

GENERAL INFORMATION

Elevation:	G.L. 3,525' K.B. 3,535' All measurements are from KB.
Field:	Greenwood
Drilling Contractor/Rig No.:	Cheyenne Drilling - No. 3
Total Depth:	RTD 4,800' LTD 4,799'
Surface Casing:	8 5/8" set @ 1,364'
Production Casing:	5 1/2" set @ 4,799'
Drill Time Kept:	2,500' to 4,800' RTD
Samples Examined:	2,500' to 4,800' RTD
Samples Saved:	2,500' to 4,800' RTD
Wellsite Geologist:	Richard J. Hall - CPG Consulting Wellsite Geologist Whitehall Exploration-Golden, CO
Mudlogging Unit:	MBC Leasing - Unit M-2
Unit Type:	Standard Hotwire/Standard Chromatograph
Mudlogging Geologist:	Richard J. Hall (unmanned unit)
Field Company Man:	Darrel Toews
Coring Services:	Devilbiss Coring Services
Core Analysis:	Stim-Lab (A Core Lab Co.)/Duncan, OK
Drill Stem Test Company/Tester:	None
Number of Tests:	None
Test Type:	None
Mud Company/Engineer:	M-I, LLC - Dennis Thompson

Mud Type:	Chemical
Electric Logging Company:	Baker Atlas (Baker Hughes)
Type Logs:	<ul style="list-style-type: none"> -Dual Induction/GR/SP -Compensated Neutron Density/GR -Microlog/GR -HI-Resolution over Morrow Formation -STAR/Dipmeter
Total Depth Formation:	Middle Morrow (Shale) Formation
Samples:	(1) One dry cut sent to Kansas Geological Survey Sample Library - Wichita, Kansas
Well Status:	Production Casing set to production test the Upper Morrow Sandstone

DAILY DRILLING CHRONOLOGY

<u>2002 Date</u>	<u>7:00 A.M. Total Depth</u>	<u>24 Hour Footage</u>	<u>7:00A.M. Operation; 24 Hour Activity</u>
06/04/02	0	0	MIRU; drill rat and mouse hole, spud @ 7:30 P.M., drilling, 1/2' WO light plant, drilling, 45" WO pump/clean flow ditch, drilling,
06/05/02	870'	870'	Change out fisher pump; drilling, bit trip @ 1,245', ream-tight hole, drilling, circ, survey, trip out of hole, rig up csg. crew, run 30 jts 8 5/8" set @ 1,364' cement w/460 sx cmt, WOC.
06/06/02	1,364'	494'	WO cement; make up single cone bit and trip in w/bit w/strap, lay down 2 joints, test BOP, drill, trip out of hole w/bit, trip in w/ button bit, 45" pump repair, drilling,
06/07/02	2,100'	736'	Drilling ahead; drilling,
06/08/02	2,930'	830'	Drilling ahead; drilling,
06/09/02	3,570'	640'	Drilling ahead; drilling,
06/10/02	4,140'	570'	Drilling ahead; drilling, CFS @ 4,587', short trip to surf. csg.
06/11/02	4,618'*	447'	Tripping - wiper trip; circ 1 1/4', drop survey & strap out of hole - 1 extra joint of pipe in hole, correct TD to 4,618' from 4,587', p/u core barrel and trip in hole w/core barrel, break circ, circ on bottom 45", start coring @ 5:30 P.M., finish 59' core @ 2:00 A.M., trip out of hole w/ core, break down & lay down core barrel,
06/12/02	4,677'	599'	Trip in hole w/bit, drilling, reach RTD @ 3:30 P.M, CFS/circ 90", trip out for logs, RU and run e. logs, RD loggers, trip in hole,

06/13/02

4,800'

123'

Circ.; lay down drill pipe, break kelly, lay down swivel, rig up and run prod. casing, circ, cement csg, rig released.

CORES

Core No. 1 - Upper Morrow Sandstone

Rate of Penetration:

Depth - Minutes/foot

4,619' - 18
4,620' - 24
4,621' - 23
4,622' - 38
4,623' - 32
4,624' - 10
4,625' - 15
4,626' - 3
4,627' - 2
4,628' - 4
4,629' - 5
4,630' - 4
4,631' - 3
4,632' - 1.5
4,633' - 1
4,634' - 1
4,635' - 1.5
4,636' - 1.5
4,637' - 1.5
4,638' - 1
4,639' - 1
4,640' - 1
4,641' - 1.5
4,642' - 1.5
4,643' - 2
4,644' - 2
4,645' - 3
4,646' - 4.5
4,647' - 4
4,648' - 2
4,649' - 7
4,650' - 6
4,651' - 2.5
4,652' - 2.5
4,653' - 13

