

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

**ORIGINAL**

Form ACO-1  
June 2009

Form Must Be Typed  
Form must be Signed  
Blanks must be Filled

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

OPERATOR: License # 33950  
Name: Deutscher Oil Operations  
Address 1: 2334 130th Ave  
Address 2: \_\_\_\_\_  
City: Ellis State: Ks Zip: 67637 + \_\_\_\_\_  
Contact Person: Sid Deutscher  
Phone: ( 785 ) 650-3697  
CONTRACTOR: License # 33575  
Name: WW Drilling LLC  
Wellsite Geologist: Richard B. Bell  
Purchaser: Plains Marketing LP

Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SIOW  
 Gas     D&A     ENHR     SIGW  
 OG     GSW     Temp. Abd.  
 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 ENHR     Conv. to SWD  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

10-6-11	10-14-11	10-15-11
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 051-26197-00-00

Spot Description: \_\_\_\_\_  
W2 NE NE NE Sec. 33 Twp. 12 S. R. 20  East  West  
330 Feet from  North /  South Line of Section  
640 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW

County: Ellis

Lease Name: Kohl Well #: 1

Field Name: Unknown

Producing Formation: Marmaton

Elevation: Ground: 2177 Kelly Bushing: 2182

Total Depth: 3950 Plug Back Total Depth: 3890

Amount of Surface Pipe Set and Cemented at: 218 Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: Port Collar @ 1516 Feet

If Alternate II completion, cement circulated from: 1516  
feet depth to: Surface w/ 250 sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: 40,000 ppm Fluid volume: 400 bbls

Dewatering method used: Evaporation

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

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

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

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

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

**RECEIVED**  
**MAR 21 2012**

**KCC WICHITA**

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2076, 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 of 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 CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

**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.

Signature: [Signature]

Title: Owner Date: 3-20-12

**KCC Office Use ONLY**

Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: DJG Date: 5/7/12

Operator Name: Deutscher Oil Operations Lease Name: Kohl Well #: 1  
 Sec. 33 Twp. 12 S. R. 20  East  West County: Ellis

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: Bond Log, Micro Log, Dual Induction Log, Compensated Density/Neutron Log	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Name</th> <th>Top</th> <th>Datum</th> </tr> </thead> <tbody> <tr> <td>Anhydrite</td> <td>1548</td> <td>+632</td> </tr> <tr> <td>Base Anhydrite</td> <td>1592</td> <td>+588</td> </tr> <tr> <td>Topeka</td> <td>3227</td> <td>-1047</td> </tr> <tr> <td>Heebner</td> <td>3458</td> <td>-1278</td> </tr> <tr> <td>Toronto</td> <td>3478</td> <td>-1298</td> </tr> <tr> <td>Lansing</td> <td>3497</td> <td>-1317</td> </tr> <tr> <td>Base Kansas City</td> <td>3741</td> <td>-1561</td> </tr> </tbody> </table>	Name	Top	Datum	Anhydrite	1548	+632	Base Anhydrite	1592	+588	Topeka	3227	-1047	Heebner	3458	-1278	Toronto	3478	-1298	Lansing	3497	-1317	Base Kansas City	3741	-1561
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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
Surface Pipe	12 1/4	8 5/8	20	218	Common	150	3% CC, 2% Gel
Production String	7 7/8	5 1/2	14	3939	Common	180	10% Salt, 2% Gel

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input checked="" type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	1516 to Surface	Lite	250	1/4# Flo Seal
Port Collar				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4 SPF	3790 - 3800	Natural	

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TUBING RECORD: Size: <u>2 7/8</u> Set At: <u>3880</u> Packer At: <u> </u> Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u> </u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) <u> </u>
Estimated Production Per 24 Hours	Oil Bbls. <u>6</u> Gas Mcf <u> </u> Water Bbls. <u>0</u> Gas-Oil Ratio <u> </u> Gravity <u>39</u>

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> <input type="checkbox"/> Other (Specify) <u> </u>	PRODUCTION INTERVAL: <u> </u> <u> </u>
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Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

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

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

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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				
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Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth

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TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-1B.)</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> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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# ALLIED CEMENTING CO., LLC. 038354

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT: Russell

DATE <u>10/2/11</u>	SEC <u>33</u>	TWP. <u>12 S</u>	RANGE <u>200</u>	CALLED OUT	ON LOCATION	JOB START <u>10:00 A.</u>	JOB FINISH <u>10:30 A.</u>
LEASE <u>KCHL</u>	WELL # <u>1</u>	LOCATION <u>ELLIS 2N 7 1/2 E S. 1</u>			COUNTY <u>ELLIS</u>	STATE <u>KS</u>	
<input checked="" type="radio"/> OLD OR NEW (Circle one)							

**CONTRACTOR** Integrity Contract Services

**TYPE OF JOB** PC

**HOLE SIZE** 7 1/2 **T.D.** \_\_\_\_\_

**CASING SIZE** 5 1/2 **DEPTH** \_\_\_\_\_

**TUBING SIZE** 2 1/4 **DEPTH** 1516

**DRILL PIPE** \_\_\_\_\_ **DEPTH** \_\_\_\_\_

**TOOL** PC **DEPTH** 1511

**PRES. MAX** \_\_\_\_\_ **MINIMUM** \_\_\_\_\_

**MEAS. LINE** \_\_\_\_\_ **SHOE JOINT** \_\_\_\_\_

**CEMENT LEFT IN CSG.** \_\_\_\_\_

**PERFS.** \_\_\_\_\_

**DISPLACEMENT** 7.7661

**OWNER** \_\_\_\_\_

**CEMENT**

**AMOUNT ORDERED** 250 C. K. 1/4 " T. T.

**COMMON** \_\_\_\_\_ @ \_\_\_\_\_

**POZMIX** \_\_\_\_\_ @ \_\_\_\_\_

**GEL** \_\_\_\_\_ @ \_\_\_\_\_

**CHLORIDE** \_\_\_\_\_ @ \_\_\_\_\_

**ASC** \_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

**HANDLING** \_\_\_\_\_

**MILEAGE** \_\_\_\_\_

**EQUIPMENT**

**PUMP TRUCK** **CEMENTER** Steve

**#** 409 **HELPER** Nick

**BULK TRUCK**

**#** \_\_\_\_\_ **DRIVER** S.R. Oakley

**BULK TRUCK**

**#** \_\_\_\_\_ **DRIVER** \_\_\_\_\_

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KCC WICHITA

**REMARKS:**

PC @ 1516 Tested back to 100psi  
Close PC. Est. Circulation  
Mixed 250 cks to cement the  
Cement Displaced 7.7661  
Close PC. Tested to 100psi  
Per 5 jts. washed clean.

**SERVICE**

**DEPTH OF JOB** \_\_\_\_\_

**PUMP TRUCK CHARGE** \_\_\_\_\_

**EXTRA FOOTAGE** \_\_\_\_\_ @ \_\_\_\_\_

**MILEAGE** \_\_\_\_\_ @ \_\_\_\_\_

**MANIFOLD** \_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

**CHARGE TO:** Deutscher Oil Operations

**STREET** \_\_\_\_\_

**CITY** \_\_\_\_\_ **STATE** \_\_\_\_\_ **ZIP** \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

Thanks!

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

**PRINTED NAME** \_\_\_\_\_

**SIGNATURE** Steve Kach

**SALES TAX (If Any)** \_\_\_\_\_

**TOTAL CHARGES** \_\_\_\_\_

**DISCOUNT** \_\_\_\_\_ **IF PAID IN 30 DAYS**

Fred Brown J. S. P.K.E

Steve Kach Allied

## GENERAL TERMS AND CONDITIONS

**DEFINITIONS:** In these terms and conditions, "ALLIED" shall mean Allied Cementing Co., LLC, and "CUSTOMER" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "Merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

—**TERMS:** Unless satisfactory credit has been established, CUSTOMER must tender full cash payment to ALLIED before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, CUSTOMER agrees to pay interest on amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing, in no event shall this Contract provide for interest exceeding the maximum rate of interest that CUSTOMER may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the CUSTOMER or at the option of ALLIED, refunded directly to CUSTOMER. For purposes of this paragraph, ALLIED and CUSTOMER agree that Kansas law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

—**ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the terms of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limited to, a reasonable sum as and for attorney's fees.

