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WELLSITE GEOLOGIC CONSULTING AND COMPLETE WELL LOGGING

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GEOLOGICAL ANALYSIS AND WELL REPORT

DOMINION OKLAHOMA TEXAS EXPLORATION AND PRODUCTION, INC.

Blout No. 6-5

330' FEL & 330' FSL

C-SE-SE-SE

**Section 5 - Township 33 South - Range 42 West
Morton County, Kansas**

September 6, 2002

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GENERAL INFORMATION

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Elevation:	KCC NOV 21 2002 CONFIDENTIAL	G.L. 3,514' K.B. 3,524' All measurements are from KB.
Field:		Mustang East
Drilling Contractor/Rig No.:		Cheyenne Drilling Co. / No. 3
Total Depth:		RTD 5,015' LTD 5,020'
Surface Casing:		8 5/8" set @ 1380'
Production Casing:		5 1/2" set @ 4,721'
Drill Time Kept:		2,500' to 5,015' RTD
Samples Examined:		2,500' to 5,015' RTD
Samples Saved:		2,500' to 5,015' RTD
Wellsite Geologist:		Richard J. Hall - CPG Consulting Wellsite Geologist Whitehall Exploration-Golden, CO
Mudlogging Unit:		MBC Leasing-Unit No. 2
Unit Type:		Standard Hotwire/Standard Chromatograph
Mudlogging Geologist:		Richard J. Hall (unmanned unit)
Field Company Man:		Darrel Toews
Drill Stem Test Company/Tester:		Trilobite Testing, Inc./Blake Wallace
Number of Tests:		1 (Open Hole Test) - Upper Morrow Sandstone
Cores:		1 - 60 foot core over Upper Morrow Sandstone
Coring Services/Engineer:		Diamond Oil Well Drilling Co./ John Wood
Mud Company/Engineer:		Baroid Drilling Fluids/John Mathes

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Mud Type:

Chemical

Electric Logging Company:

Baker Atlas

Type Logs:

Platform Express:

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-Dual Induction/GR/SP
-Compensated Neutron LithoDensity/GR
Microlog
-HI-Resolution Neutron-Density/Induction
-Dipmeter

Samples:

(1) One dry cut from 2,500'-5,015' sent to
Kansas Geological Survey Sample Library -
Wichita, Kansas

Total Depth Formation:

Mississippian Chester

Well Status:

Production casing set to produce the Upper
Morrow Sandstone as a gas well

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DAILY DRILLING CHRONOLOGY

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<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>
08/23/02	0	0	MIRU; drill mouse and rat holes, spud @ 4:30 P.M., drilling 12 1/4" hole, drilling,
08/24/02	1,365'	1,365'	Drilling ahead; reach 1,385' @ 8:00 A.M., circ, survey, circ. 1/2', TOH, rig up and run 30 jts 8 5/8" surf csg set @ 1,380' w/450 sx cement, plug down @ 1:30 P.M., WOC, nipple up BOP, T.I.H., drill out cement plug @ 8:30 P.M., drilling @ 9:30 P.M., drilling.
08/25/02	2,070'	705'	Drilling ahead; drilling,
08/26/02	3,030'	960'	Drilling ahead; drilling, survey, T.O.H. - bit trip @ 3,651' (3:15 to 7:00 A.M.), T.I.H. - break circ;
08/27/02	3,651'	621'	T.I.H. w/bit #3; drilling, bit trip @ 4,069', TOH @ 1:00 A.M., drilling ahead @ 4:45 A.M., drilling,
08/28/02	4,110'	459'	Drilling ahead; lost circ @ 4,251' (lost 250 bbl) @ 3:00 P.M., trip into surf csg, mix mud, circ, trip in hole breaking circ, drilling ahead @ 7:15 P.M., drilling,
8/29/02	4,500'	390'	Drilling ahead; CFS @ 4,531', 5 stand short trip, circ 1 3/4', survey, TOOH strapping pipe, PU core bbl, TIH w/core bbl, survey, core drilling @ 7:30 P.M. to 1:30 P.M., TOH, lay down core bbl, rain/WO cat to pull out core engineer and pull drill stem tester into location,
8/30/02	4,591'	91'	Load up core bbls to trailer; pick up test tool, TIH, run DST #1 (test - 5.5' on bottom), TOH w/DST #1, lay down test tool,

