

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ 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 cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that 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.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems 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 test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to [kcc-well-logs@kcc.ks.gov](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

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

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	NICHOL A 8
Doc ID	1433476

All Electric Logs Run

DIL
DUCP
MEL
BHCS



MDCI  
 Nichol 'A' #8  
 2310' FSL 330'FWL  
 Sec. 33-5S-20W  
 2151' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	1675	+476	+2	1671	+480	+6
B/Anhydrite	1705	+446	-4	1702	+449	-1
Topeka	3122	-971	-43	3082	-931	-3
Oread	3226	-1075	-8	3222	-1071	-4
Lansing	3309	-1158	-7	3305	-1154	-3
Stark	3478	-1327	-10	3476	-1325	-8
BKC	3504	-1353	-8	3501	-1350	-5
Reagan	3553	-1402	-3	3551	-1400	-2
Gran Wsh				3582	-1431	+15
RTD	3650					
LTD				3642		



**WESLEY D. HANSEN Consulting Petroleum Geologist**

212 N. Market, Suite 257, Wichita, KS 67202

Cellular 316.772.6188  
whansen4651@sbcglobal.net

KGS  
AAPG #799479  
Kansas License #418



Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Murfin Drilling Company, Inc. #8 Nichol "A"

API: 15-147-20755

Location: 2310' FSL, 330' FWL of Section 33-5S-20W

License Number:

Region: Phillips County, Kansas

Spud Date: 11-13-2018

Drilling Completed: 11-20-2018

Surface Coordinates: 2310' FSL, 330' FWL of Section 33-5S-20W

Bottom Hole Vertical hole

Coordinates:

Ground Elevation (ft): 2146'

K.B. Elevation (ft): 2151'

Logged Interval (ft): 2980' To: RTD

Total Depth (ft): 3650'

Formation: Granite at RTD

Type of Drilling Fluid: Chemical - displaced at 2817'-2840'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### OPERATOR

Company: Murfin Drilling Co., Inc.

Address: 250 N. Water

Suite 300

Wichita, KS 67202

#### GEOLOGIST

Name: Wesley D. Hansen

Company: Wesley D. Hansen - Consulting Petroleum Geologist

Address: 212 N. Market, Suite 257

Wichita, KS 67202

Cellular: 316-772-6188

## COMMENTS

Contractor: Murfin Drilling Co., Inc. Rig #24  
Pusher: Jesus Vargas

Surface Casing: 8 5/8" set at 261' w/185sx  
Production Casing: 5 1/2" set at +/- 3650'

Mud by: Morgan Mud - Dave and Cade Lines were the engineers.

DST's by: Trilobite - Jim Svaty was the tester.

Logs by: Pioneer Wireline (DIL, CN-CD, MEL, BHCS) - Ian Mabb was the engineer.

Deviation Surveys: 1/2 deg. @261'; 1/2 deg. @ 916'; 3/4 deg. @ 1601'; 3/4 deg. @ 2319'; 3/4 deg. @ 2942'; 1 deg. @ 3569'; 1 deg. @ 3650'

## BIT RECORD

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"	HTC	ST	261'	261'	4
2	7 7/8"	HTC	DP 506	2942'	2681'	38
3	7 7/8"	HTC	GX-20C	3569'	627'	38 1/2
4	7 7/8"	HTC	GX-20Crr	3650'	81'	7

