

ORIGINAL

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

API NO. 15 - 15-129-21691-0000  
County Morton  
Ap 150' S  
& 150' E of NE - SE Sec. 5 Twp. 33S Rge. 42 X W

Operator: License # 32971  
Name: Dominion Oklahoma Texas E&P, Inc.  
Address: Suite 600  
14000 Quail Springs Parkway  
City/State/Zip Oklahoma City, OK 73134

CONFIDENTIAL

Purchaser: NCRA  
Operator Contact Person: Lenora Sawyer  
Phone (405) 748-2725

Contractor: Name Cheyenne Drilling Co.  
License: 5382  
Wellsite Geologist: NA

KCC  
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Designate Type of Completion  
X New Well Re-Entry Workover  
X 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  
Commingled Docket No.  
Dual Completion Docket No.  
Other (SWD or Inj?) Docket No.  
1/30/03 2/05/03 2/25/03  
Spud Date Date Reached TD Completion Date

1830' FSL Feet from S / N (circle one) Line of Section  
510' FEL Feet from E / W (circle one) Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
NE SE NW or SW (circle one)

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Lease Name Blout Well # 5-5  
Field Name Mustang East

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Producing Formation Morrow  
Elevation: Ground 3513' KB 3523'  
Total Depth 4750' PBDT 4700'

Amount of Surface Pipe Set and Cemented at 1397' Feet  
Multiple Stage Cementing Collar Used? Yes X No  
If yes, show depth set Feet

If Alternate completion, cement circulated from  
feet depth to w/ sx cmt

Drilling Fluid Management Plan  
(Data must be collected from the Reserve Pit)

Chloride content 900 ppm Fluid volume 800 bbls  
Dewatering method used Evaporation

Location of fluid disposal if hauled offsite:  
Operator Name  
Lease Name License No.  
Quarter Sec. Twp S Rng. E / W  
County Docket No.

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INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, 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 CD-4 form with all plugged wells. Submit CP-111 with all temporarily abandoned wells.

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

Signature Lenora Sawyer  
Title Regulatory Specialist Date 2/27/03

Subscribed and sworn to before me this 27th day of February 20 03  
Notary Public  
Date Commission Expires



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)

Operator Name Dominion Oklahoma Texs E&P, Inc.

Lease Name Blout Well # 5-5

Sec. 5 Twp. 33S Rge. 42  
 East  
 West

County Morton

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  Log Formation (Top), Depth and Datum  Sample  
 (Attach Additional Sheets.) Name Top Datum

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No

(Submit Copy.) See attached geological analysis

List All E.Logs Run:

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	12-1/4"	8-5/8"	24#	1397'	HLC PP "C" Prem+"C"	465 150	3% cc-1/4# Flocele 2% cc-1/4# Flocele
Production	7-7/8"	5-1/2"	15.5#	4747'	Midcon C 50/50 Poz H	30 250	3%-1/4# Flocele 4% calseal-10% salt+ .6%Halad-1/4#Flocele
					Cement rat & mouse hole w/Mid-Con C	30	3%-1/4# FLocele

ADDITIONAL CEMENTING/SQUEEZE RECORD

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

Shots Per Foot	PERFORATON RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated		Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Materials Used)		Depth
	4 spf	4588-4618'		Acidized w/1250 gal 7-1/2% treated HCl acid w/100 ball sealers. Frac w/9000 gal 70Q 25# Delta foam w/24000# 16/30 Super LC	

TUBING RECORD			Size	Set At	Packer At	Liner Run		
			2-7/8"	4645'		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Date of First, Resumed Production, SWD or Inj. 2/21/03				Producing Method <input type="checkbox"/> Flowing <input checked="" 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
	43		211		160		4907:1	

Disposition of Gas: METHOD OF COMPLETION Production Interval

Vented  Sold  Used on Lease  Open Hole  Perf.  Dually Comp.  Commingled \_\_\_\_\_