Depth- Minutes/foot

4,654' - 47
4,655' - 35
4,656' - 17
4,657' - 26
4,658' - 32
4,659' - 4
4,660' - 3
4,661' - 2.5
4,662' - 2.5
4,663' - 2
4,664' - 3.5
4,665' - 3.5
4,666' - 2.5
4,667' - 2.5
4,668' - 2.5
4,669' - 2.5
4,670' - 2.5
4,671' - 2.5
4,672' - 2.5
4,673' - 3.5
4,674' - 4
4,675' - 5
4,676' - 3
4,677' - 3

REFERENCE WELLS

Reference Well "A"

Dominion Oklahoma Texas Exploration & Production Inc.
Blout No. 1-5
2,588' FWL & 990' FSL
Section 5 - T33S - R42W
Morton County, Kansas
Elevation: KB 3,534'
Date Drilled: February, 2002
TD Formation: Mississippian Chester
Status: Upper Morrow Sandstone Oil/Gas Producer

Reference Well "B"

Dominion Oklahoma Texas Exploration & Production Inc.
Williams Trust No. 1-5
Approx. S/2-SE-NW
1,875' FWL & 2,310' FNL
Section 5 - T33S - R42W
Morton County, Kansas
Drilled: May, 2002
Elevation: 3,535' KB
TD Formation: Mississippian Chester
Status: Upper Morrow Sandstone Oil/Gas Producer

DEVIATION SURVEYS

<u>Depth</u>	<u>Degree(s)</u>	<u>Method</u>
1,364'	1 1/2	Dropped
4,618'	1/2	Dropped
4,800'	1/2	Dropped

DRILL STEM TESTS

None

FORMATION TOPS

FORMATION	Blout No. 3-5 ELECTRIC LOG		Blout 1-5 REFERENCE WELL "A"	Wll. Trust 1 REFERENCE WELL "B"	DIFFERENCE TO REFERENCE WELL	
	TOPS	DATUM			"A"	"B"
PENNSYLVANIAN						
Wabaunsee	2676	859	875	862	-16	-3
Topeka	2920	615	621	620	-6	-5
Heebner	3278	257	271	262	-14	-5
Lansing	3427	108	118	115	-10	-7
Marmaton	3958	-423	-416	-425	-7	2
Morrow Shale	4477	-942	-946	-948	4	6
Upper Morrow Sand.	4630	-1095	-1098	-1092	3	-3
Middle Morrow Ls	NDE	NDE	NDE	NDE	NDE	NDE
Morrow "G" Sand.	NDE	NDE	NDE	NDE	NDE	NDE
Keyes Sandstone	NDE	NDE	NDE	NDE	NDE	NDE
MISSISSIPPIAN						
Chester	NDE	NDE	NDE	NDE	NDE	NDE

NDE=Not Deep Enough

ZONES OF INTEREST

<u>Formation</u>	<u>Log Depth</u>	<u>Lithologic & Show Descriptions, Remarks</u>
Upper Morrow Sandstone	4,630'-4,634'	<p>Light to medium gray, quartzitic, very siliceous, vitreous, hard to dense, minor fine grained to predominately medium upper-coarse grained, clear and frosted individual grains, mostly angular-subangular, some subrounded, fair sorting, well to very well silica cementing, quartz overgrowths, scattered subhedral development, occasional dark gray shaley inclusions, abundant white-tan (up to 50%) clay in-fill, trace pyrite, fair intergranular porosity with spotty excellent vuggy pore throat porosity in part, EXCELLENT SHOW: very good odor, spotty to near saturated moderately bright yellow-slightly greenish fluorescence, bleeding oil with gas bubbles, good light brown/tan oil staining, very good slow streaming to milky pale yellow live cut, excellent dried bright yellow residual cut.</p> <p>Electric logs show this interval has a clean gamma ray, good SP and microlog development, and 11-12.5% crossplot porosity, no neutron density gas effect and 28-33 ohms deep induction resistivity.</p>
Upper Morrow Sandstone	4,634'-4,645'	<p>Sandstone, light to medium gray, subfriable to very friable, moderately siliceous, fine upper (predominately subrounded) to medium lower-upper (predominately sub-angular to subrounded with some angular), fair to well sorting, fair to well in part silica cementing, scattered thin (1/16th inch thick) dark gray/black shale laminations, up to 60-70% clay filled, very good-excellent intergranular porosity, scattered excellent vuggy pore throat porosity, EXCELLENT SHOW: near saturated pale to bright yellow-slightly greenish fluorescence, good light brown/tan oil stain, moderate show bleeding free oil</p>

very good slow to fast streaming to milky pale yellow live cut, excellent bright yellow dried residual cut.

Electric logs indicate a very slightly dirty gamma ray signature, very good SP and microlog development, neutron density crossover gas effect from 4,635'-4,645' gross, maximum density porosities of 21-25% and deep induction resistivities of 6-22 ohms.

