

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

Operator: License # 03637

Name: NORTHLAND ROYALTY OPERATING COMPANY

Address 3030 Fourth Avenue North

City/State/Zip Billings, Montana 59101

Purchaser: D/A

Operator Contact Person: Peter Sheehan

Phone (406) 259-5400

Contractor: Name: Allen Drilling

License: #5418 **KCC**

Wellsite Geologist: Wes Hansen **FEB 22**

Designate Type of Completion
 New Well Re-Entry **CONFIDENTIAL**

Oil SWD SIOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSV, Expl., Cathodic, etc)

If Workover/Re-Entry: old well info as follows:

Operator: _____

Well Name: _____

Comp. Date _____ Old Total Depth _____

Deepening Re-perf. Conv. to Inj/SVD
 Plug Back PSTD
 Commingled Docket No. _____
 Dual Completion Docket No. _____
 Other (SVD or Inj?) Docket No. _____

11/15/93 11/27/93
Spud Date Date Reached TD Completion Date

API NO. 15- 069-20254-0000

County Gray

SE¹ - SE² - NE² Sec. 17 Twp. 24S Rge. 30 ^E_W

2310' Feet from S (circle one) Line of Section

330' 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 Miller Well # 8-17

Field Name Grayline

Producing Formation D&A

Elevation: Ground 2877' KB 2882'

Total Depth 4990' PSTD _____

Amount of Surface Pipe Set and Cemented at 367' Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from _____

feet depth to _____ w/ _____ sx cat.

Drilling Fluid Management Plan **ACT II DSA 5-19-94**
(Data must be collected from the Reserve Pit)

Chloride content 24,000 ppm Fluid volume 2,000 bbls

Disposal method used Evaporation

Location of fluid disposal if hauled offsite: _____

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STATE CORPORATION COMMISSION
FEB 25 1994
CONSERVATION DIVISION
Wichita, Kansas

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MAY 24 1995

Operator Name _____

Quarter _____ Sec. _____ Twp. _____ S' Rng. _____ E/W

County _____ Docket No. _____

FROM CONFIDENTIAL

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a 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 Peter C. Sheehan

Title Production Manager Date 2-22-94

Subscribed and sworn to before me this 22nd day of February 19 94

Notary Public Joseph R. Glennon

Date Commission Expires 10/27/95

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

PI

ORIGINAL

Operator Name Northland Royalty Operating Co.

Lease Name Miller

Well # 8-17

Sec. 17 Twp. 24S Rge. 30

East
 West

County Gray

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 Yes No
(Attach Additional Sheets.)

Samples Sent to Geological Survey Yes No

Cores Taken Yes No

Electric Log Run Yes No
(Submit Copy.)

List All E.Logs Run:

- Geologists Well Report
- Compensated Density Neutron Log
- Dual Induction Log
- Drill Stem Test

Log Formation (Top), Depth and Datum Sample
Name Top Datum

SEE ATTACHED DRILLERS LOG

CASING RECORD

New 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 Casing	12 1/4	8 5/8		367'	Prem. Exp	150	2% Cal Cl

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
Perforate				
Protect Casing				
Plug Back TD				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type		Acid, Fracture, Shot, Cement Squeeze Record	
	Specify Footage of Each Interval Perforated		Amount and Kind of Material Used	Depth

TUBING RECORD	Size	Set At	Packer At	Liner Run				
				<input type="checkbox"/> Yes <input type="checkbox"/> No				
Date of First, Resumed Production, SVD or In.)		Producing Method <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)						
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity

Disposition of Gas:
 Vented Sold Used on Lease
(If vented, submit ACO-18.)

METHOD OF COMPLETION

Open Hole Perf. Dually Comp. Comingled
 Other (Specify) _____

Production Interval _____

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TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

API# 15-069-20254

Well Name MILLER B #17 Test No. 1 Date 11/29/93
 Company NORTHLAND ROYALTY OPERATING COMPANY Zone MORROW
 Address 3030 4th AVE NORTH BILLINGS MT 59101 Elevation 2882 KB
 Co. Rep./Geo. WES HANSON Cont. ALLEN DRLG RIG #5 Est. Ft. of Pay 5
 Location: Sec. 17 Twp. 24S Rge. 30W Co. GRAY State KS