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<u>2002</u> <u>Date</u>	<u>7:00 A.M.</u> <u>Total Depth</u>	<u>24 Hour</u> <u>Footage</u>	<u>7:00A.M. Operation; 24 Hour Activity</u>
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			TIH w/bit breaking circ - mud very gassy, ream to bottom, drilling ahead @ 1:00 A.M., drilling,
8/31/02	4,733'	142'	Drilling ahead; reach 5,015' RTD @ 8:53 P.M., CFS 45", 15 stand short trip, circ 1.5', survey, T.O.H., rig up e. loggers, logging,
9/01/02	5,015'	282'	Running electric logs; rig down loggers, T.I.H. - break circ, lay down drill pipe, rig up and run prod. csg., circ, cement, rig released 3:00 A.M. 9/2/02.
9/02/02	5,015'	0'	Rig released.

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REFERENCE WELLS
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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
LTD: 5,098'
TD Formation: Mississippian Chester
Status: Upper Morrow Sandstone Oil/Gas Producer

Reference Well "B"

Dominion Oklahoma Texas Exploration & Production Inc.
Blout No. 2-5
2,000 FSL & 1,500' FEL
Section 5 - T33S - R42W
Morton County, Kansas
Elevation: KB 3,529'
Date Drilled: April, 2002
LTD: 5,078'
TD Formation: Mississippian Chester
Status: Upper Morrow Sandstone Oil/Gas Producer

CORES

A 60' core was cut over the Upper Morrow Sandstone interval from 4,531'-4,591' RTD.

DEVIATION SURVEYS

<u>Depth</u>	<u>Degree(s)</u>	<u>Method</u>
1,386'	1 1/4	Dropped
3,648'	1/2	Dropped
4,440'	2 1/2	Dropped
4,531'	Misrun	Dropped

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FORMATION TOPS

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FORMATION	BLOUT No. 6-5 ELECTRIC LOG		Blout 1-5 REFERENCE WELL "A"	Blout 2-5 REFERENCE WELL "B"	DIFFERENCE TO REFERENCE WELL	
	TOPS	DATUM			"A"	"B"
PENNSYLVANIAN						
Wabaunsee	2664	860	875	861	-15	-1
Topeka	2897	627	621	618	6	9
Heebner	3226	298	271	265	27	33
Lansing	3374	150	118	117	32	33
Marmaton	3904	-380	-416	-415	36	35
Morrow Shale	4409	-885	-946	-940	61	55
Upper Morrow Ss.	4550	-1026	-1098	-1083	72	57
Middle Morrow Ls	4709	-1185	-1269	-1260	84	75
Morrow "G" Sand.	4844	-1320	-1469	ABSENT	109	N/A
Keyes Sandstone	ABSENT	ABSENT	ABSENT	ABSENT	N/A	N/A
MISSISSIPPIAN						
Chester	4922	-1398	-1456	-1455	58	57

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**TRILOBITE
TESTING, INC.**
DRILL STEM TEST REPORT

Dominion Okla & TX Expl&Prod

Blout 6#5

 14000 Quail Spring Parkway Ste 600 Oklahoma
City OK 73134

5-33-42

ATTN: Rick Hall

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Job Ticket: 14501

DST#: 1

Test Start: 2002.08.30 @ 09:12:08

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GENERAL INFORMATION:

Formation: Morrow

Deviated: No Whipstock:

ft (KB)

Time Tool Opened: 12:01:23

Time Test Ended: 20:21:08

Interval: 4325.00 ft (KB) To 4591.00 ft (KB) (TVD)

Total Depth: 4591.00 ft (KB) (TVD)

Hole Diameter: 7.78 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Blake Wallace

Unit No: 20

Reference Elevations: 3542.00 ft (KB)

3530.00 ft (CF)

KB to GR/CF: 12.00 ft

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Serial #: 3026

Inside

Press@RunDepth: 1042.40 psig @ 4576.00 ft (KB)

Start Date: 2002.08.30

End Date:

2002.08.30

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Start Time: 09:12:08

End Time:

