

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

API NO. 15- 109-20, 604 ~~00-00~~ ORIGINAL
County Logan
110°N & 110°E of
- SW - SW - SW Sec. 15 Twp. 12S Rge. 33W XXW

440' Feet from (S)N (circle one) Line of Section
440' Feet from E(W) (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:
NE, SE, NW or (SW) (circle one)

Lease Name MICHAELIS Well # 4

Field Name Owen North

Producing Formation Lansing-Kansas City

Elevation: Ground 3090' KB 3095'

Total Depth 4720' PBDT

Amount of Surface Pipe Set and Cemented at 369.87' Feet

Multiple Stage Cementing Collar Used? X Yes No

If yes, show depth set 1692' Feet

If Alternate II completion, cement circulated from 1692'

feet depth to surface w/ 375 sx cmt.

Drilling Fluid Management Plan *see # 5-13-96*
(Data must be collected from the Reserve Pit) *Lu*

Chloride content 15,000 ppm Fluid volume 1000 bbls

Dewatering method used Evaporation

Location of fluid disposal if hauled offsite:

Operator Name N/A

Lease Name License No.

Quarter Sec. Twp. Rng. E/W

County Docket No.

INPTES - 7 P. 20

RECEIVED

KANSAS CORPORATION

08-07-1996

11-30-95 12-09-95 1-11-96

Spud Date Date Reached TD Completion Date

Operator: License # 5393

Name: A.L. Abercrombie, Inc.

Address 150 N. Main
Suite 801

City/State/Zip Wichita, Ks. 67202

Purchaser: Koch Oil Company

Operator Contact Person: Jerry A. Langrehr

Phone (316) 262-1841

Contractor: Name: Abercrombie RTD, Inc.

License: 30684

Wellsite Geologist:

Designate Type of Completion

XX New Well Re-Entry Workover

XX Oil SWD SLOW Temp. Abd.

Gas ENHR SIGW

Dry Other (Core, WSW, Expl., Cathodic, etc)

If Workover:

Operator:

Well Name:

Comp. Date Old Total Depth

Deepening Re-perf. Conv. to Inj/SWD

Plug Back PBDT

Commingle Docket No.

Dual Completion Docket No.

Other (SWD or Inj?) Docket No.

11-30-95 12-09-95 1-11-96

Spud Date Date Reached TD Completion Date

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 1305 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature *Jerry A. Langrehr* Jerry A. Langrehr
Title Vice President Date 2-6-96

Subscribed and sworn to before me this 6 day of Feb. 19 96.

Notary Public *Sandra C. McCaig*
Date Commission Expires 1-31-98

SANDRA G. McCAIG
NOTARY PUBLIC
STATE OF KANSAS
My Appt. Exp. 1-31-98

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C Wireline Log Received
C Geologist Report Received
Distribution
KCC SWD/Rep NGPA
KGS Plug Other (Specify)

SIDE TWO

Operator Name A.L. Abercrombie, Inc. Lease Name MICHAELIS Well # 4

Sec. 15 Twp. 12S Rge. 33W East County Logan West

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken (Attach Additional Sheets.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datums	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run (Submit Copy.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
List All E.Logs Run:				
	EII Wireline Services			
	Dual Induction			
	CNL-CDL			

CASING RECORD <input checked="" type="checkbox"/> & <input checked="" type="checkbox"/> New <input checked="" type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12 1/4"	8 5/8"	23#	369.87'	60/40 pos	210 sks	2% gel, 3% CC
Production String	7 7/8"	4 1/2"	10.5#	4688.25'	50/50 pos Common BA29 Lite Weight	75 sks 200 sks 375 sks	2% gel, 7 1/2% gll 3/4 of 1% CFR

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used) Depth	
		Amount	Depth
4	4610' to 4613' & 4598' to 4604'	1500 gals 15% INS Acid	4598' to 4604'
4	CIBP 4480' Perf. 4254' to 4257'	2000 gals 15% INS Acid	4254'-4257'
	CIBP 4240' Perf 4185' to 4188' & 4201'-4206'	1500 gals 15% INS Acid	4185'-4206'
	Perf. 4120' to 4124' & 4111' to 4114'	1500 gals 15% INS Acid	4111'-4124'

TUBING RECORD	Size	Set At	Packer At	Liner Run <input type="checkbox"/> Yes <input type="checkbox"/> No

Date of First, Resumed Production, SWD or Inj. January 18, 1996 Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Trace	Gas-Oil Ratio	Gravity
	70	0			

Disposition of Gas: **METHOD OF COMPLETION** Vented Sold Used on Lease (If vented, submit ACO-18.) Open Hole Perf. Dually Comp. Commingled Other (Specify) _____

Production Interval _____

ALLIED CEMENTING CO., INC.