Upper Morrow
Sandstone

4,646'-4,652'

Sandstone, quartzite, very siliceous, very dense, predominately light gray-white in part, complete quartz overgrowths, predominately medium upper-very coarse grained, subangular to subrounded, fair sorting, excellent silica cementing, predominately clear and opaque individual grains with scattered yellow, orange, and brown individual grains, moderate clay infill, scattered minor glauconite, poor to fair intergranular porosity, POOR SHOW: minor sparse dull yellow/greenish fluorescence, predominately no fluorescence, minor oil stain, slight show of bleeding oil.

Electric logs show this interval has a clean to slightly dirty gamma ray, fair SP and microlog development, maximum density porosity of 14.5% with no gas effect, and maximum deep induction resistivity 15 ohms.

SUMMARY

The Blout No. 3-5 is the third development well drilled in Section 5, Township 33 South, Range 42 West, which offsets the Dominion (DOTEP) Blout No. 1-5 Upper Morrow Sandstone oil and gas producer discovery well. The Blout No.3-5 is located between two confirmed commercial oil and gas Upper Morrow Sandstone producers, located directly northwest of the Blout No.1-5 and directly southeast of the Williams Trust No. 1-5. It is the fourth deep well to confirm Upper Morrow Sandstone reservoir development in this section.

Due to the low risk location of this well, a core was taken over the primary objective Upper Morrow Sandstone. Core recovery samples and electric logs confirm a 22 foot thick Upper Morrow Sandstone is developed in a structurally favorable position relative to the Williams Trust No. 1-5 and Blout No. 1-5 and No. 2-5 oil producers.

The Blout No. 3-5 is located approximately 5/8ths of a mile west of Kansas Highway 27 and 14 1/2 miles north of Elkhart, Kansas. It is approximately 7.5 miles east of the Colorado/Kansas state line in west-central Morton County, Kansas.

The Blout No. 3-5 was spudded on June 4, 2002 and was drilled without any lost circulation or other problems to 4,800 feet RTD. This well was drilled to a shallower total depth approximately 150 feet below the base of the Upper Morrow Sandstone. Production casing was set on June 13, 2002 to production test this sandstone.

The Blout No. 3-5 was under 24-hour geological supervision and mud gas detection (unmanned unit) from 2,500 feet to 4,800 feet RTD. Ten-foot wet and dry drilling samples were caught by the drilling crews from 2,500 feet to 4,800 feet RTD. A complete dry sample cut (2,500-4,800 feet) was split and sent to the Kansas Geological Society Sample Library in Wichita, Kansas. The lithologic descriptions and mud gas recordings were lagged by the consulting wellsite geologist. A single approximate 60-foot core was taken over the Upper Morrow Sandstone interval. No drill stem tests were performed in this well.

Hydrocarbon Shows

The primary objective Upper Morrow Sandstone recorded an excellent observed core sample show, recorded an excellent rate of penetration drilling break during coring and associated gas increase of 92 units to 122 units total (C1= 42 units, C2=26 units, C3=9 units, IC4=2 units, and NC4=1 unit).

This well developed sandstone had an excellent observed hydrocarbon show consisting of: very good odor, excellent spotty to predominantly saturated moderately bright yellow-slightly greenish fluorescence, good light brown/tan oil stain, bleeding free oil with bas bubbles, very good slow-fast streaming to milky pale yellow live cut, excellent bright yellow dried residual cut.

Other moderate gas increases were recorded and associated with developed porosity/drilling breaks in the Pennsylvanian aged Wabaunsee, Topeka, and Lansing Formations, which are gas productive in the area.

Structure/Stratigraphy

The Blout No. 3-5 ran structurally mixed in relation to the Reference Wells. Compared to the Blout No. 1-5 (Reference Well "A") this test well ran moderately low structurally through the well through the Pennsylvanian (Wabaunsee through Marmaton Formations), then structurally high through the Morrow Shale and Upper Morrow Sandstone.

In relation to the Williams Trust No. 1-5 (Reference Well "B"), the Blout No. 3-5 is structurally low from the Wabaunsee through the Morrow Shale Formations, running structurally high only at the Upper Morrow Sandstone Formation.

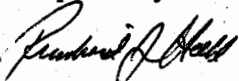
Summary

The Upper Morrow Sandstone in the Blout No. 3-5 is +3 feet high structurally to the DOTE Blout No. 1-5 and is -3 feet low structurally compared to the DOTE Williams Trust No. 1-5 reference wells. A well developed 22-foot thick Upper Morrow Sandstone is present based on core results and confirmed with electric logs,

The Lower Morrow Formation was not penetrated in this test well as total depth was shortened to approximately 150 feet below the Upper Morrow Sandstone.

Therefore, based on the very favorable structural position of the primary objective Upper Morrow Sandstone in relation to the reference/correlation wells, the excellent associated gas hotwire and chromatograph increases recorded, the excellent hydrocarbon core sample shows observed, and electric logs confirming a sandstone similarly developed to the Upper Morrow Sandstones in the reference wells, production casing was set to perforate and production test the Upper Morrow Sandstone.

Respectfully Submitted,



Richard J. Hall
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Wellsite Consulting Geologist
Whitehall Exploration