—**PRICES AND TAXES:** All merchandise listed in ALLIED'S current price schedule are F.O.B. ALLIED'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by ALLIED shall be added to the quoted prices charged to CUSTOMER.

—**TOWING CHARGES:** ALLIED will make a reasonable attempt to get to and from each job site using its own equipment. Should ALLIED be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by ALLIED, will be charged to and paid by CUSTOMER.

—**PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay ALLIED for the expenses incurred by ALLIED as a result of the cancellation.

—**DEADHAUL CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charge as set forth in ALLIED'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

### —SERVICE CONDITIONS AND LIABILITIES:

1. ALLIED carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond ALLIED'S control, ALLIED shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. CUSTOMER shall be responsible for and indemnify, defend, and hold harmless ALLIED, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with ALLIED'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of ALLIED or its employees.

2. With respect to any of ALLIED'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to ALLIED at the landing, CUSTOMER shall either recover the lost item without cost to ALLIED or reimburse ALLIED the current replacement cost of the item unless the loss or damage results from the sole negligence of ALLIED or its employees.

3. ALLIED does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

### WARRANTIES:

1. ALLIED warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. ALLIED'S obligation under this warranty is expressly limited to repair, replacement, or allowance for credit, at its option, for any merchandise which is determined by ALLIED to be defective. THIS IS THE SOLE WARRANTY OF ALLIED AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and ALLIED shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

#### 2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by ALLIED of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by ALLIED or any interpretation of tests, meter readings, chart information, analysis of research, or recommendations made by ALLIED, unless the inaccuracy or incorrectness is caused by the willful misconduct or gross negligence of ALLIED or its employees in the preparation or furnishing of such facts, information or data.

(C) Work done by ALLIED shall be under the direct supervision and control of the CUSTOMER or his agent and ALLIED will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.

# ALLIED CEMENTING CO., LLC. 038309

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Russell Ks.

DATE <u>10-6-2011</u>	SEC.	TWP.	RANGE	CALLED OUT	ION LOCATION	JOB START <u>AM 1:45 AM</u>	JOB FINISH
LEASE <u>KOLL</u>	WELL # <u>1</u>	LOCATION <u>Ellis Ks. IN LEYASINTS</u>			COUNTY <u>Ellis</u>	STATE <u>KANSAS</u>	
OLD OR NEW (Circle one)							

CONTRACTOR W-W Drilling Rig # 8

TYPE OF JOB Cement SURFACE

HOLE SIZE 12 1/4 T.D. 219'

CASING SIZE 9 5/8 New DEPTH 218'

TUBING SIZE 20# CSQ DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15'

PERFS.

DISPLACEMENT 13 BBH

OWNER

CEMENT AMOUNT ORDERED 150 SX Com.

3 3/4 cc

2 3/4 GEL

EQUIPMENT

PUMP TRUCK CEMENTER Glen

# 417 HELPER Woody

BULK TRUCK

# 378 DRIVER RON

BULK TRUCK

# DRIVER

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

RECEIVED

MAR 21 2012

KCC WICHITA

HANDLING @

MILEAGE @

TOTAL

REMARKS:

Ran 5 New Jts of 8 5/8 CSQ (20#)

Set @ 218' Resumed Circulation

& Cement w/ 150 SX Com. 3 1/2

Displace w/ 13 BBH<sup>3</sup>, SHUT IN

@ 350#.

"Cement Did Circulate"

TO SURFACE

THANKS

CHARGE TO: Deutscher Oil

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

PLUG & FLOAT EQUIPMENT

@

@

@

@

@

TOTAL

To Allied Cementing Co., LLC.

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Sid Deutscher

SIGNATURE [Signature]

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

## GENERAL TERMS AND CONDITIONS

**DEFINITIONS:** In these terms and conditions, "ALLIED" shall mean Allied Cementing Co., LLC, and "CUSTOMER" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "Merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

—**TERMS:** Unless satisfactory credit has been established, CUSTOMER must tender full cash payment to ALLIED before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, CUSTOMER agrees to pay interest on amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing, in no event shall this Contract provide for interest exceeding the maximum rate of interest that CUSTOMER may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the CUSTOMER or at the option of ALLIED, refunded directly to CUSTOMER. For purposes of this paragraph, ALLIED and CUSTOMER agree that Kansas law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

—**ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the terms of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limited to, a reasonable sum as and for attorney's fees.

—**PRICES AND TAXES:** All merchandise listed in ALLIED'S current price schedule are F.O.B. ALLIED'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by ALLIED shall be added to the quoted prices charged to CUSTOMER.

—**TOWING CHARGES:** ALLIED will make a reasonable attempt to get to and from each job site using its own equipment. Should ALLIED be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by ALLIED, will be charged to and paid by CUSTOMER.

—**PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay ALLIED for the expenses incurred by ALLIED as a result of the cancellation.

—**DEADHAUL CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charge as set forth in ALLIED'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

### —SERVICE CONDITIONS AND LIABILITIES:

1. ALLIED carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond ALLIED'S control, ALLIED shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. CUSTOMER shall be responsible for and indemnify, defend, and hold harmless ALLIED, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with ALLIED'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of ALLIED or its employees.

2. With respect to any of ALLIED'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to ALLIED at the landing, CUSTOMER shall either recover the lost item without cost to ALLIED or reimburse ALLIED the current replacement cost of the item unless the loss or damage results from the sole negligence of ALLIED or its employees.

3. ALLIED does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

### WARRANTIES:

1. ALLIED warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. ALLIED'S obligation under this warranty is expressly limited to repair, replacement, or allowance for credit, at its option, for any merchandise which is determined by ALLIED to be defective. THIS IS THE SOLE WARRANTY OF ALLIED AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and ALLIED shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

#### 2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by ALLIED of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by ALLIED or any interpretation of tests, meter readings, chart information, analysis of research, or recommendations made by ALLIED, unless the inaccuracy or incorrectness is caused by the willful misconduct or gross negligence of ALLIED or its employees in the preparation or furnishing of such facts, information or data.

(C) Work done by ALLIED shall be under the direct supervision and control of the CUSTOMER or his agent and ALLIED will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.

# ALLIED CEMENTING CO., LLC. 038340

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT: Russell

DATE <u>10/15/11</u>	SEC. <u>37</u>	TWP. <u>12</u>	RANGE <u>20</u>	CALLED OUT	ON LOCATION	JOB START <u>3:45 A</u>	JOB FINISH <u>4:45 A</u>
LEASE <u>800</u>	WELL # <u>1</u>	LOCATION <u>Ellis 11-70 2N 1E</u>			COUNTY <u>Ellis</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one)			<u>5 + E in 4</u>				

CONTRACTOR W.W. Drilling R.H.F. OWNER \_\_\_\_\_

TYPE OF JOB Production Str

HOLE SIZE 7 7/8 T.D. 2355' CEMENT AMOUNT ORDERED 180 Coe 1025011

CASING SIZE 5 1/2 DEPTH 3535' 2761

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_ 5000' 1-1/2" 2

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL Port. Collar DEPTH 1510'

PRES. MAX 1600 psi MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT 3796'

CEMENT LEFT IN CSG. 37.96'

PERFS \_\_\_\_\_

DISPLACEMENT 95 1/2 60'

**EQUIPMENT**

PUMP TRUCK CEMENTER Steve

# 405 HELPER Todd

BULK TRUCK \_\_\_\_\_

# 410 DRIVER Tony

BULK TRUCK \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_

**REMARKS:**

Port Collar 3900' 3900' 3900'  
Run Pipe 1" P.H. 500'  
Circulation 500' 500'  
with 2 1/2" 150' 150'  
5 1/2" 150' 150'  
1 1/2" 150' 150'  
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COMMON \_\_\_\_\_ @ \_\_\_\_\_

