

15-055-21810-00-00



WHITEHALL EXPLORATION

WELLSITE GEOLOGICAL CONSULTING & WELL LOGGING

RECEIVED
AUG 23 2004
KCC WICHITA

GEOLOGICAL ANALYSIS AND WELL REPORT

Schofield Oil Company

Lewis/Harrington No. 1

330' FNL & 410' FWL
Section 33 - Township 22 South - Range 31 West
Finney County, Kansas

August 18, 2003

GENERAL INFORMATION

Elevation:	G.L. 2,907' K.B. 2,912' All measurements are from KB.
Field:	Wildcat
Drilling Contractor/Rig No.:	Murfin Drilling Co./ No.16
Total Depth:	RTD 5,010' LTD 5,014'
Surface Casing:	8 5/8" set @ 1,401'
Production Casing:	4 1/2" set @ 2,857'
Drill Time Kept:	3,800' to 5,010' RTD
Samples Examined:	3,900' to 5,010' RTD
Samples Saved:	3,900' to 5,010' RTD
Consulting Wellsite Geologist:	Richard J. Hall-CPG No. 5820 Consulting Geologist Whitehall Exploration-Golden, CO
Mudlogging Unit:	MBC Leasing- Unit No. M-5
Unit Type:	Standard Hotwire/Standard Chromatograph
Mudlogging Geologist:	Richard J. Hall (unmanned unit)
Drill Stem Test Company:	Trilobite Testers, Inc.
Number of Tests:	One - Morrow Sandstone
Test Type:	Open Hole Test
Mud Company/Engineer:	Mud Co. /Tony Maestas
Mud Type:	Chemical
Electric Logging Company:	Rosel Co.

Type Logs:

- Dual Induction/GR/SP
- Compensated Neutron Density/GR
- Sonic
- Microlog

Total Depth Formation:

Mississippian St. Louis

Samples:

One (1) dry cut from 3,900'-5,010' sent to Kansas Geological Survey Sample Library- Wichita, Kansas

Well Status:

4 ½ inch production casing set to test the Chase Group Krider Formation

DAILY DRILLING CHRONOLOGY

<u>2003 Date</u>	<u>7:00 A.M. Total Depth</u>	<u>24 Hour Footage</u>	<u>7:00 A.M. Operation:24 Hour Activity</u>
08/04/03	0	0	MIRU; drill rat & mouse holes, spud 12 1/4" hole @ 12:30 PM, drilling, survey, drilling, survey, drilling, survey, jet hole, drilling, survey, drilling.
08/05/03	1,100'	1,100'	Drilling ahead; jet, drilling, survey, drilling, bit trip @ 1,270', drilling, circ./jet, trip out of hole @ 1,402', rig up & run 32 jts 8 5/8" surf. csg., set @ 1401', cmt w/150 sx, plug down @ 12:15 AM-8/06/03, WOC.
08/06/03	1,402'	302'	WOC; drilling, survey, drilling, jet, drilling, jet & lay down 1 jt drill pipe, drilling.
08/07/03	2,330'	928'	Drilling ahead; jet, drilling, jet, drilling, jet, drilling, lost 200 psi pump pressure-TOH for hole in pipe (3.5'), drilling.
08/08/03	2,970'	640'	Drilling ahead; make connection-hole in pipe-lay down 1 jt drill pipe, drilling, jet, drilling, jet, drilling, jet, drilling.
08/09/03	3,570'	600'	Drilling ahead; jet, drilling, jet, drilling.
08/10/03	4,105'	535'	Drilling ahead; jet, drilling.
08/11/03	4,590'	485'	Drilling ahead; jet, drilling, CFS @ 4,852' (1.75'), short trip 20 stands, circ. 1.5', drop survey, TOH, make up test tool, TIH.
08/12/03	4,852'	262'	Tripping in hole w/ DST #1; run DST, TOH w/test tool, break down tool, TIH, drilling, reach 5,010' RTD @ 12:15 AM-8/13/03, CFS 1', TOH, rig up & run wireline logs.
08/13/03	5,010'	158'	Running wire line logs; rig down loggers, WOO-45", TIH w/bit, cond., lay down drill pipe & collars, RU & run 67 jts 4 1/2" prod. csg., cond., cement w/ 150 sx, set slips, rig released @ 10:30 PM, rig down.