(If Vented, submit ACO-18.)  Other (Specify) \_\_\_\_\_

<b>HALLIBURTON JOB SUMMARY</b>		SALES ORDER NUMBER <b>2262330</b>	TICKET DATE <b>02/01/03</b>
REGION <b>Central Operations</b>	MVA / COUNTRY <b>Mid Continent/USA</b>	BDA / STATE <b>MC/Ks</b>	COUNTY <b>MORTON</b>
MBU ID / EMPL # <b>MCL10110 212723</b>	H.E.S. EMPLOYEE NAME <b>JERRAKO EVANS</b>	PSL DEPARTMENT <b>CEMENT</b>	<b>ORIGINAL</b>
LOCATION <b>LIBERAL, KS</b>	COMPANY <b>DOMINION EXPLORATION &amp; PROD</b>	CUSTOMER REP / PHONE <b>DARRELL TOEWS 405-206-6742</b>	
TICKET AMOUNT <b>\$10,259.27</b>	WELL TYPE <b>OIL</b>	API/WVI #	
WELL LOCATION <b>ELKHART, KS</b>	DEPARTMENT <b>CEMENT</b>	SAP BOMB NUMBER <b>7521</b>	Cement Surface Casing
LEASE NAME <b>BLOUT</b>	Well No. <b>5-5</b>	SEC / TWP / RNG <b>5 - 33S - 42W</b>	HES FACILITY (CLOSEST TO WELL SITE) <b>LIBERAL, KS</b>

HES EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	HRS	HRS	HRS
Evans, J 212723	6.5			
King, K 105942	6.5			
Ferguson, R 106154	6.5			
Archuleta, M 226383	6.5			
H.E.S. UNIT #S / (R/T MILES)	R/T MILES	R/T MILES	R/T MILES	R/T MILES
10415642	50			
10251403	50			
10240236-10240245	25			
10243558-6611	25			

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Form. Thickness \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At \_\_\_\_\_  
 Bottom Hole Temp. \_\_\_\_\_ Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth \_\_\_\_\_

Date	Called Out	On Location	Job Started	Job Completed
	2/1/2003	2/1/2003	2/1/2003	2/1/2003
Time	0030	0430	0930	1100

**Tools and Accessories**

Type and Size	Qty	Make
Float Collar INSERT	1	HOWCO
Float Shoe		
Centralizers	6	
Top Plug	1	
HEAD	1	
Limit clamp	1	
Weld-A	1	
Guide Shoe	1	
BTM PLUG		

**Well Data**

New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing NEW	24#	8 5/8		KB	1,398	
Liner						
Liner						
Tubing						
Drill Pipe						
Open Hole		12 1/4		KB	1,400	Shots/Ft.
Perforations						
Perforations						
Perforations						

**Materials**

Mud Type	Density	Lb/Gal
Disp. Fluid	Density	Lb/Gal
Prop. Type	Size	Lb
Prop. Type	Size	Lb
Acid Type	Gal.	%
Acid Type	Gal.	%
Surfactant	Gal.	In
NE Agent	Gal.	In
Fluid Loss	Gal/Lb	In
Gelling Agent	Gal/Lb	In
Fric. Red.	Gal/Lb	In
Breaker	Gal/Lb	In
Blocking Agent	Gal/Lb	
Perfpac Balls	Qty.	
Other		
Other		
Other		
Other		

**Hours On Location**

Date	Hours
2/1	6.5
Total	6.5

**Operating Hours**

Date	Hours
2/1	1.5
Total	1.5

**Description of Job**  
 Cement Surface Casing  
 CIRC CMT TO PIT  
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Ordered	Hydraulic Horsepower Avail.	KCC W/10011/A Used
Treating	Average Rates in BPM	Overall
Feet 45	Cement Left in Pipe	SHOE JOINT
	Reason	

**Cement Data**

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal
1	466	HLC PP C		3% CC - 1/4# FLOCELE	11.60	2.05	12.30
2	160	PREM PLUS C		2% CC - 1/4# FLOCELE	6.30	1.34	14.80
3							
4							

**Summary**

Circulating Breakdown \_\_\_\_\_ Displacement \_\_\_\_\_  
 Lost Returns-Y \_\_\_\_\_ MAXIMUM \_\_\_\_\_  
 Cmt Rtrn#Bbl \_\_\_\_\_ Actual TOC \_\_\_\_\_  
 Average \_\_\_\_\_ Frac. Gradient \_\_\_\_\_  
 Shut In: Instant \_\_\_\_\_ 5 Min. \_\_\_\_\_ 15 Min. \_\_\_\_\_