## FORMATION TOPS AND STRUCTURAL COMPARISON

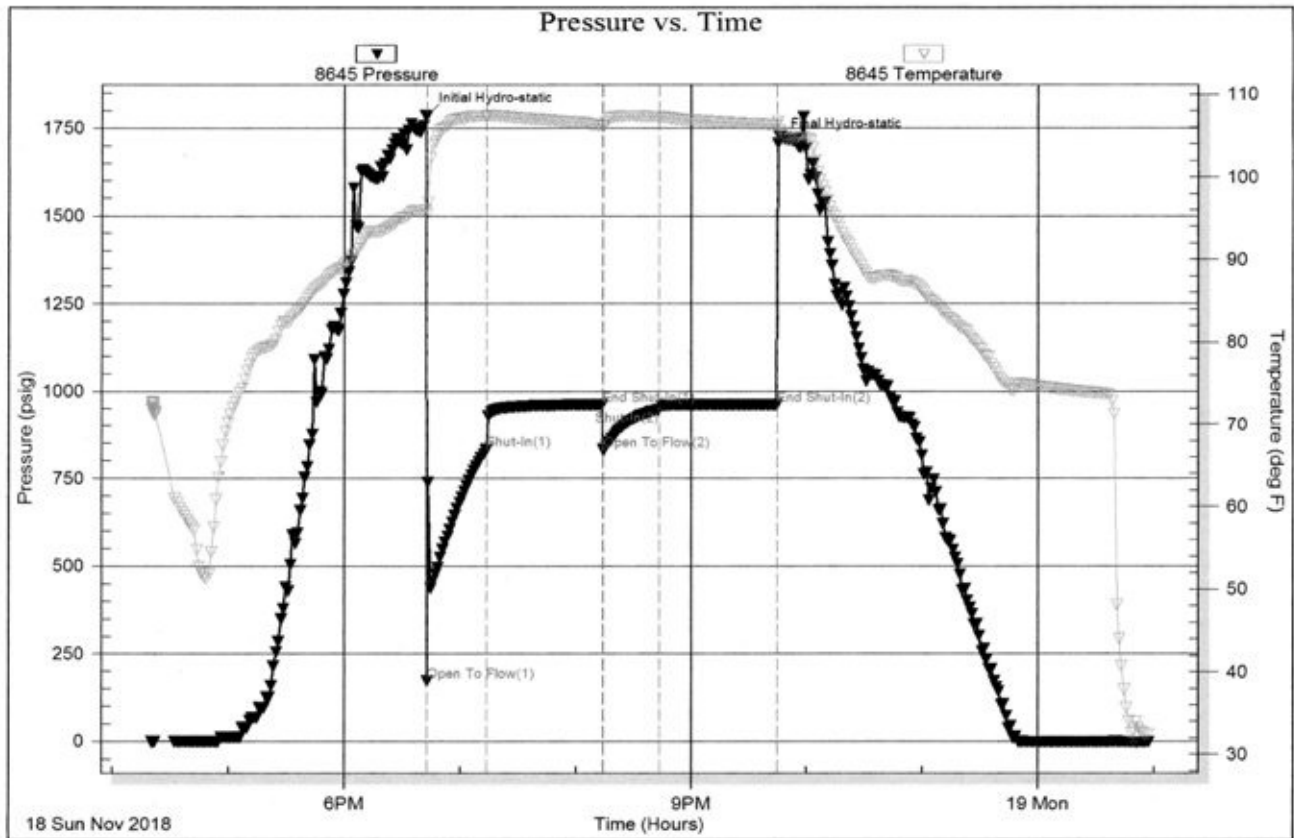
FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELL		
	Depth	Datum	Depth	Datum	OXY Hansen "B" #9 1650' FNL, 330'FWL 33-5s-20w 2177' KB		
Anhydrite	1675'	+476	1671'	+480	1703'	+474	+6
B/Anhydrite	1705'	+446	1701'	+450	1727'	+450	flat
Topeka	3122'	-971	3116'	-965	3140'	-963	-2
Oread	3226'	-1075	3222'	-1071	3244'	-1067	-4
Heebner Shale	3267'	-1116	3264'	-1113	3286'	-1109	-4
Lansing	3309'	-1158	3306'	-1155	3328'	-1151	-4
Stark Shale	3478'	-1327	3475'	-1324	3494'	-1317	-7
BKC	3504'	-1353	3500'	-1349	3522'	-1345	-4
Arbuckle	Absent		Absent		N/A		
Reagan	3553'	-1402	3551'	-1400	3576'	-1399	-1
RTD	3650'	-1499					
LTD			3642'	-1491			

# DRILL STEM TESTS

DST No. 1 Reagan Sand  
 Interval: 3550'-3569'  
 Times: 30-60-30-60  
 Recovery: 50' GIP; 385' Oil specked G&MCW  
 (5g, 1o, 40m, 54w); 1671' MCW w/show oil (5m,  
 95w) Chl. 72,000; total fluid 2056'  
 FP: 172-834/831-947 SIP: 960-961  
 HP: 1782-1706 BHT: 106 deg. F

IFP: B.O.B. in 30 sec.  
 ISIP: weak surface return in 3 minutes, died  
 in 22 minutes  
 FFP: B.O.B. in 80 sec.  
 FSIP: no return blow

Serial #: 8645      Outside      Murfin Drilling Co Inc      Nichol "A" 8      DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64162

Printed: 2018.11.19 @ 01:16:06

## ROCK TYPES

	Congl		Lmst		Carb sh		Sltstn
	Igne		Salt		Dol		Shlyslts
	Anhy		Shale		Dtd		Sndy/siltyshale
	Cht		Shcol		Grayshale		Silty dolo
	Coal		Siltstone		Sandylms		Shy dolo
	Congl		red sst		Redshale		Shaly ls
	Gyp		Sst		Greenshale		Dolomite



### ACCESSORIES

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant

- Strom
- Fuss
- Oomold

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp

- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsb
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- red shale
- green shale
- Sltstn

