

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 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. 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	Hartman Oil Co., Inc.
Well Name	CLARK/OCHS 1-17
Doc ID	1457692

All Electric Logs Run

Neutron/Density
Resistivity
Microlog
Sonic



PRESSURE PUMPING LLC
 PO Box 884, Chanute, KS 66720
 620-431-9210 or 800-467-8676

100317
 40519

FIELD TICKET & TREATMENT REPORT
 CEMENT

TICKET NUMBER 56028
 LOCATION Outlets
 FOREMAN Jerry Y

Invoice # 900645

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3-28-19	3613	Clark - Echs 1-17	17	125	33W	Logan
CUSTOMER Hartman Oil			Monument St. U: ste 13-6			
MAILING ADDRESS 10500 E. Berkley Square Plany, Ste 100			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY Wichita			731	Cory D		
STATE KS			70	Ralph C		
ZIP CODE 67206			535	Jerry Y		
			assist	Xavier C		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 305 CASING SIZE & WEIGHT 8 3/4 25#
 CASING DEPTH 305 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL 1.29 WATER gal/sk _____ CEMENT LEFT in CASING 201
 DISPLACEMENT 18 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting & rig up on (w/w) break circulation with rig free mix 220-365 Com 3/2 wash up + displac with 18 bbl fresh water & shut in circulated approx 3551 to pit
Cement did
circulate
 Thank you
 Jerry scree

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0471	1	PUMP CHARGE	1150.00	1150.00
CE0002	20	MILEAGE	7.15	143.00
CE0711	10.34	for mileage delivery (mis)	66.00	660.00
CC5871	220	Surface blend II	24.00	5280.00
			subtotal	7233.00
			-252	1808.25
			subtotal	5424.75
			SALES TAX	316.80
			ESTIMATED TOTAL	5741.55

RAVIN 3737
 AUTHORIZATION [Signature] TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form



PRESSURE PUMPING LLC
 P.O. Box 884, Chanute, KS 66720
 620-431-9210 or 800-467-8676

100355
 410507

FIELD TICKET & TREATMENT REPORT
 CEMENT

TICKET NUMBER 55993
 LOCATION Oakley Ks
 FOREMAN Cory Davis

Invoice #900694_{ks}

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-6-19	3613	Clark 1-17	17	12 ^s	33 W	Logan
CUSTOMER Hartman oil			TRUCK # DRIVER TRUCK # DRIVER			
MAILING ADDRESS 10500 E. Beckley Square Pkwy, Ste. 100			753 Neil W 703 Cory O			
CITY STATE ZIP CODE Wichita KS 67206			70 Matadi U 1098 Walt O			
			772T127 Kalob C			
			help Xavier C			

JOB TYPE 2 Stage HOLE SIZE 7 7/8 HOLE DEPTH 4805 CASING SIZE & WEIGHT 5 1/2 15.5
 CASING DEPTH 4805 DRILL PIPE TUBING OTHER DV @ 2647
 SLURRY WEIGHT 14.2/12.5 SLURRY VOL WATER gal/sk CEMENT LEFT in CASING 42
 DISPLACEMENT 114 / 62.5 DISPLACEMENT PSI MIX PSI RATE

REMARKS: Safety meeting, rig up on w/w/o, run foot Equipment Centralizer on the first 6 joints
 AFU Flat shoe + latch down - 1 Basket and 1 centralizer on joint right before DV Tool. DV Tool at 2647
 finish running casing wire for an hour & half hook up to pump truck mix 5 BBL #20 ahead 500 sks
 mud flush 5 BBL water behind mix 175 Thixobond # 5# Kalseal shut down wash up thin displace 114
 BBL 50 water 64 mud shut in drop dart wait 15 min open DV Tool finish wash up circ. 2 hours.
 Mix lite whight Blend 500 sks 1/4# flo seal 30 sks in rat hole 470 sks down center wash up + displace
 62.5 BBL #20 rig down

Thanks you
 from Cory + Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE 04503	1	PUMP CHARGE	2800.00	2800.00
CE 0002	20	MILEAGE	7.15	143.00
CE 0710	29.73	Ton mileage Delivery	1.5	104.06
CC 5862	175 sks	Thixobond #3	26.00	4550.00
CC 6077	875#	Kalseal	0.50	437.50
CC 5831	500 sks	lite blend #3	17.50	8750.00
CC 6078	125#	flo seal	3.00	375.00
CC 6125	500 gal	Mud flush	0.65	325.00
CP 8485	1	5 1/2 AFU Flat shoe	585.00	585.00
CP 8254	1	5 1/2 latch down assy	400.00	400.00
CP 8254	7	5 1/2 Centralizer	81.00	567.00
CP 8629	1	5 1/2 Basket	385.00	385.00
CP 8801	1	5 1/2 DV Tool	5970.00	5970.00
		Sub total		35693.50
		25% less		8923.38
		Sub total		26770.12
		SALES TAX		1340.09
		ESTIMATED TOTAL		28110.80

Ravin 3737

AUTHORIZATION TITLE DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form

TERMS AND CONDITIONS

ATTENTION: THESE TERMS AND CONDITIONS CONTAIN INDEMNITY PROVISIONS FOR DAMAGE TO PERSONS AND PROPERTY.

All Services or Products provided by QES Pressure Pumping LLC (f/k/a Consolidated Oil Well Services LLC) are subject to these Terms and Conditions unless superseded by a Master Service Agreement signed by the parties. In the event Customer does not accept these Terms and Conditions as written, Customer must request a Master Service Agreement from QES' Contracts Administration Department at msa@qeslo.com.

The operations, services, supplies, materials, personnel or goods to be provided ("Services" or "Products" as applicable) by QES Pressure Pumping LLC ("QES") will be provided to you as customer ("Customer") in accordance with the following terms and conditions ("Agreement"). QES and Customer may be referred to as "Party" or "Parties".

1. **Price and Taxes.** Customer will pay QES for the Services or Products in accordance with QES' quoted price which exclude applicable taxes or process license fees. Customer shall pay all applicable taxes and process license fees related to the Services and/or Products. QES' prices are subject to change without notice.

2. **Terms of Payment.** Customer will pay QES cash in advance for Services and Products unless QES has approved credit prior to the performance of the Services and/or delivery of the Products. Credit terms for approved accounts require full payment of the invoiced amount within 30 days from the date of invoice. All invoices not paid within 30 days will be charged an interest rate of 1 1/2% per month or the maximum rate allowed under applicable state law, whichever is higher. Customer will be responsible for any fees incurred by QES in the collection of any amounts owed to QES including but not limited to attorney's fees and/or collection fee costs.

3. **Proof of Services or Delivery of Products.** QES will furnish verification of proof of Services performed and Product delivered to Customer's representative at the time of performance of the Services or Product delivery. Customer agrees to sign and return such verification indicating Customer's acceptance of the Services or Products.

4. **Delivery or Completion.** All liability and responsibility of QES ceases when (1) Products are delivered to the Customer by QES and no longer in the care, custody and control of QES or (2) when the carrier receives the Products and/or shipment. QES will not be responsible for loss or damage to Products in transit or for delays of carriers in delivering goods. In case of shortage, non-conformance, or apparent damage, it is the Customer's responsibility to secure written acknowledgement from the carrier before Customer accepts delivery. Additionally, QES will not be liable for any damage for delays in delivery or completion due to a Force Majeure (as defined below), acts or omissions of the Customer, third party material or manufacturing delays, impossibility or impracticability of performance or any other cause or causes beyond the control of QES. In the event of a delay caused by the aforesaid, the delivery or completion date will be extended for a period equal to any such delay, and the purchase or service will not be void or voidable as a result thereof.

5. **Well or Service Site Conditions.** Customer, having custody and control of the well and/or service site, and having superior knowledge of the same and the conditions surrounding them, warrant that the well and/or service site will be in proper condition to receive and accommodate Services and Products. Upon QES' request, Customer will provide documentation to verify that the well or service site is adequate to support the Services and the delivery of Products. Customer also warrants that QES' personnel and equipment will be able to safely access the well and service site and that any special equipment or road improvements required for such access will be the responsibility of Customer, unless otherwise agreed to by the parties.

6. **Chemical Handling and Hazardous Materials.** Customer agrees that for any waste created as part of the Services, Customer will be considered the "generator" for purposes of any applicable laws or regulations pertaining to the transportation, storage and handling of chemicals and hazardous materials.

7. **Data, Data Transmission and Storage.** QES does not warrant or guarantee the accuracy of any research analysis, survey, or other data generated for the Services. QES is not responsible for any accidental or intentional interception of such data by third parties and it is the responsibility of the Customer to safeguard such data against loss including any need to secure digital or paper copies for storage.

8. WARRANTIES - LIMITATION OF LIABILITY.

a) QES warrants that the Services and Products will: (i) be free from defects in materials and workmanship; (ii) be performed in a good and workmanlike manner, in accordance with good oilfield servicing practices; and (iii) conform to the plans, specifications and technical information provided in writing by Customer until the Services or Products are accepted by Customer or QES' contractual obligations are met. In the event that Customer discovers a defect in the Services or Products within the warranty period specified above, Customer will notify QES of such defect. In the event that QES confirms that the Services or Products are defective, QES's liability and Customer's exclusive remedy in any cause of action (whether in tort, contract, breach of warranty or otherwise) arising out of the sale or use of any Services or Products is expressly limited to, at QES' option, the (i) replacement of such Services or Products upon their return to QES or (ii) a credit to Customer for the full price paid by Customer for the defective segment of the Services or Products upon their return to QES. In the case of products or parts not wholly of QES' manufacture, QES' liability will be limited to the extent of its recovery from the manufacturer of such products or parts under its liability to QES. QES will not be liable for any damages, claims, losses or expenses of Customer resulting from such defects or for damages resulting from delays, loss of use, or other direct, indirect, incidental, punitive or consequential damages of any kind. QES will not be responsible for: (i) failures of Services that have been in any way tampered with or altered by anyone other than an authorized representative of QES; (ii) failures due to lack of compliance with recommended maintenance procedures; and (iii) products requiring replacement due to normal wear and tear.

b) EXCEPT FOR THE WARRANTIES EXPRESSLY STATED ABOVE, THERE ARE NO OTHER WARRANTIES. THE PARTIES EXPRESSLY EXCLUDE AND CUSTOMER WAIVES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

c) IN NO EVENT WILL QES' ENTIRE LIABILITY (IN TORT, CONTRACT, WARRANTY, INFRINGEMENT OR OTHERWISE) TO CUSTOMER EXCEED THE PURCHASE PRICE ACTUALLY PAID BY CUSTOMER FOR THE SERVICES OR PRODUCTS THAT GIVE RISE TO A DISPUTE. THIS PROVISION WILL SURVIVE ANY TERMINATION OF THIS AGREEMENT.

9. INDEMNIFICATION AND WAIVER OF CONSEQUENTIAL DAMAGES.

9.1 For purpose of this Section 9, the following definitions will apply: "QES Group" means QES Pressure Pumping LLC, its parent company, and affiliated companies, and its and their officers, directors, employees, contractors, subcontractors and invitees. "Customer Group" means Customer, its parent (if any), subsidiary and affiliated companies, co-owners, co-venturers, partners and any entity with whom Customer has an economic interest with respect to the Services, including Customer's joint interest owners and partners and its and their officers, directors, employees, contractors (not including QES), subcontractors and invitees.

9.2 **QES INDEMNITY.** QES AGREES TO PROTECT, DEFEND, INDEMNIFY AND HOLD HARMLESS CUSTOMER GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER, ARISING IN CONNECTION WITH THE SERVICES, ON ACCOUNT OF BODILY INJURY, ILLNESS, OR DEATH OF ANY MEMBER OF QES GROUP OR DAMAGE TO OR LOSS OF PROPERTY OF ANY MEMBER OF QES GROUP.

9.3 **CUSTOMER INDEMNITY.** CUSTOMER AGREES TO PROTECT, DEFEND, INDEMNIFY AND HOLD HARMLESS QES GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER, ARISING IN CONNECTION WITH THE SERVICES, ON ACCOUNT OF BODILY INJURY, ILLNESS, OR DEATH OF ANY MEMBER OF CUSTOMER GROUP OR DAMAGE TO OR LOSS OF PROPERTY OF ANY MEMBER OF CUSTOMER GROUP.

9.4 **WELL.** CUSTOMER WILL RELEASE, PROTECT, DEFEND, AND INDEMNIFY QES GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER IN THE EVENTS OF: (i) LOSS OR DAMAGE TO ANY GEOLOGICAL FORMATION, STRATA OR OIL OR GAS RESERVOIR OR MINERAL OR WATER RESOURCE BENEATH THE SURFACE OF THE LAND OR WATER, (ii) LOSS OR DAMAGE TO THE HOLE OR WELL, (iii)

IMPAIRMENT OF PROPERTY RIGHTS OR OTHER INTERESTS IN OR TO OIL, GAS, MINERAL OR WATER RESOURCES, AND (iv) REGAINING CONTROL OF ANY WILD WELL OR OUT OF CONTROL WELL, UNDERGROUND OR ABOVE THE SURFACE, INCLUDING REMOVAL OF WRECK, DEBRIS, EQUIPMENT, AND HAZARDOUS MATERIALS AND REMEDIATING ENVIRONMENTAL DAMAGE.