Preflush: BBI \_\_\_\_\_ Type: \_\_\_\_\_  
 Load & Bkdn: Gal - BBI \_\_\_\_\_ Pad: Bbl - Gal \_\_\_\_\_  
 Excess /Return BBI \_\_\_\_\_ Calc. Disp Bbl \_\_\_\_\_  
 Calc. TOC: \_\_\_\_\_ Actual Disp. \_\_\_\_\_  
 Treatment: Gal - BBI \_\_\_\_\_ Disp: Bbl \_\_\_\_\_  
 Cement Slurry BBI \_\_\_\_\_  
 Total Volume BBI \_\_\_\_\_ 292.00

Frac Ring #1 \_\_\_\_\_ Frac Ring #2 \_\_\_\_\_ Frac Ring #3 \_\_\_\_\_ Frac Ring #4 \_\_\_\_\_

THE INFORMATION STATED HEREIN IS CORRECT  
 CUSTOMER REPRESENTATIVE \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

15-129-21691-0000

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<b>HALLIBURTON JOB LOG</b> CONFIDENTIAL		TICKET # 2262330	TICKET DATE 02/01/03
REGION Central Operations	NWA / COUNTRY Mid Continent/USA	BDA / STATE MC/Ks	COUNTY MORTON
MBU ID / EMPL # MCL10110 212723	H.E.S EMPLOYEE NAME JERRAKO EVANS	PSL DEPARTMENT CEMENT	
LOCATION LIBERAL, KS	COMPANY DOMINION EXPLORATION & PRO	CUSTOMER REP / PHONE DARRELL TOEWS 405-206-6742	
TICKET AMOUNT \$10,259.27	WELL TYPE OIL	API/UMI #	
WELL LOCATION ELKHART, KS	DEPARTMENT CEMENT	JOB PURPOSE CODE Cement Surface Casing	
LEASE NAME BLOUT	Well No. 5-5	SEC / TWP / RNG 5 - 33S - 42W	HES FACILITY (CLOSEST TO WELL S) LIBERAL, KS

HES EMP NAME/EMP # (EXPOSURE HOURS)	HRS	HES EMP NAME/EMP # (EXPOSURE HOURS)	HRS	HES EMP NAME/EMP # (EXPOSURE HOURS)	HRS	HES EMP NAME/EMP # (EXPOSURE HOURS)	HRS
Evans, J 212723	6.5						
King, K 105942	6.5						
Ferguson, R 106154	6.5						
Archuleta, M 226383	6.5						

Chart No.	Time	Rate (BPM)	Volume			Job Description / Remarks
			(BBL)(GAL)	N2	CSG: Tbg	
	0430					JOB READY
	0030					CALLED OUT FOR JOB
	0200					PRE-TRIP SAFETY MEETING
	0400					PUMP TRUCK ON LOCATION/ JOB SITE ASSESMENT
	0415					RIG UP TRUCKS
						RIG CIRC ON BOTTOM
	0715					RIG UP CASING CREW
	0720					PRE-JOB SAFETY MEETING
	0730					START RUNNING CASING (8 5/8)
	0900					CASING ON BOTTOM 1398 FT
	0905					HOOK UP PLUG CONT & CIRC IRON
	0910					CIRC WITH RIG PUMP
						RIG DOWN CASING CREW
						THROUGH CIRC / HOOK UP TO PUMP TRUCK
	0936			2000		TEST LINES
	0941	6.0	170.0	0-100		START MIXING LEADCMT @12.3#
	1009	6.0	36.0	100		START MIXING TAIL CMT @14.8#
						THROUGH MIXING CMT/ DROP PLUG
	1018	6.0		0-300		START DISP WITH FRESH WATER
	1033	2.0	76.0	350		SLOW RATE
	1038	2.0	86.0	850		BUMP PLUG
	1039					RELEASE FLOAT HELD
						CIRC.CMT.TO PIT.
						THANKS FOR CALLING HALLIBURTON
						JERRAKO & CREW