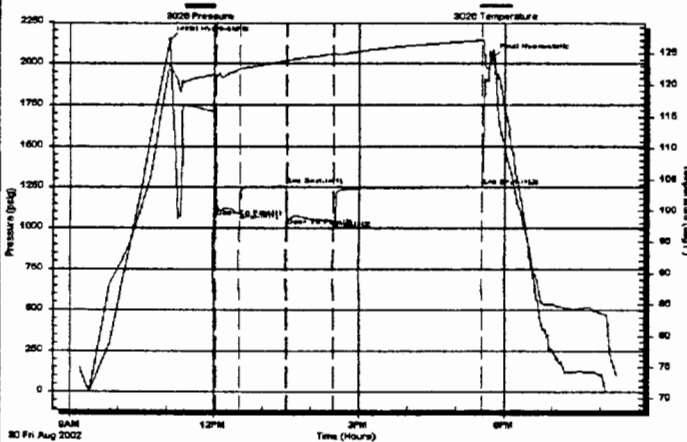
20:21:08

Time On Btm: 2002.08.30 @ 11:04:08

Time Off Btm: 2002.08.30 @ 17:45:08

TEST COMMENT: IF-tagged bottom, opened tool, 8 min into hose started leaking, picked up tool, changed hose, retagged bottom & flowed for 30 min (30 sec BOB, GTS 3 min)
IS-blow back built to 1 3/4 inches
FF-stro

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2142.36	123.31	Initial Hydro-static
58	1061.27	121.40	Open To Flow (1)
87	1088.24	122.45	Shut-In (1)
145	1255.91	123.78	End Shut-In (1)
147	1005.23	123.68	Open To Flow (2)
205	1042.40	124.91	Shut-In (2)
389	1251.03	127.00	End Shut-In (2)
401	2037.43	125.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	5% G 95% mud	1.52

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	250.00	4129.89
Last Gas Rate		0.00	
Max. Gas Rate	0.75	300.00	4910.88



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DRILL STEM TEST REPORT

GAS RATES

Dominion Okla & TX Expl&Prod

Blout 6#5

14000 Quail Spring Parkway Ste 600 Oklahoma
City OK 73134

5-33-42

Job Ticket: 14501

DST#: 1

ATTN: Rick Hall

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Test Start: 2002.08.30 @ 09:12:08

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Gas Rates Information

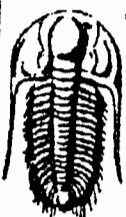
Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

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Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
IFP:	1	15	0.75	250.00
	1	20	0.75	300.00
	1	25	0.75	300.00
	1	30	0.75	300.00
FFP:	2	5	0.75	250.00
	2	10	0.75	300.00
	2	15	0.75	300.00
	2	20	0.75	300.00
	2	25	0.75	300.00
	2	30	0.75	300.00
	2	35	0.75	300.00
	2	40	0.75	300.00
	2	45	0.75	300.00
	2	50	0.75	300.00
	2	55	0.75	300.00
	2	60	0.75	300.00
	2	60	0.75	300.00
	2	60	0.75	300.00
	2	60	0.75	300.00
	2	60	0.75	300.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Dominion Okla & TX Expl&Prod

Blout 6#5

14000 Quail Spring Parkway Ste 600 Oklahoma
City OK 73134

5-33-42

Job Ticket: 14501

DST#: 1

ATTN: Rick Hall

Test Start: 2002.08.30 @ 09:12:08

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

Water Loss: 7.20 in³

Resistivity: ohm.m

Salinity: 1000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	5% G 95% mud	1.525

Total Length: 310.00 ft Total Volume: 1.525 bbl

Num Fluid Samples: 2

Num Gas Bombs: 0

Serial #:

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments: 4000ML Gas 4.0 cubic ft gas @ 250 PSI

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ZONES OF INTEREST

<u>Formation</u>	<u>Log Depth</u>	<u>Lithologic & Show Descriptions, Remarks</u>
Lower Lansing	3,696'-3,702'	<p>Limestone, light gray-off white, very fine crystalline, hard, very arenaceous, very fine grained, moderately chalky, some oolitic, occasional fine crystalline, fair-good intercrystalline porosity. NO SHOW: no fluorescence, very dull mineral fluorescence, no live cut, no dried residual cut. An excellent mud gas increase of 245 units to 260 units total (chromatograph: C1=84, C2=26, and C3=8 units, respectively) were recorded over this interval.</p> <p>Electric logs show this is a well developed clean limestone reservoir with very good SP and microlog development, 14-18% density porosity, good neutron - density crossover gas effect, with maximum deep induction resistivity of 18 ohms.</p>
Upper Morrow Sandstone (Cored)	4,550'-4,560'	<p>Sandstone, medium-dark gray, tan in part, dense, very fine-medium upper grained, subrounded - angular, fair sorting, very well silica cementing with quartz overgrowths, moderate clay filling in part, some shaley/dirty, minor pyrite, intermediate dull slightly blue fluorescence, good odor, no live cut, slight dull dried cut; grading to</p> <p>Sandstone, medium-dark gray, quartzitic, very hard, subfriable in small clusters, medium lower to coarse upper predominately with abundant granule sized grains, scattered subhedral quartz, fair sorting, subrounded to angular, intermediate-well silica cementing, mostly frosted individual grains, moderate-very shaley/silty in part, minor pyrite inclusions, some clusters with abundant very fine grained sand matrix fill, moderate clay filling in part, fair-very good intergranular porosity, GOOD SHOW: very good odor, bleeding gas bubbles at cut in</p>