Interval Tested	<u>4840-4876</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>36</u>	Wt. Pipe I.D. - 2.7 Ft. Run	<u>30</u>
Top Packer Depth	<u>4835</u>	Drill Collar - 2.25 Ft. Run	<u>9.4</u>
Bottom Packer Depth	<u>4840</u>	Mud Wt.	<u>52</u> lb/Gal.
Total Depth	<u>4876</u>	Viscosity	<u>6.1</u>
		Filtrate	<u>6.1</u>

Tool Open @ 11:44 AM Initial Blow OPEN 1/4" TO NO BLOW IN 14 MINUTES

Final Blow NO BLOW

COPY

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Recovery - Total Feet MAY 24 1995

NO

RECEIVED
STATE CORPORATION COMMISSION

FEB 25 1994

Rec. 30 Feet of FROM CONFIDENTIAL
 Rec. 30 Feet of SLTLY OIL STAINED MUD- 1% OIL/ 99% MUD
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____

CONSERVATION DIVISION
Wichita, Kansas

BHT 117 °F Gravity _____ °API @ _____ °F Corrected Gravity 3100 °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 2347.9 PSI AK1 Recorder No. 13308 Range 4700

(B) First Initial Flow Pressure 41.2 PSI @ (depth) 4837 w / Clock No. 17652

(C) First Final Flow Pressure 55.6 PSI AK1 Recorder No. 11057 Range 4500

(D) Initial Shut-in Pressure 124.7 PSI @ (depth) 4871 w / Clock No. 27566

(E) Second Initial Flow Pressure 55.6 PSI AK1 Recorder No. _____ Range _____

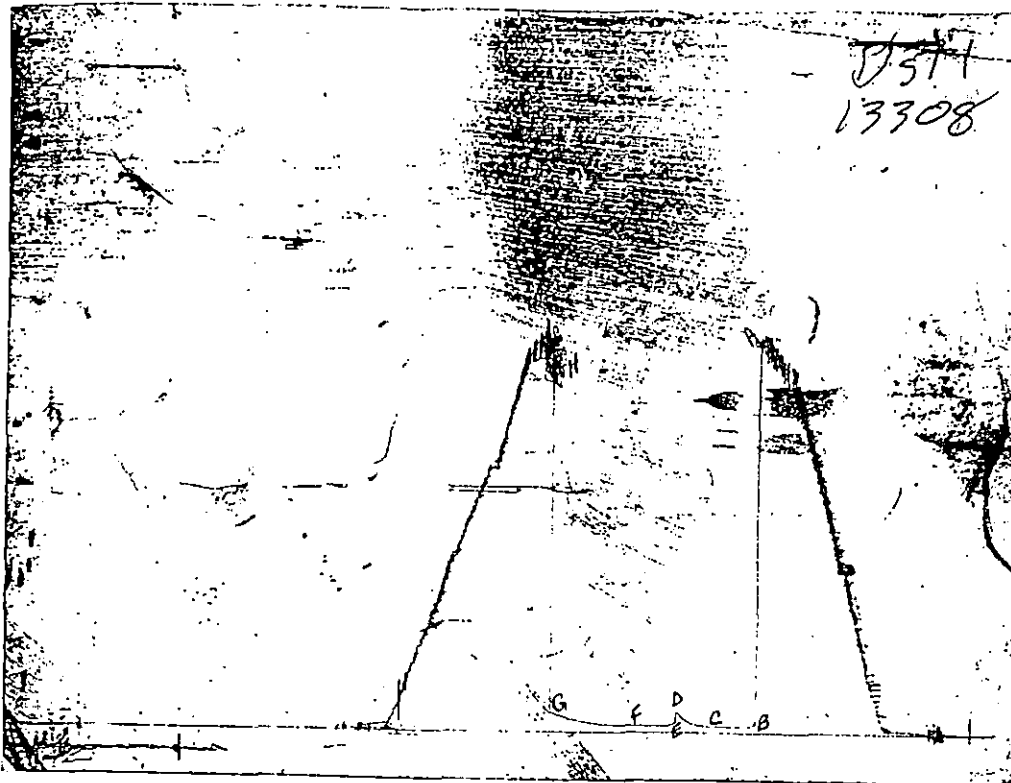
(F) Second Final Flow Pressure 55.6 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 134.7 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2314.6 PSI Initial Shut-in 30 Final Shut-in 60