9.5 **POLLUTION RESPONSIBILITY.** Subject to paragraphs 9.2 and 9.3, it is understood and agreed between Customer and QES that the responsibility for pollution shall be as follows:

(a) QES WILL ASSUME RESPONSIBILITY FOR CONTROL AND REMOVAL OF AND WILL PROTECT, DEFEND AND INDEMNIFY CUSTOMER GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND OF CHARACTER ARISING FROM POLLUTION OR CONTAMINATION WHICH ORIGINATES ABOVE THE SURFACE OF THE LAND OR WATER FROM THE EQUIPMENT OF ANY MEMBER OF QES GROUP MAINTAINED IN QES GROUPS' CARE, CUSTODY AND CONTROL, AND ARISING FROM THE PERFORMANCE OF THE SERVICES.

(b) CUSTOMER WILL ASSUME RESPONSIBILITY FOR CONTROL AND REMOVAL OF AND WILL PROTECT, DEFEND AND INDEMNIFY QES GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ARISING FROM POLLUTION OTHER THAN THAT DESCRIBED IN SECTION 9.5(A) ABOVE, WHICH MAY OCCUR DURING THE CONDUCT OF OPERATIONS HEREUNDER, INCLUDING, BUT NOT LIMITED TO, POLLUTION RESULTING FROM FIRE, BLOWOUT, CRATERING, SEEPAGE OR OTHER UNCONTROLLED FLOW OF OIL, GAS OR OTHER SUBSTANCE.

9.6 **WAIVER OF CONSEQUENTIAL DAMAGES.** NOTWITHSTANDING ANY PROVISION TO THE CONTRARY, CUSTOMER AND QES FURTHER AGREE THAT NEITHER PARTY WILL BE LIABLE TO THE OTHER OR EACH OTHER'S RESPECTIVE GROUP FOR ANY CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFIT, LOSS OF PRODUCTION, REVENUE, OR ANTICIPATED BUSINESS ("LOSSES"). CUSTOMER AGREES TO INDEMNIFY AND HOLD QES GROUP HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS FOR SUCH LOSSES ASSERTED BY MEMBERS OF CUSTOMER GROUP. QES AGREES TO INDEMNIFY AND HOLD CUSTOMER GROUP HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS FOR SUCH LOSSES ASSERTED BY MEMBERS OF QES GROUP.

9.7 EXCEPT AS OTHERWISE EXPRESSLY LIMITED BY THIS AGREEMENT OR BY LAW, ALL RELEASES, INDEMNITY OBLIGATIONS AND OTHER LIABILITIES ASSUMED UNDER THIS AGREEMENT WILL BE WITHOUT LIMIT AND WITHOUT REGARD TO THE CAUSE OR CAUSES, INCLUDING, WITHOUT LIMITATION, PREEXISTING CONDITIONS, UNSEAWORTHINESS, STRICT LIABILITY, WILLFUL MISCONDUCT, AND THE SOLE, JOINT, GROSS, OR CONCURRENT NEGLIGENCE OF ANY PARTY.

9.8 Each Party hereunder agrees to support its indemnity obligations with liability insurance coverage with limits of liability not less than ten million dollars (\$10,000,000). It is the express intention of the Parties that the indemnities contained herein apply to the fullest extent permitted by applicable law, and in no event will a Party's indemnity obligation be limited to the amount of insurance carried by each Party.

THIS SECTION 9 WILL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

10. **Insurance.** All insurance policies of either Party, in any way related to the Services, whether or not required by this Agreement, shall to the extent of the risks and liabilities assumed by such party: (i) name the other party group as additional insured (except for worker's compensation, OEE/COW, or professional liability policies), (ii) waive subrogation as to the other party group; and (iii) be primary and non-contributory to any insurance of the other party group.

11. **Force Majeure.** Except the obligation to make payments when due, neither QES nor Customer will be liable nor deemed to be in breach of this Agreement for any delay or failure in performance resulting from the acts of God, civil or military authority, material change of law, any governmental action, acts of public enemy, war, accidents, fires, explosions, earthquakes, floods, failure of transportation, national strikes, acute or unusual labor, material or equipment shortages, or any similar or dissimilar cause beyond the reasonable control of either Party. The Party so affected will as soon as such a cause or event occurs promptly notify the other Party in writing concerning the cause and the estimated effect and take reasonable measures with proper dispatch to remedy the condition. In the event Customer declares a force majeure occurrence, QES will be compensated at the standard daily rate for the materials and personnel that are standing idle as a consequence of the force majeure occurrence until Customer terminates the work order or work resumes.

12. **Governing Law.** This Agreement will be governed by the laws of the State of Texas, without regard to its conflicts of law provisions. The Parties agree to submit to the exclusive jurisdiction of the federal or state courts located in Houston, Harris County, Texas with respect to any and all disputes that arise out of or are related in any way to the subject matter of this Agreement. This Section 12 will survive the termination or expiration of this Agreement.

13. **Independent Contractor.** QES will be an independent contractor with respect to the Services performed, and neither QES nor anyone employed by QES will be deemed for any purpose to be the employee, agent, servant, borrowed servant or representative of Customer.

14. **Severability.** In the event any provision of this Agreement is inconsistent with or contrary to any applicable law, rule or regulation, the provision will be deemed modified to the extent required to comply, and the remaining terms, as modified, will remain in full force and effect.

15. **Waiver.** A waiver on the part of either Party of any breach of any term, provision or condition of this Agreement will not constitute a precedent and not bind either Party hereto to a waiver of any succeeding or other breach of the same or any other term, provision or condition of this Agreement.

16. **Entire Agreement.** This Agreement contains the entire agreement of the Parties with regard to the subject matter hereof and supersedes any prior oral and written agreements, contracts, representations or warranty between the Parties relating to the subject matter hereof. No amendment or modification of this Agreement will be effective unless it is in writing and signed by an authorized representative of each Party. If the Parties enter into a Master Service Agreement, then any term or condition herein which conflicts with the provisions of such Master Service Agreement will be deemed invalid.



DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.01 @ 06:02:00

End Date: 2019.04.01 @ 11:30:30

Job Ticket #: 65207 DST #: 1

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

Printed: 2019.04.09 @ 09:22:34



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

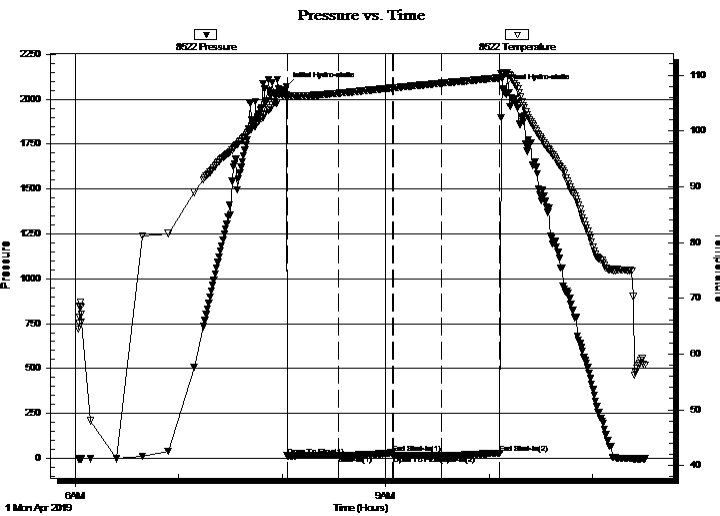
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65207 **DST#: 1**
 Test Start: 2019.04.01 @ 06:02:00

GENERAL INFORMATION:

Formation: **LKC E**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:03:00
 Time Test Ended: 11:30:30
 Interval: **4145.00 ft (KB) To 4165.00 ft (KB) (TVD)**
 Total Depth: 4165.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 16.73 psig @ 4146.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.01 End Date: 2019.04.01 Last Calib.: 2019.04.01
 Start Time: 06:02:05 End Time: 11:30:29 Time On Btm: 2019.04.01 @ 08:02:45
 Time Off Btm: 2019.04.01 @ 10:08:00

TEST COMMENT: 30- IF: 1/4" blow .
 30- IS: No return.
 30- FF: No blow .
 30- FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2072.51	106.43	Initial Hydro-static
1	13.79	105.93	Open To Flow (1)
30	15.79	106.74	Shut-In(1)
62	30.20	107.73	End Shut-In(1)
62	14.88	107.71	Open To Flow (2)
90	16.73	108.56	Shut-In(2)
124	29.36	109.51	End Shut-In(2)
126	2057.38	110.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud 100m (oil puddle on top)	0.01

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

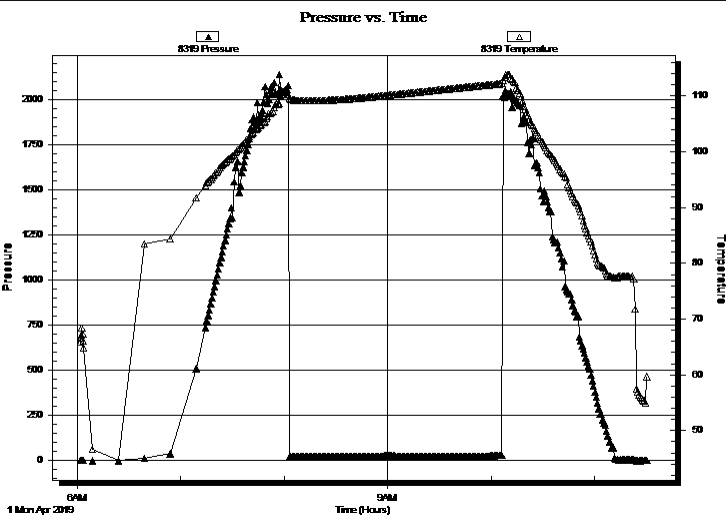
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65207 **DST#: 1**
 Test Start: 2019.04.01 @ 06:02:00

GENERAL INFORMATION:

Formation: **LKC E**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:03:00
 Time Test Ended: 11:30:30
Interval: 4145.00 ft (KB) To 4165.00 ft (KB) (TVD)
 Total Depth: 4165.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8319 Outside
 Press@RunDepth: psig @ 4146.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.01 End Date: 2019.04.01 Last Calib.: 2019.04.01
 Start Time: 06:02:05 End Time: 11:30:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30- IF: 1/4" blow .
 30- IS: No return.
 30- FF: No blow .
 30- FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud 100m (oil puddle on top)	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65207

DST#: 1

ATTN: Kit Noah

Test Start: 2019.04.01 @ 06:02:00

Tool Information

Drill Pipe:	Length: 4030.00 ft	Diameter: 3.80 inches	Volume: 56.53 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4145.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 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			4119.00	
Shut In Tool	5.00		Fluid	4124.00	
Hydraulic tool	5.00			4129.00	
Jars	5.00			4134.00	
Safety Joint	2.00			4136.00	
Packer	5.00		Inside	4141.00	27.00 Bottom Of Top Packer
Packer	4.00			4145.00	
Stubb	1.00			4146.00	
Recorder	0.00	8522	Inside	4146.00	
Recorder	0.00	8319	Outside	4146.00	
Perforations	16.00			4162.00	
Bullnose	3.00			4165.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.
10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206
ATTN: Kit Noah

17-12s-33w Logan,KS
Clark-Ochs #1-17
Job Ticket: 65207 **DST#: 1**
Test Start: 2019.04.01 @ 06:02:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.38 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

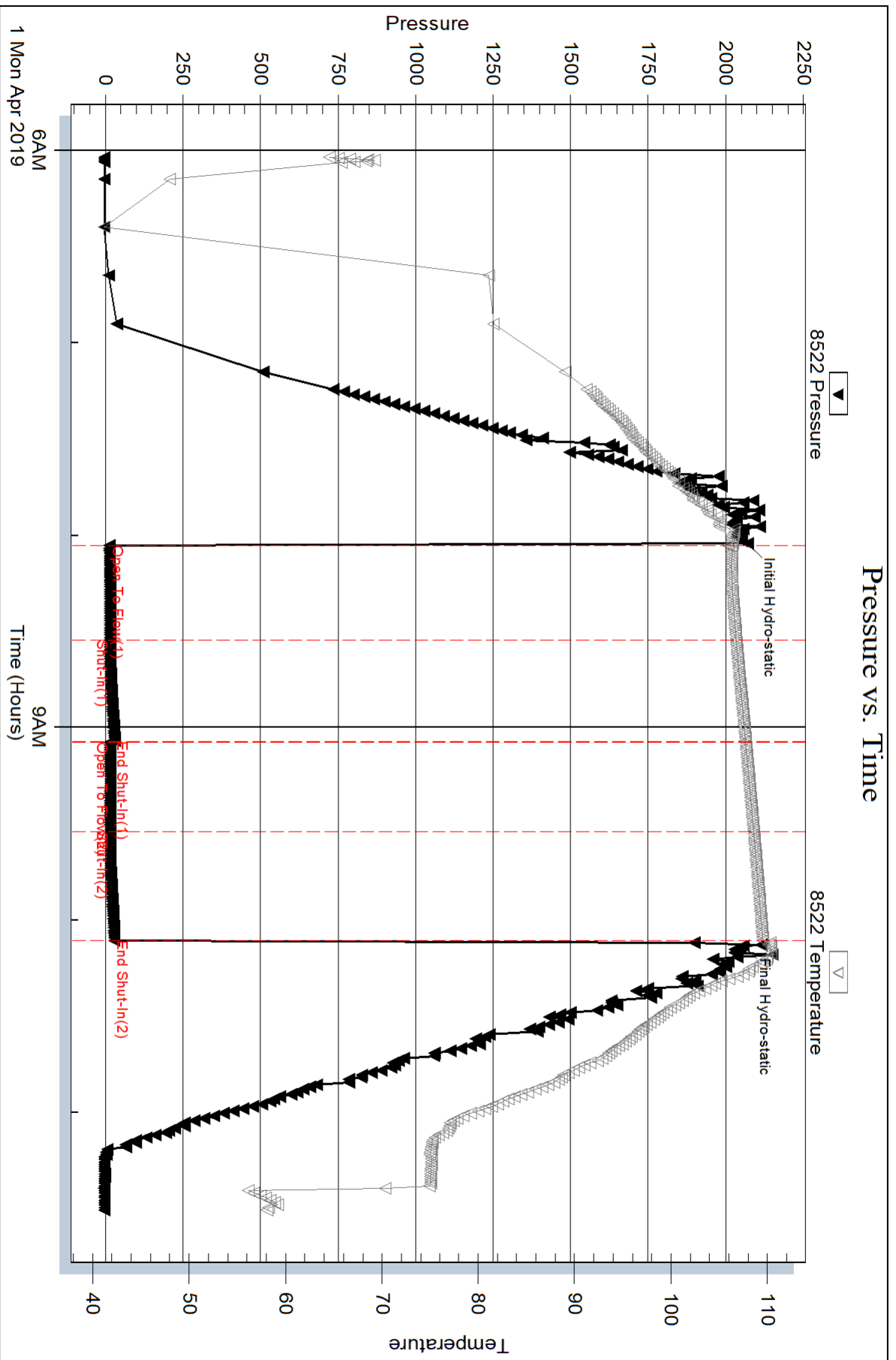
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	Mud 100m (oil puddle on top)	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time