4084

REMIT TO: P.O. BOX 31
RUSSELL, KANSAS 67665

ORIGINAL

SERVICE POINT:

Oakley

DATE <u>11-29-95</u>	SEC. <u>15</u>	TWP. <u>12^s</u>	RANGE <u>33^w</u>	CALLED OUT	ON LOCATION <u>7:00^{pm}</u>	JOB START <u>7:45^{pm}</u>	JOB FINISH <u>8:15^{pm}</u>
LEASE <u>Michaelis</u>		WELL # <u>4</u>	LOCATION <u>Oakley 6W-6S-10-45-E.S.</u>		COUNTY <u>Logan</u>	STATE <u>Kan</u>	
OLD OR (NEW) (Circle one)							

CONTRACTOR Abercrombie R.T.D #8

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 374'

CASING SIZE 8 5/8 DEPTH 369'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

OWNER Same

CEMENT

AMOUNT ORDERED 210 sk's 69/40^{pm}
4% CC - 2% CC

COMMON @

POZMIX @

GEL @

CHLORIDE @

HANDLING @

MILEAGE @

TOTAL

EQUIPMENT

PUMP TRUCK CEMENTER Walt

191 HELPER

BULK TRUCK

218 DRIVER Don

BULK TRUCK

DRIVER

REMARKS:

Cement Did Cure

Thanks

SERVICE

DEPTH OF JOB 369'

PUMP TRUCK CHARGE 445⁰⁰

EXTRA FOOTAGE @

MILEAGE 23^{mi} @ 23^{mi}

PLUG 8 5/8 Surface @ 45⁰⁰

TOTAL

CHARGE TO: A.I. Abercrombie Inc

STREET

CITY STATE ZIP

FLOAT EQUIPMENT

TAX

TOTAL CHARGE

DISCOUNT

IF PAID IN 30 DAYS

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE [Signature]

RECEIVED
KANSAS CORP COMM
1995 FEB -8 A 11:00

ALLIED CEMENTING CO., INC.

4091

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

DEC 13 1995

SERVICE POINT:

Oakley

DATE <u>12-9-95</u>	SEC. <u>15</u>	TWP. <u>12</u>	RANGE <u>33</u>	CALLED OUT	ON LOCATION <u>6:30 PM</u>	JOB START	JOB FINISH <u>1:45 AM</u>
LEASE <u>Michaels</u>		WELL# <u>4</u>	LOCATION <u>Oakley 6W-6S-1W-3/4S-E5</u>		COUNTY <u>Logan</u>	STATE <u>Kan</u>	

OLD OR NEW (Circle one)

CONTRACTOR Abercrombie R.T.D #8

TYPE OF JOB Production string (Top)

HOLE SIZE 7 7/8 T.D. 4720'

CASING SIZE 4 1/2 DEPTH 4688'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL D-V DEPTH 1692'

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 20.73'

CEMENT LEFT IN CSG. 20.73'

PERFS.

OWNER Same

CEMENT

AMOUNT ORDERED 450 SKs Lite
1/4" Flo-Seal

COMMON @

POZMIX @

GEL @

CHLORIDE @

HANDLING @

MILEAGE @

TOTAL

EQUIPMENT

PUMP TRUCK CEMENTER Walt

300 HELPER Terry

BULK TRUCK

212 DRIVER Wayne

BULK TRUCK

303 DRIVER Dean

315 Don

REMARKS:

SERVICE

Cement did Circ

Witnessed by: Walt Dell - Cementer
James Phipman - O.B. Williams
Walt Dell
B.E. Sawyer

DEPTH OF JOB

PUMP TRUCK CHARGE 550⁰⁰

EXTRA FOOTAGE @

MILEAGE @

PLUG @

TOTAL 550⁰⁰

CHARGE TO: A.H. Abercrombie Inc

STREET

CITY STATE ZIP

FLOAT EQUIPMENT

TAX

TOTAL CHARGE

DISCOUNT

RECEIVED
KANSAS CEMENTING CORP
1995 DEC 13 8 11:00 AM

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE [Signature]

ABERCROMBIE RTD, INC.