Our Representative MARK HERSKOWITZ

CHART PAGE



COPY

This is an actual photograph of recorder chart

KCC

FEB 22

CONFIDENTIAL

RELEASED

MAY 24 1995

FROM CONFIDENTIAL

FIELD
READINGOFFICE
READING

(A) INITIAL HYDROSTATIC MUD	2342	2347.9
(B) FIRST INITIAL FLOW PRESSURE	36	41.2
(C) FIRST FINAL FLOW PRESSURE	48	55.6
(D) INITIAL CLOSED-IN PRESSURE	121	124.7
(E) SECOND INITIAL FLOW PRESSURE	48	55.6
(F) SECOND FINAL FLOW PRESSURE	48	55.6
(G) FINAL CLOSED-IN PRESSURE	133	134.7
(H) FINAL HYDROSTATIC MUD	2306	2314.6



CONFIDENTIAL

DATE 11-18-93
PAGE NO.
TICKET NO. 549369

JOB LOG FORM 2013 R-4

CUSTOMER Northland Realty WELL NO. 8-17 LEASE Miller JOB TYPE 8 3/4 Spence

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T.C.	PRESSURE (PSI) TUBING CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0200					Time off
	0210					Time ready
	0250					Time on hole ORIGINAL Big Trip DP out of hole
	0830					Start Pump casing
	1045	11430				Hookup + Casedate casing down
	1130	1600	Start Back Hole w/ Casing			Big Trip casing out of hole at 1st shoe
	1830					Casing in hole
	1821					Hookup to Casedate casing
	1830	14				Casedate casing w/ Pump cement
	1833		12		FEB 22	Casedate mud to cement level
CONFIDENTIAL						
	1836	14				180 Start Mix Cement
	1842		23.73			75 Start Tail Cement
	1850		37.16			100 Finish Mix Cement
	1851		55.9			188 Set Done Deep Plug
	1852	14				50 Start Dip
		2.5	20.2			w/ Pump's + Lines
	1900					150/100 Plug Done
RECEIVED STATE CORPORATION COMMISSION FEB 25 1994 CONSERVATION DIVISION Wichita, Kansas						
Thank you Coling Halliburton Ernie Schwartz Chris Cowan						
RELEASED MAY 24 1995						
FROM CONFIDENTIAL						



FEB 22 '94 02:47PM HALLIBURTON LIBERAL DIVISION
HALLIBURTON ENERGY SERVICES

JOB SUMMARY

HALLIBURTON LOCATION

Mid Cont. Liberal Ks

15-069-20254-0008

BILLED ON TICKET NO. 549369

WELL DATA

FIELD _____ SEC _____ TWP _____ RNG _____ COUNTY Gray STATE Ks

FORMATION NAME _____ **CONFIDENTIAL**

FORMATION THICKNESS _____ FROM _____ TO _____

INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD _____

PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD _____

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____

PACKER TYPE _____ SET AT _____

BOTTOM HOLE TEMP. _____ PRESSURE _____

MISC DATA _____ TOTAL DEPTH _____

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING		214	8 5/8	123	358	81
LINER						
TUBING						
OPEN HOLE			12 1/2	61	409	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
Float Cover <u>8 5/8</u>	1	<u>Herc</u>
Float Shoe <u>8 5/8</u>	1	<u>Herc</u>
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD		
PACKER		
OTHER: <u>Herc</u>	<u>126</u>	

CALLED OUT DATE	ON LOCATION DATE	JOB STARTED DATE	JOB COMPLETED DATE
11-18	11-18	11-18	11-18
TIME 0700	TIME 0500	TIME 1830	TIME 1900

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
<u>D. Pace</u>	<u>59179</u>	<u>Liberal Ks</u>
<u>D. Ponce</u>	<u>14903</u>	<u>"</u>
<u>J. Moore</u>	<u>B7106</u>	<u>"</u>
<u>K.W.</u>	<u>F4549</u>	<u>Horton Ks</u>
	<u>50866</u>	
	<u>45877</u>	

FEB 22

CONFIDENTIAL

DEPARTMENT Concrete

DESCRIPTION OF JOB 8 5/8 Grout

JOB DONE THRU: TUBING CASING ANNULUS TEG/ANN.