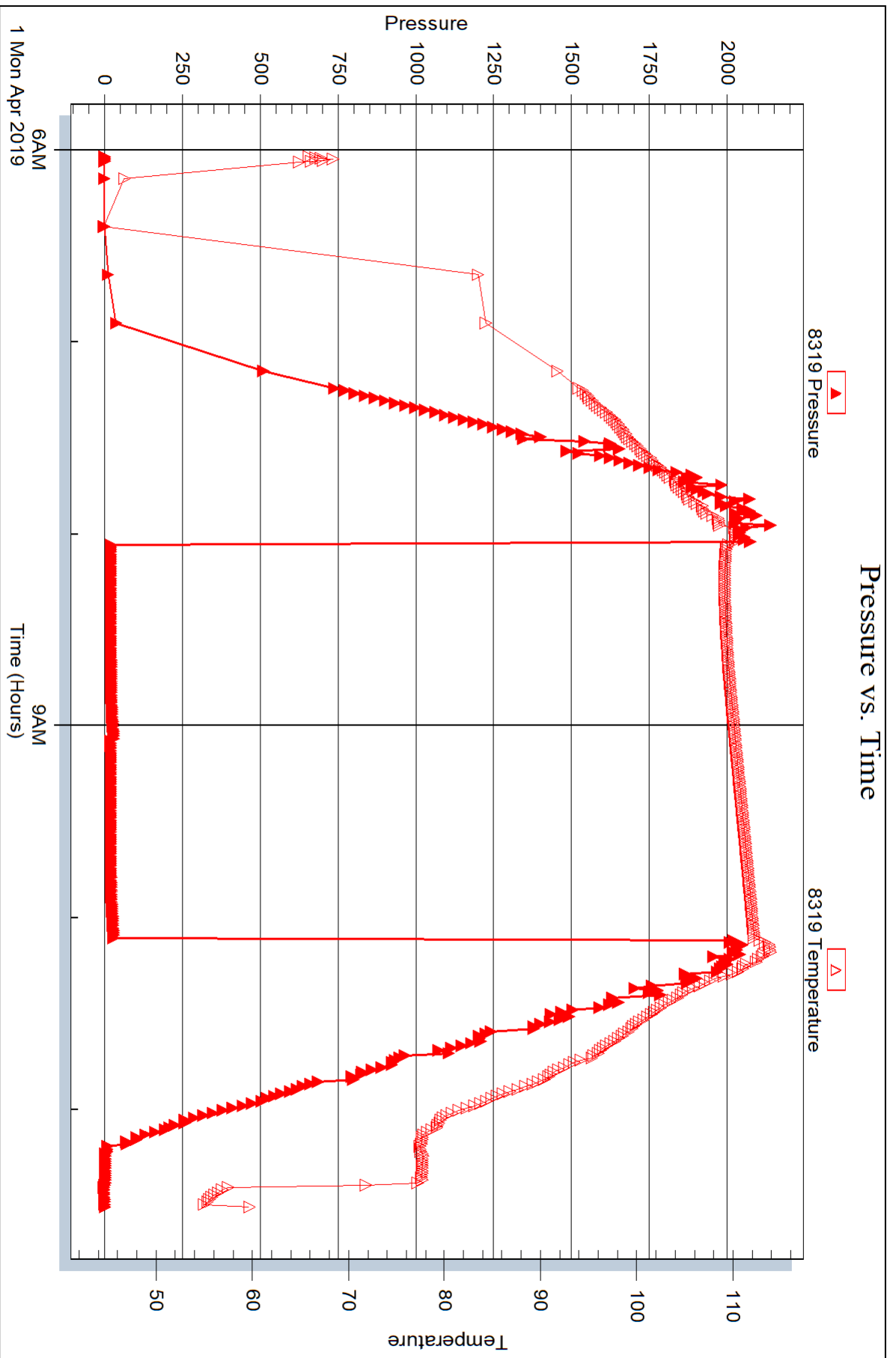


Serial #: 8319

Outside Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65207

Printed: 2019.04.09 @ 09:22:36



DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.01 @ 21:50:00

End Date: 2019.04.02 @ 04:03:45

Job Ticket #: 65208 DST #: 2

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

Printed: 2019.04.09 @ 09:22:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65208

DST#: 2

ATTN: Kit Noah

Test Start: 2019.04.01 @ 21:50:00

GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:17:00

Time Test Ended: 04:03:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: 4223.00 ft (KB) To 4260.00 ft (KB) (TVD)

Reference Elevations: 3152.00 ft (KB)

Total Depth: 4260.00 ft (KB) (TVD)

3147.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8319 Outside

Press@RunDepth: 94.00 psig @ 4224.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.01

End Date:

2019.04.02

Last Calib.:

2019.04.02

Start Time: 21:50:05

End Time:

04:03:44

Time On Btm:

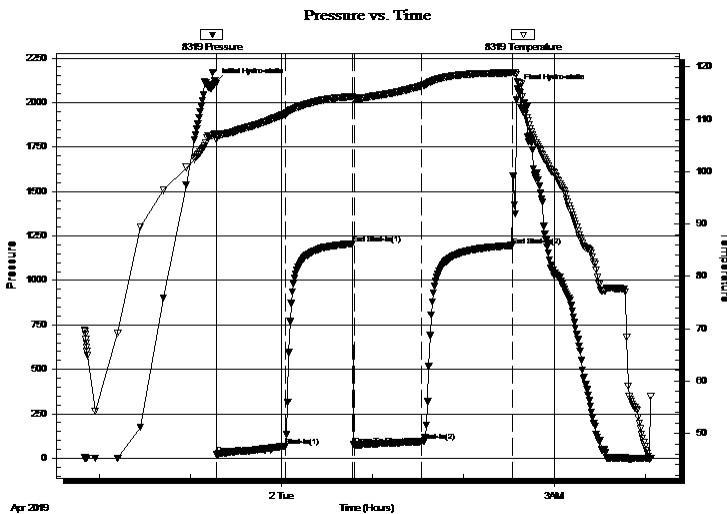
2019.04.01 @ 23:16:30

Time Off Btm:

2019.04.02 @ 02:35:30

TEST COMMENT: 45- IF: 6" blow .
45- IS: No return.
45- FF: 4 1/2" blow .
60- FSI: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2112.21	107.14	Initial Hydro-static
1	23.73	106.13	Open To Flow (1)
46	67.63	111.03	Shut-In(1)
91	1206.50	114.32	End Shut-In(1)
92	76.21	114.01	Open To Flow (2)
136	94.00	116.40	Shut-In(2)
196	1196.71	118.86	End Shut-In(2)
199	2076.73	117.17	Final Hydro-static

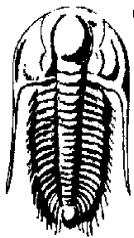
Recovery

Length (ft)	Description	Volume (bbl)
130.00	w cm 30w 70m (oil spots)	0.73
20.00	oil 100o	0.28

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206
ATTN: Kit Noah

17-12s-33w Logan,KS
Clark-Ochs #1-17
Job Ticket: 65208 **DST#: 2**
Test Start: 2019.04.01 @ 21:50:00

GENERAL INFORMATION:

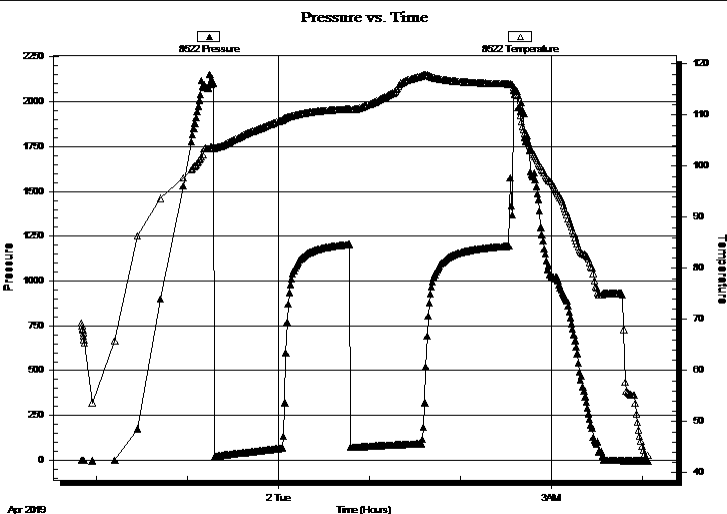
Formation: **LKC H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:17:00
Time Test Ended: 04:03:45
Interval: **4223.00 ft (KB) To 4260.00 ft (KB) (TVD)**
Total Depth: 4260.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 3152.00 ft (KB)
3147.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8522

Inside

Press@RunDepth: psig @ 4224.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.04.01 End Date: 2019.04.02 Last Calib.: 2019.04.02
Start Time: 21:50:05 End Time: 04:03:44 Time On Btm:
Time Off Btm:

TEST COMMENT: 45- IF: 6" blow.
45- IS: No return.
45- FF: 4 1/2" blow.
60- FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
130.00	w cm 30w 70m (oil spots)	0.73
20.00	oil 100o	0.28

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65208

DST#: 2

ATTN: Kit Noah

Test Start: 2019.04.01 @ 21:50:00

Tool Information

Drill Pipe:	Length: 4092.00 ft	Diameter: 3.80 inches	Volume: 57.40 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4223.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	64.00 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			4197.00	
Shut In Tool	5.00		Fluid	4202.00	
Hydraulic tool	5.00			4207.00	
Jars	5.00			4212.00	
Safety Joint	2.00			4214.00	
Packer	5.00		Inside	4219.00	27.00 Bottom Of Top Packer
Packer	4.00			4223.00	
Stubb	1.00			4224.00	
Recorder	0.00	8522	Inside	4224.00	
Recorder	0.00	8319	Outside	4224.00	
Perforations	33.00			4257.00	
Bullnose	3.00			4260.00	37.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65208

DST#: 2

ATTN: Kit Noah

Test Start: 2019.04.01 @ 21:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

24 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

33000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
130.00	w cm 30w 70m (oil spots)	0.730
20.00	oil 100o	0.281