150 N. MAIN, SUITE 801
WICHITA, KANSAS 67202
(316)262-1841

ORIGINAL

MICHAELIS #4

440' FSL & FWL
Sec. 15-12S-33W
Logan County, Ks.

OPERATOR: A.L. Abercrombie, Inc.
CONTRACTOR: Abercrombie RTD, Inc.
RIG #: 8
JOB #: 9508029

A.L. Abercrombie, Inc.
150 N. Main, Suite 801
Wichita, Ks. 67202
(316)262-1841

ELEVATION: GL 3090'
KB 3095'

API #15-109-20,604

TIGHT HOLE

Page 1

- 11-27-95 Site preparation.
- 11-29-95 Moving in and rigging up.
- 11-30-95 543' drilling. Cut 543'-24 hrs., drilling 6 1/2 hrs., circulate 3/4 hr., run casing 1 1/2 hrs., cement 1/2 hr., waiting on cement 8 hrs., move and rig up 6 3/4 hrs. Bit #1, 12 1/4" Smith FDS, SNKX1625, in at 0', out at 374', cut 374'-3 3/4 hrs. Bit #1, 7 7/8" Sec. S83F, SN673737, in at 374', cut 169'-2 3/4 hrs. Mud weight 8.8, viscosity 29, native mud. Contacted Herb Dines-Hays, KCC at 9:00 a.m. on 11-28-95. Spud at 1:45 p.m. on 11-29-95. Mud mix-gel 40 sks, lime 3 sks, hulls 20 sks. Deviation 3/4°-374'. Bit weight 30,000#, 1000# pump, rot 120, spm 56. Ran 9 joints of new 8 5/8", 23# casing, tally 361.87', set at 369.87'. Cemented with 210 sks 60/40 pos, 2% gel, 3% CC, cement did circulate, cemented by Allied. Plug down at 8:15 p.m. on 11-29-95. Drilled plug at 4:15 a.m. on 11-30-95.
- 12-01-95 2492' drilling. Cut 1849'-24 hrs., drilling 22 1/2 hrs., rig check 3/4 hr., jet pit 3/4 hr. Bit #1 Sec. S83F, SN673737, in at 374', cut 2118'-25 1/4 hrs. Mud weight 9.0, viscosity 30, native mud. Daily mud \$396.90, accumulative mud \$396.90. Mud mix-gel 30 sks, caustic 1 sk, soda ash 1 sk, lime 1 sk, lignite 1 sk, hulls 6 sks. Bit weight 30,000#, 1000# pump, rot 80, spm 56.
- 12-02-95 3480' drilling. Cut 988'-24 hrs., drilling 22 1/4 hrs., rig check 3/4 hr., jet pit 1 hr. Bit #1 Sec. S83F, SN673737, in at 374', cut 3106'-47 1/2 hrs. Mud weight 9.1, viscosity 30, pH 7.0, chlorides 21,000, solids 6.3%. Daily mud \$788.82, accumulative mud \$1,185.72. Mud mix-gel 115 sks, caustic 6 sks, soda ash 6 sks, hulls 15 sks, lignite 3 sks, drispac 1 sk. Bit weight 35,000#, 1000# pump, rot 80, spm 56.
- 12-03-95 4086' circulating for samples. Cut 606'-24 hrs., drilling 18 1/2 hrs., rig check 3/4 hr., jet pit 1/2 hr., circulate 4 hrs., check pump valves repair 1/4 hr. Bit #1 Sec. S83F, SN673737, in at 374', cut 3712'-56 hrs. Mud weight 9.1, viscosity 45, p/vis 12/16, gels 10/21, water loss 9.6, pH 10.5, chlorides 2,000, solids 1.8%, t/sand, t/LCM. Daily mud \$1,656.93, accumulative mud \$2,842.65. Mud mix-gel 29 sks, caustic 3 sks, soda ash 2 sks, hulls 10 sks, lignite 1 sk. Bit weight 35,000#, 1000# pump, rot 80, spm 56.