#### STRINGER

- Anhy
- Arg

### OTHER SYMBOLS

#### INTERVALS

- Core
- Dst
- Dst

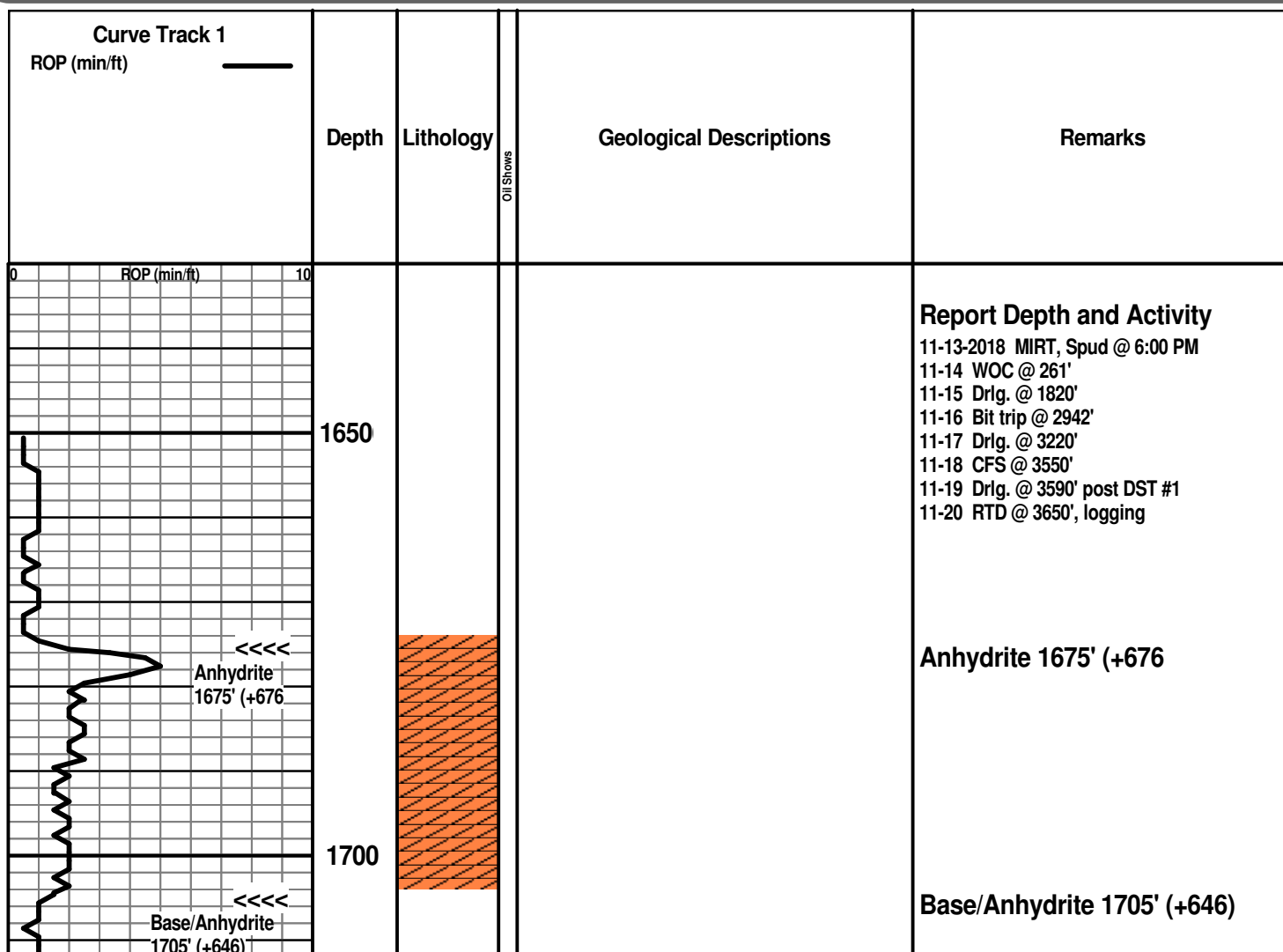
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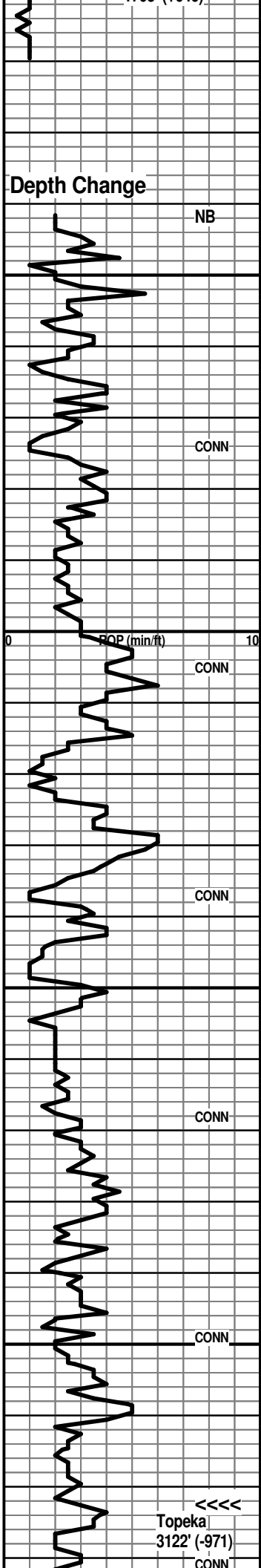
- Rft
- Dst top & bottom

#### OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show





2950

3000

3050

3100

NB

CONN

CONN

CONN

CONN

CONN

TOPEKA  
3122' (-971)

CONN



Ls: offwhite, tan fn gran. and foss. IP, sl mottled IP, some intra-particle por., NS.; some chalky; Sh: lt gray, mushy

Ls: mix AA with sl influx lt gray, lt brn vfxln dense; Sh: med to dark gray, some red-brn

Ls: mix offwhite, tan, lt gray mic-vfxln dense; offwhite subchalky to chalky; Sh: influx soft lt red-brn

Sh: red-brn, gray with Siltst: offwhite, lt gray; common Ls mix AA

Ls: offwhite, lt gray, tan mic-fn-vfxln, sl mottled and foss. IP, trace crinoid frag.; common subchalky; Shales and siltst AA

Sh: lt to med gray

Ls: lt to med gray vfxln dense, NVP; lesser tan sl mottled and foss. and offwhite subchalky

Ls: mix AA; sl influx mottled gray/brn gran. and foss., poor-NVP

Ls: mottled gray/brn AA; Sh: soft gray, finely micac., calcar.