Total Length: 150.00 ft Total Volume: 1.011 bbl

Num Fluid Samples: 0

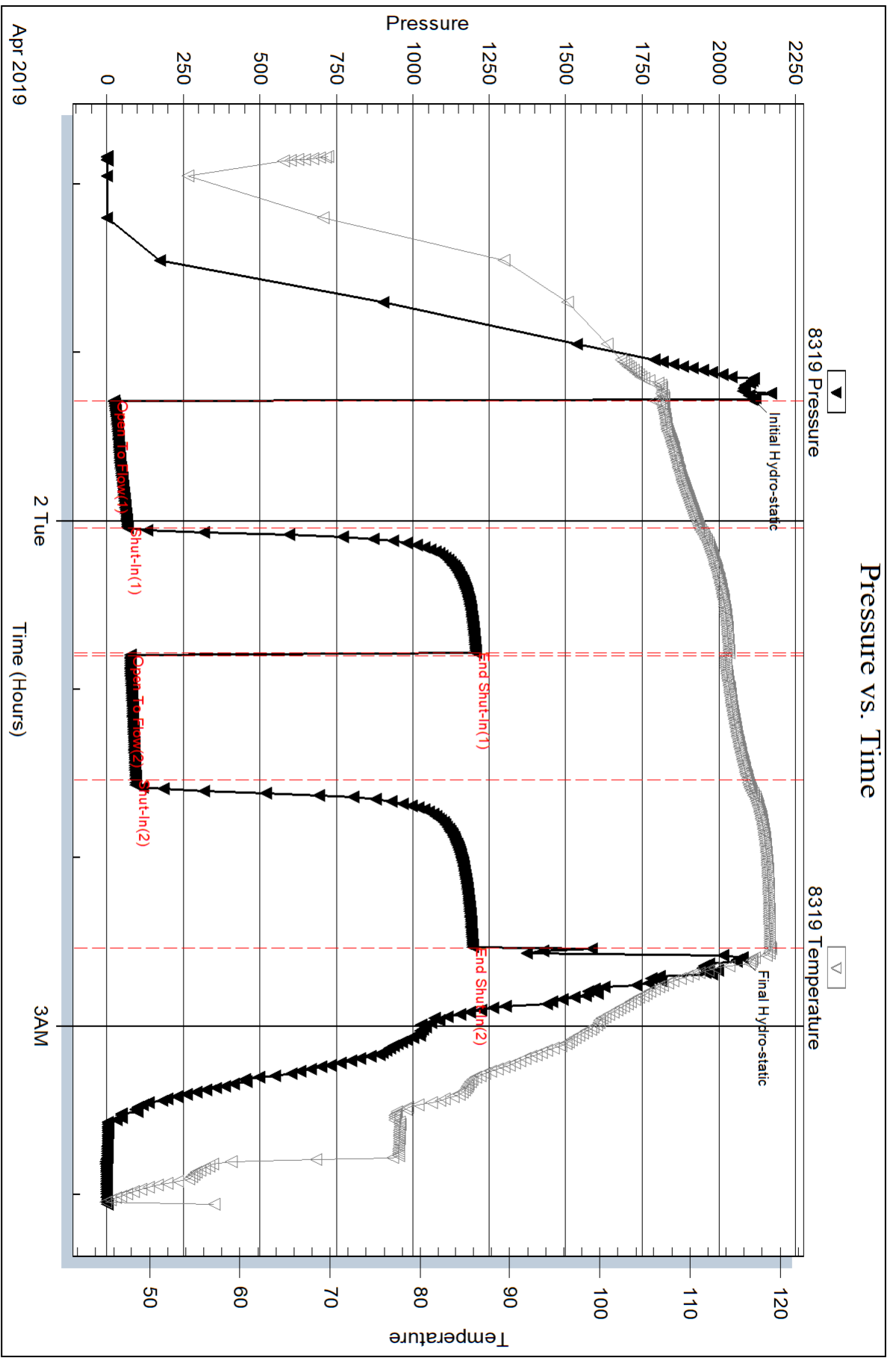
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .292 @ 50f = 33000ppm



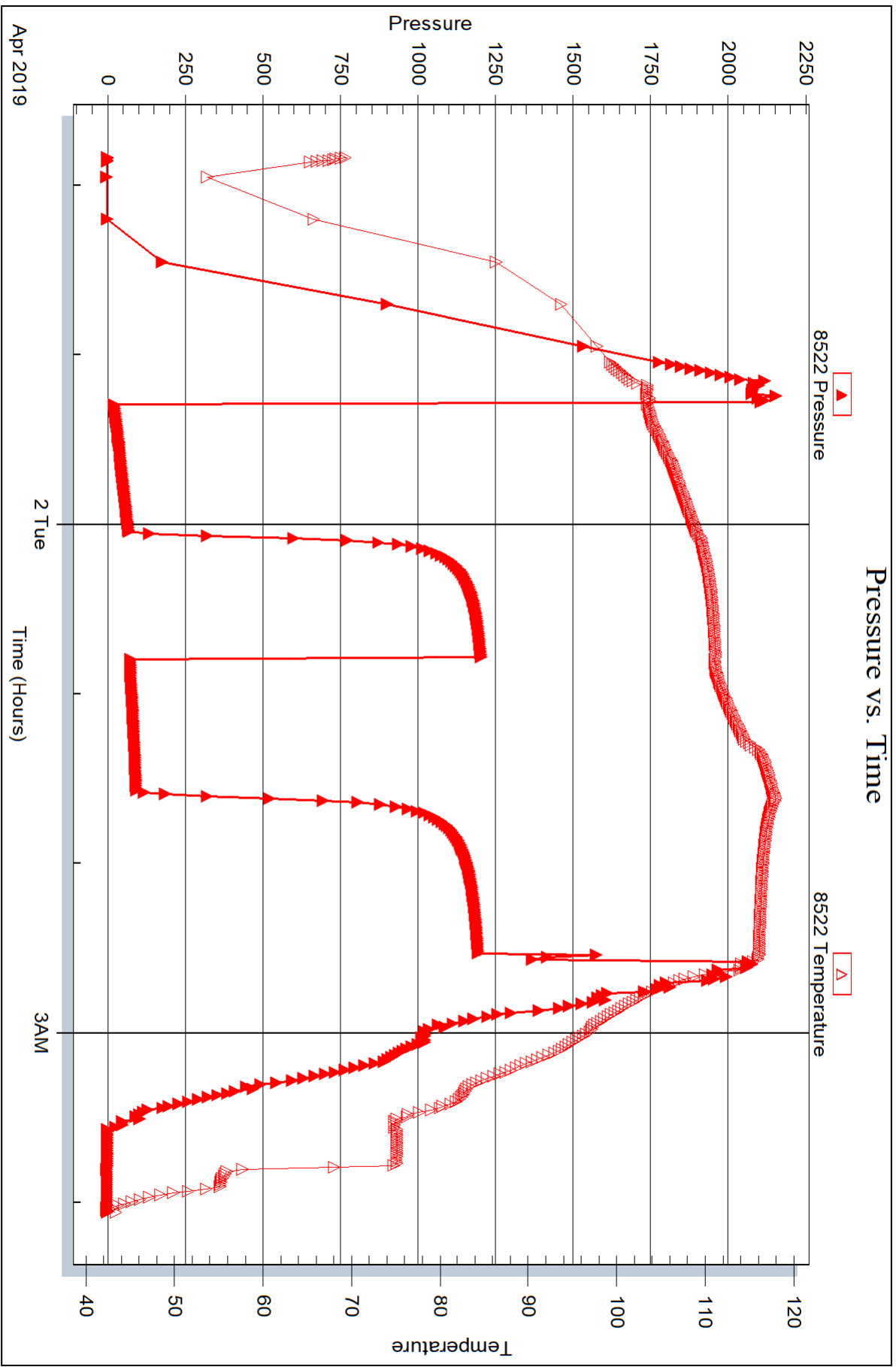
Serial #: 8522

Inside

Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.02 @ 11:40:00

End Date: 2019.04.02 @ 18:21:00

Job Ticket #: 65209 DST #: 3

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

Printed: 2019.04.09 @ 09:20:09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

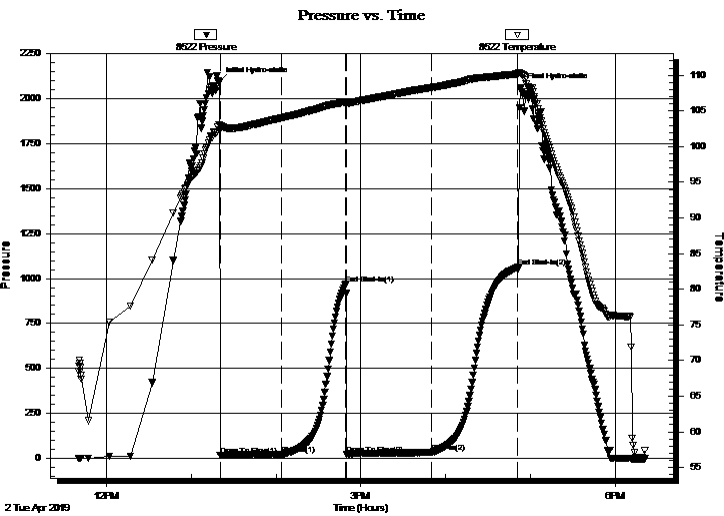
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65209 **DST#: 3**
 Test Start: 2019.04.02 @ 11:40:00

GENERAL INFORMATION:

Formation: **LKC I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:20:15
 Time Test Ended: 18:21:00
 Interval: **4264.00 ft (KB) To 4284.00 ft (KB) (TVD)**
 Total Depth: 4284.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 32.28 psig @ 4265.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.02 End Date: 2019.04.02 Last Calib.: 2019.04.02
 Start Time: 11:40:05 End Time: 18:20:59 Time On Btm: 2019.04.02 @ 13:20:00
 Time Off Btm: 2019.04.02 @ 16:53:15

TEST COMMENT: 45- IF: 3" blow .
 45- IS: Surface return.
 60- FF: 5" blow .
 60- FS: Surface return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.66	103.02	Initial Hydro-static
1	16.06	102.33	Open To Flow (1)
44	22.97	104.03	Shut-In(1)
90	968.21	106.23	End Shut-In(1)
90	21.90	106.00	Open To Flow (2)
150	32.28	108.26	Shut-In(2)
212	1063.05	110.19	End Shut-In(2)
214	2059.59	110.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	gocm 5g 15o 80m	0.07
30.00	go 15g 85o	0.15
0.00	135' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206
ATTN: Kit Noah

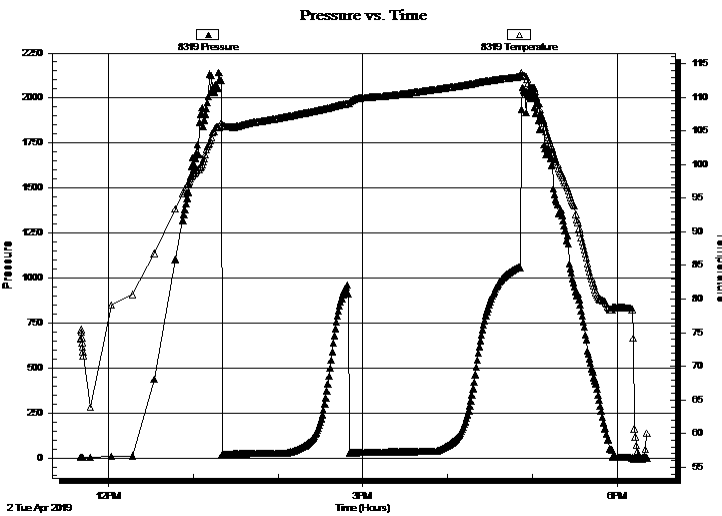
17-12s-33w Logan,KS
Clark-Ochs #1-17
Job Ticket: 65209 **DST#: 3**
Test Start: 2019.04.02 @ 11:40:00

GENERAL INFORMATION:

Formation: **LKC I**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:20:15
Time Test Ended: 18:21:00
Interval: **4264.00 ft (KB) To 4284.00 ft (KB) (TVD)**
Total Depth: 4284.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 3152.00 ft (KB)
3147.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8319 Outside
Press@RunDepth: psig @ 4265.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.04.02 End Date: 2019.04.02 Last Calib.: 2019.04.02
Start Time: 11:40:05 End Time: 18:20:59 Time On Btm:
Time Off Btm:

TEST COMMENT: 45- IF: 3" blow.
45- IS: Surface return.
60- FF: 5" blow.
60- FS: Surface return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
15.00	gocm 5g 15o 80m	0.07
30.00	go 15g 85o	0.15
0.00	135' 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

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65209

DST#: 3

ATTN: Kit Noah

Test Start: 2019.04.02 @ 11:40:00

Tool Information

Drill Pipe:	Length: 4126.00 ft	Diameter: 3.80 inches	Volume: 57.88 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.47 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4264.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 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			4238.00	
Shut In Tool	5.00		Fluid	4243.00	
Hydraulic tool	5.00			4248.00	
Jars	5.00			4253.00	
Safety Joint	2.00			4255.00	
Packer	5.00		Inside	4260.00	27.00 Bottom Of Top Packer
Packer	4.00			4264.00	
Stubb	1.00			4265.00	
Recorder	0.00	8522	Inside	4265.00	
Recorder	0.00	8319	Outside	4265.00	
Perforations	16.00			4281.00	
Bullnose	3.00			4284.00	20.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.
10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206
ATTN: Kit Noah

17-12s-33w Logan,KS
Clark-Ochs #1-17
Job Ticket: 65209 **DST#: 3**
Test Start: 2019.04.02 @ 11:40:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 39 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 67.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.18 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2500.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	gocm 5g 15o 80m	0.074
30.00	go 15g 85o	0.148
0.00	135' GIP	0.000

Total Length: 45.00 ft Total Volume: 0.222 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