Anhydrite 2581' (+514)
B Anhydrite 2604' (+491)
Heebner 3999' (-904)
Toronto 425' (-930)
Lansing 4040' (-945)

ABERCROMBIE RTD, INC.

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MICHAELIS #4
440' FSL & FWL
Sec. 15-12S-33W
Logan County, Ks.

OPERATOR: A.L. Abercrombie, Inc.
CONTRACTOR: Abercrombie RTD, Inc.
RIG #: 8
JOB #: 9508029

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TIGHT HOLE

Page 2

DST #1 4060' to 4086' 'B' Zone

30-45-60-45

Weak blow increasing to strong

Rec. 160' cl gassy oil, 300' gas, oil & water cut mud (10% gas, 10% oil, 25% water & 55% mud) 300' sulfur water. (48,000ppm chlor.)

IFP 72-124 ISIP 1110

FFP 218-322 FSIP 1090

12-04-95

4126' starting out of hole with DST #2. Cut 40'-24 hrs., drilling 2 hrs., trip 3/4 hr., circulate 3 1/4 hrs., testing 18 hrs. Bit #1 Sec. S83F, SN673737, in at 374', cut 3752'-58 hrs. Mud weight 9.0, viscosity 53, p/vis 14/17, gels 10/19, water loss 8.8, pH 10.0, chlorides 2,200, solids 4.7%, t/sand, t/LCM. Daily mud \$39.45, accumulative mud \$2,882.40. Deviation 1/2°-4086'. Bit weight 35,000#, 1000# pump, rot 80, spm 56. Pipe strap at 4086', board short .56.

Muncie Creek Shale 4183'(-1088)

DST #2 4108' to 4126' ('E' 70' Zone)

30-45-60-45

Fair blow increasing to strong (bob 15")

Rec. 430' cl gsy oil, 120' gas & SOCM (30% gas, 25% oil, 45% mud)

IFP 62-104 ISIP 879

FFP 166-228 FSIP 839 oil 40° gravity

12-05-95

4244' circulating for samples. Cut 118'-24 hrs., drilling 5 hrs., circulate 4 1/4 hrs., testing 14 3/4 hrs. Bit #1 Sec. S83F, SN673737, in at 374', cut 3870'-63 hrs. Mud weight 9.2, viscosity 49, p/vis 12/26, water loss 7.2, pH 9.5, chlorides 2200, solids 46, t/sand, t/LCM. Accumulative mud \$2,882.10. Mud mix-gel 18 sks, caustic 2 sks, hulls 8 sks. Bit weight 35,000#, 1000# pump, rot 80, spm 56

DST #3 4182' to 4212' ('H' 140' Zone)

30-45-60-45

Fair blow increasing to strong (bob 9")

Rec. 180' gas in pipe, 300' cl gassy oil, 180' gassy OCM (45% gas, 25% oil, 30% mud)

IFP 41-83 ISIP 259

FFP 135-155 FSIP 280 35° gravity

ABERCROMBIE RTD, INC.

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440' FSL & FWL
Sec. 15-12S-33W
Logan County, Ks.

OPERATOR: A.L. Abercrombie, Inc.
CONTRACTOR: Abercrombie RTD, Inc.
RIG #: 8
JOB #: 9508029

A.L. Abercrombie, Inc.
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ELEVATION: GL 3090'
KB 3095'

API #15-109-20,604

TIGHT HOLE

Page 3

DST #4 4221' to 4244' ('I' 160' Zone)

30-45-60-54

Weak blow increasing to strong

Rec. 10' free oil, 475' slightly gas & mud cut water(5%gas,
60% water, 35% mud.)

IFP 93-155 ISIP 270

FFP 207-239 FSIP 270

12-06-95

4273' going in with bit after DST #5. Cut 29'-24 hrs., drilling 1 1/2 hrs., circulate 2 1/2 hrs., testing 20 hrs. Bit #1 Sec. S83F, SN873737, in at 374', cut 3899'-64 1/2 hrs. Mud weight 9.1, viscosity 49, p/vis 15/21, gels 14/26, water loss 9.2, pH 10.5, chlorides 3000, solids 5.4, t/sand, t/LCM. Daily mud \$195.90, accumulative mud \$3,078.00. Bit weight 35,000#, 1000# pump, rot 80, spm 56.