# HALLIBURTON JOB SUMMARY

REGION <b>Central Operations</b>		NVA / COUNTRY <b>Mid Continent/USA</b>		SALES ORDER NUMBER <b>2275699</b>		TICKET DATE	
MCI ID / EMP # <b>MCL10110/198516</b>		H.E.S. EMPLOYEE NAME <b>JASON CLEMENS</b>		BDA / STATE <b>MC/Ks</b>		COUNTY <b>MORTON</b>	
LOCATION <b>LIBERAL, CONFIDENTIAL</b>		COMPANY <b>DOMINION EXPLORATION &amp; PROD</b>		PSL DEPARTMENT <b>Cement</b>		<b>ORIGINAL</b>	
TICKET AMOUNT <b>\$7,288.23</b>		WELL TYPE <b>01 Oil</b>		CUSTOMER REP / PHONE <b>DARRELL TOEWS 405-206-6742</b>			
WELL LOCATION <b>RICHFIELD</b>		DEPARTMENT <b>ZI</b>		SAP BOMB NUMBER <b>7523</b>		Cement Production Casing	
LEASE NAME <b>BLOUT</b>		Well No. <b>5-5</b>		SEC / TWP / RNG <b>5 - 33S - 42W</b>		HES FACILITY (CLOSEST TO WELL SITE) <b>LIBERAL, KS</b>	

HES EMP NAME / EMP # / (EXPOSURE HOURS)	HRS	HRS	HRS	HRS
Clemens, A 198516	11.0			
Cochran, M 217398	11.0			
Martinez, A 268816	11.0			
Berumen, E 267804	11.0			

H.E.S. UNIT #S / (R/T MILES)	R/T MILES	R/T MILES	R/T MILES	R/T MILES
421269	50			
10251403	50			
54225/10011541	25			
10244168/10286731	25			

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Form. Thickness \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At \_\_\_\_\_  
 Bottom Hole Temp. \_\_\_\_\_ Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth \_\_\_\_\_

Date	Called Out	On Location	Job Started	Job Completed
	2/6/2003	2/6/2003	2/7/2003	2/7/2003
Time	2000	2400	900	1000

Tools and Accessories

Type and Size	Qty	Make
Float Collar		HES
Float Shoe ifs	1	
Centralizers	6	
Top Plug	1	
HEAD	1	
Limit clamp	2	
Weld-A	1	
Guide Shoe		
BTM PLUG		

Well Data

	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing	N	15.6#	5 1/2		0	4,747	
Liner							
Liner							
Tubing							
Drill Pipe							
Open Hole			7 7/8				Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials

Mud Type	Density	Lb/Gal
Disp. Fluid	Density	Lb/Gal
Prop. Type	Size	Lb
Prop. Type	Size	Lb
Acid Type	Gal.	%
Acid Type	Gal.	%
Surfactant	Gal.	In
NE Agent	Gal.	In
Fluid Loss	Gal/Lb	In
Gelling Agent	Gal/Lb	In
Fric. Red.	Gal/Lb	In
Breaker	Gal/Lb	In
Blocking Agent	Gal/Lb	
Perfpac Balls	Qty.	
Other		
Other		
Other		
Other		

Hours On Location

Date	Hours	Date	Hours
2/7	1000.0	2/7	1.0
Total	1000.0	Total	1.0

Description of Job  
**Cement Production Casing**

Ordered \_\_\_\_\_  Hydraulic Horsepower Avail. \_\_\_\_\_  
 Treating \_\_\_\_\_  Average Rates in. BPM \_\_\_\_\_  
 Feet 37 \_\_\_\_\_  Cement Left in Pipe \_\_\_\_\_  
 Reason \_\_\_\_\_

Used \_\_\_\_\_  
 Overall \_\_\_\_\_  
**SHOE JOINT**

Cement Data

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal
1	30	MIDCON C		3% KCL - 1/4# FLOCELE	19.07	3.09	11.30
2	250	50/50 POZ H		4% CALSEAL - 10% SALT - .6% HALAD-322 - 1/4# FLOCELE	5.30	1.24	14.70
3	25	MIDCON C		3% KCL - 1/4# FLOCELE (TO PLUG RAT & MOUSE HOLES)	19.07	3.09	11.30
4							