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL \_\_\_\_\_ @ \_\_\_\_\_

CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

ASC \_\_\_\_\_ @ \_\_\_\_\_

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\_\_\_\_\_ @ \_\_\_\_\_

CHARGE TO: Deutscher Oil Operations

STREET 2334 130th AVE

CITY Ellis STATE Ks ZIP 67637

**PLUG & FLOAT EQUIPMENT**

Port Collar @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

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1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

1" 150' @ \_\_\_\_\_

To Allied Cementing Co., LLC  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Did Deutscher

SIGNATURE [Signature]

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

RECEIVED

MAR 21 2012

KCC WICHITA



## GENERAL TERMS AND CONDITIONS

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3. ALLIED does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

### WARRANTIES:

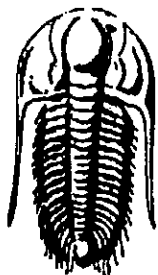
1. ALLIED warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. ALLIED'S obligation under this warranty is expressly limited to repair, replacement, or allowance for credit, at its option, for any merchandise which is determined by ALLIED to be defective. THIS IS THE SOLE WARRANTY OF ALLIED AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and ALLIED shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

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(C) Work done by ALLIED shall be under the direct supervision and control of the CUSTOMER or his agent and ALLIED will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.10 @ 15:10:04

End Date: 2011.10.10 @ 20:11:34

Job Ticket #: 44826                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

RECEIVED  
MAR 21 2012  
KCC WICHITA

Printed: 2011.10.17 @ 16:13:33

Deutscher Oil Operations

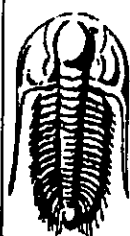
33-12-20 Ellis,KS

Kohl #1

DST # 1

Toronto KC"A"

2011.10.10



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44826

DST#: 1

ATTN: Richard Bell

Test Start: 2011.10.10 @ 15:10:04

### GENERAL INFORMATION:

Formation: **Toronto KC"A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:02:04

Time Test Ended: 20:11:34

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 47

Interval: **3444.00 ft (KB) To 3508.00 ft (KB) (TVD)**

Total Depth: 3508.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2185.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: **6753**

Inside

Press@RunDepth: 24.41 psig @ 3445.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.10.10

End Date:

2011.10.10

Last Calib.: 2011.10.10

Start Time: 15:10:09

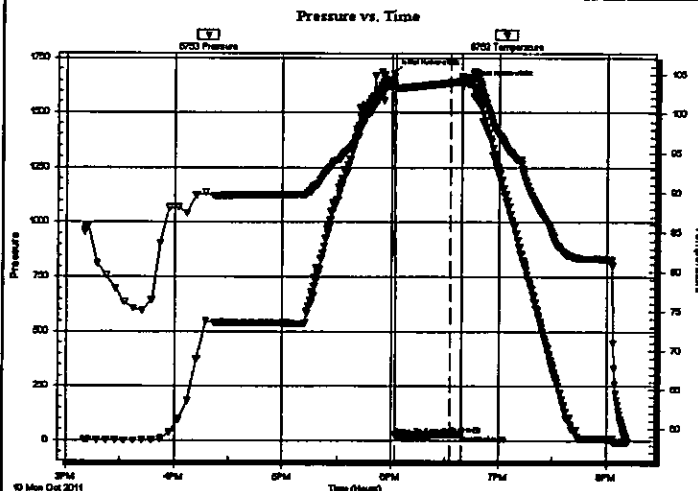
End Time:

20:11:33

Time On Btm: 2011.10.10 @ 18:01:04

Time Off Btm: 2011.10.10 @ 18:42:34

TEST COMMENT: IF-No blow  
IS-No blow



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1679.98	103.62	Initial Hydro-static
1	23.43	103.21	Open To Flow (1)
32	24.41	104.00	Shut-In(1)
38	26.27	104.15	End Shut-In(1)
42	1631.77	104.60	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
2.00	Oil spotted mud	0.01

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44826

DST#: 1

ATTN: Richard Bell

Test Start: 2011.10.10 @ 15:10:04

### Tool Information

Drill Pipe:	Length: 3322.00 ft	Diameter: 3.80 inches	Volume: 46.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 47.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3444.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3424.00	
Shut In Tool	5.00			3429.00	
Hydraulic tool	5.00			3434.00	
Packer	5.00			3439.00	21.00 Bottom Of Top Packer
Packer	5.00			3444.00	
Stubb	1.00			3445.00	
Recorder	0.00	6753	Inside	3445.00	
Recorder	0.00	8369	Outside	3445.00	
Perforations	5.00			3450.00	
Change Over Sub	1.00			3451.00	
Drill Pipe	32.00			3483.00	
Change Over Sub	1.00			3484.00	
Perforations	21.00			3505.00	
Bullnose	3.00			3508.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis,KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44826

DST#: 1

ATTN: Richard Bell

Test Start: 2011.10.10 @ 15:10:04

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 59.00 sec/qt

Water Loss: 6.78 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 4900.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Oil spotted mud	0.010

Total Length: 2.00 ft      Total Volume: 0.010 bbl

Num Fluid Samples: 0

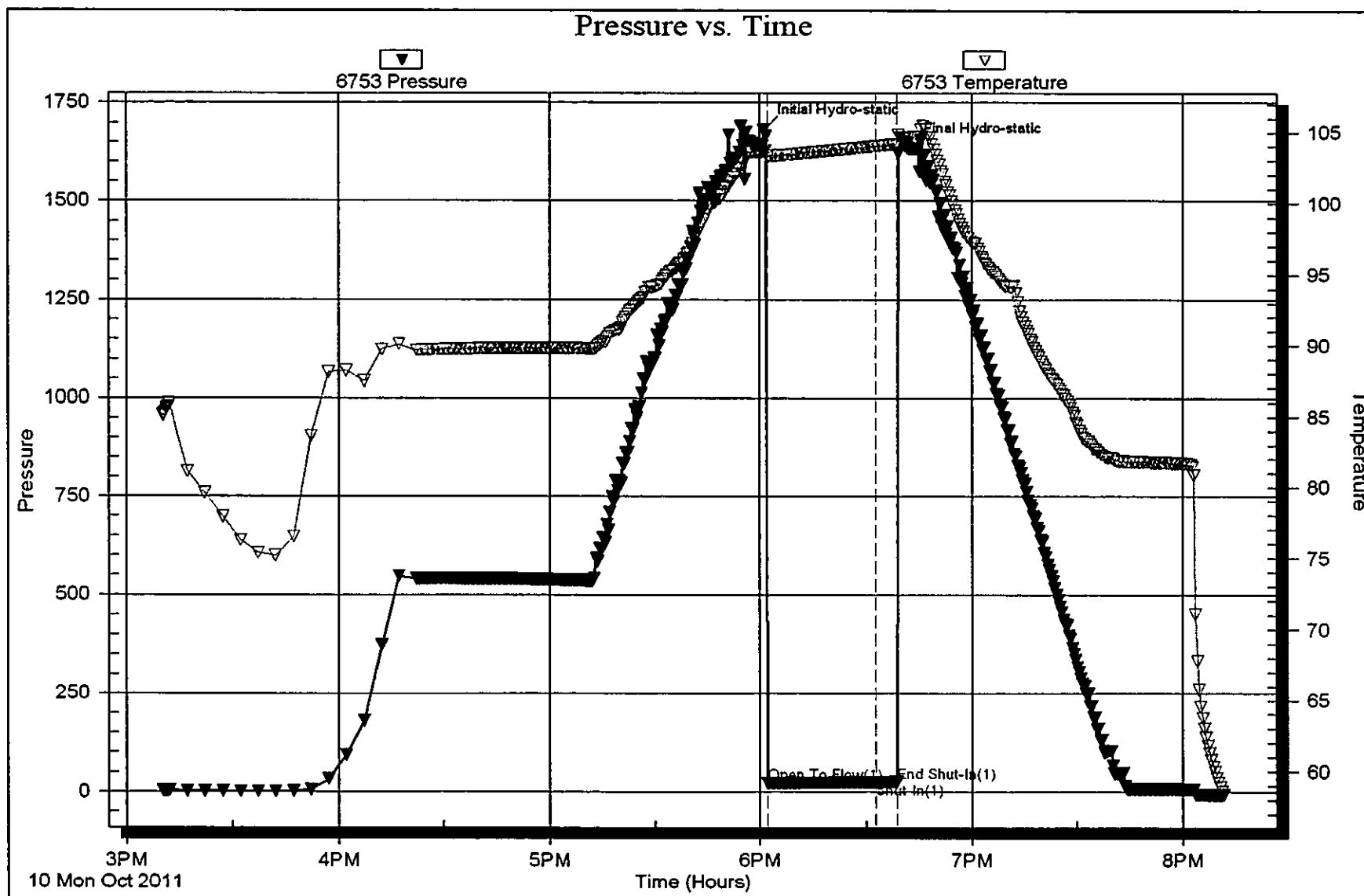
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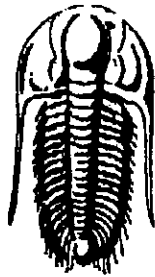
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.11 @ 04:45:32