REFERENCE WELLS

Reference Well "A":

Sharon Resources, Inc.
T.V.C. No. 4-1
C-N/2-N/2-NW
Section 4-T23S- R31W
Finney County, Kansas
Elevation: KB 2,888'
Date Drilled: April 1989
LTD: 4,950'
TD Formation: Mississippian St. Louis
Status: Dry & Abandoned

Reference Well "B":

Sharon Resources, Inc.
Scott No. 4-4
C-E/2-E/2-SW
Section 4-T23S- R31W
Finney County, Kansas
Elevation: KB 2,890'
Date Drilled: January 1989
LTD: 4,896'
TD Formation: Mississippian Ste. Genevieve
Status: Morrow Sandstone Oil Producer

DEVIATION SURVEYS

<u>Depth</u>	<u>Degree (s)</u>	<u>Methods</u>
509'	1 1/4	wireline
815'	1 7/8	wireline
969'	2	wireline
1,093'	2	wireline
1,219'	1 7/8	wireline
1,270'	2	drop
1,400'	1 7/8	drop
1,595'	1 1/4	wireline
4,852'	7/8	drop

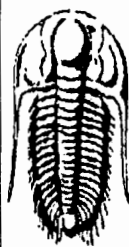
FORMATION TOPS

FORMATION	Lewis/Harrington No. 1	ELECTRIC LOG		TVC 4-1	Scott 4-4	REF. WELL "C"	DIFFERENCE TO REFERENCE WELL		
	SAMPLE TOPS	TOPS	DATUM	REF. WELL "A"	REF. WELL "B"		"A"	"B"	"C"
PERMIAN									
Herington	2682	2681	231	NA	256		NA	-25	
Krider	2715	2718	194	NA	217		NA	-23	
Winfield	2781	2784	128	NA	155		NA	-27	
Towanda	2840	2842	70	NA	98		NA	-28	
Ft. Riley	2902	2905	7	NA	32		NA	-25	
PENNSYLVANIAN									
Heebner	4017	4018	-1106	-1088	-1088		-18	-18	
Lansing	4111	4110	-1198	-1180	-1173		-18	-25	
Base/Kan.City	4522	4535	-1623	-1598	-1598		-25	-25	
Marmaton	4543	4559	-1647	-1621	-1620		-26	-27	
Cherokee Shale	4669	4672	-1760	-1740	-1740		-20	-20	
Cher. Marker	4700	4702	-1790	-1772	-1770		-18	-20	
Johnson Zone	4749	4752	-1840	-1824	-1820		-16	-20	
Morrow Shale	4811	4811	-1899	-1881	-1881		-18	-18	
Morrow Sand.	4839	4850	-1938	-1900	-1895		-38	-43	
MISSISSIPPIAN									
Miss. Unconf.	4853	4857	-1945	-1910	-1937		-35	-8	
Ste. Genevieve	4871	4857	-1945	-1940	-1940		-5	-5	
St. Louis	4928	4933	-2021	-2012	NDE		-9	NA	

Note: LTD (5,014') is 4 feet lower than RTD (5,010').

NA = Not Available

NDE = Not Deep Enough



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Schofield Oil

Lewis-Harrington # 1

500 Martin Lane
Evansville, IN 47715

33-22S-31W Finney KS

Job Ticket: 17367

DST#: 1

ATTN: Scott Robinson

Test Start: 2003.08.12 @ 06:03:16

GENERAL INFORMATION:

Formation: Morrow

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:12:31

Time Test Ended: 12:01:31

Test Type: Conventional Bottom Hole

Tester: John Schmidt

Unit No: 18

Interval: 4801.00 ft (KB) To 4852.00 ft (KB) (TVD)

Total Depth: 4852.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2912.00 ft (KB)

2907.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 3227

Inside

Press@RunDepth: 31.12 psig @ 4805.01 ft (KB)

Start Date: 2003.08.12

End Date:

2003.08.12

Start Time: 06:03:17

End Time:

12:01:31

Capacity: 7000.00 psig

Last Calib.: 2003.08.12

Time On Btm: 2003.08.12 @ 08:12:01

Time Off Btm: 2003.08.12 @ 09:58:31

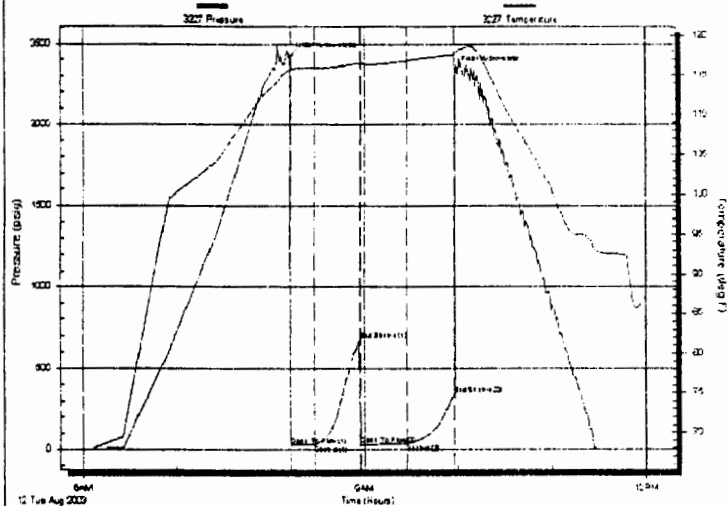
TEST COMMENT: IF-Weak Dead in 13 min.

ISI-Dead

FF-Dead

FSI-Dead

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2416.09	115.78	Initial Hydro-static
1	23.87	115.65	Open To Flow (1)
16	27.16	115.90	Shut-In (1)
45	674.94	116.49	End Shut-In (1)
46	28.10	116.45	Open To Flow (2)
76	31.12	116.80	Shut-In (2)
106	339.78	117.59	End Shut-In (2)
107	2328.15	117.82	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Drilling Mud	0.02

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
----------------	-----------------	------------------

ZONES OF INTEREST

<u>Formation</u>	<u>Log Depth</u>	<u>Lithology & Show Descriptions, Remarks</u>
Krider	2,718'-2,733'	<p>Dolomite, buff-light gray, fine-very fine crystalline, fair-good sucrosic texture, moderately-very arenaceous, very fine grained, rounded, firm, medium-good in part intercrystalline porosity, NO SHOW: no hydrocarbon fluorescence, no show, no live cut, no dried cut.</p> <p>This interval recorded a 55+ unit hotwire gas increase to 75+ units total with chromatograph components of C1=18 units, C2=8 units, and C3=2 units.</p> <p>Electric logs show this interval has a mostly clean blocky gamma ray, very good SP development, 8-10% density porosity, 10-17% neutron porosity, no neutron/density crossover, microlog development and maximum 7 ohms deep induction resistivity.</p>
Krider	2,733'-2,742'	<p>Dolomite, buff-light tan, light gray, very fine-fine crystalline, firm, slight-fair sucrosic texture, mostly clean, grading to gray/white, shaley in part, mostly fair-intermediate intercrystalline porosity, some good in part intercrystalline porosity, NO SHOW; no fluorescence, no show, no live or dried cut.</p> <p>A hotwire gas increase to 75+ units total with chromatograph readings of C1=15 units, C2=4 units, and C3=trace were recorded over this interval.</p> <p>Electric logs indicate this interval has a moderately shaley gamma ray, excellent SP and mudcake development, fair microlog development, maximum density porosity of 20+%, 16-22% neutron porosity, neutron/density crossover from 2,734'-2,738', and deep induction resistivity of 2-5 ohms.</p>
Morrow Sandstone	2,823'-2,846'	<p>Sandstone, 35% of samples, off white-light gray clusters, friable grading to hard with depth, very fine-fine grained, rounded-subangular, predominately subrounded, very well sorted, slight-good silica cementing, vitreous, abundant scattered glauconitic, becoming moderately-very clay filled</p>

with depth, rare black organic material inclusions, slightly pyritic, good intergranular porosity decreasing with depth to poor intergranular porosity/tight, rare vuggy porosity in part, NO SHOW: no odor, no fluorescence, no stain or show, no live cut, no dried residual cut.