Summary

Circulating	Displacement	Preflush:	BBI	10.00	Type:	mudflush
Breakdown	MAXIMUM	Load & Bkdn:	Gal - BBI		Pad:Bbl -Gal	
Lost Returns	Lost Returns-l	Excess /Return	BBI		Calc. Disp Bbl	
Cmt Rtrn#Bbl	Actual TOC	Calc. TOC:			Actual Disp.	112
Average	Frac. Gradient	Treatment:	Gal - BBI		Disp:Bbl	
Shut In: Instant	5 Min.	Cement Slurry	BBI	85.0		
		Total Volume	BBI	207.00		

Frac Ring #1 \_\_\_\_\_ | Frac Ring #2 \_\_\_\_\_ | Frac Ring #3 \_\_\_\_\_ | Frac Ring #4 \_\_\_\_\_

THE INFORMATION STATED HEREIN IS CORRECT  
 CUSTOMER REPRESENTATIVE \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

15-129-21691-0000



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DRILLER'S LOG

ORIGINAL

DOMINION EXPLORATION & PRODUCTION, INC.  
BLOUT 5-5  
SECTION 5-T33S-R42W  
MORTON COUNTY, KANSAS.

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FEB 27 2003  
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RELEASED

MAR 15 2004

COMMENCED: 01-30-03  
COMPLETED: 02-07-03

FROM CONFIDENTIAL  
SURFACE CASING: 1397' OF 8 5/8" CMTD  
W/465 SKS PREMIUM PLUS LITE + 3% CC +  
1/4#/SK FLOCELE. TAILED W/150 SKS CLASS  
C + 2% CC + 1/4#/SK FLOCELE.

FORMATION

DEPTH

FORMATION	DEPTH
SURFACE HOLE	0 - 1400
RED BED	1400 - 2481
LIMESTONE & SHALE	2481 - 2900
TOPEKA	2900 - 3627
LIMESTONE & SHALE	3627 - 3847
MARMATON	3847 - 4251
CHEROKEE & MORROW SHALE	4251 - 4605
MORROW	4605 - 4750 RTD

I DO HEREBY CERTIFY THAT THE FOREGOING STATEMENTS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHEYENNE DRILLING, INC.

WRAY VALENTINE

STATE OF KANSAS: ss:

SUBSCRIBED AND SWORN TO BEFORE ME THIS 7TH DAY OF FEBRUARY, 2003.

JOLENE K. RUSSELL

NOTARY PUBLIC

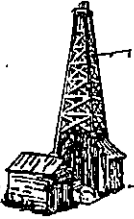
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KCC WIGHT



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WHITEHALL EXPLORATION

WELLSITE GEOLOGIC CONSULTING AND COMPLETE WELL LOGGING

RELEASED

MAR 15 2004

FROM CONFIDENTIAL

GEOLOGICAL ANALYSIS AND WELL REPORT

DOMINION EXPLORATION AND PRODUCTION, INC.

Blout No. 5-5

510' FEL & 1,830' FSL

Approx. NE-SE

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

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KCC WICHITA

February 10, 2003

15-129-21691-0000



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GENERAL INFORMATION

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Elevation: G.L. 3,513' K.B. 3,523'  
All measurements are from KB.

Field: Mustang East

Drilling Contractor/Rig No.: Cheyenne Drilling Co./ No.1

Total Depth: RTD 4,750' LTD 4,740'

Surface Casing: 8 5/8" set @ 1,397'

Production Casing: 5 1/2" set @ 4,747'

Drill Time Kept: 2,500' to 4,750' RTD

Samples Examined: 2,500' to 4,750' RTD

Samples Saved: 2,500' to 4,750' RTD

Consulting Wellsite Geologist: Richard J. Hall-CPG  
Consulting Geologist  
Whitehall Exploration-Golden, CO

Mudlogging Unit: MBC Leasing- Unit No. M-2

Unit Type: Standard Hotwire/Standard Chromatograph

Mudlogging Geologist: Richard J. Hall (unmanned unit)

Field Company Man: Darrel Toews

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

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Type Logs:

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-High Definition Induction/GR/SP  
-Compensated Neutron Density/GR  
-Microlog/GR

MAR 15 2004

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Total Depth Formation:

Middle Morrow Shale (approximately 125 feet  
below the Upper Morrow Sandstone)

Samples:

One (1) dry cut from 2,500'-4,750' sent to Kansas  
Geological Survey Sample Library- Wichita, Kansas

Well Status:

Production casing set to test and commercially  
produce the Upper Morrow Sandstone