Stark Shale 4269 (-1174)

DST #5 4248' to 4273'

Weak blow increasing to fair (5" in bucket)

Rec. 390' gas in pipe, 30' free oil, 90' gassy oil cut mud.
(25% gas, 15% oil, 60% mud)

IFP 62-62 ISIP 301

FFP 83-83 FSIP 291

12-07-95

4445' drilling. Cut 172'-24 hrs., drilling 8 3/4 hrs., rig check 1/4 hr., circulate 3 1/2 hrs., testing 11 1/2 hrs. Bit #1 Sec. S83F, SN873737, in at 374', cut 4071'-73 1/4 hrs. Mud weight 9.2, viscosity 50, p/vis 15/21, gels 12/25, water loss 8.8, pH 9.5, chlorides 2200, solids 6.1%, t/sand, t/LCM. Accumulative mud \$3,095.50. Mud mix-caustic 1 sk. Bit weight 35,000#, 1000# pump, rot 80, spm 56.

Hush Puckney 4308' (-1213)

BKC 4351' (-1256)

Marmaton 4373' (-1278)

DST #6 4268' to 4292'

30-45-90-45

Rec. 160' gas in pipe,

50' gassy OCM (10% oil)

60' gassy oil & water cut mud (10% oil, 30% water)

IFP 20-20 ISIP 447

FFP 41-52 FSIP 447 Temp-113°

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Logan County, Ks.

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RIG #: 8
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TIGHT HOLE

Page 4

12-08-95 4595' drilling. Cut 150'-24 hrs., drilling 7 1/2 hrs., rig check 1/4 hr., jet pit 1/4 hr., circulate 4 1/4 hrs., testing 11 3/4 hrs. Bit #1 Sec. S83F, SN673737, in at 379', cut 4221'-80 3/4 hrs. Mud weight 9.2, viscosity 50, p/vis 15/21, gels 12/25, water loss 8.8, pH 9.5, chlorides 2200, solids 6.1%, t/sand, t/LCM. Accumulative mud \$3,095.50. Mud mix-gel 22 sks, caustic 2 sks, soda ash 1 sk, lignite 1 sk. Bit weight 35,000#, 1000# pump, rot 80, spm 56.

Fort Scott 4522' (-1427')
Cherokee Shale 4550' (-1455')

DST #7 4494' to 4544' (Myrick Station & Fort Scott)

30-45-60-45

Rec. 340' gas in pipe, 20' froggy oil

30' water & mud cut oil (45% oil, 15% water)

120' gassy oily mud cut water (10% oil, 45% water)

720' saltwater chlorides 40,000 ppm

IFP 93-228 ISIP 769

FFP 322-405 FSIP 719 Temp 129°

12-09-95 4720' RTD-rig up loggers. Cut 125'-24 hrs., drilling 5 1/4 hrs., rig check 1/4 hr., circulate 3 3/4 hrs., testing 12 1/4 hr., logging 2 1/2 hrs. Bit #1 Sec. S83F, SN673737, in at 374', out at 4720', cut 4346'-86 hrs. Mud weight 9.2, viscosity 48, p/vis 13/19, gels 12/27, water loss 7.2, pH 10.0, chlorides 2400, solids 6.0%, t/sand, t/LCM. TD at 3:00 a.m. on 12-09-95. Daily mud \$287.84, accumulative mud \$3,383.34. Pit chloride (reserve pit) 15,000, calcium 940, volume 1000 bbls. Bit weight 35,000#, 1000# pump, rot 80, spm 56.

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RIG #: 8
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*****TIGHT HOLE*****

Page 5

12-10-95 4720' RTD-teardown. Circulate 2 1/4 hrs., logging 3 hrs., run casing 2 hrs., cellar work 1 1/2 hrs., laydown pipe 5 3/4 hrs. teardown 5 1/4 hrs., waiting on loggers 1 hr., waiting on orders 1 1/4 hr., cement 2 hrs. Mud weight 9.0, viscosity 42, p/vis 13/19, gels 12/27, water loss 9.2, pH 10.0, chlorides 2400, solids 6.0%, t/sand, t/LCM. Accumulative mud \$3,383.34. Deviation 3/4°-4720'. Logger's TD 4720'. Ran 109 joints of used 4 1/2", 10.5# casing, tally 4683.25', set at 4688.25'. Cemented bottom stage with 500 gals mud sweep and 75 sks 50/50 pos, 2% gel, 7 1/2# gilsonite per sk and 3/4 of 1% CFR2, followed with 200 sks common BA29, plug down at 12:45 a.m. Cemented top stage with approx. 375 sks lite weight cement, cement did circulate, cemented by Allied. Plug down at 1:45 a.m. on 12-10-95. DV tool is at 1692.40'.