End Date: 2011.10.11 @ 11:52:02

Job Ticket #: 44827                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.10.17 @ 16:13:53

Deutscher Oil Operations    33-12-20 Ellis,KS    Kohl #1    DST # 2    KC "E,F"    2011.10.11



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44827

DST#: 2

ATTN: Richard Bell

Test Start: 2011.10.11 @ 04:45:32

## GENERAL INFORMATION:

Formation: **KC "EF"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 07:10:32

Time Test Ended: 11:52:02

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Brett Dickinson**

Unit No: **47**

Interval: **3548.00 ft (KB) To 3578.00 ft (KB) (TVD)**

Total Depth: **3578.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2185.00 ft (KB)**

**2180.00 ft (CF)**

KB to GR/CF: **5.00 ft**

Serial #: **6753**

Inside

Press@RunDepth: **157.42 psig @ 3549.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.10.11**

End Date:

**2011.10.11**

Last Calib.: **2011.10.11**

Start Time: **04:45:37**

End Time:

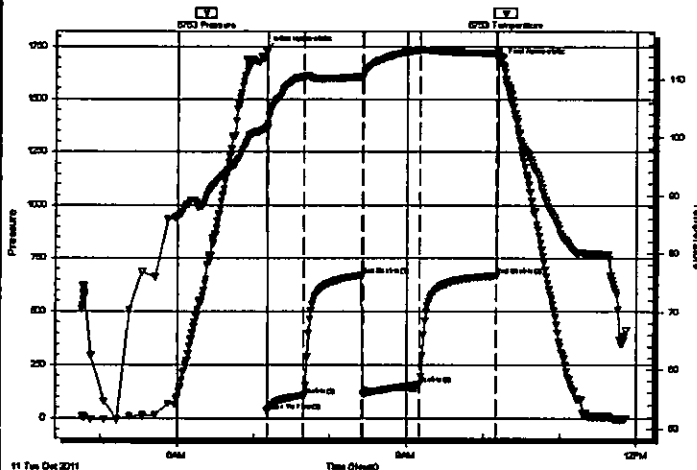
**11:52:01**

Time On Btm: **2011.10.11 @ 07:09:02**

Time Off Btm: **2011.10.11 @ 10:12:02**

TEST COMMENT: IF-BOB in 24 min  
IS-1/8" blow died in 20 min  
FF-BOB in 21 min  
FS-1/4" blow died in 16 min

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1736.66	101.49	Initial Hydro-static
2	31.25	101.59	Open To Flow (1)
31	106.08	110.45	Shut-In(1)
76	671.32	110.39	End Shut-In(1)
77	113.09	110.44	Open To Flow (2)
121	157.42	115.23	Shut-In(2)
181	668.92	114.62	End Shut-In(2)
183	1678.11	114.25	Final Hydro-static

Recovery

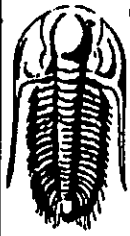
Length (ft)	Description	Volume (bbl)
190.00	Water	1.54
75.00	SMCW 80%W 20% m	1.05
15.00	SGO 10%G 90%O	0.21
0.00	150ft GIP	0.00

\* Recovery from multiple tests

Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44827

DST#: 2

ATTN: Richard Bell

Test Start: 2011.10.11 @ 04:45:32

## Tool Information

Drill Pipe:	Length: 3423.00 ft	Diameter: 3.80 inches	Volume: 48.02 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 48.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3548.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3528.00	
Shut In Tool	5.00			3533.00	
Hydraulic tool	5.00			3538.00	
Packer	5.00			3543.00	21.00 Bottom Of Top Packer
Packer	5.00			3548.00	
Stubb	1.00			3549.00	
Recorder	0.00	6753	Inside	3549.00	
Recorder	0.00	8319	Outside	3549.00	
Perforations	5.00			3554.00	
Perforations	21.00			3575.00	
Bullnose	3.00			3578.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44827

DST#: 2

ATTN: Richard Bell

Test Start: 2011.10.11 @ 04:45:32

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

60000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.77 in<sup>2</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4900.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	Water	1.536
75.00	SMCW 80%W 20%m	1.052
15.00	SGO 10%G 90%O	0.210
0.00	150ft GIP	0.000