CUSTOMER REPRESENTATIVE X Richard Jones

HALLIBURTON OPERATOR D. Pace

STATE CORPORATION COMMISSION

CEMENT DATA

STAGE	NUMBER OF BAGS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./BK.	MIXED LBS./GAL.
	<u>15</u>	<u>Prem Plus</u>	<u>1500</u>	<u>2400</u>	<u>1/2 Floc</u>	<u>2.05</u>	<u>13.3</u>
	<u>150</u>	<u>Prem Plus</u>		<u>3000</u>	<u>1/2 Floc</u>	<u>1.32</u>	<u>14.8</u>

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____

BREAKDOWN _____ MAXIMUM _____

AVERAGE _____ FRACTURE GRADIENT _____

SHUT-IN: INSTANT _____ 5-MIN _____ 15-MIN _____

HYDRAULIC HORSEPOWER _____

ORDERED _____ AVAILABLE _____ USED _____

AVERAGE RATES IN BPM _____

TREATING _____ DISPL. _____ OVERALL _____

CEMENT LEFT IN PIPE _____

FEET 40' REASON Shut down

SUMMARY

VOLUMES

PREFLUSH: BBL.-GAL. _____ TYPE _____

LOAD & BKDN: BBL.-GAL. _____ PAD: BBL.-GAL. _____

TREATMENT: BBL.-GAL. _____ DISPL: BBL.-GAL. 20.2

CEMENT SLURRY: BBL.-GAL. _____

TOTAL VOLUME: BBL.-GAL. _____

REMARKS

Phone 913-483-2627, Russell, Kansas
 Phone 316-793-5861, Great Bend, Kansas

ORIGINAL
CONFIDENTIAL

Phone Plainville 913-434-2812
 Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC. 00 4815

Home Office P. O. Box 31

Russell, Kansas 67665

New

Date	Sec.	Twp.	Range	Called Out	On Location	Job Start	Finish
11/27/93	17	24	30	3 PM	7 PM	01:15	4:30
Lease	Well No.	Location			County	State	
Miller	B-17	Charleston 6 1/2 N. 5 W.			Gray	Ks	

Contractor: <u>Allen</u>	Owner: <u>Same</u>
Type Job: <u>Rotary Plus</u>	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 listed.
Hole Size: <u>7 7/8</u>	T.D. <u>4990</u>
Csg. <u>8 5/8</u>	Depth <u>366'</u>
Tbg. Size	Depth
Drill Pipe <u>4 1/2</u>	Depth <u>3220</u>
Tool	Depth
Cement Left in Csg.	Shoe Joint
Press Max.	Minimum
Meas Line	Displace <u>h20</u>
Perf.	<u>FEB 22</u>

Charge To: <u>Northland Royalty Operating Co.</u>
Street: <u>3030 4th Ave. North</u>
City: <u>Billing</u> State: <u>Montana</u> <u>59101</u>
The above was done to satisfaction and supervision of owner agent or contractor.

Purchase Order No.	<u>x Mari Putz</u>
CEMENT	

Amount Ordered	<u>275 6 9/16 Gel 1/4 Flossal</u>
Consisting of	
Common	
Poz. Mix	
Gel.	
Chloride	
Quickset	

EQUIPMENT		CONFIDENTIAL
Pumptrk No.	Cementer	<u>Gary</u>
<u>224</u>	Helper	
Pumptrk No.	Cementer	<u>Mike</u>
	Helper	
Bulktrk	Driver	<u>Bill</u>
<u>199</u>	Driver	

DEPTH of Job	
Reference:	<u>Pump Truck</u>
	<u>Mileage</u>
	<u>8 5/8" OHP</u>
	Sub Total
	Tax
	Total

Remarks:	<u>100' @ 3220'</u>
	<u>50 " " 2100'</u>
	<u>50 " " 1300'</u> <u>Thank you!</u>
	<u>50 " " 400'</u>
	<u>10 " " 40'</u> <u>Hay 1/2</u>
	<u>15 " " RH</u>

Handling	
Mileage	
Sub Total	
Total	
Floating Equipment	

RELEASED

MAY 24 1995

FROM CONFIDENTIAL