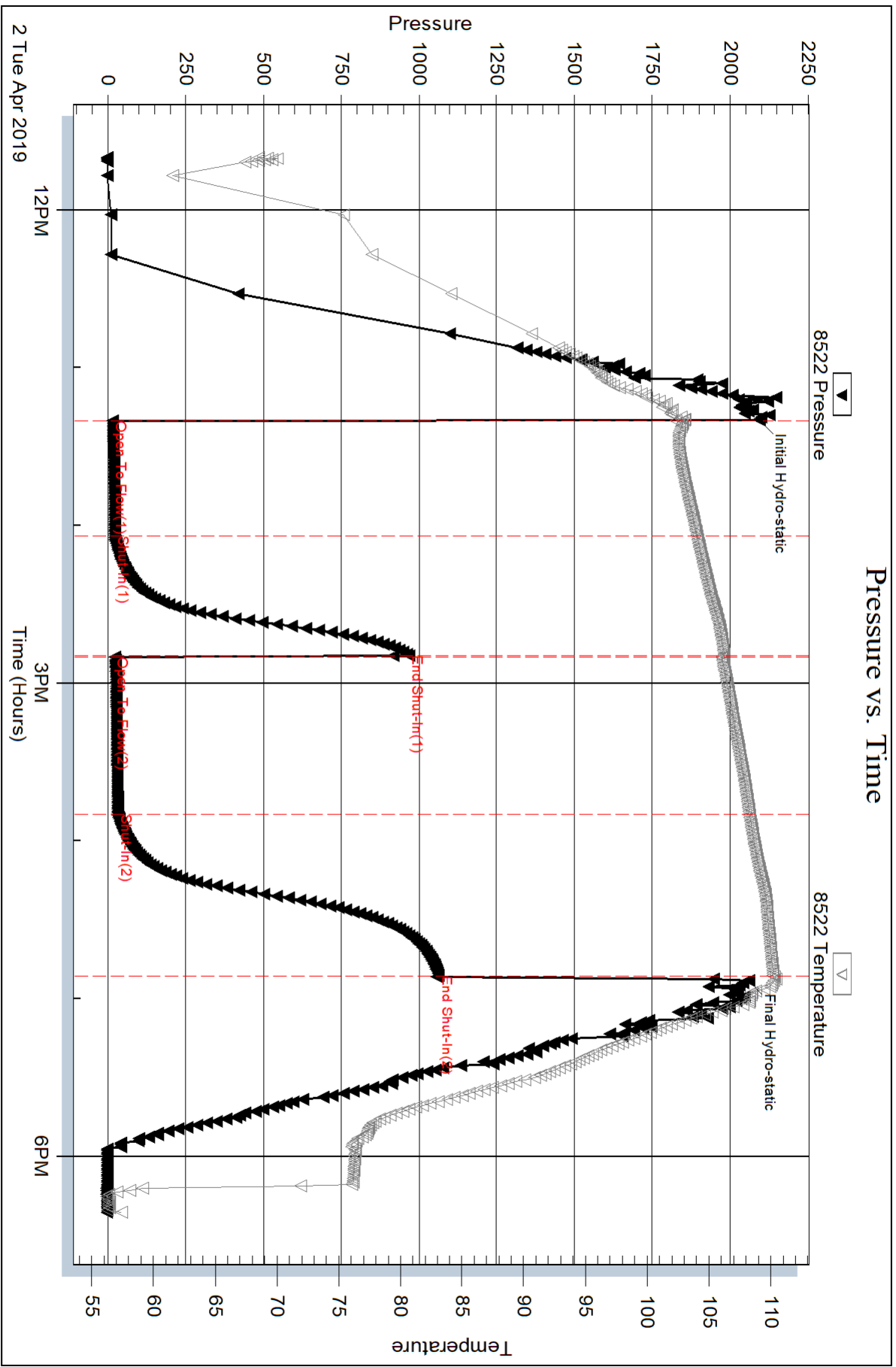
Serial #: 8522

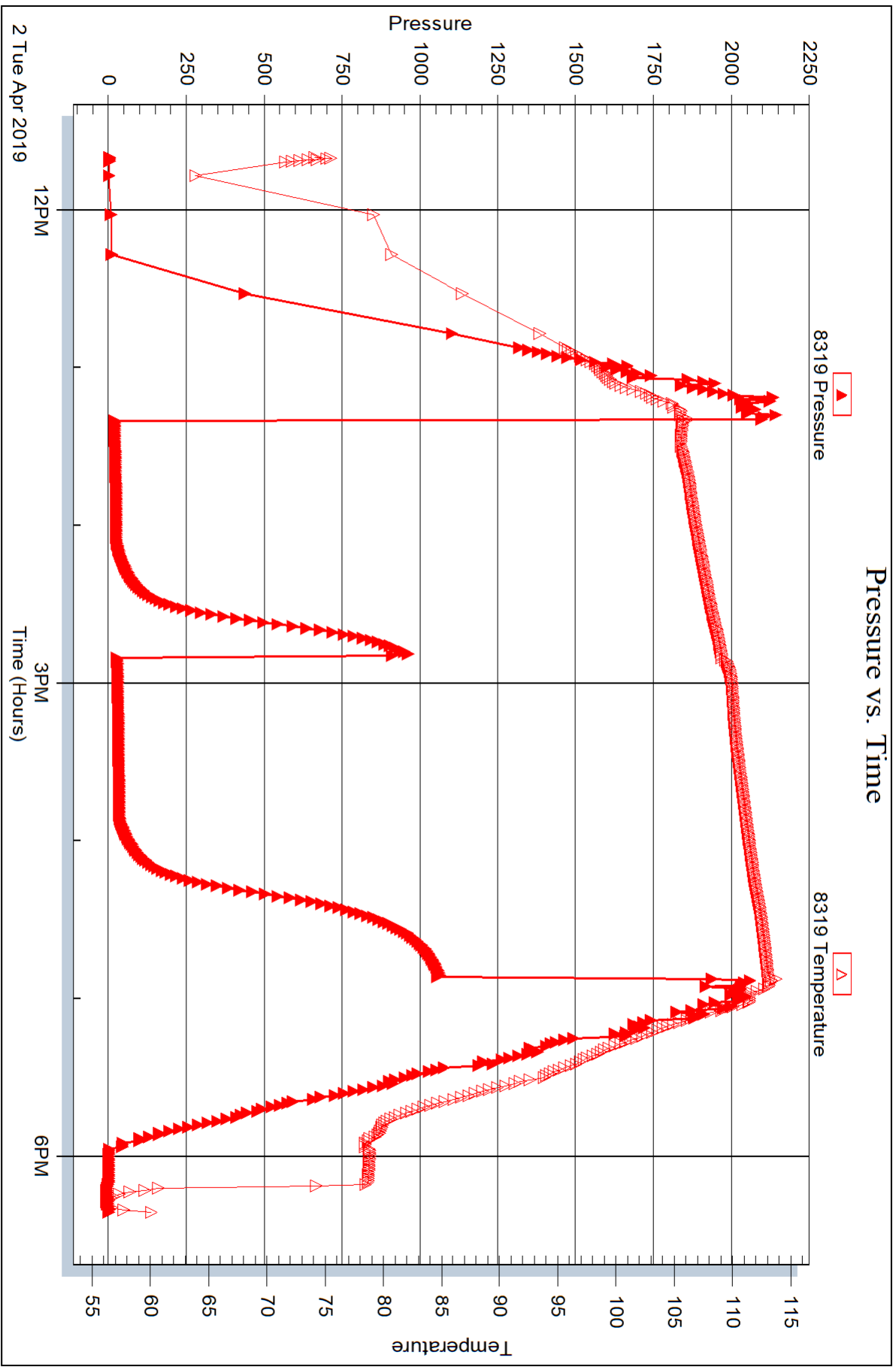
Inside

Hartman Oil Co, Inc.

Clark-Ochs #1-17

DST Test Number: 3







DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.03 @ 00:22:00

End Date: 2019.04.03 @ 03:57:45

Job Ticket #: 65210 DST #: 4

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

Printed: 2019.04.09 @ 09:19:38



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

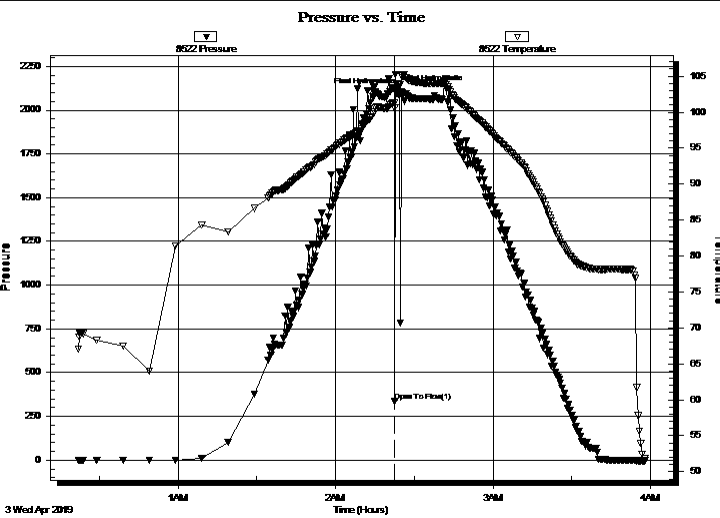
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65210 **DST#: 4**
 Test Start: 2019.04.03 @ 00:22:00

GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:22:30
 Time Test Ended: 03:57:45
 Interval: **4286.00 ft (KB) To 4310.00 ft (KB) (TVD)**
 Total Depth: 4310.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8522 Inside
 Press@RunDepth: psig @ 4287.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.03 End Date: 2019.04.03 Last Calib.: 2019.04.03
 Start Time: 00:22:05 End Time: 03:57:45 Time On Btm: 2019.04.03 @ 02:22:15
 Time Off Btm: 2019.04.03 @ 02:25:00

TEST COMMENT: Did not get a packer seat.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2117.35	101.29	Initial Hydro-static
1	334.83	100.60	Open To Flow (1)
3	2102.65	105.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Mud 100m	0.59

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65210

DST#: 4

ATTN: Kit Noah

Test Start: 2019.04.03 @ 00:22:00

Tool Information

Drill Pipe:	Length: 4157.00 ft	Diameter: 3.80 inches	Volume: 58.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 35000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 58.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4286.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 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			4260.00	
Shut In Tool	5.00		Fluid	4265.00	
Hydraulic tool	5.00			4270.00	
Jars	5.00			4275.00	
Safety Joint	2.00			4277.00	
Packer	5.00		Inside	4282.00	27.00 Bottom Of Top Packer
Packer	4.00			4286.00	
Stubb	1.00			4287.00	
Recorder	0.00	8522	Inside	4287.00	
Recorder	0.00	8319	Outside	4287.00	
Perforations	20.00			4307.00	
Bullnose	3.00			4310.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65210

DST#: 4

ATTN: Kit Noah

Test Start: 2019.04.03 @ 00:22:00

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:

ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Mud 100m	0.590

Total Length: 120.00 ft Total Volume: 0.590 bbl

Num Fluid Samples: 0

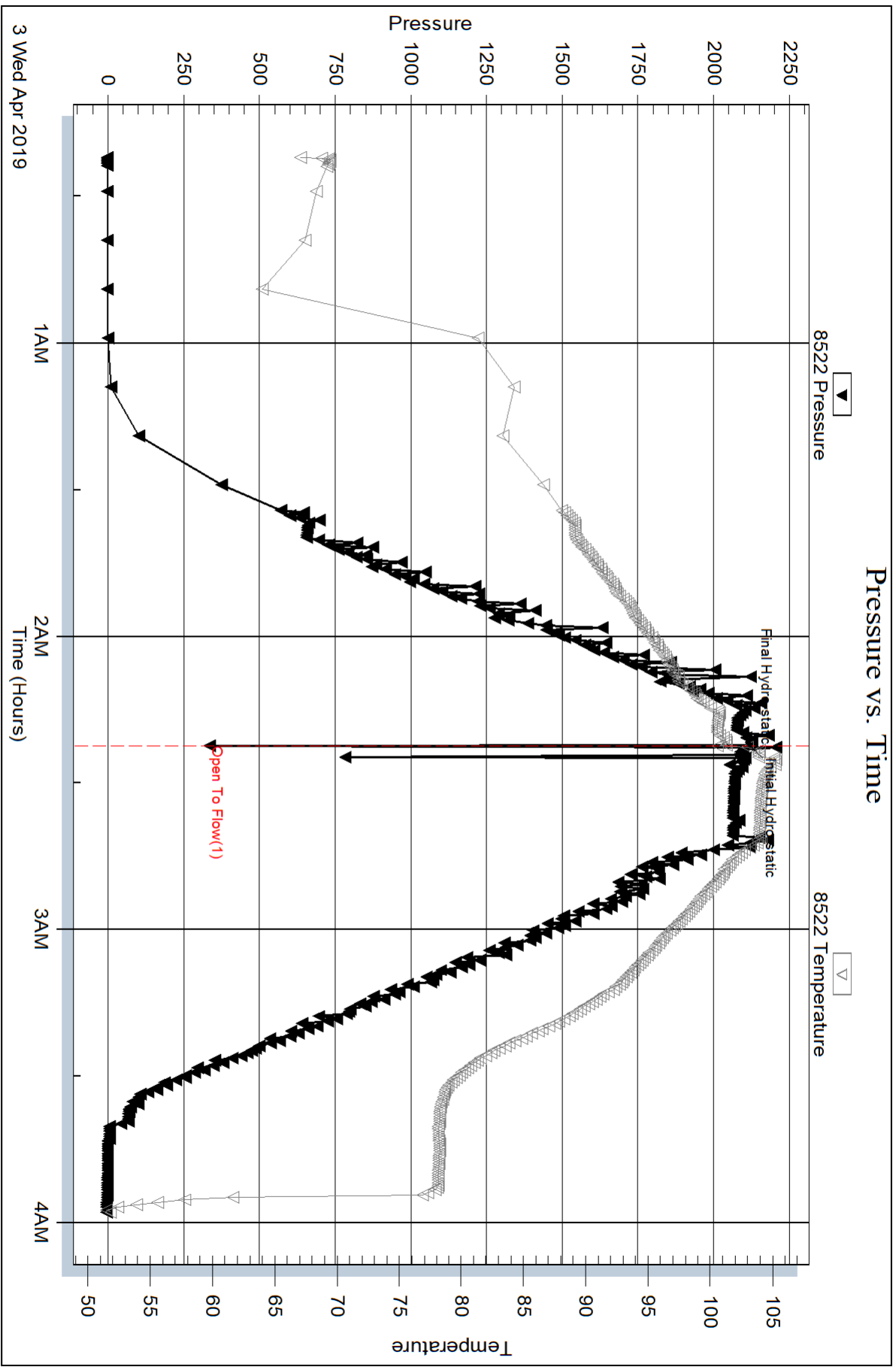
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: mis-run





DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.03 @ 04:11:00

End Date: 2019.04.03 @ 10:46:15

Job Ticket #: 65211 DST #: 5

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

Printed: 2019.04.09 @ 09:19:10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

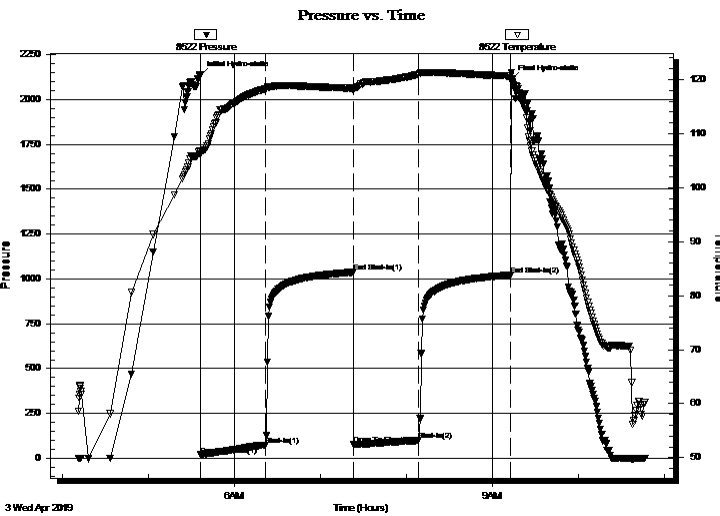
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65211 **DST#: 5**
 Test Start: 2019.04.03 @ 04:11:00

GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:36:00
 Time Test Ended: 10:46:15
 Interval: **4284.00 ft (KB) To 4310.00 ft (KB) (TVD)**
 Total Depth: 4310.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 99.04 psig @ 4285.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.03 End Date: 2019.04.03 Last Calib.: 2019.04.03
 Start Time: 04:11:05 End Time: 10:46:14 Time On Btm: 2019.04.03 @ 05:35:45
 Time Off Btm: 2019.04.03 @ 09:13:15

TEST COMMENT: 45- IF: 6" blow .
 60- IS: No return.
 45- FF: 5" blow .
 60- FSI: No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2136.48	106.89	Initial Hydro-static
1	18.46	106.08	Open To Flow (1)
46	72.08	118.24	Shut-In(1)
107	1037.17	118.39	End Shut-In(1)
108	76.17	117.92	Open To Flow (2)
153	99.04	120.95	Shut-In(2)
217	1021.14	120.65	End Shut-In(2)
218	2111.49	119.56	Final Hydro-static

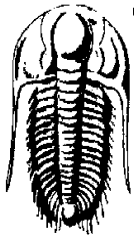
Recovery

Length (ft)	Description	Volume (bbl)
180.00	mcw 15m 85w (oil speks in tool)	1.43

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206
ATTN: Kit Noah

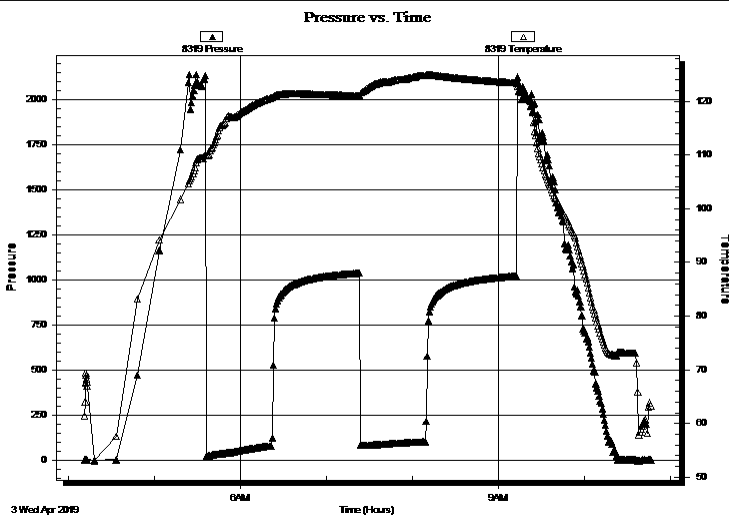
17-12s-33w Logan,KS
Clark-Ochs #1-17
Job Ticket: 65211 **DST#: 5**
Test Start: 2019.04.03 @ 04:11:00

GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 05:36:00
 Tester: Bradley Walter
 Time Test Ended: 10:46:15
 Unit No: 78
 Interval: **4284.00 ft (KB) To 4310.00 ft (KB) (TVD)**
 Reference Elevations: 3152.00 ft (KB)
 Total Depth: 4310.00 ft (KB) (TVD)
 3147.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8319 Outside
 Press@RunDepth: psig @ 4285.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.03 End Date: 2019.04.03 Last Calib.: 2019.04.03
 Start Time: 04:11:05 End Time: 10:46:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: 45- IF: 6" blow .
 60: IS: No return.
 45: FF: 5" blow .
 60: FS: No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
180.00	mcw 15m 85w (oil speks in tool)	1.43

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65211

DST#: 5

ATTN: Kit Noah

Test Start: 2019.04.03 @ 04:11:00

Tool Information

Drill Pipe:	Length: 4157.00 ft	Diameter: 3.80 inches	Volume: 58.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4284.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 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			4258.00	
Shut In Tool	5.00		Fluid	4263.00	
Hydraulic tool	5.00			4268.00	
Jars	5.00			4273.00	
Safety Joint	2.00			4275.00	
Packer	5.00		Inside	4280.00	27.00 Bottom Of Top Packer
Packer	4.00			4284.00	
Stubb	1.00			4285.00	
Recorder	0.00	8522	Inside	4285.00	
Recorder	0.00	8319	Outside	4285.00	
Perforations	22.00			4307.00	
Bullnose	3.00			4310.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65211

DST#: 5

ATTN: Kit Noah

Test Start: 2019.04.03 @ 04:11:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

66000 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mcw 15m 85w (oil speks in tool)	1.432

Total Length: 180.00 ft Total Volume: 1.432 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .153 @ 53f = 66,000ppm

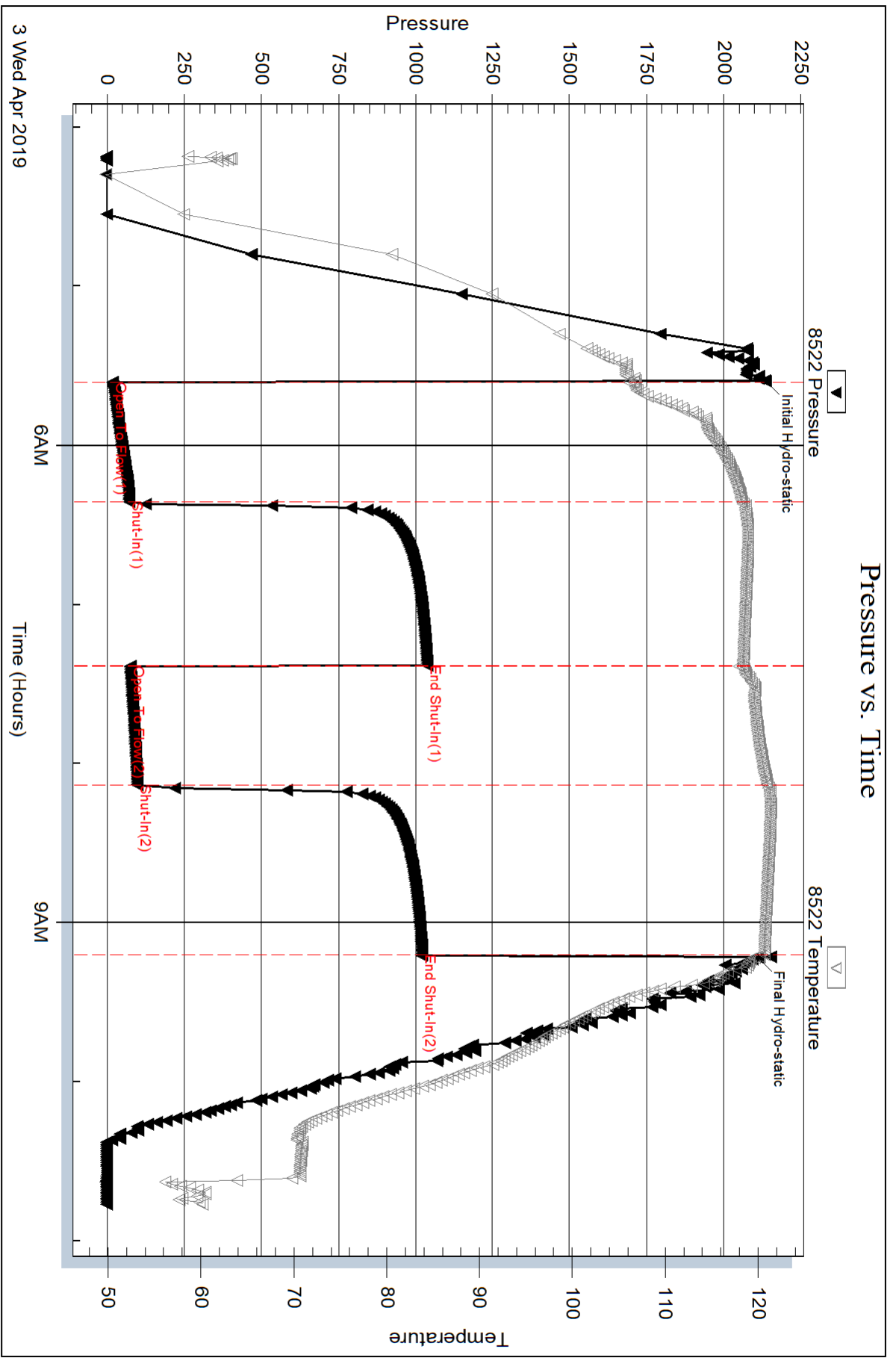
Serial #: 8522

Inside

Hartman Oil Co, Inc.

Clark-Ochs #1-17

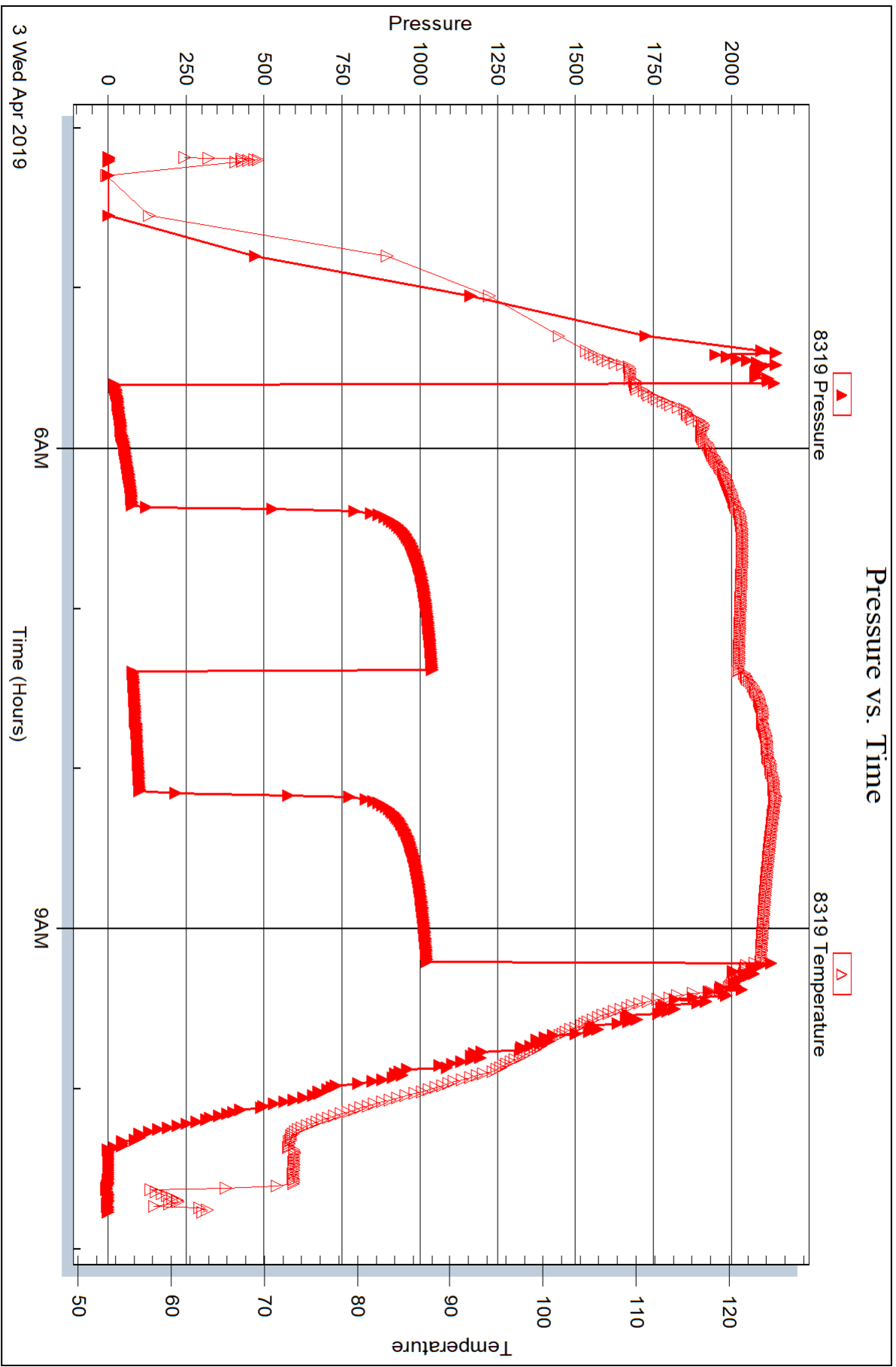
DST Test Number: 5



Triobite Testing, Inc

Ref. No: 65211

Printed: 2019.04.09 @ 09:19:10





DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co, Inc.**

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

ATTN: Kit Noah

Clark-Ochs #1-17

17-12s-33w Logan,KS

Start Date: 2019.04.04 @ 17:04:00

End Date: 2019.04.05 @ 00:41:45

Job Ticket #: 65212 DST #: 6

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

Printed: 2019.04.09 @ 09:18:06

Hartman Oil Co, Inc. 17-12s-33w Logan,KS Clark-Ochs #1-17 DST # 6 F. Johnson 2019.04.04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65212 **DST#: 6**
 Test Start: 2019.04.04 @ 17:04:00