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DAILY DRILLING CHRONOLOGY

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MAR 15 2003

FROM CONFIDENTIAL

<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>
01/30/03	0	0	MIRU; drill rat & mouse holes, spud 12 1/4" hole @ 11:00 PM, drilling.
01/31/03	502'	502'	Run dev. survey; drilling, survey, drilling, survey, drilling, survey, drilling, circ./ condition mud, run survey, trip out of hole, RU & run 8 5/8" surf. casing.
02/01/03	1,400'	898'	Running 32 jts surf. casing; set @ 1,397' w/ w/ 465 sx cmt, plug down @ 10:30 AM, WOC, nipple up BOP, trip in hole, test BOP, drill out plug & cmt @ 7:15 PM, drilling.
02/02/03	2,078'	678'	Drilling ahead; run survey, drilling, survey, drilling, change to mud pump #2, drilling.
02/03/03	3,066'	988'	Drilling ahead; survey, drilling, survey, drilling, survey, drilling.
02/04/03	3,847'	781'	Drilling ahead; survey, drilling.
02/05/03	4,425'	578'	Drilling ahead; CFS @ 4,605', drilling, @ 4,617', drilling, reach 4,750' RTD 9:00 PM, CFS/circ. 1.5', short trip 20 stands, circ. 1', drop survey, trip out of hole strapping pipe, RU loggers, logging.
02/06/03	4,750'	325'	Running electric logs; RD loggers, trip in hole, condition hole, prepare to run prod. csg.
02/07/03	4,750'	0	Running prod. csg.; cement csg., plug down @ 10:00 AM, rig released.

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REFERENCE WELLS

Reference Well "A": Dominion Oklahoma Texas Expl. & Prod., Inc.  
Blout No. 2-5  
2000' 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

Reference Well "A": Dominion Oklahoma Texas Expl. & Prod., Inc.  
Blout No. 6-5  
330' FSL & 330' FEL  
SE-SE-SE  
Section 5-T33S- R42W  
Morton County, Kansas  
Elevation: KB 3,524'  
Date Drilled: September 2002  
LTD: 5,020'  
TD Formation: Mississippian Chester  
Status: Upper Morrow Sandstone Oil/Gas Producer

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DEVIATION SURVEYS

<u>Depth</u>	<u>Degree (s)</u>	<u>Methods</u>
502'	1 ¼	wireline
627'	¼	wireline
936'	0	wireline
1,216'	¼	wire line
1,400'	½	drop
2,139'	0	wireline
2,512'	1	wireline
3,284'	½	wire line
3,784'	¼	wire line
4,312'	¼	wire line

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4,559'            ¼            wireline  
4,750' RTD       ¾            drop

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DRILL STEM TESTS/CORES

None

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FORMATION TOPS

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FORMATION	Blout 5-5 ELECTRIC LOG		Blout 2-5 REFERENCE	Blout 6-5 REFERENCE	DIFFERENCE TO REFERENCE WELL	
	TOPS	DATUM	WELL "A"	WELL "B"	"A"	"B"
PENNSYLVANIAN						
Wabaunsee	2662	861	861	860	Flat	1
Topeka	2901	622	618	627	4	-5
Heebner	3247	276	265	298	11	-22
Lansing	3394	129	117	150	12	-21
Lansing Zone	3634	-111	-125	-89	14	-22
Marmaton	3931	-408	-415	-380	7	-28
Morrow Shale	4448	-925	-940	-885	15	-40
Upper Morrow Ss	4588	-1065	-1083	-1026	18	-39

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ZONES OF INTEREST

Formation                      Log Depth

Lithology & Show Descriptions, Remarks

Lansing                      3,634'-3,639'

Limestone, buff-tan, mottled appearance, fine in part-very fine crystalline, firm-hard, very oolitic, oolmoldic in part, moderately chalky, some white chalk pieces, fair intercrystalline porosity, very good oolmoldic vuggy porosity, NO SHOW: no hydrocarbon fluorescence, slight dull mineral fluorescence, no show, no live or residual cut. A hotwire gas increase to 310 units total was recorded over this zone with associated chromatograph readings of C<sub>1</sub>=124 units, C<sub>2</sub>=34 units, and C<sub>3</sub>=10 units. This zone was not drill stem tested.