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FormationLog DepthLithologic & Show Descriptions, Remarks

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core sleeve, spotty fair-good dull yellow fluorescence, scattered oil stain in part?, no show free oil, fair-intermediate pale yellow streaming cut grading to good yellowish cloudy to good milky slightly blue to yellow cut, intermediate to good pale to bright yellow dried cut. A hotwire gas increase over background to 108 units total, with chromatograph components of: C1=62 units, C2=10 units, and C3 = trace, were recorded over this sandstone. This sandstone was drill stem tested and recovered gas to surface in 3 minutes with a maximum gas flow rate of 4.9 MMCFGPD, with shut in pressures of 1,255 to 1,251 p.s.i.

Electric logs show this sandstone is 10 feet thick with a mostly clean gamma ray, fair to good SP and mudcake development over the upper 6 feet of the sandstone, good microlog development, 8-30% density porosity, and excellent neutron/density crossover gas effect, and has a maximum deep induction resistivity of approximately 300 ohms.

Morrow "G"
Sandstone

4,844'-4,872'

Sandstone, light-dark gray clusters, firm-hard, very fine-fine grained, subrounded-subangular, well sorted, fair-good calcareous cementing, very glauconitic, some clusters very shaley/silty, rare interbedded limestone in part with rare fossil fragment, poor-good intergranular porosity; grading to sandstone, medium gray clusters, quartzitic, siliceous, quartz overgrowths, firm-hard, medium upper-coarse lower grained, subrounded-angular, minor glauconite inclusions, some moderately-very shaley clusters, tight, poor intergranular porosity, no fluorescence, no show, no live or dried cut. A 36 unit total gas increase to 140 units total was recorded over the top portion of this sandstone, with chromatograph readings of C1=94 units, C2=25 units, and C3=trace.

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Formation

Log Depth

Lithologic & Show Descriptions, Remarks

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Electric logs show this 28-foot thick sandstone has a moderately clean to shaley gamma ray signature, good SP development over the upper 18 feet of the sandstone grading to fair SP development over the lower portion of the sandstone, no to moderate microlog development, density porosities ranging from 6 to 20%, none to moderate neutron/density crossover gas effect, and a maximum deep induction resistivity of 16 ohms over the top of this zone.

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SUMMARY

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The Blout No. 6-5 is the eighth well drilled by Dominion Oklahoma Texas Exploration and Production, Inc. ("DOTEP") in the Mustang East Field development program and is the most southeastern location possible on DOTEP's Section 5 leasehold. It is located between two very structurally high Upper Morrow Sandstone producing gas wells located to the southeast (NW-NW-NW-Sec. 9) and southwest (NW-NW-NE-Sec. 8) and the Blout No. 1-5 and Blout No. 2-5 structurally lower oil and gas producers to the northwest. This location was chosen as having the best chance of encountering the Upper Morrow Sandstone gas leg of the commercially productive reservoir at the highest structural position possible within Section 5-T33S-R42W.

The Mustang East Field was discovered by DOTEP in February 2002, and is located approximately 14 miles north of Elkhart, Kansas in west central Morton County. The Blout No. 6-5 is located approximately 1/16th of a mile west of Kansas Highway 27.

The primary objective in the Blout No. 6-5 was natural gas from the Upper Morrow Sandstone with a secondary objective in the Lower Morrow "G" Sandstone.

The Blout No. 6-5 was spudded on August 23, 2002 and production casing was set on September 1, 2002. Lost circulation was encountered at 4,251' where 250 barrels of mud were lost. A 60-foot core was taken over the Upper Morrow Sandstone interval and an open hole drill stem test was run over the Upper Morrow Sandstone.

