MIRU rotary tools. Spud well @ 1:00 PM 5-28-97.
05-30-97	739' drilling. Drilled 739' in 24 hrs. Run 351.45' (8 jts) 8 5/8" x 23#/ft surface casing. Set shoe @ 359.45'. Cemented w/275 sks 60/40 poz w/2% gel & 3% cc. Cement circulated to surface. Plug down @ 7:15 PM 5-29-97. Drilled plug @ 3:15 AM 5-30-97.
05-31-97	Depth 2624'. Drilled 1885' in 24 hrs. Drlg 22 hrs; rig check 3/4 hrs; jet pit 1 1/4 hrs. Bit #1: 7 7/8" Security 52F, SN 025, in @ 364', ftg 2260', hrs 25 3/4. MW 9.3, Vis 29, native mud. WOB 30; PP 1100#; RPM 80; SPM 58. DMC: \$512.00 CMC: \$512.00
06-01-97	Depth 3363'. Changing out wash pipe. Drilled 739' in 24 hrs. Drlg 21 hrs, rig check 3/4 hrs, jet pit 1 1/4 hrs, repairs 1 1/2 hrs. Bit #1: Same, ftg 2999', hrs 46 3/4. MW 9.4, Vis 29, pH 2, chl 111,000, solids 2.7%. WOB 35, PP 1100#. RPM 80, SPM 56. DMC: \$111.25 CMC: \$623.25
06-02-97	Depth 3770'. Drilled 407' in 24 hrs. Drlg 13 hrs, rig check 1/4 hrs, jet pit 1 hr, work on swivel and trip for hole in pipe 9 3/4 hrs. Bit #1: Same, ftg 3406', hrs 59 3/4. MW 8.6, Vis 43, PV/YP 8/13, gels 7/15, WL 11.2, pH 11, Chl 4,000, solids 2%, tr/sand, tr/LCM. WOB 35, PP 1100#, RPM 80, SPM 56. DMC: \$651.20 CMC: \$1,274.45
06-03-97	Depth 4215'; drilling. Drilled 445' in 24 hrs. Drlg 14 3/4 hrs, rig check 1/4 hr, jet pit 1/2 hr, repairs 8 1/2 hrs. Bit #1: Same, ftg 3851', hrs 79 1/4. MW 9.1, Vis 50, PV/YP 8/13, gels 7/15, WL 11.2, pH 11, Chl 4,000, solids 2%, tr/sand, tr/LCM. WOB 35, PP 1000#, RPM 80, SPM 56. DMC: \$651; CWC: \$3,324.84 (revised). Formation tops: Heebner 3921' (-825'), Lansing 3925' (-879'). Both formations flat to Lebsak Foster "D" #2.
06-04-97	Depth 4580'; drilling. Drilled 365' in 24 hrs. Drlg 20 3/4 hrs, rig check 3/4 hr, short trip 1 hr, circ 1 1/2 hrs. Bit #1: Same; ftg 4216', hrs 100. MW 9.2, Vis 52, PV/YP 13/16, gels 11/24, WL 11.2, pH 11, Chl 3500, solids 6.1%, tr/sd, tr/LCM. WOB 38. PP 1100#, RPM 80, SPM 56. DMC: \$326.85; CMC \$3,651.59

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06-05-97 Depth 4,795'; drilling. Drilled 215' in 24 hrs; Drlg 17 1/2 hrs, trip 5 1/2 hrs, rig check 1/2 hrs, wait on new bit 1/2 hr. Bit #1: Same; ftg 4,734'; hrs 111 1/4 hrs. Bit #2: Walker-McDonald 52 CHF; SN 022, in @ 4,734', ftg 61', hrs 6 1/4. MW 9.4, Vis 49, PV/YP 12/17, gels 11/20, WL 10.4, pH 10.5, chlorides 4,000, solids 6.8%, tr/sand, tr/LCM. WOB 38, PP 1100#, RPM 80, SPM 56. Dev 3/4 @ 4,734'. DMC: \$263.90; CMC: \$ 3,915.59. No shows in Kansas City or Marmaton.