Electric logs indicate this zone has very well developed porosity and permeability with very good SP, micro log, and mud cake development, maximum density porosity of 25.5%, maximum neutron porosity of 16%, good neutron/density crossover gas effect, and maximum deep induction resistivity of approximately 150 ohms.

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Upper Morrow Sandstone      4,588'-4,594'

Sandstone, off white-light gray, tan in part, clusters, subfriable to hard, predominately very fine-fine grained with some medium grains, subrounded-subangular, fair-medium sorting, very good calcareous cementing, slightly shaley in part, moderately-very white clay filled in part, minor pyrite, fair-good intergranular porosity; grading to:

Sandstone, light gray-buff/tan, subfriable to firm, mostly very fine-medium grained with abundant coarse lower grains, subrounded-angular, very poorly sorted, slight calcareous cementing, minor scattered glauconitic, good-very good intergranular porosity, VERY GOOD SHOW: very good oil and gas odor, very good mostly saturated bright yellow-slightly greenish fluorescence, good brown spotty oil stain, trace show of free oil when crushed, slow-intermediate streaming live cut, grading to excellent white milky cut, excellent bright yellow dried residual cut. A total hotwire gas increase to 141 units was recorded over this interval.

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Chromatograph readings of C<sub>1</sub>=78 units, C<sub>2</sub>=32 units and C<sub>3</sub>=4 units were also recorded.

This zone recorded a drilling break to 1/2-1 minute per foot from a background rate of penetration of 2-3 minutes per foot.

Electric logs show this sandstone has a moderately clean gamma ray, good SP, mud cake, and micro log development, maximum 20% density porosity (no neutron/density crossover), and deep induction resistivity of 6-10 ohms.

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Upper Morrow Sandstone 4,603'-4,609'

Sandstone, light-medium gray with tan in part clusters, predominately fine upper to coarse lower grained, poor sorting, subrounded-angular, mostly silica with very slight calcareous cementing, abundant quartz overgrowths with some subhedral overgrowths, frosted and clear individual grains, minor dark gray shale inclusions, scattered pyrite and mica inclusions, intermediate-very good intergranular porosity, VERY GOOD SHOW: excellent odor, very good near saturated bright yellow-slightly greenish fluorescence, good brown spotty oil stain, trace-fair show of free oil when crushed, intermediate yellow-white streaming live cut, grading to excellent white milky cut, excellent bright yellow dried residual cut. A hotwire gas increase to 166 units total and associated chromatograph readings of C<sub>1</sub>=122 units, C<sub>2</sub>=39 units, C<sub>3</sub>=49 units, IC<sub>4</sub>=20 units, and NC<sub>4</sub>=2 units, were recorded over this zone.

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This sandstone recorded a drilling break to 1-1 1/2 minutes per foot from a background rate of penetration of 2-3 minutes per foot. This zone was not drill stem tested.

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Electric logs indicate this sandstone has a mostly dirty/shaley gamma ray, medium-good SP development, micro log and mud cake development from 4,603'-4,606', has 14-21% density porosity, (no neutron/density crossover), and maximum deep induction resistivity of 6 ohms.

Upper Morrow Sandstone 4,614'-4,618'

Sandstone, predominately clear-opaque/light gray clusters predominately fine upper to coarse lower grained, poor sorting, surrounded-angular, siliceous, well silica cementing, abundant quartz overgrowths

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with some subhedral overgrowths, scattered dark gray shale inclusions, poor-fair intergranular porosity, GOOD SHOW: good odor, very good uneven bright yellow-slightly greenish fluorescence, minor brown spotty oil stain, no show of free oil, fair very slow yellow-white streaming live cut, excellent bright yellow dried residual cut. A hotwire gas increase to approximately 110 units total and associated chromatograph readings of  $C_1=27$  units,  $C_2=8$  units, and  $C_3=2$  units were recorded over this zone.

This sandstone recorded a rate of penetration of 1 1/2-2 minutes per foot from a background rate of penetration of 2-3 minutes per foot. This zone was not drill stem tested.

Electric logs indicate this sandstone has a very clean gamma ray, intermediate SP development, good micro log and mud cake development, 8-17% density porosity, slight neutron/density crossover gas effect, and maximum deep induction resistivity of 37 ohms.