DST #8 4570' to 4612'

30-45-60-45

Strong blow, gas to surface 32 minutes 2nd open.

Rec. 120' gas & oil cut mud (20% gas, 7% oil, 73% mud)

60' gas & oil cut mud (30% gas, 10% oil, 60% mud)

30' gas & mud cut oil (40% gas, 45% oil, 15%

12-22-95 Moved in and rigged up cable tools, swabbed down to 1600'. Drilled DV tool and cleaned out to 1692'.

12-23-95 Shut down for Christmas.

12-24-95 Shut down for Christmas.

12-25-95 Shut down for Christmas.

12-26-95 Drilled DV and cement to 4593'.

12-27-95 Drilling cement plug. Will log and prepare to perforate Johnson Zone.

Electric Log Tops

Anhydrite 2579' (+516')
B Anhydrite 2603' (+492')
Heebner 3998' (-903')
Toronto 4026' (-931')
Lansing 4040' (-945')
Muncie Creek 4181' (-1086')
Stark Shale 4268' (-1173')
BKC 4348' (-1253')
Marmaton 4374' (-1279')
Fort Scott 4522' (-1427')
Cherokee Shale 4550' (-1455')
Johnson Zone 4595' (-1500')
Mississippian 4664' (-1569')
Log TD 4720' (-1625')
Driller's TD 4720'

ABERCROMBIE RTD, INC.
150 N. MAIN, SUITE 801
WICHITA, KANSAS 67202
(316)262-1841

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MICHAELIS #4
440' FSL & FWL
Sec. 15-12S-33W
Logan County, Ks.

OPERATOR: A.L. Abercrombie, Inc.
CONTRACTOR: Abercrombie RTD, Inc.
RIG #: 8
JOB #: 9508029

A.L. Abercrombie, Inc.
150 N. Main, Suite 801
Wichita, Ks. 67202
(316)262-1841

ELEVATION: GL 3090'
KB 3095'

API #15-109-20,604

- 12-28-95 On 12-27-95 drilled soft cement 4593' to 4645', cleaned out to TD 4645'. Ran Gamma Ray correlation-collar log 4645' to 4000'. Perforated 1 shot 4611', 1 shot at 4603'. Acidized with 1500 gallons 15% INS max pressure 2500 psi. Pressure bound at 2500 psi for 1 hr. Released pressure. Ran bailer to bottom. Repressure to 850 psi. Acid started feeding. Increased pressure to 2000 psi with injection rate of 5 1/2 bbls per minute. Finished job at 1900 psi. Instantaneous shut in pressure at 0. Total load 110 bbls. Fluid level 3400' KB. Reperforate 4 shots per foot 4610' to 4613' and 4598' to 4604'. Swabbed 12.9 bbls to 4100' all acid water. Shut down over night.
- 12-29-95 On the morning of 12-28-95, fluid level 4100' KB. Swabbed 13.7 bbls (76% water), swabbing to 4645'. Swabbed per hour 5.6 bbls (53% water), 5.7 bbls (38% water), 5.4 bbls (23% water), 6.1 bbls (28% water, 6.2 bbls (24% water), 5.3 bbls (25% water), 6.4 bbls (16% water) and 5.9 bbls (8% water). Total recovered 73.2 bbls; lack 36.8 bbls. Set bolt CIBP at 4480', hole tested dry, dumped 15 bbls lease water down casing. Perforate 4 shots per foot expendable gun 4254' to 4257' (Johnson Zone). Swabbed down to 4000'. Shut down overnight. This morning fluid level 4000' KB. Swabbed down to 4480' (trace oil).
- 12-30-95 Fluid level was at 4000' KB. Swabbed down to 4480', tested 1 hour, hole dry. Acidized 500 gals, 15% INS, flushed with 10 bbls KCL water & lease water. Max pressure 100#, finished at 50#, instantaneous shut in pressure 0. Injection rate 1/2 bpm. Load 84 bbls. Fluid level at 1200' KB on morning of 12-30-95, swabbed 42 bbls swabbing to 4460'. Tested 5.8 bbls 80% water, 5.9 bbls 75% water, 4.7 bbls 80% water, 5.7 bbls 80% water, 4.6 bbls 80% water, 3.9 bbls 85% water.
- 12-31-95 Shut down over weekend.
- 1-1-96 Shut down over weekend.