The well was under 24-hour geological supervision and hotwire/chromatograph mud gas detection (unmanned unit) from 2,500 feet to 5,015 feet RTD. Wet and dry drilling samples were caught by the drilling crews from 2,500 feet to 5,015 feet at 10-foot intervals. A complete dry cut of the samples (2,500'-5,015') was split and sent to the Kansas Geological Survey Sample Library in Wichita, Kansas. All lithologic descriptions and mud gas recordings were lagged to true depth.

Hydrocarbon Shows

A very significant 245 unit hotwire gas increase to 260 units total was recorded over a Lower Lansing limestone formation from 3,696 to 3,702 feet. Chromatograph readings of C1=84 units, C2=26 units, and C3=trace were recorded. No visual hydrocarbon shows were observed in the samples. This zone was not drill stem tested and warrants further evaluation through pipe at a future date.

During the coring of the Upper Morrow Sandstone, a gradual hotwire gas increase over background to 108 units total was recorded over this sandstone with chromatograph recordings of C1=62 units, C2=10 units, and C3=trace (no heavy/oil hydrocarbon breakout was recorded). A Good Sample show consisting of: very good odor, bleeding gas bubbles at cut in core sleeve, spotty fair-good dull yellow fluorescence, scattered oil

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stain in part, no show free oil, fair-intermediate yellow streaming cut grading to good yellowish cloudy to good milky slightly blue/yellow cut, intermediate to good pale to bright yellow dried cut. A drill stem test over the Upper Morrow Sandstone recovered gas to surface in 3 minutes, with a maximum gas flow rate of 4.9 MMCFGPD, and shut-in pressures of 1,255 to 1,251 p.s.i.

A thick secondary objective Morrow "G" Sandstone is present in the Blout No. 6-5, recording a 36 unit hotwire gas increase to 140 units total over the upper portion of the sandstone with maximum chromatograph readings of C1=94 units, C2=25 units, and C3=trace. No visual hydrocarbon sample shows were observed (no fluorescence, no show, no live or dried cut).

Structure/Stratigraphy

The Blout No. 6-5 gained significant structure in relation to the DOTE Blout No. 1-5 and Blout No. 2-5 Reference/Correlation wells, running structurally high from the Pennsylvanian Topeka through the Mississippian Chester Formations.

In relation to Reference Well "A"/Blout No. 1-5, the Blout No. 6-5 is +61 feet high at the Morrow Shale, +72 feet high at the Upper Morrow Sandstone, +109 feet high at the Morrow "G" Sandstone, and +58 feet high at the Chester Formation.

As compared to Reference Well "B"/Blout No. 2-5, the Blout No. 6-5 is +55 feet high at the Morrow Shale, +57 feet high at the Upper Morrow Sandstone, and +57 feet high at the Chester Formation.

The Blout No. 6-5 has a 513 foot thick Morrow Formation (Morrow Shale to Chester Formation) compared to 510 feet thick in the Blout No. 1-5, and 515 feet thick in the Blout No. 2-5.

Summary

The Blout No. 6-5 was drilled with the intent of encountering the Upper Morrow Sandstone structurally high compared to the existing wells in Section 5 and within the gas cap of the producing reservoir. Significant gradual structural thinning occurred with depth, from the Topeka through the Morrow "G" Sandstone. The Upper Morrow Sandstone was cored and drill stem tested in this test well. A thinner Upper Morrow Sandstone (10 feet thick gross) is present in the Blout No. 6-5, however, structurally it is 57 and 72 feet high to Reference Wells "A" and "B" respectively, and tested gas at a rate of 4.9 MMCFGPD on a drill stem test.

Therefore, based on the very positive structural position of the primary objective Upper Morrow Sandstone in relation to the other oil and gas producing Upper Morrow Sandstone wells in Section 5-T33S-R42W, the excellent gas flow recovery on Drill Stem Test No. 1 and associated bottom hole pressures, and the electric wireline logs

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confirming the excellent porosity and permeability development of the Upper Morrow Sandstone, production casing was set to commercially produce the Upper Morrow Sandstone as a gas well.