During the drilling of this sandstone, no hotwire or chromatograph gas increases were recorded over this interval. This sandstone was covered on DST No. 1 and tested tight with a fluid recovery of 5 feet of drilling mud with flow pressures of 23-27 and 28-31 p.s.i., and shut in pressures of 674-339 p.s.i.

Electric logs show this sandstone has a slightly shaley gamma ray, fair SP development, no microlog or mud cake development, 16-20% density porosity, 12-18% neutron porosity, minor neutron/density crossover, and maximum deep induction resistivity of 2.5-3 ohms.

SUMMARY

The Lewis/Harrington No. 1 was drilled as a wildcat test based on 2-D seismic data which was interpreted to have a Morrow Channel section developed at this location with Morrow Sandstone present. The prospect is located 1.5 miles northwest from the western limits of the prolific Lower Pennsylvanian aged Morrow Sandstone producing Stewart Field, and near the eastern limits, approximately 3 miles east, of the giant Permian aged Chase Group producing Hugoton Gas Field.

The Lewis/Harrington No. 1 had a primary objective in the Morrow Sandstone (Lower Pennsylvanian), with secondary objectives in the Permian aged Chase Group shallow gas, the Pennsylvanian aged Cherokee Johnson Zone and the Mississippian aged St. Louis Formation.

The Lewis/Harrington No. 1 is located in Finney County, southwest Kansas and is approximately 8 miles northeast and 4 miles north of Garden City, Kansas.

The test well was spudded on August 4, 2003 and was drilled trouble free to a RTD of 5,010 feet. One open hole drill stem test was run over the Morrow Sandstone after the sandstone was cut and circulated bottoms up. It was under 24-hour geological supervision and mud gas detection (hotwire and chromatograph) from 3,800' to 5,010' RTD. Ten-foot (10') wet and dry drilling samples were caught from 3,800' to 5,010' by the drilling crews and lagged to true depth by the consulting wellsite geologist.

Hydrocarbon Shows

No visual hydrocarbon sample shows were observed during the portion of the well that was under geological supervision.

A significant hotwire total gas and chromatograph increase was recorded over the Chase Group's Krider Formation increasing 55+ units to a total of 75+ units (from a 20 unit background) with associated chromatograph readings of C1=18 units, C2=8 units, and C3=2 units. No sample show were observed in the Krider Zone.

No sample shows or gas increases were recorded over the Morrow Sandstone from 4,850'-4,855', the Cherokee Formation (Johnson Zone) or the St. Louis Porosity Zone.

Structure/Stratigraphy

As compared structurally to Reference Well's "A" and "B" respectively, the Lewis/Harrington No. 1 ran structurally low throughout the well from the Chase Group through the Mississippian St. Louis Formation.

Complete Formation Tops picks and structural comparisons to Reference Wells "A" and "B" can be found in the "Formation Tops" table within this geologic report.

Summary

The Lewis/Harrington No. 1 was drilled as a seismic based wildcat well 1.5 miles northwest of the Stewart Field. As predicted, the test well did encounter some poorly developed Morrow Sandstone in a Morrow channel system, however the primary objective Morrow Sandstone is low structurally relative to the 1 to 1.5+ mile away reference wells and tested very tight on DST No. 1. Rosel electric logs show the sandstone has 16-18% density porosity although no permeability exists.

Therefore, after electric log evaluation condemned the Morrow Sandstone as poorly developed, and the St. Louis as low structurally and wet, it was determined that the Krider Formation of the Chase Group calculated favorable water/gas saturations. After a hook-wall or straddle drill stem test was ruled out as having a low percentage chance of being successful, it was decided that 4 ½ inch production casing be set to further test the commercial potential of the Krider shallow gas Formation.

Respectfully Submitted,



Richard J. Hall
Certified Petroleum Geologist
Wellsite Consulting Geologist
Whitehall Exploration