Ls: influx lt gray, tan sl gran., NVP and offwhite, lt gray, tan mic-vfxln dense, subchalky IP

Ls: mix AA; Sst: lt gray vfg, finely micac.; Siltst: offwhite very calcar. to silty Ls; Sh: very soft pale gray

Ls: influx med to dark gray mottled gran., NVP; Sh: med to dark gray

Ls: lt to med gray, lt brn vf-cryptoxln, sl foss. IP, NVP; Sh: some dark gray to black

Ls: tan, lt brn, lt gray mic-fnxln, sl mottled IP, subchalky IP; scatt. white chalky; minor gray shale; trace shaly pyrite

Ls: mix AA with sl influx mottled med to dark gray gran. with dark oolites in matrix, NVP; offwhite, tan fn gran. and foss., subchalky; trace very quest. lt stain, poss. faint milky cut

Ls: mottled gray AA; sl influx tan mic-fnxln and tan, offwhite mic-vfxln dense, subchalky; Sh: gray

Ls: flood tan, offwhite mic-fnxln, subchalky to chalky with flood Chert: offwhite, lt gray, occ lt brn opq, fresh

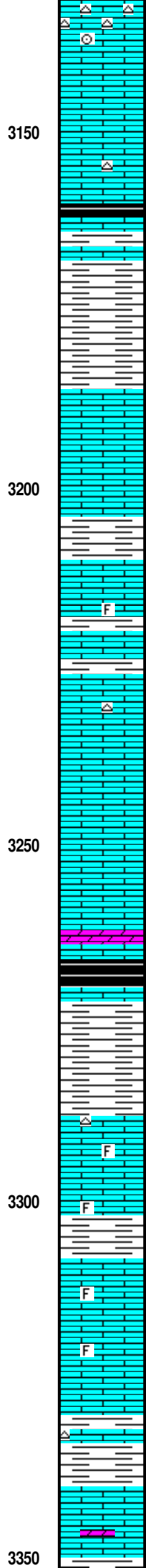
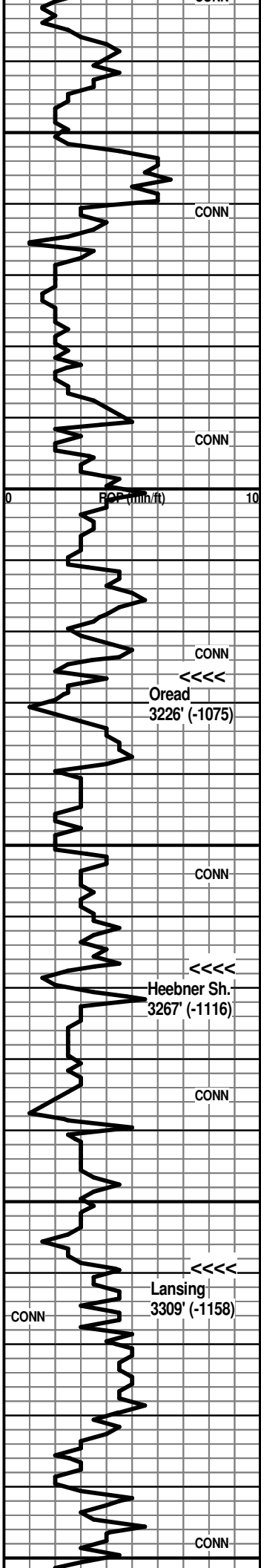
Geologist on location at 2628'  
7:30 PM 11-15-2018

Bit trip at 2942'  
Pipe strap at 2942' was 1.23' short

Morgan Mud Check at 2942'  
12:50 PM on 11-16-2018  
wt vis wl pH chl  
8.6 103 6.4 11.5 1000  
PV YP GelS lcm solids  
22 32 13/35 2# 2.2%

10' samples start at 2980'

Topeka 3122' (-971)



Ls: tan, lt gray, lt brn pred. vfxln; trace crinoid frag.; occ subchalky to white chalky; decr. chert

Ls: tan, offwhite mic-fnxln, subchalky to chalky

Ls: tan, lt brn, gray vf-cryptoxln, NVP; scatt. offwhite, tan opq chert

Ls: more lt to med brn vf-cryptoxln, NVP; Sh: lt gray mushy, clayey; black carbon., dark gray

Ls: mix lt to med brn and gray sl gran., dense; with tan, offwhite mic-vfxln dense, subchalky to chalky

Ls: various dense AA; lt gray vf-cryptoxln; Sh: good influx soft red-brn

Sh: AA; Ls: lt gray, tan vf-cryptoxln, NVP

Ls: offwhite, tan mic-fnxln, subchalky to chalky; lt gray vfxln dense

Ls: mix lt gray vfxln, some lt to med brn cryptoxln; tan gran., sl mottled, poor-NVP

Ls: pred. lt gray mic-vfxln dense; incr. tan, lt brn gran./foss., sl mottled AA, poor-NVP

Ls: 3-4 chips tan gran. with ppt stain, sl odor, sl sfo on break, looks tight; flood tan, offwhite mic-vfxln dense; scatt. offwhite opq chert

Ls: offwhite, tan mic-vfxln dense, NVP; influx tan cryptoxln, NVP

Ls: pred. various dense AA; scatt. chips tan, gray dense with spotty black asphaltic stain, weak milky cut, no odor, nfo

Ls: various gray, brn sl gran. to cryptoxln, NVP; mottled offwhite/gray dense; occ Dolo: gray, lt brn mottled fn-vfxln; Sh: influx black carbon.

Ls: med brn cryptoxln, NVP  
Sh: good influx soft red-brn, brn

Sh: red-brn, gray, black; Ls: med brn, gray-brn cryptoxln, NVP; occ gray cryptoxln with edge por. with patchy brn stain, sl odor, nfo; Chert: scatt. tan opq

Sh: mix AA with pale gray; Ls: scatt. tan, lt brn with patchy brn stain, vsI odor, nfo, milky cut; pred. various tan, lt gray, offwhite dense, foss. IP, N.S.

Sh: abund. red-brn, soft to firm; Ls: tan, gray cryptoxln to mottled gran., foss. IP

flood Ls: pred. tan, offwhite, lt gray, lt brn cryptoxln to sl gran., NVP; some tan, lt gray gran./foss. N.S.; scatt tan vfxln with speckled ppt stain, faint odor, nfo

Ls: flood lt gray, tan, lt brn cryptoxln; lesser sl mottled tan/offwhite gran./foss., N.S.