06-06-97 Depth 4,980'; drilling. Drilled 185' in 24 hrs; Drlg 11 hrs, rig chk 1/4, circ 1 1/4, testing 11 1/2 hrs. Bit #2: Same; ftg 246'; hrs 17 1/4. MW 9.3, vis 54, PV/YP 13/19, gels 12/20, WL 9.6, pH 10, chl 3200, solids 7.2%, tr/sand. WOB 38, PP 1100#, RPM 80, SPM 56, Dev 3/4 @ 4,895'. DMC: \$511.39; CMC: \$4,426.98.

DST fr/4,822-4,895'; 30/90/30; Recv'rd 15' SOCM (2% O; 98%M). IHP 2481, FHP 2453; FP 49, FFP 49; ISIP 531, FSIP 534. Initial flow: Weak-died in 16 min.

Formation tops:

Base Kansas City 4,454' (-1,358')
Marmaton 4,486' (-1,390')
Ft Scott 4,597' (-1,501')
Cherokee 4,615' (-1,519')
Morrow Sh 4,823' (-1,727')
Morrow Sd 4,879' (-1,783')
Mississippi 4,893' (-1,797')

06-07-97 Depth 5,000'; circulating @ TD. Drilled 20' in 24 hrs; Drlg 1 hrs, circ 2 1/2 hrs, l logging 6 1/4 hrs, run casing 4 hrs, cellar work 1 1/4 hrs, LDDP 7 1/4 hrs, WOO 1 3/4 hrs. Bit #2: Same, ftg 266, hrs 18 1/4. MW 9.5, vis 48, PV/YP 10/18, gels 15/28, WL 9.6, pH 10, chl 5300, solids 8.2%. TD well @ 8:15 AM on 06-06-97. WOB 38, PP 1000#, RPM 80, SPM 56. Loggers TD 4,998'. DMC: \$13.90; CMC \$4,440.88. Operation summary: Logged Morrow Sd fr/4,872'-4,886' (14' gross/8' net). Porosity 8%-23%; Sw 35%; BVW 6%; Microlog permeability indicated. Mudlogger formation tops 6-7' low to openhole logs.

06-08-97 Depth 5,000'; teardown. Circ 1 hr, cementing 2 3/4 hrs, teardown 6 1/4 hrs. CMC: \$4,440.88. Ran 120 jts used 5 1/2" x 15.5# LT&C LS casing set at 4998.95'. Set DV tool @ 3,215'. Cement casing as follows: 1st stg - 500 gal mudflush x 200 sks ASC cement; 2nd stg - 535 sks 65/35 pozmix + 6% gel + 1/4# floseal per sk. Plug down @ 10:45 AM on 06-08-97. Cement circulated. Release rig. CWC: \$ 128.566.

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Kearny Co., KS

CONTRACTOR: Abercrombie Rig #8

API # 15-093-215790000

6/19/97 Level location. Waiting on rig (Post & Mastin). Prepare to start completion operations Friday afternoon.
DWC: \$ 540 CWC: \$ 129,100

6/24/97 MIRU DDD. RIH w/2 3/8" tbg + 4 3/4" bit. DO DV tool @ 3,208'. Test casing to 500#. Held. CIH w/tbg + bit. Tag TD @ 4,945'. Displace hole w/2% KCl water. POH w/tbg + bit. Run CCL/CBL fr/TD to surface. Good bond thru zone. TOC @ 3,470'. Perforate Morrow Sd fr/4,875' - 4,882' w/4" OD casing gun @ 4 spf & 90 degree phasing. No change in fluid level. SDFN.
DWC: \$ 6,900 CWC: \$ 136,000

6/25/97 RIH w/155 jts tbg + SN + pkr to 4,805'. Acidize Morrow Sd w/500 gal 7 1/2% acid. Treated @ 5 bpm + 2030#. ISIP 660#. No breaks noted. RU swab. BFL surface; Rec. load. No show oil. FFL 4400' FS. Load & test backside to 500#. Held. Frac Morrow Sd down tubing w/12,640 gal gelled water & 17,000# 16/30 sand as follows:

3000 gal gelled pad @ 3340# + 3.10 bpm
320 gal 1ppg 16/30 sand @ 3534# + 2.16 bpm
1340 gal 1/2 ppg 16/30 sand @ 2675# + 2.56 bpm
1120 gal 1 ppg 16/30 sand @ 2342# + 11.31 bpm
1184 gal 2 ppg 16/30 sand @ 2246# + 11.33 bpm
1144 gal 3 ppg 16/30 sand @ 2174# + 11.19 bpm
1694 gal 4 ppg 16/30 sand @ 2110# + 11.19 bpm
1427 gal 5 ppg 16/30 sand @ 2121# + 11.07 bpm
877 gal flush water @ 2442# + 4 bpm
ISIP 1641#; 5 min 338#; 15 min 160#. BLWTR 333