Total Length: 280.00 ft

Total Volume: 2.798 bbl

Num Fluid Samples: 0

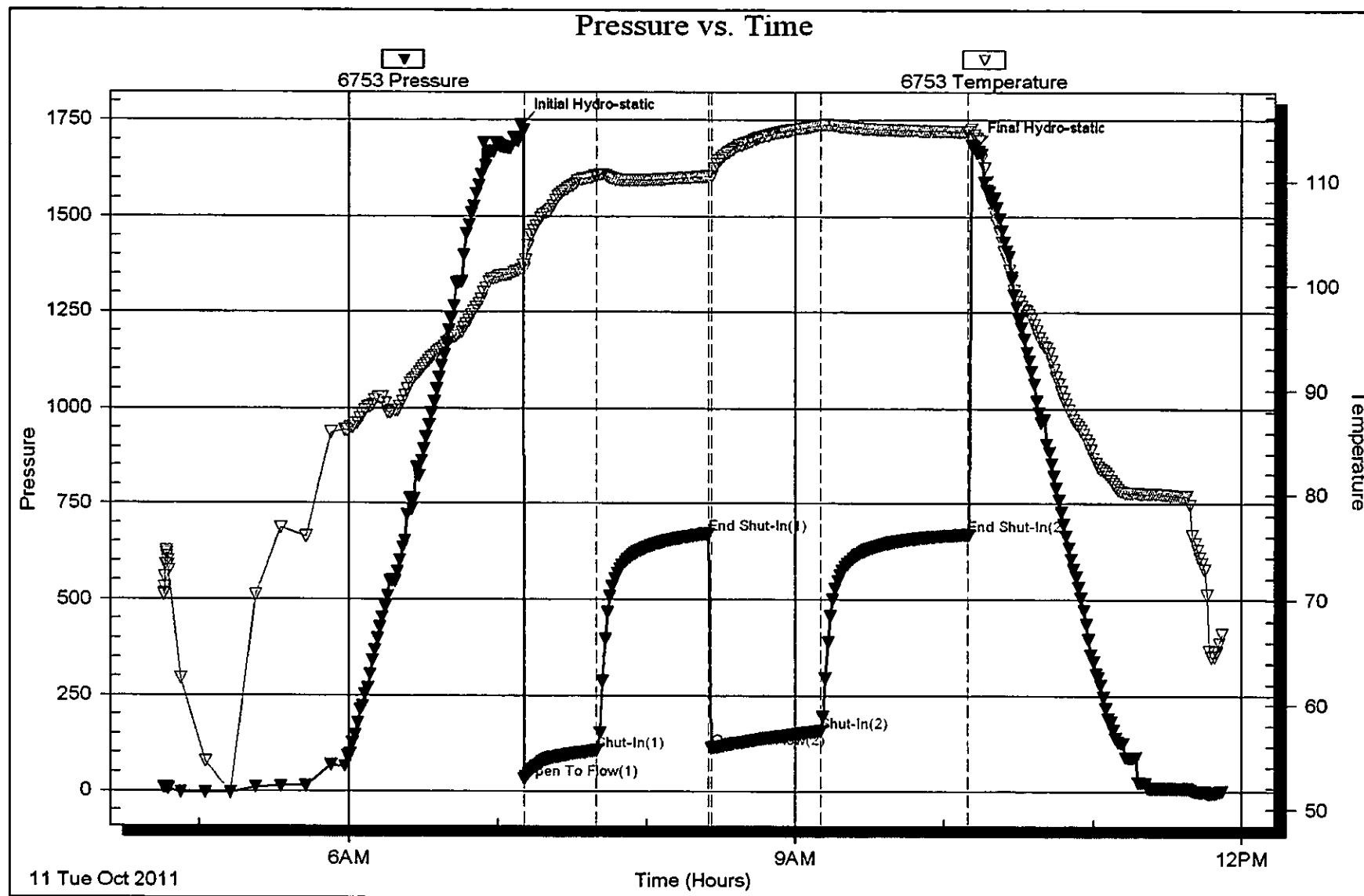
Num Gas Bombs: 0

Serial #:

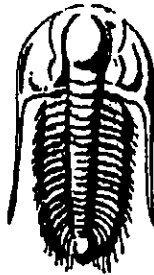
Laboratory Name:

Laboratory Location:

Recovery Comments: RW.15 @ 60F



11 Tue Oct 2011



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.11 @ 17:35:52

End Date: 2011.10.11 @ 23:36:22

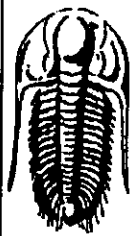
Job Ticket #: 44828                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

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Printed: 2011.10.17 @ 16:14:13

Deutscher Oil Operations    33-12-20 Ellis,KS    Kohl #1    DST # 3    KC "G"    2011.10.11



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

**Kohl #1**

Job Ticket: 44828

DST#: 3

ATTN: Richard Bell

Test Start: 2011.10.11 @ 17:35:52

### GENERAL INFORMATION:

Formation: **KC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:33:52

Time Test Ended: 23:36:22

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 47

Interval: **3578.00 ft (KB) To 3606.00 ft (KB) (TVD)**

Total Depth: **3606.00 ft (KB) (TVD)**

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2185.00 ft (KB)

2180.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 6753**

Inside

Press@RunDepth: 171.27 psig @ 3579.00 ft (KB)

Start Date: 2011.10.11

End Date:

2011.10.11

Start Time: 17:35:57

End Time:

23:36:21

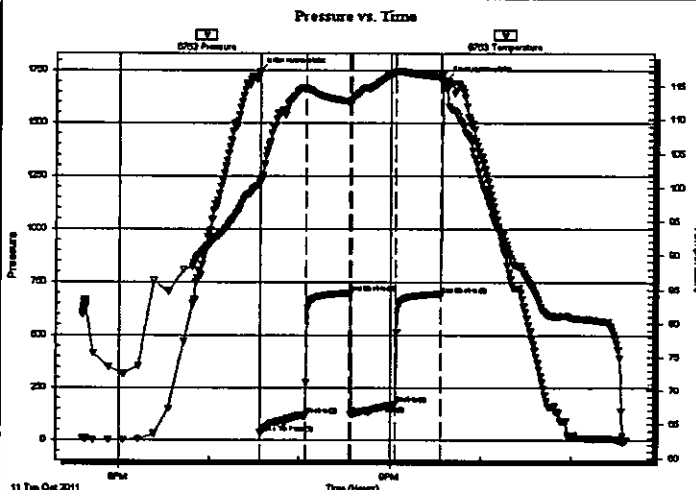
Capacity: 8000.00 psig

Last Calib.: 2011.10.11

Time On Btrr: 2011.10.11 @ 19:32:52

Time Off Btrr: 2011.10.11 @ 21:36:22

TEST COMMENT: IF-BOB in 25 min  
ISI-No blow  
FF-BOB in 30 min  
FSI-No blow



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1744.78	100.72	Initial Hydro-static
1	33.33	100.93	Open To Flow (1)
31	116.13	114.71	Shut-In(1)
60	697.79	112.65	End Shut-In(1)
61	122.44	112.51	Open To Flow (2)
91	171.27	116.98	Shut-In(2)
121	692.43	116.37	End Shut-In(2)
124	1704.76	114.76	Final Hydro-static

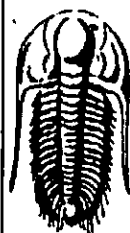
### Recovery

Length (ft)	Description	Volume (bbl)
315.00	Water	3.29
5.00	Oil spotted mcw 30% m 70% W	0.07

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44828

DST#: 3

ATTN: Richard Bell

Test Start: 2011.10.11 @ 17:35:52

### Tool Information

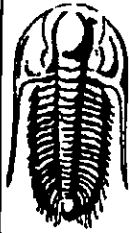
Drill Pipe:	Length: 3453.00 ft	Diameter: 3.80 inches	Volume: 48.44 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			Total Volume: 49.05 bbl	Tool Chased 2.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3578.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3558.00	
Shut In Tool	5.00			3563.00	
Hydraulic tool	5.00			3568.00	
Packer	5.00			3573.00	21.00 Bottom Of Top Packer
Packer	5.00			3578.00	
Stubb	1.00			3579.00	
Recorder	0.00	6753	Inside	3579.00	
Recorder	0.00	8319	Outside	3579.00	
Perforations	5.00			3584.00	
Perforations	19.00			3603.00	
Bullnose	3.00			3606.00	28.00 Bottom Packers & Anchor

**Total Tool Length: 49.00**



**TRILOBITE**  
**TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

**Kohl #1**

Job Ticket: 44828

**DST#: 3**

ATTN: Richard Bell

Test Start: 2011.10.11 @ 17:35:52

**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:

68000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4900.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbf
315.00	Water	3.289
5.00	Oil spotted msw 30% m 70% W	0.070