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ORIGINAL

MICHAELIS #4
440' FSL & FWL
Sec. 15-12S-33W
Logan County, Ks.

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*****TIGHT HOLE*****

- 1-2-96 Fluid level 3500' KB. Swabbed 12.2 bbls swabbing to 4260' (64% water). Oil gravity 39.1°. Swab test from 4260', 9.2 bbls 75% water, 5.6 bbls 78% water, 5.2 bbls 79% water, 5.6 bbls 80% water, 4.8 bbls 85% water, 4.3 bbls 85% water, 4.8 bbls 85% water.
- 1-3-96 Fluid level at 3650'. Will re-acidize with plugging material. (We think we are channeled with 160' zone.)
- 1-4-96 Fluid level 1-3-96 at 3650', swabbed 13.2 bbls (76% water) swabbing to 4260'. Acidized with 200 gals 15% Non E, 300# salt plug, followed with 1300 gals 15% Non E acid. Treated on vacuum with injection rate 6 1/2 BPM. Plug did not hit. Total load 110 bbls. Fluid level 1800' KB. Swabbed 48 bbls, swabbing to 4400'. Tested per hour from 4260'. 10.5 bbls 85% water, 11.5 bbls 85% water, 11.4 bbls 85% water, 12.1 bbls 80% water, 12.9 bbls 76% water. This morning fluid level at 3500', 1 hour test 12.1 bbls 60% water.
- 1-5-96 On 1-4-96 swab tested 8 hours from 4250', 19.6 bbls 85% water, 15.9 bbls 85% water, 14.5 bbls 75% water, 13.7 bbls 75% water, 12.4 bbls 73% water, 11.5 bbls 70% water, 11.4 bbls 74% water, 10.8 bbls 70% water. This morning fluid level at 3600'. Will set plug and perforate 'H' Zone.
- 1-6-96 Shut down.
- 1-7-96 Shut down.
- 1-8-96 Morning of 1-5-96 fluid level was 3600'. Set CIBP at 4240'. Swabbed 10.3 bbls (65% water) swabbing to 4240', 1/2 hr. test-hole dry. Perforated one shot at 4186' and shot at 4203'. 1 hour test-hole dry. Acidized with 1500 gals 15% INS, hole loaded 18 bbls late, maximum pressure 1200#, finished at 1200#. Injection rate 5 BPM. Instantaneous shut in pressure 0#. Load 105 bbls. Fluid level 600' from surface. Swabbed 54.3 bbls swabbing to 4240'. Reperforate 4185' to 4188' and 4201' to 4206'. Tested one hour 6.8 bbls (58% water). This morning fluid level is at 3500', swabbed 14.5 bbls (6% water) swabbing to 4240'

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*****TIGHT HOLE*****

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- 1-9-96 On 1-8-96 two hour swab test 12.3 bbls 4% water, 12.3 bbls 3% water, gravity 35.1°. Set CIBP at 4160', test 1/2 hr., hole dry. perforated 1 shot at 4122' and 1 shot at 4111'. Acidized with 1500 gals 15% INS. Flushed with saltwater, maximum pressure 1800#, finished at 1800#, instantaneous shut in pressure 800#, on vacuum in 1 min., injection rate 5 BPM. Total load 102 bbls. Reperforate 4 shots per foot, 4120' to 4124' and 4111' to 4114'. Swabbed 63.3 bbls, swabbing down to 4160'. 1 hour test from 4160', 10 bbls 30% water. This morning fluid level at 3000' KB. Swabbed 19.4 bbls, trace of water, swabbing to 4160', gravity 30° corrected.
- 1-10-96 On 1-9-96 took 4 hour swab tests from 4160', 12.0 bbls 20% water, 10.1 bbls 16% water, 9 bbls 15% water, 8.1 bbls 11% water. Drilled plug at 4160' and cleaned out to 4240'. Ran tubing. Today will run rods & pump and teardown tools.
- 1-11-96 Finished running rods and pump and tore down rig. Moved to Thorn #1.

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