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SUMMARY

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The Dominion Blout No. 5-5 was drilled as a development location in the continuing development of the Mustang East Field in Section 5-T33S-R42W. The Blout No. 5-5 was drilled in an attempt to extend commercial oil and gas production from the Upper Morrow Sandstone on the eastern edge of the field, east of the Dominion Blout No. 2-5 oil and gas producer and north of the Dominion Blout No. 6-5 gas producer.

The Blout No. 5-5 had a primary objective in the Upper Morrow Sandstone with secondary objectives in the Wabaunsee, Topeka, and Lansing Formations. Because existing well control in the field indicated the Lower Morrow Sandstones and Keyes Sandstones would not be prospective at this location, the well was drilled to a total depth approximately 125 feet below the Upper Morrow Sandstone.

The Blout No. 5-5 is located approximately 15 miles north Elkhart, Kansas just west of Kansas Highway 27. The Mustang Field is located on the western edge of the Hugoton Embayment in west central Morton County in extreme southwestern Kansas.

The Blout No. 5-5 was spudded on January 30, 2003 and was drilled without problems to a RTD of 4,750 feet. Production casing was set on February 7, 2003. No drill stem tests were run in this well. It was under 24-hour geological supervision and mud gas detection (hotwire and chromatograph) from 2,500' to 4,750' RTD. Ten-foot (10') wet and dry drilling samples were caught from 2,500' to 4,590' (with five foot samples caught from 4,590' to 4,617') by the drilling crews and lagged to true depth by the consulting wellsite geologist.

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Hydrocarbon Shows

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Very good hydrocarbon sample shows and mud gas increases were recorded over the Upper Morrow Sandstone benches from 4,588'-4,594', 4,603'-4,609', and 4,614'-4,618'. Complete detailed hydrocarbon sample shows and associated mud gas increases can be found in the "Zones of Interest" section of this report.

An extremely significant excellent mud gas increase was recorded over a Lansing Formation Zone from 3,634' to 3,639' recording a hotwire total gas increase to 310 units (chromatograph readings of C<sub>1</sub>=124 units, C<sub>2</sub>=34 units, and C<sub>3</sub>=10 units). This Lansing Zone is undeveloped in the surrounding Blout No. 2-5, Blout No. 6-5, and Hanke No. 1-5 wells and is unique to the Blout No. 5-5.

Several significant total gas increases of interest were recorded over porosity zones in the Wabaunsee Formation from 2,698'-2,703' (60 unit increase to 82 units total) and 2,868'-2,876' (66 unit increase to 104 units total), the Topeka Formation from 2,901'-2,905' (58 unit increase to 86 units total) and 3,031'-3,039' (54 unit increase to 64 units total).

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Structure/Stratigraphy

As compared structurally to Reference Well "A"/Dominion Blout No. 2-5, the Blout No. 5-5 ran structurally flat (Wabaunsee Formation) to structurally high (Topeka through the Upper Morrow Sandstone Formations), ranging from +4 feet to +18 feet high. Compared to Reference Well "B"/Dominion Blout No. 6-5, the Blout No. 5-5 ran structurally low from the Topeka (-5 feet) through the Upper Morrow Sandstone (-39 feet), with the exception of the Wabaunsee Formation which is +1 foot high.

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 Blout No. 5-5 was drilled as a development well on the eastern edge of the Mustang East Field attempting to extend Upper Morrow Sandstone oil and gas production. As expected, the Blout No. 5-5 did encounter the Upper Morrow Sandstone structurally high (+18 feet) to the Dominion Blout No.2-5/Reference Well "A" and structurally low (-39 feet) to the Dominion Blout No. 6-5/Reference Well "B". The Upper Morrow Sandstone consists of 3 thin well developed benches of sandstone covering a 30-foot thick gross interval.

Therefore, based on the presence of the Upper Morrow Sandstone, it's favorable structural position compared to the Reference Wells, the very good hydrocarbon sample shows observed, the corresponding very good mud gas increases recorded, and the confirming electric log analysis, plus the favorable reservoir development and excellent mud gas increase of the Lansing Zone, production casing was set to further test and produce the Upper Morrow Sandstone.

Respectfully Submitted,



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Certified Petroleum Geologist  
Wellsite Consulting Geologist  
Whitehall Exploration

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