Ls: very pred. various cryptoxln AA; trace tan cryptoxln with patchy ppt stain, nfo, ?odor

Ls: pred. various cryptoxln AA; some med to dark gray cryptoxln; Dolo: scatt. tan vfxln; scatt. offwhite, opq chert; Sh: vsI influx med gray, red-brn

Ls: still pred. various dense AA; trace brn fn gran. with poor inter-particle por. with sl shows brn listless oil, slow bleeding oil, ? odor; scatt. Dolo AA

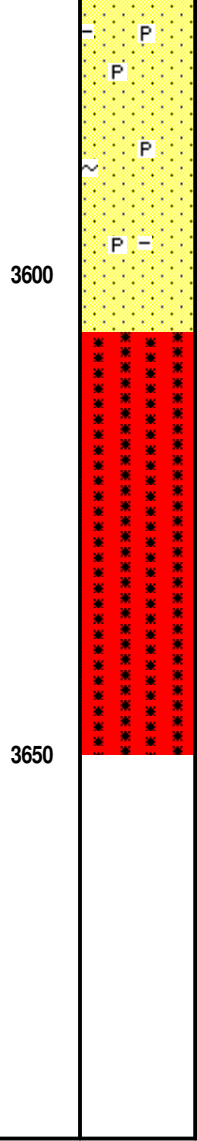
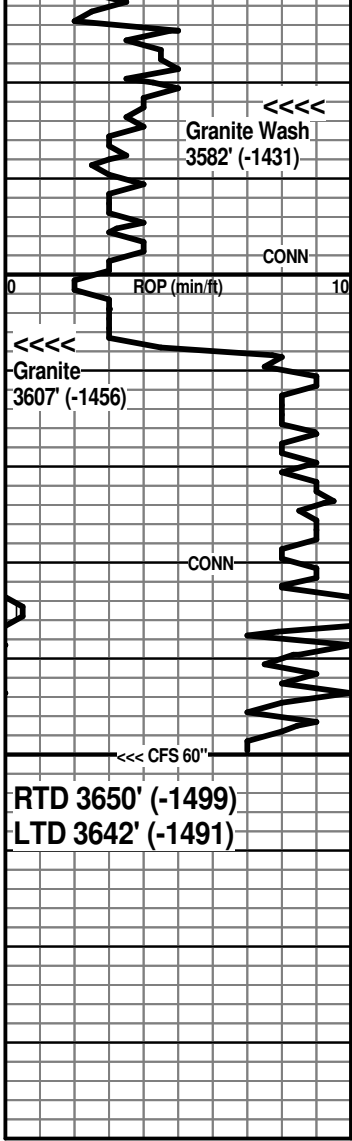
**Morgan Mud Check at 3223'**  
 7:45 AM on 11-17-2018  
 wt vis wl pH chl  
 8.9 64 6.4 11.0 1000  
 PV YP GelS lcm solids  
 20 22 11/27 3# 4.3%

**Oread 3226' (-1075)**

**Heebner Shale 3267' (-1116)**

**Lansing 3309' (-1158)**





Sst AA with shows AA; sl influx med to very coarse qtz grns; shaly pyrite and sandy pyrite; (fairly common var. cryptoxln and gran. Ls's)

3600' spl - flood quartzite, lt gray, offwhite finely pyritic, sl glauc. IP; Sst: some med grnd clear to frosted clusters with micln calcite matrix, N.S.

10' spl - quartzite AA with shaly pyrite and sandy pyrite

20' spl - mix AA with flood granite: orange to red with black biotite inclusions, occ sl glauc., N.S.

granite AA

granite AA

After review of samples, DST results and Elog evaluation, the operator elected to run 5 1/2" casing for production testing.

Respectfully submitted,

Wesley D. Hansen  
Petroleum Geologist  
Kansas License No. 418

no return blow  
Recovery: 50' GIP; 385' Oil specked G&MCW (5g, 1o, 40m, 54w); 1671' MCW w/show oil (5m, 95w) Chl. 72,000; total fluid 2056'  
FP: 172-834/831-947 SIP: 960-961  
HP: 1782-1706 BHT: 106 deg. F

**Granite Wash 3582' (-1431)**

**Granite 3607' (-1456)**

**Morgan Mud Check at 3633'**  
11:45 AM on 11-19-2018  
wt vis wl pH chl  
9.2 64 6.8 10.0 1600  
PV YP GelS lcm solids  
21 20 9/34 5# 6.4%

RTD reached at 2:00 PM on 11-19-2018  
CFS/CTCH 1 1/4 hours - TOFL  
NOTE: Worm hand managed to drop drill bit down the hole. Successfully ran back in the hole to chase bit to bottom. Logging complete at 7:00 AM on 11-20-2018



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N Water Ste 300  
Wichita KS 67202-1216

ATTN: Wes Hanson

**Nichol " A " 8**

**33-5s-20w Phillips,KS**

Start Date: 2018.11.18 @ 16:20:00

End Date: 2018.11.19 @ 00:58:00

Job Ticket #: 64162                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.11.19 @ 09:08:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co Inc  
 250 N Water Ste 300  
 Wichita KS 67202-1216  
 ATTN: Wes Hanson

**33-5s-20w Phillips,KS**

**Nichol " A " 8**

Job Ticket: 64162

**DST#: 1**

Test Start: 2018.11.18 @ 16:20:00

## GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:42:46

Time Test Ended: 00:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 76

**Interval: 3550.00 ft (KB) To 3569.00 ft (KB) (TVD)**

Reference Elevations: 2151.00 ft (KB)