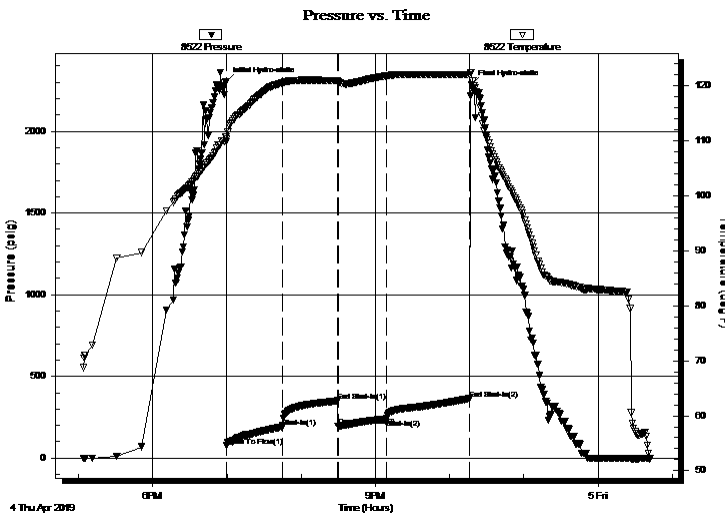
GENERAL INFORMATION:

Formation: **F. Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:59:30
 Time Test Ended: 00:41:45
 Interval: **4583.00 ft (KB) To 4650.00 ft (KB) (TVD)**
 Total Depth: 4650.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8522 Inside
 Press@RunDepth: 240.08 psig @ 4584.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.04 End Date: 2019.04.05 Last Calib.: 2019.04.05
 Start Time: 17:04:05 End Time: 00:41:44 Time On Btm: 2019.04.04 @ 18:59:15
 Time Off Btm: 2019.04.04 @ 22:17:45

TEST COMMENT: 45- IF: BOB @ 4 1/2 min. built to 66".
 45- IS: BOB @ 27 min built to 13".
 45- FF: BOB @ 12 min built to 31".
 60- FSI: 10" return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2304.30	110.72	Initial Hydro-static
1	74.62	109.88	Open To Flow (1)
46	190.17	120.51	Shut-In(1)
90	350.16	120.91	End Shut-In(1)
91	196.70	120.78	Open To Flow (2)
130	240.08	121.80	Shut-In(2)
197	363.46	122.02	End Shut-In(2)
199	2286.66	122.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
370.00	gmco 30g 25m 45o	4.10
200.00	go 20g 80o	2.81
0.00	500' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co, Inc.
 10500 E Berkeley Sq Pkwy Ste 100
 Wichita, KS 67206
 ATTN: Kit Noah

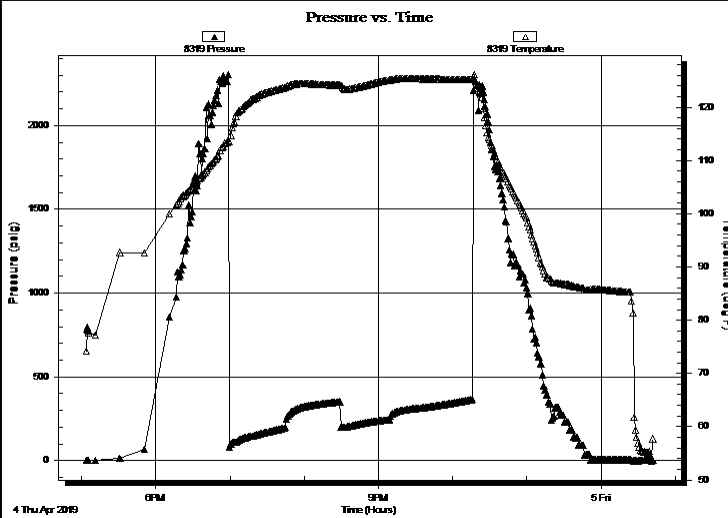
17-12s-33w Logan,KS
Clark-Ochs #1-17
 Job Ticket: 65212 **DST#: 6**
 Test Start: 2019.04.04 @ 17:04:00

GENERAL INFORMATION:

Formation: **F. Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:59:30
 Time Test Ended: 00:41:45
 Interval: **4583.00 ft (KB) To 4650.00 ft (KB) (TVD)**
 Total Depth: 4650.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 3152.00 ft (KB)
 3147.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8319 Outside
 Press@RunDepth: psig @ 4584.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.04 End Date: 2019.04.05 Last Calib.: 2019.04.05
 Start Time: 17:04:05 End Time: 00:41:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 45- IF: BOB @ 4 1/2 min. built to 66".
 45- IS: BOB @ 27 min built to 13".
 45- FF: BOB @ 12 min built to 31".
 60- FSI: 10" return.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
370.00	gmco 30g 25m 45o	4.10
200.00	go 20g 80o	2.81
0.00	500' GIP	0.00

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65212

DST#: 6

ATTN: Kit Noah

Test Start: 2019.04.04 @ 17:04:00

Tool Information

Drill Pipe:	Length: 4443.00 ft	Diameter: 3.80 inches	Volume: 62.32 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4583.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	94.00 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			4557.00	
Shut In Tool	5.00		Fluid	4562.00	
Hydraulic tool	5.00			4567.00	
Jars	5.00			4572.00	
Safety Joint	2.00			4574.00	
Packer	5.00		Inside	4579.00	27.00 Bottom Of Top Packer
Packer	4.00			4583.00	
Stubb	1.00			4584.00	
Recorder	0.00	8522	Inside	4584.00	
Recorder	0.00	8319	Outside	4584.00	
Perforations	30.00			4614.00	
Change Over Sub	1.00			4615.00	
Drill Pipe	31.00			4646.00	
Change Over Sub	1.00			4647.00	
Bullnose	3.00			4650.00	67.00 Bottom Packers & Anchor

Total Tool Length: 94.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co, Inc.

17-12s-33w Logan,KS

10500 E Berkeley Sq Pkwy Ste 100
Wichita, KS 67206

Clark-Ochs #1-17

Job Ticket: 65212

DST#: 6

ATTN: Kit Noah

Test Start: 2019.04.04 @ 17:04:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
370.00	gmco 30g 25m 45o	4.097
200.00	go 20g 80o	2.805
0.00	500' GIP	0.000

Total Length: 570.00 ft

Total Volume: 6.902 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

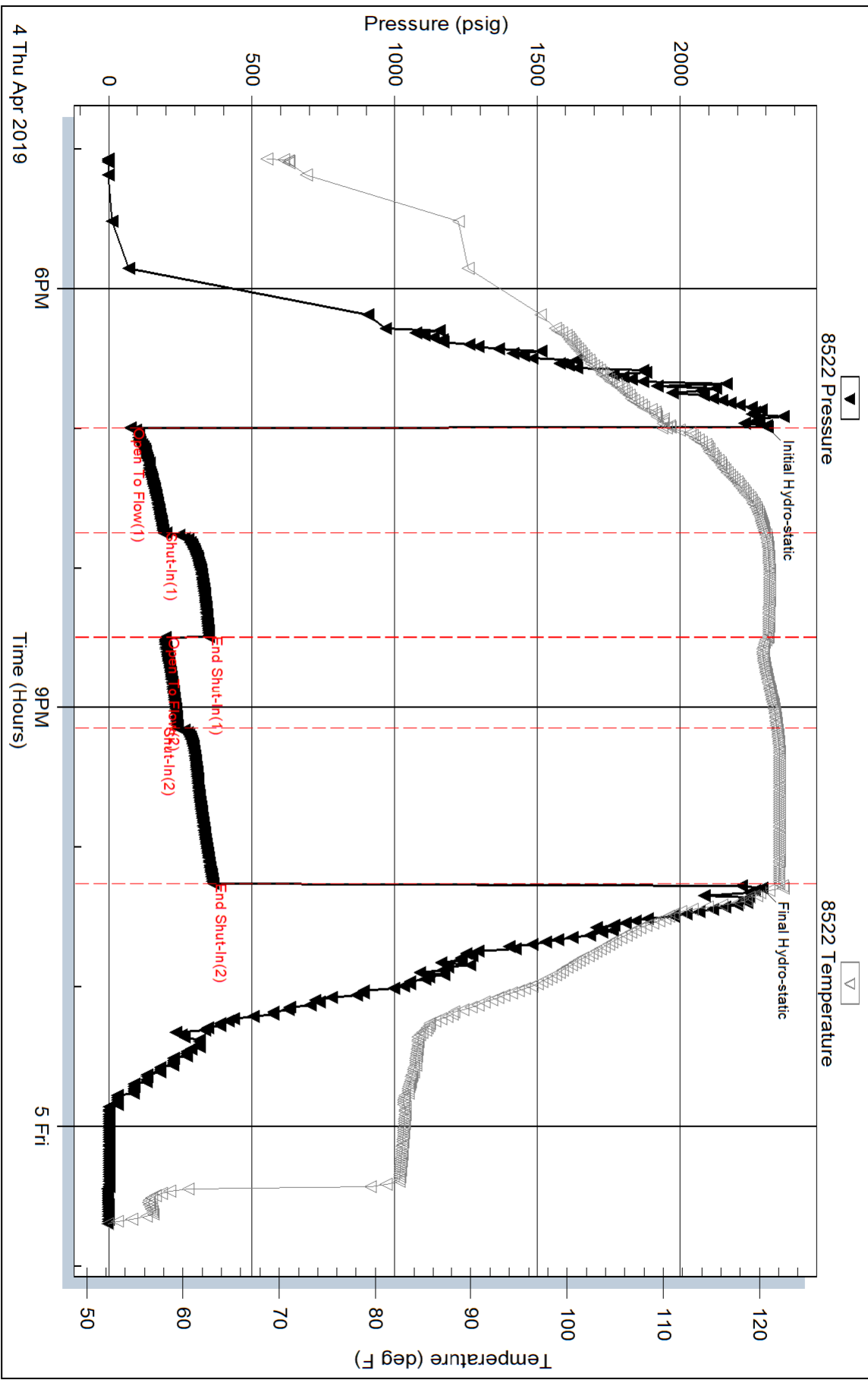
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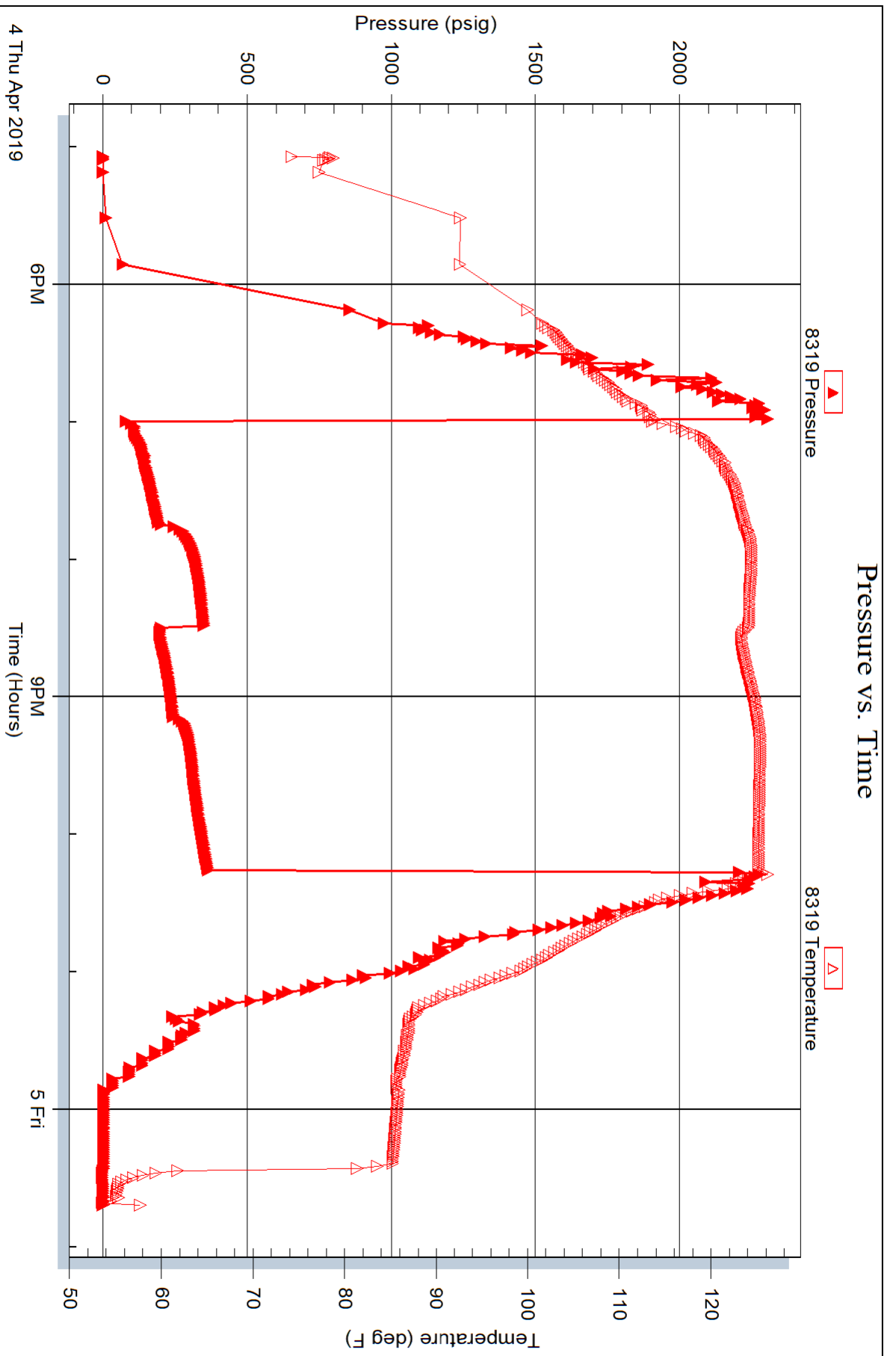
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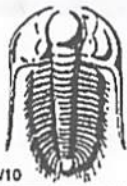
Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65207**