Shut down overnite for gel break. DWC: \$ 22,300 TWC: \$ 158,300

6/26/97 POH w/tbg + SN + pkr. RIH w/sandpump. Recover 35' fill. RIH w/155 jts 2 3/8" tbg + SN to 4798'. RU swab. BFL 2000' FS. Recv'rd 34 BLW. No show oil or gas. FFL 3200' FS. BLWTR 303. SDFN. DWC: \$ 3,200 TWC: \$ 161,500

6/27/97 SITP 0#; SICP 0#. RU swab. BFL 3000' FS. Recv'rd 23.4 BLW. FFL 3800' FS. RIH w/tbg to 4862' (157 jts). RU swab. BFL 3900' FS. Recv'rd 60 BLW in 6 hrs. Swab rate last 2 hrs = 8.61 bph. Trace oil on 1st run; no show gas. FFL 4300' FS. BLWTR 243. SDFN.
DWC: \$ 1,600 TWC: \$ 163,100

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SEC 13-21S-35W
KEARNY CO, KS

6/28/97 SITP 2#; SICP 2#. RU swab. BFL 3550' FS. (580 psi) Recv'rd 8 BO + 23 BLW. Oil cut increased from 12% to 30% while swabbing. Final swab rate = 4.70 bph; FFL 4300' FS. BLWTR 220. POH w/tbg. RIH w/sandpump. Recv'rd no sand. RIH w/8' MA + SN + 4 jts tbg + TAC + 62 jts tbg. SDFN.
DWC: \$ 3,300 TWC: \$ 166,400

6/29/97 CIH w/tbg as follows:

157 jts 2 3/8" tubing	4857.58'
1-2 3/8" TAC	2'.00'
2 jts 2 3/8" tubing	61.88'
1- 1 25/32" ID SN	1.10'
1- 2 3/8" MA	8.00'
<u>KB difference</u>	<u>4.00'</u>
TOTAL	4934.56'

RIH w/2"x 1 1/4" x 12' BHD pump + 196-3/4" new Grade "C" rods + 4' pony rod + 1 1/4" x 16' hardface polish rod. Load tubing. Good pump action. Release rig.
DWC: \$ 7,900 TWC: \$ 174,300

7/02/97 Set Lufkin 114 pumping unit. Prepare to set C-96 engine Thursday.
DWC: \$ 9,400 TWC: \$ 183,700

7/03/97 Finish pumping unit installation. Waiting on engine overhaul. Expect start-up Monday, July 7, 1997.
DWC: \$ 1,600 TWC: \$ 185,300

7/08/97 Set gas engine & propane tank. Finish hook-up into frac tank. Start unit @ 9:00 PM. Pumping 10 SPM-64" Stroke.
DWC: \$ 5,600 TWC: \$ 190,900

7/09/97 POT 12 hrs: 53 BO + 5 BLW. BLWTR 215

7/10/97 POT 24 hrs: 88 BO + 0 BW. SICP 145#. BLWTR 215

7/11/97 POT 21 hrs: 42 BO + 13 BW. BLWTR 202

7/12/97 POT 26 hrs: 53 BO + 5 BW. BLWTR 197

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KEARNY CO, KS

7/15/97 POT 22 hrs: 45 BO + 7 BW. BLWTR 180.

7/16/97 POT 24 hrs: 46 BO + 7 BW. BLWTR 173.

7/17/97 POT 24 hrs: 46 BO + 2 BW. BLWTR 171. *Sold approx. 360 bbl oil (29 gravity). Building tank battery and laying flowline.*

7/18/97 POT 24 hrs: 45 BO + 1 BW. BLWTR 170. Building tank battery and laying flowline.
DWC: \$ 11,800 TWC: \$ 174,900

7/19/97 POT 24 hrs: 44 BO + 2 BW.

7/20/97 POT 24 hrs: 44 BO + 2 BW.

7/21/97 POT 24 hrs: 44 BO + 1 BW.

FINAL REPORT