Total Length: 320.00 ft

Total Volume: 3.359 bbl

Num Fluid Samples: 0

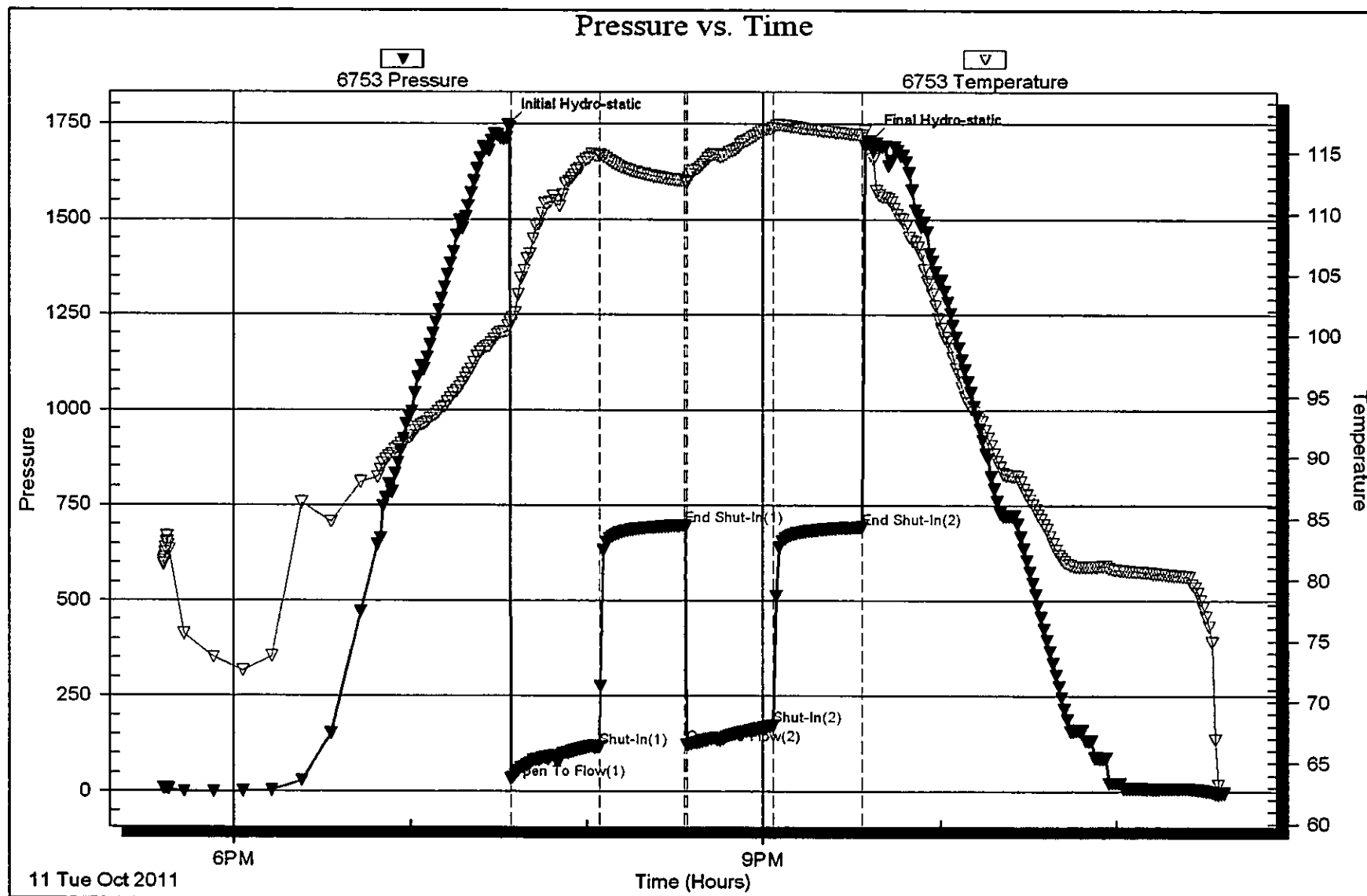
Num Gas Bombs: 0

Serial #:

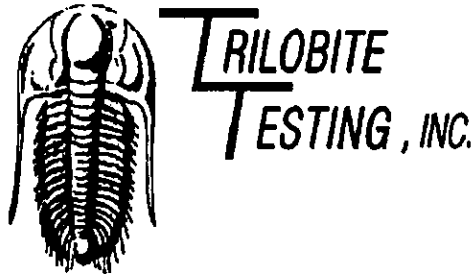
Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.12 @ 13:25:55

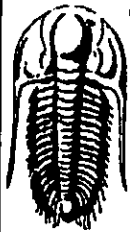
End Date: 2011.10.12 @ 20:20:25

Job Ticket #: 44829                      DST #: 4

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.10.17 @ 16:14:33

Deutscher Oil Operations    33-12-20 Ellis,KS    Kohl #1    DST # 4    KC "1-J"    2011.10.12



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44829

DST#: 4

ATTN: Richard Bell

Test Start: 2011.10.12 @ 13:25:55

## GENERAL INFORMATION:

Formation: **KC "I-J"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 15:43:25

Time Test Ended: 20:20:25

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Brett Dickinson**

Unit No: **47**

Interval: **3638.00 ft (KB) To 3740.00 ft (KB) (TVD)**

Total Depth: **3740.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2185.00 ft (KB)**

**2180.00 ft (CF)**

KB to GR/CF: **5.00 ft**

Serial #: **6753**

Inside

Press@RunDepth: **54.33 psig @ 3639.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.10.12**

End Date: **2011.10.12**

Last Calib.: **2011.10.12**

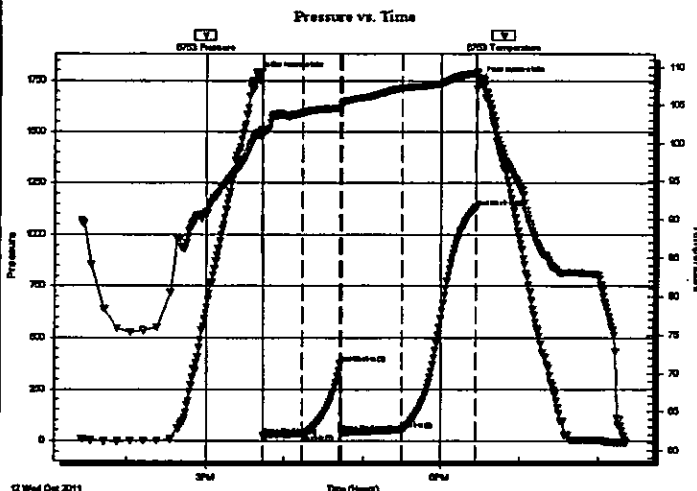
Start Time: **13:26:00**

End Time: **20:20:24**

Time On Btm: **2011.10.12 @ 15:39:25**

Time Off Btm: **2011.10.12 @ 18:28:55**

TEST COMMENT: IF-5" blow  
IS-No blow  
FF-10" blow  
FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1773.38	100.94	Initial Hydro-static
4	23.08	101.10	Open To Flow (1)
34	35.17	103.88	Shut-In (1)
63	374.16	104.56	End Shut-In (1)
64	37.29	105.11	Open To Flow (2)
111	54.33	107.25	Shut-In (2)
168	1132.50	109.11	End Shut-In (2)
170	1748.08	108.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO 45%G 40%O 15%M	0.30
30.00	SGOCM 5%G 35%O 60%M	0.15
0.00	220' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44829

DST#: 4

ATTN: Richard Bell

Test Start: 2011.10.12 @ 13:25:55

### Tool Information

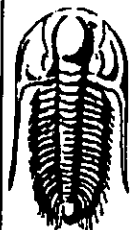
Drill Pipe:	Length: 3517.00 ft	Diameter: 3.80 inches	Volume: 49.33 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 49.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3638.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	102.00 ft			
Tool Length:	123.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3618.00	
Shut In Tool	5.00			3623.00	
Hydraulic tool	5.00			3628.00	
Packer	5.00			3633.00	21.00 Bottom Of Top Packer
Packer	5.00			3638.00	
Stubb	1.00			3639.00	
Recorder	0.00	6753	Inside	3639.00	
Recorder	0.00	8319	Outside	3639.00	
Perforations	5.00			3644.00	
Change Over Sub	1.00			3645.00	
Drill Pipe	64.00			3709.00	
Change Over Sub	1.00			3710.00	
Perforations	27.00			3737.00	
Bullnose	3.00			3740.00	102.00 Bottom Packers & Anchor

**Total Tool Length: 123.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

**Kohl #1**

Job Ticket: 44829

**DST#: 4**

ATTN: Richard Bell

Test Start: 2011.10.12 @ 13:25:55

### 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:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in\*

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6900.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GMCO 45%G 40%O 15%M	0.295
30.00	SGOCM 5%G 35%O 60%M	0.148
0.00	220' GIP	0.000