Well Name & No. Clark Ochs #17-17 v-17 Test No. 1 Date 4/01/2019
 Company Hartman Oil Co, Inc Elevation 3152 KB 3147 GL
 Address 10500 E Berkeley Sq Pkwy Ste 100 #72 Wichita, KS 67206
 Co. Rep / Geo. Kit Noah Rig WLV #10
 Location: Sec. 17 Twp 12s Rge. 33w Co. Logan State Kc

Interval Tested 4145 4165 Zone Tested LKC R
 Anchor Length 20 Drill Pipe Run 40 30' Mud Wt. 9.2
 Top Packer Depth *4140 Drill Collars Run 120 Vis 62
 Bottom Packer Depth 4145 Wt. Pipe Run 0 WL 6.4
 Total Depth 4165 Chlorides 2,000 ppm System LCM 1#
 Blow Description IF 1/4" blow
ISI No return
FF No blow
FT No return

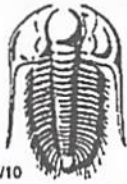
Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mod</u>			<u>100</u>	
	<u>puddle of oil on top</u>				

Rec Total 3 BHT 110 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2073</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>0530</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0602</u>
(C) First Final Flow <u>16</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0802</u>
(D) Initial Shut-In <u>30</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1002</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1131</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>100 R+ 100</u>	Comments
(G) Final Shut-In <u>29</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1725</u>
	Sub Total <u>1725</u>	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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65208**

Well Name & No. Clark-Ochs #1-17 Test No. 2 Date 4/02/2019
 Company Hartman O.I. Co, Inc Elevation 3152 KB 3147 GL
 Address 10500 E Bertely Sa Hwy Ste 100 Wichita, Ks 67208
 Co. Rep / Geo. Kit Noah Rig WW#10
 Location: Sec. 17 Twp 12S Rge. 33W Co. Logan State KS

Interval Tested 4223-4260 Zone Tested LKC H
 Anchor Length 37' Drill Pipe Run 4092 Mud Wt. 9.2
 Top Packer Depth 4218 Drill Collars Run 120 Vis 52
 Bottom Packer Depth 4223 Wt. Pipe Run 0 WL 6.4
 Total Depth 4260 Chlorides 2,000 ppm System LCM 1#

Blow Description IF: 6" blow
IST: No return
FF: 4 1/2" blow
PST: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>Oil</u>	<u>100</u>			
<u>130</u>	<u>wcm (oil seeds)</u>		<u>30</u>	<u>70</u>	

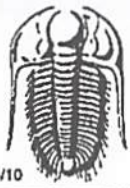
Rec Total 150 BHT 119 Gravity 24 API RW 292 @ 50 °F Chlorides 33,000 ppm

(A) Initial Hydrostatic 2112 Test 1300 T-On Location 2130
 (B) First Initial Flow 24 Jars 250 T-Started 2150
 (C) First Final Flow 68 Safety Joint 75 T-Open 2317
 (D) Initial Shut-In 1207 Circ Sub N/C T-Pulled 0232
 (E) Second Initial Flow 76 Hourly Standby _____ T-Out 0404
 (F) Second Final Flow 94 Mileage 100K+ 100 Comments _____
 (G) Final Shut-In 1197 Sampler _____
 (H) Final Hydrostatic 2077 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 60

Sub Total 1725 Total 1725 MP/DST Disc 1

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65209**

Well Name & No. Clark-Ochs #1-17 Test No. 3 Date 4/2/2019
 Company Hartman Oil Co, Inc Elevation 3152 KB 3147 GL
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, Ks 67206
 Co. Rep / Geo. Kit Noah Rig WW #10
 Location: Sec. 17 Twp 12S Rge. 33W Co. Logan State Ks

Interval Tested 4264 - 4284 Zone Tested LKC I
 Anchor Length 20' Drill Pipe Run 4126 Mud Wt. 9.1
 Top Packer Depth 4259 Drill Collars Run 120 Vis 67
 Bottom Packer Depth 4264 Wt. Pipe Run 0 WL 7.2
 Total Depth 4284 Chlorides 2500 ppm System LCM 1#

Blow Description IF: 3" blow
ISI: surface return
FF: 5" blow
FST: No return

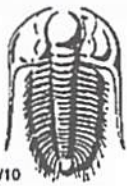
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>60</u>	<u>15</u>	<u>85</u>		
<u>15</u>	<u>600m</u>	<u>5</u>	<u>15</u>		<u>80</u>
	<u>135' GIP</u>				

Rec Total 45' BHT 110 Gravity 39 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2094</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>1190</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1220</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1320</u>
(D) Initial Shut-In <u>968</u>	<input checked="" type="checkbox"/> Circ Sub <u>AKC</u>	T-Pulled <u>1650</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1821</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>1000+</u> <u>100</u>	Comments
(G) Final Shut-In <u>1063</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2060</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	Total <u>1725</u>
	Sub Total <u>1725</u>	MP/DST Disc't

Approved By _____ Our Representative Kit Noah

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65210

Well Name & No. Clark-Ochs #1-17 Test No. 4 Date 4/03/2019
 Company Hartman Oil Co, Inc Elevation 3152 KB 5147 GL
 Address 10500 E Berkeley Sq Plsury Ste 100 Wichita KS 67206
 Co. Rep / Geo. Kit Noah Rig WW 10
 Location: Sec. 17 Twp 12s Rge. S3W Co. Logan State KS

Interval Tested 4286-4310 Zone Tested LKC 5
 Anchor Length 24' Drill Pipe Run 4152 Mud Wt. 9.2
 Top Packer Depth 4281 Drill Collars Run 120 Vis 67
 Bottom Packer Depth 4286 Wt. Pipe Run Ø WL 7.2
 Total Depth 4310 Chlorides 2500 ppm System LCM 1#

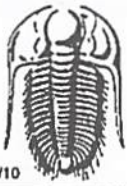
Blow Description MIS-RUN

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>MUD</u>				
Rec	Feet of				
Rec	Feet of				
Rec	Feet of				

Rec Total _____ BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2117 Test 1150 T-On Location 2345 4/02
 (B) First Initial Flow MF Jars 250 T-Started 0022
 (C) First Final Flow FS Safety Joint 75 T-Open 0222
 (D) Initial Shut-In RUN Circ Sub 1/1c T-Pulled 0245
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 0358
 (F) Second Final Flow _____ Mileage 100 100 Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 2103 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1575
 Sub Total 1575 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65211**

Well Name & No. Clark Ochs #1-17 Test No. 5 Date 4/03/2019
 Company Hurtman Oil Co Inc Elevation 3152 KB 3147 GL
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, KS 67206
 Co. Rep / Geo. Kit Noah Rig WW10
 Location: Sec. 17 Twp 12S Rge. 32W Co. Logan State KS

Interval Tested 4284-4310 Zone Tested LKC J
 Anchor Length 26' Drill Pipe Run 4157 Mud Wt. 92
 Top Packer Depth 4279 Drill Collars Run 120 Vis 67
 Bottom Packer Depth 4284 Wt. Pipe Run Ø WL 88
 Total Depth 4310 Chlorides 2500 ppm System LCM 14

Blow Description IF 6" blow
TSI no return.
FF 5" blow
FSI no return.

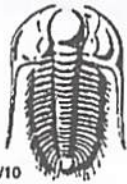
Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>ncw</u>		<u>85</u>	<u>15</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>oil spikes in tool</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 180 BHT 120 Gravity — API RW 153 @ 53 °F Chlorides 66,000 ppm
 (A) Initial Hydrostatic 2130 Test 1300 T-On Location 0400
 (B) First Initial Flow 18 Jars 250 T-Started 0411
 (C) First Final Flow 72 Safety Joint 75 T-Open 0537
 (D) Initial Shut-In 1037 Circ Sub 4/c T-Pulled 0907
 (E) Second Initial Flow 76 Hourly Standby _____ T-Out 1046
 (F) Second Final Flow 99 Mileage 100 Comments _____
 (G) Final Shut-In 1021 Sampler _____
 (H) Final Hydrostatic 2111 Straddle _____

Initial Open 45 Shale Packer 250 EM Tool _____
 Initial Shut-In 60 Extra Packer _____ Ruined Shale Packer _____
 Final Flow 45 Extra Recorder _____ Ruined Packer _____
 Final Shut-In 60 Day Standby _____ Extra Copies _____
 Sub Total 1875 Accessibility _____ Sub Total 0
 Total 1875 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65212

Well Name & No. Clark Ochs # 1-17 Test No. 6 Date 4/04/2019
 Company Hartman Oil Co, Inc Elevation 3152 KB 3/45 BGL
 Address 10500 E Bekely Sq Hwy Ste 100 Wichita, Ks 67206.
 Co. Rep / Geo. Kit Noah Rig WW #10
 Location: Sec. 17 Twp 12s Rge. 32w Co. Logan State Ks

Interval Tested 4583 4650 Zone Tested F. Johnson
 Anchor Length 67 Drill Pipe Run 4443 Mud Wt. 9.7
 Top Packer Depth 4578 Drill Collars Run 120 Vls 57
 Bottom Packer Depth 4583 Wt. Pipe Run 0 WL 77
 Total Depth 4650 Chlorides 4000 ppm System LCM 1#
 Blow Description IF BOB @ 4 1/2 min. Built to 66"
ISI BOB return @ 27 min. Built to 13"
FF BOB @ 12 min. Built to 31"
ISI 10" return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>200</u>	<u>60</u>	<u>20</u>	<u>80</u>		
<u>370</u>	<u>G.M.C.O</u>	<u>30</u>	<u>45</u>		<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 570 BHT 122 Gravity 28 API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2304 Test 1300 T-On Location 1645
 (B) First Initial Flow 75 Jars 250 T-Started 17:15
 (C) First Final Flow 190 Safety Joint 75 T-Open 19:00
 (D) Initial Shut-In 350 Circ Sub 4/c T-Pulled 22:15
 (E) Second Initial Flow 197 Hourly Standby — T-Out 0042
 (F) Second Final Flow 240 Mileage 100 R + 2 100+100 Comments —
 (G) Final Shut-In 363 Sampler —
 (H) Final Hydrostatic 2287 Straddle —
 Shale Packer 250 EM Tool —
 Extra Packer — Ruined Shale Packer —
 Extra Recorder — Ruined Packer —
 Day Standby — Sub Total 0
 Accessibility — Total 2075
 Sub Total 2075 MP/DST Disc't —

Approved By _____ Our Representative [Signature]
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Conservation Division
266 N. Main St., Ste. 220
Wichita, KS 67202-1513



Phone: 316-337-6200
Fax: 346-337-6211
<http://kcc.ks.gov/>

Dwight D. Keen, Chair
Shari Feist Albrecht, Commissioner
Susan K. Duffy, Commissioner

Laura Kelly, Governor

August 06, 2019

Chris Peters
Hartman Oil Co., Inc.
10500 E BERKELEY SQ PKWY STE 100
WICHITA, KS 67206-6816

Re: ACO-1
API 15-109-21569-00-00
CLARK/OCHS 1-17
SW/4 Sec.17-12S-33W
Logan County, Kansas

Dear Chris Peters:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 03/28/2019 and the ACO-1 was received on August 06, 2019 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department