Total Depth: 3569.00 ft (KB) (TVD)

2146.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8645 Outside**

Press@RunDepth: 947.57 psig @ 3551.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.11.18

End Date: 2018.11.19

Last Calib.: 2018.11.19

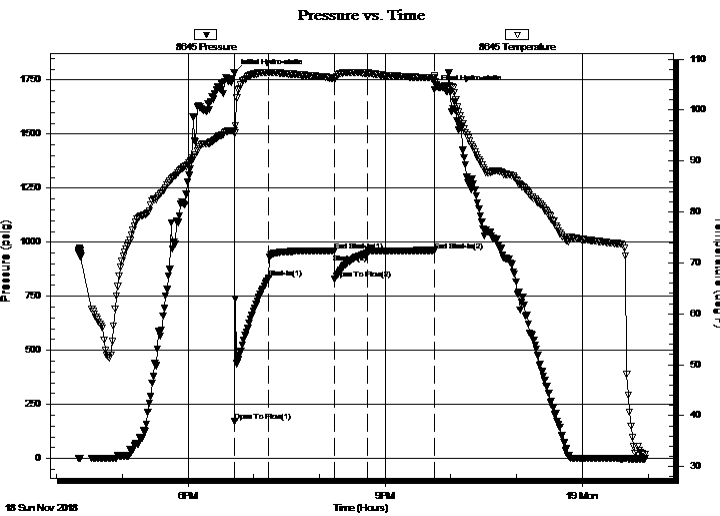
Start Time: 16:20:01

End Time: 00:58:01

Time On Btm: 2018.11.18 @ 18:42:16

Time Off Btm: 2018.11.18 @ 21:45:16

**TEST COMMENT:** 30-IFP- BOB in 30sec. IPRO--308.05"  
 60-ISIP- Weak Surface Blow in 3 min. Died in 22 min.  
 30-FFP- BOB in 80 sec. IPRO--73.70"  
 60-FSIP- No Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1782.12	96.00	Initial Hydro-static
1	172.26	95.48	Open To Flow (1)
32	834.04	107.37	Shut-In(1)
92	960.92	106.21	End Shut-In(1)
92	831.20	106.14	Open To Flow (2)
122	947.57	107.26	Shut-In(2)
183	961.50	106.27	End Shut-In(2)
183	1706.62	106.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1671.00	MCW 5% m 95% w Show of Oil	21.59
385.00	Oil Speck GMCW 1% o 5% g 40% m 54% w	5.40
0.00	50 GIP	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co Inc  
250 N Water Ste 300  
Wichita KS 67202-1216  
ATTN: Wes Hanson

**33-5s-20w Phillips,KS**  
**Nichol " A " 8**  
Job Ticket: 64162      **DST#: 1**  
Test Start: 2018.11.18 @ 16:20:00

**Tool Information**

Drill Pipe:	Length: 3339.00 ft	Diameter: 3.80 inches	Volume: 46.84 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 203.00 ft	Diameter: 2.25 inches	Volume: 1.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 47.84 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3550.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3523.00	
Shut In Tool	5.00			3528.00	
Hydraulic tool	5.00		Inside	3533.00	
Jars	5.00			3538.00	
Safety Joint	2.00			3540.00	
Packer	5.00			3545.00	28.00      Bottom Of Top Packer
Packer	5.00			3550.00	
Stubb	1.00			3551.00	
Recorder	0.00	8645	Outside	3551.00	
Recorder	0.00	6731	Inside	3551.00	
Perforations	15.00			3566.00	
Bullnose	3.00			3569.00	19.00      Bottom Packers & Anchor

**Total Tool Length: 47.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co Inc  
250 N Water Ste 300  
Wichita KS 67202-1216  
ATTN: Wes Hanson