Total Length: 90.00 ft      Total Volume: 0.443 bbl

Num Fluid Samples: 0

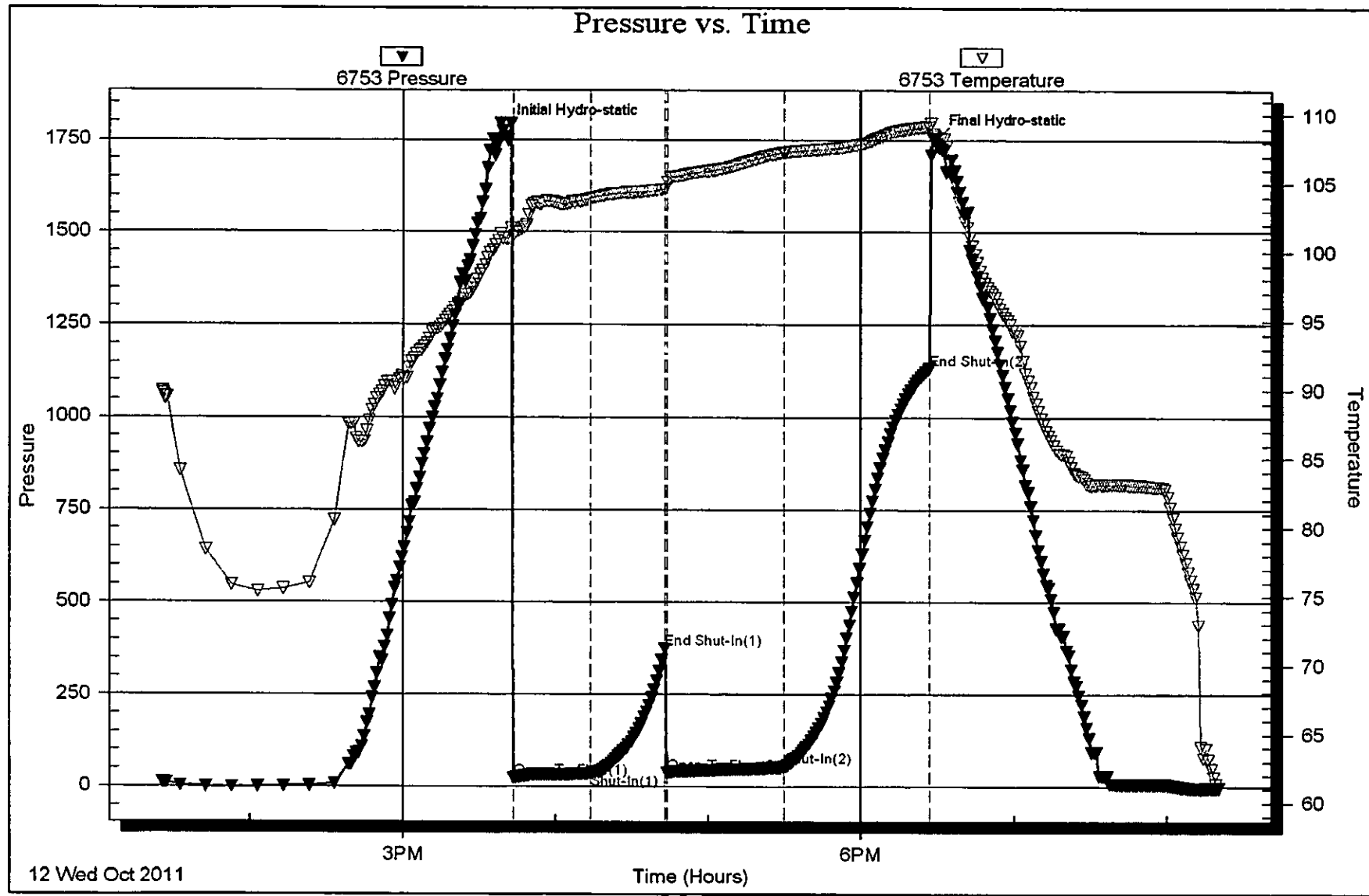
Num Gas Bombs: 0

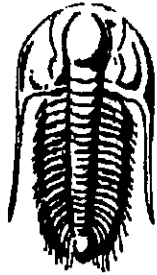
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.13 @ 04:35:18

End Date: 2011.10.13 @ 11:38:48

Job Ticket #: 44830                      DST #: 5

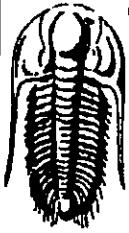
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.10.17 @ 16:14:53

Deutscher Oil Operations    33-12-20 Ellis,KS    Kohl #1    DST # 5    Marmaton    2011.10.13



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44830

DST#: 5

ATTN: Richard Bell

Test Start: 2011.10.13 @ 04:35:18

### GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:36:48

Time Test Ended: 11:38:48

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 47

Interval: 3792.00 ft (KB) To 3812.00 ft (KB) (TVD)

Reference Elevations: 2185.00 ft (KB)

Total Depth: 3812.00 ft (KB) (TVD)

2180.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6753

Inside

Press@RunDepth: 359.28 psig @ 3793.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.10.13

End Date: 2011.10.13

Last Calib.: 2011.10.13

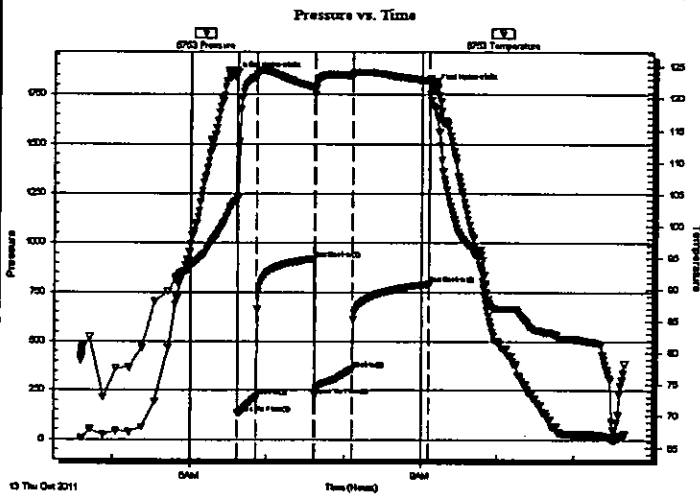
Start Time: 04:35:23

End Time: 11:38:47

Time On Btm: 2011.10.13 @ 06:34:18

Time Off Btm: 2011.10.13 @ 09:08:48

TEST COMMENT: IF-BOB in 2 min  
SI-BOB in 16 min  
FF-BOB in 3 1/2 min  
FSI-Weak surface blow died in 25 min



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1844.89	103.77	Initial Hydro-static
3	132.58	104.53	Open To Flow (1)
17	217.81	123.41	Shut-In (1)
62	919.80	121.82	End Shut-In (1)
63	224.25	120.61	Open To Flow (2)
92	359.28	123.70	Shut-In (2)
152	790.30	122.78	End Shut-In (2)
155	1786.92	118.88	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
130.00	GMCO 20%G 50%O 30%M	0.69
910.00	GO 20%G 80%O	12.76
0.00	410' GIP	0.00

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44830

DST#: 5

ATTN: Richard Bell

Test Start: 2011.10.13 @ 04:35:18

### Tool Information

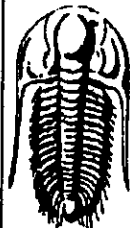
Drill Pipe:	Length: 3676.00 ft	Diameter: 3.80 inches	Volume: 51.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 52.17 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3792.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3772.00	
Shut In Tool	5.00			3777.00	
Hydraulic tool	5.00			3782.00	
Packer	5.00			3787.00	21.00 Bottom Of Top Packer
Packer	5.00			3792.00	
Stubb	1.00			3793.00	
Recorder	0.00	6753	Inside	3793.00	
Recorder	0.00	8319	Outside	3793.00	
Perforations	16.00			3809.00	
Bullnose	3.00			3812.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>41.00</b>				





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44830

DST#: 5

ATTN: Richard Bell

Test Start: 2011.10.13 @ 04:35:18

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6900.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
130.00	GMCO 20%G 50%O 30%M	0.694
910.00	GO 20%G 80%O	12.765
0.00	410' GIP	0.000