Respectfully Submitted,



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

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COMPANY: DOMINION EXPLORATION & PRODUCTION
WELL: BLOUT # 6-5
WELL LOCATION: MORTON COUNTY, KANSAS
FILE NUMBER: 6472
DEPTH RANGE: 4531 to 4591 F
DATE: 9/4/2002

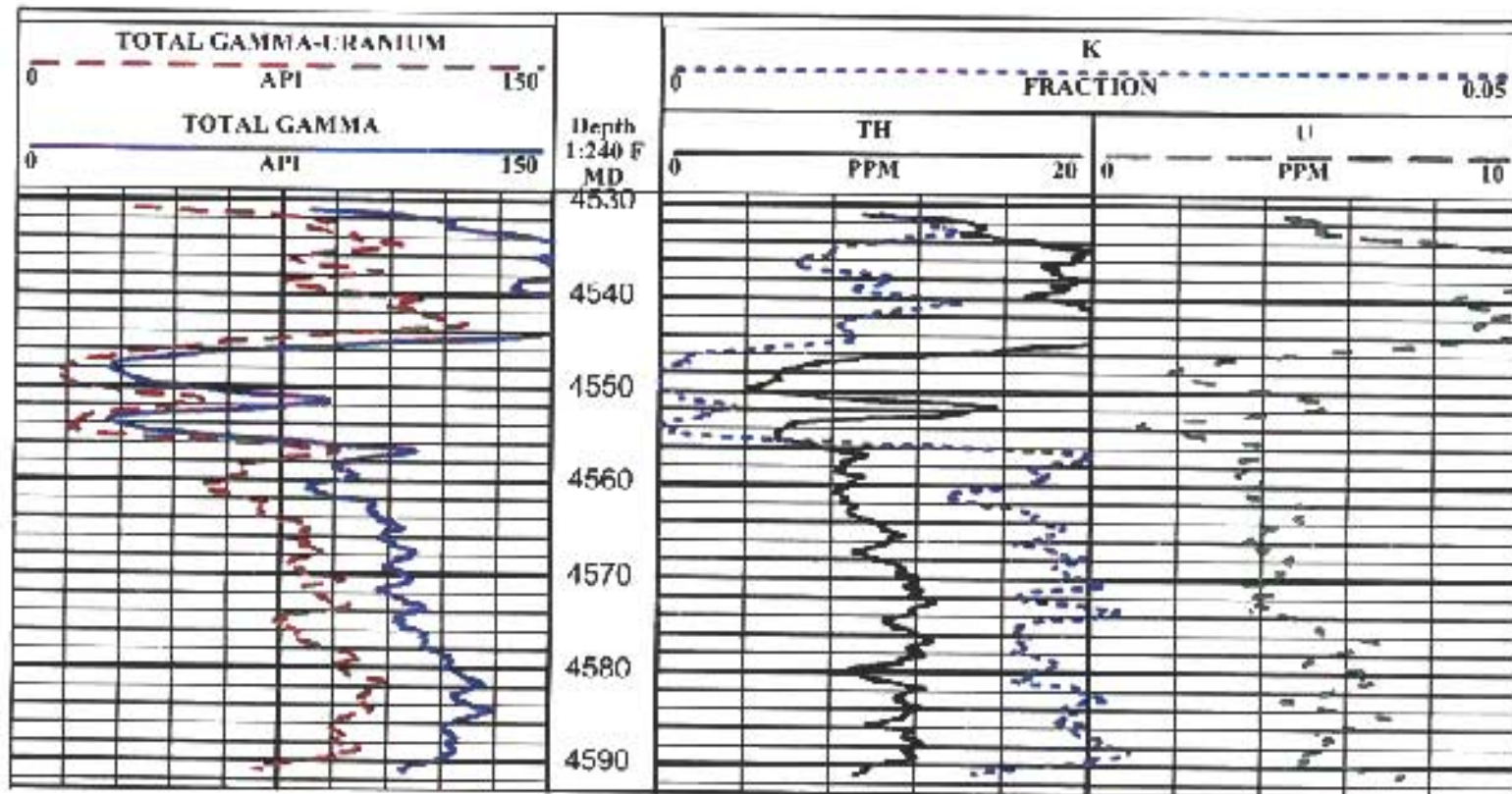
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CORE SPECTRAL GAMMA



Data generated by SPECTRAL GAMMA, a product of Core Lab Instruments

COMPLETE CORE ANALYSIS PENDING WATER FLOOD POTENTIAL EVALUATION.