**33-5s-20w Phillips,KS**  
**Nichol " A " 8**  
Job Ticket: 64162      **DST#: 1**  
Test Start: 2018.11.18 @ 16:20:00

## Mud and Cushion Information

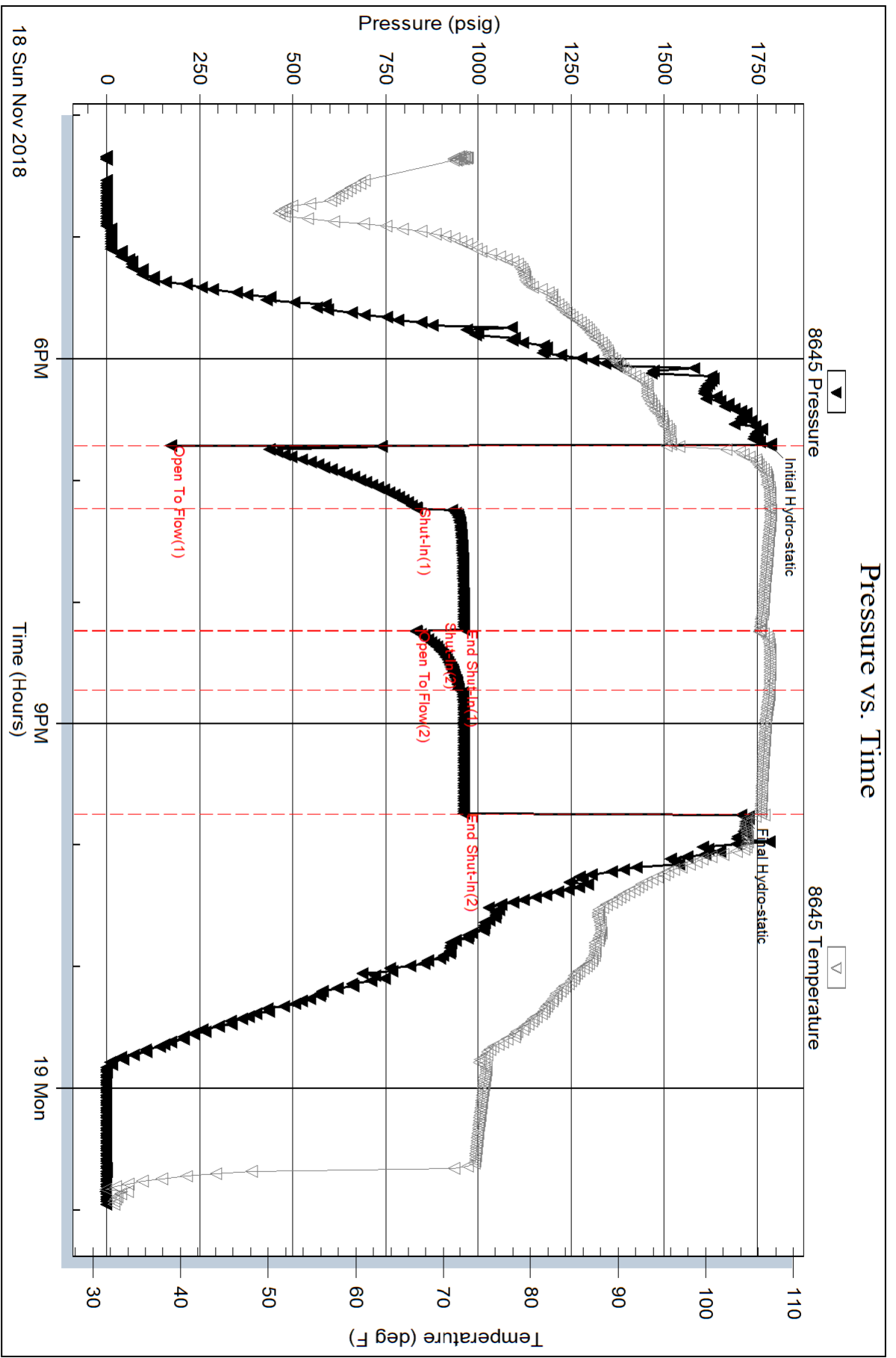
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 72000 ppm	
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1671.00	MCW 5% <i>m</i> 95% <i>w</i> Show of Oil	21.591
385.00	Oil Speck GMCW 1% <i>o</i> 5% <i>g</i> 40% <i>m</i> 54% <i>w</i>	5.401
0.00	50 GIP	0.000

Total Length: 2056.00 ft      Total Volume: 26.992 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: .192 @ 40