Total Length: 1040.00 ft      Total Volume: 13.459 bbf

Num Fluid Samples: 0

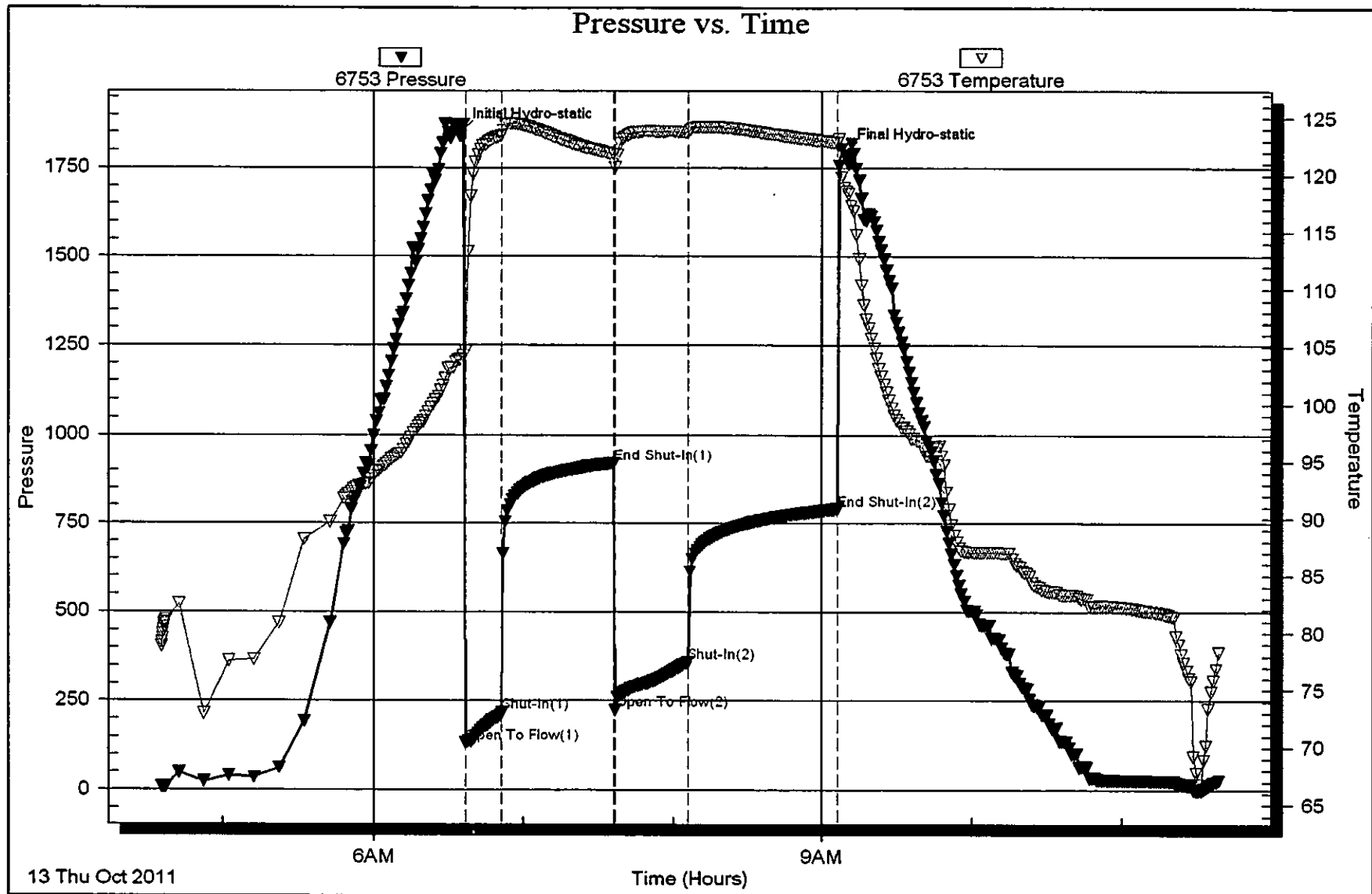
Num Gas Bombs: 0

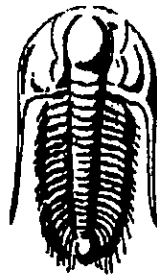
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Deutscher Oil Operations**

2334 130th Ave  
Ellis, KS 67637

ATTN: Richard Bell

**Kohl #1**

**33-12-20 Ellis,KS**

Start Date: 2011.10.13 @ 19:15:59

End Date: 2011.10.14 @ 00:07:29

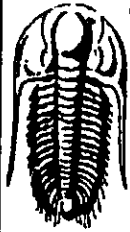
Job Ticket #: 44831                      DST #: 6

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

RECEIVED  
MAR 21 2012  
KCC WICHITA

Printed: 2011.10.17 @ 16:15:16

Deutscher Oil Operations    33-12-20 Ellis,KS    Kohl #1    DST # 6    Cong.    2011.10.13



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Deutscher Oil Operations

**33-12-20 Ellis,KS**

2334 130th Ave  
Ellis, KS 67637

**Kohl #1**

Job Ticket: 44831

**DST#: 6**

ATTN: Richard Bell

Test Start: 2011.10.13 @ 19:15:59

## GENERAL INFORMATION:

Formation: **Cong.**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 21:19:59

Time Test Ended: 00:07:29

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Brett Dickinson**

Unit No: **47**

Interval: **3834.00 ft (KB) To 3854.00 ft (KB) (TVD)**

Total Depth: **3854.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2185.00 ft (KB)**

**2180.00 ft (CF)**

KB to GR/CF: **5.00 ft**

**Serial #: 6753**

**Inside**

Press@RunDepth: **36.05 psig @ 3835.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.10.13**

End Date:

**2011.10.14**

Last Calib.: **2011.10.14**

Start Time: **19:16:04**

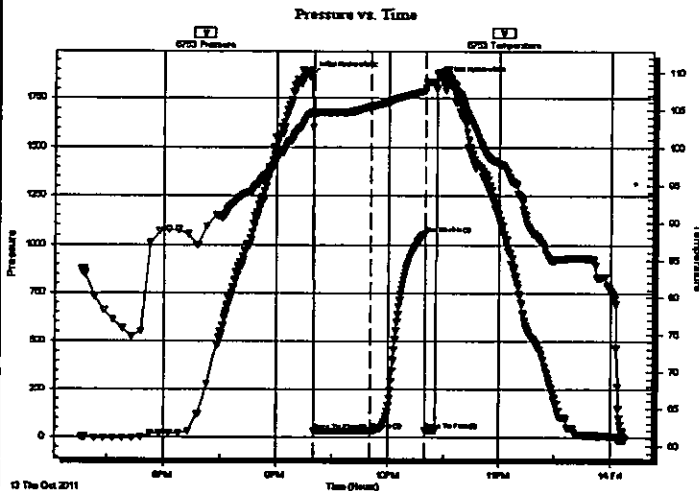
End Time:

**00:07:28**

Time On Btm **2011.10.13 @ 21:18:29**

Time Off Btm **2011.10.13 @ 22:28:29**

TEST COMMENT: IF-3/4" blow died to 1/2"  
IS-No blow  
FF-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.14	104.55	Initial Hydro-static
2	30.38	104.40	Open To Flow (1)
32	36.05	105.42	Shut-In(1)
61	1053.57	107.49	End Shut-In(1)
62	35.28	107.92	Open To Flow (2)
70	1845.65	110.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
9.00	SOCM 10%O 90%M	0.04
1.00	Free Oil	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

**Kohl #1**

Job Ticket: 44831

**DST#: 6**

ATTN: Richard Bell

Test Start: 2011.10.13 @ 19:15:59

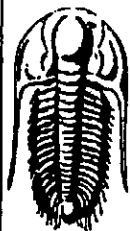
## Tool Information

Drill Pipe:	Length: 3707.00 ft	Diameter: 3.80 inches	Volume: 52.00 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 52.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3834.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3814.00	
Shut In Tool	5.00			3819.00	
Hydraulic tool	5.00			3824.00	
Packer	5.00			3829.00	21.00 Bottom Of Top Packer
Packer	5.00			3834.00	
Stubb	1.00			3835.00	
Recorder	0.00	6753	Inside	3835.00	
Recorder	0.00	8319	Outside	3835.00	
Perforations	16.00			3851.00	
Bullnose	3.00			3854.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>41.00</b>				



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Deutscher Oil Operations

33-12-20 Ellis, KS

2334 130th Ave  
Ellis, KS 67637

Kohl #1

Job Ticket: 44831

DST#: 6

ATTN: Richard Bell

Test Start: 2011.10.13 @ 19:15:59

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 45.00 sec/qt

Water Loss: 7.99 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 7700.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
9.00	SOCM 10%O 90%M	0.044
1.00	Free Oil	0.005

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