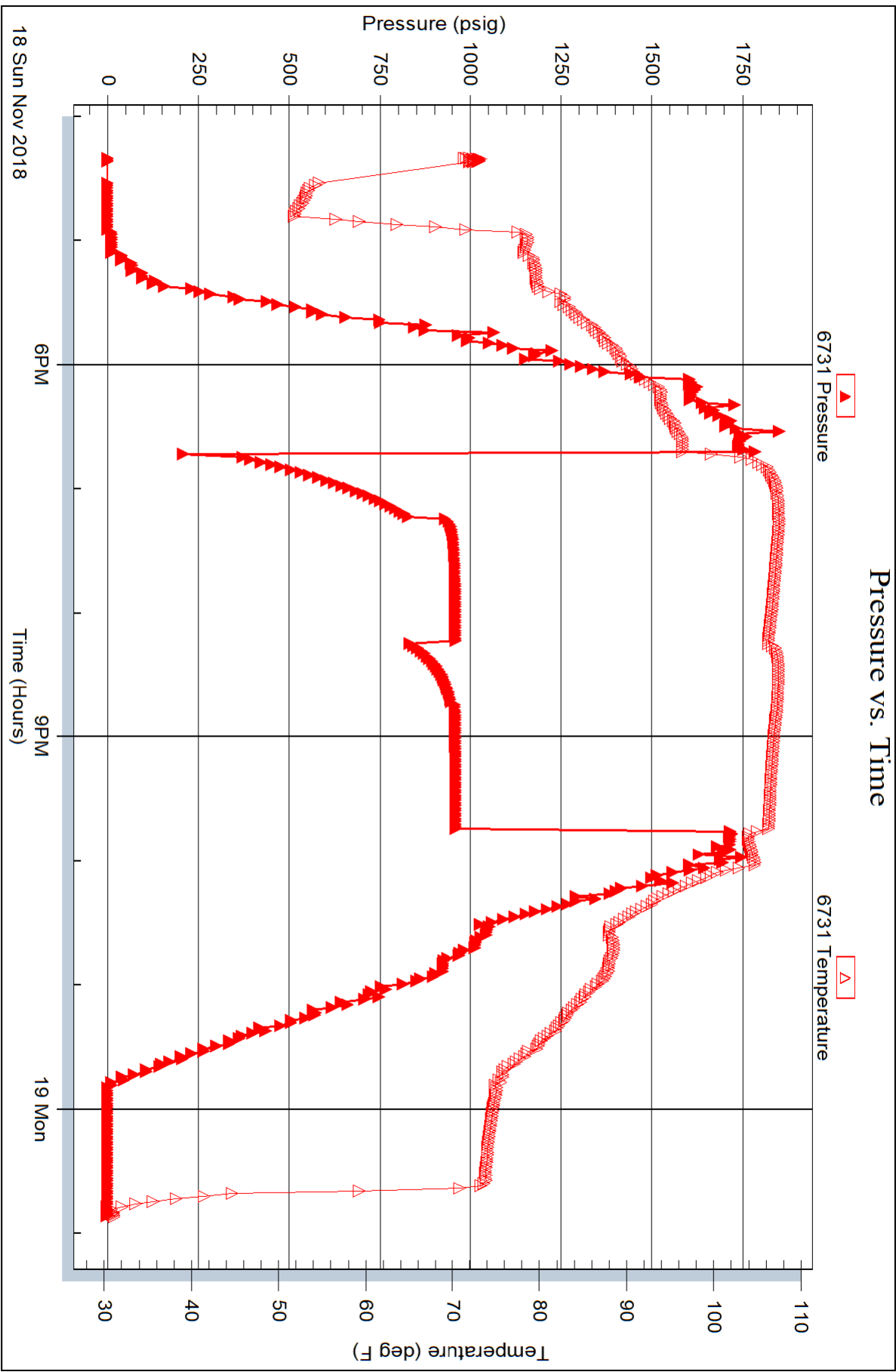
Serial #: 6731

Inside

Murfin Drilling Co Inc

Nichol "A" 8

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64162

Well Name & No. Nichol "A" #8 Test No. 1 Date 11-18-18  
 Company Murfin Drilling Co. INC. Elevation 2151 KB 2146 GL  
 Address 250 N. Water St. 300 Wichita KS 67202-1216  
 Co. Rep / Geo. Wes Hanson Rig Murfin 24  
 Location: Sec. 33 Twp 55 Rge. 20<sup>w</sup> Co. Phillips State K5

Interval Tested 3550 - 3569 Zone Tested Regan Sand.  
 Anchor Length 19 Drill Pipe Run 3339 Mud Wt. 9.3  
 Top Packer Depth 3545 Drill Collars Run 203 Vis 57  
 Bottom Packer Depth 3550 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3569 Chlorides 1200 ppm System LCM 2

Blow Description IFP - BOB in 30 sec  
ISIP - Weak surface blow in 3 min. Died in 22 min.  
FFP - BOB in 80 sec.  
FSIP - No Blow

Rec	Feet of	Notes	%gas	%oil	%water	%mud
<u>1671</u>	<u>MCW</u>	<u>Show of Oil</u>		<u>95</u>	<u>5</u>	
<u>385</u>	<u>Oil Speck</u>	<u>MCW</u>	<u>5</u>	<u>1</u>	<u>54</u>	<u>40</u>
		<u>50 HIP</u>				

Rec Total 2056 BHT 106 Gravity \_\_\_\_\_ API RW, 192 @ 40 °F Chlorides 72000 ppm

(A) Initial Hydrostatic	<u>1782</u>	<input checked="" type="checkbox"/> Test	<u>1050</u>	T-On Location	<u>13:13</u>
(B) First Initial Flow	<u>172</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>16:20</u>
(C) First Final Flow	<u>834</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>18:44</u>
(D) Initial Shut-In	<u>960</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>21:44</u>
(E) Second Initial Flow	<u>831</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>00:58</u>
(F) Second Final Flow	<u>947</u>	<input checked="" type="checkbox"/> Mileage	<u>130rt</u> <u>144 RT</u>	Comments	<u>P.U. Tool right</u>
(G) Final Shut-In	<u>961</u>	<input type="checkbox"/> Sampler			<u>After Test</u>
(H) Final Hydrostatic	<u>1706</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
		<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Sub Total 1505

MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

7856395864



**CEMENT TREATMENT REPORT**

Customer: Muffin Drilling Co	Well: Nichol A #8	Ticket: IGY1536
City, State: Wichita Ks	County: Phillips	Date: 11/13/2018
Field Rep: Jesus	S-T-R: 33-N-20	Service: Oakley

**Downhole Information**

Hole Size:	12.25
Hole Depth:	281
Casing Size:	8 5/8 O.D.
Casing Depth:	281
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Depth:	ft
Displacement:	19.4

**Slurry**

Weight:	14.0 # / sq
Water / Sol:	8.770 gal / sq
Yield:	1.25 ft <sup>3</sup> / sq
bbbls / Ft:	0.064
Depth:	281 ft
Volume:	46.46 bbbls
Excess:	100% %
Total Slurry:	bbbls
Total Sacks:	185 sq

**Gradient Chart**

Product	%	
Cement A	100.0	17390
Gel	2.0	340
CaCl	3.0	522
Motrol		
Kellogg		
PhoneSeal		46
Salt		
<b>Total</b>		<b>18,306</b>

TIME	RAYD	PSI	DDI	REMARKS	TIME	RATE	PSI	DBLS	REMARKS
10:20 PM				Arrive on location					
10:25 PM				Safety meeting					
10:30 PM				Rig up					
11:50 PM				Run casing					
12:40 AM				Casing on bottom. Circulate					
12:50 AM	6.0	300.0	46.5	Mix 185 sbs	185				
12:58 AM	5.0	240.0	18.1	Displace					
1:05 AM		230.0		Good displacement. Shut in well					
1:15 AM				Wash up					
1:33 AM				Rig down					
1:50 AM				Depart location					
				Approx. 18 bbbls to pit					

CREW		UNIT	SUMMARY		
Cementor:	Dave Retzlaff	78.0	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Dave Daryl	231.0	6 bpm	230.07 psi	61.55 bbbls
Blk #1:	Lupe	165.0			
Blk #2:					



