

Johnson County, KS
 Well: 2-1
 Lease Owner: Thomas C

TDR Construction, INC.
 (913) 837-8400

Commenced Spudding:
 12/19/2018

WELL LOG

Thickness of Strata	Formation	Total Depth
0-14	soil-clay	14
5	lime	19
4	shale	23
15	lime	38
6	shale	44
9	lime	53
9	shale	62
16	lime	78
10	shale	88 redbed
8	sand	96 no oil
78	lime	174
31	shale	205
9	lime	214
19	shale	233
8	lime	241
3	shale	244
9	lime	253
34	shale	287
1	lime	288
9	shale	297
27	lime	324
5	shale	329
25	lime	354
3	shale	357
5	lime	362
4	shale	366
8	lime	374 Hertha
172	shale	546
4	lime	550
2	shale	552
4	lime	556
5	shale	561
7	lime	568
17	shale	585
3	lime	588
8	shale	596
9	lime	605
134	shale	739
2	lime	741
90	shale	831

Short Cuts

TANK CAPACITY

BBLs. (42 gal.) equals $D^2 \times 14 \times h$

D equals diameter in feet.

h equals height in feet.

BARRELS PER DAY

Multiply gals. per minute x 34.2

HP equals BPH x PSI x .0004

BPH - barrels per hour

PSI - pounds square inch

TO FIGURE PUMP DRIVES

* D - Diameter of Pump Sheave

* d - Diameter of Engine Sheave

SPM - Strokes per minute

RPM - Engine Speed

R - Gear Box Ratio

*C - Shaft Center Distance

D - $RPM \times d$ over $SPM \times R$

d - $SPM \times R \times D$ over RPM

SPM - $RPM \times D$ over $R \times d$

R - $RPM \times D$ over $SPM \times d$

BELT LENGTH - $2C + 1.57(D + d) + \frac{(D-d)^2}{4C}$

* Need these to figure belt length

TO FIGURE AMPS: $\frac{WATTS}{VOLTS} = AMPS$

746 WATTS equal 1 HP

Log Book

Well No. 2-1

Farm Thomas C

KS Johnson
(State) (County)

14 14 22
(Section) (Township) (Range)

For ST Petroleum inc
(Well Owner)

15-091-24500

Town Oilfield Services, Inc.

1207 N. 1st East
Louisburg, KS 66053
913-710-5400

Thomas C Farm: Johnson County

KS State; Well No. 2-1

Elevation 1032

Commenced Spuding 12-19 20 18

Finished Drilling 12-21 20 18

Driller's Name Wesley Dollard

Driller's Name Ryan Wood

Driller's Name _____

Tool Dresser's Name _____

Tool Dresser's Name _____

Tool Dresser's Name _____

Contractor's Name FOS
14 14 22

(Section) (Township) (Range)
Distance from 5 line, 2160 ft.
Distance from E line, 4830 ft.

4 sacks
10 hrs
5 5/8 corehole
2 7/8 casing

CASING AND TUBING RECORD

10" Set _____ 10" Pulled _____
8" Set _____ 8" Pulled _____
6 1/2" Set 21 6 1/2" Pulled _____
4" Set _____ 4" Pulled _____
2" Set _____ 2" Pulled _____

CASING AND TUBING MEASUREMENTS

Feet	In.	Feet	In.	Feet	In.
896		Baffle		2 7/8	
925		Float			
940		T.D.			

Thickness of Strata	Formation	Total Depth	Remarks
0-14	soil - clay	14	
5	Lime	19	
4	Shale	23	
15	Lime	38	
6	Shale	44	
9	Lime	53	
9	Shale	62	
16	Lime	78	
10	Shale	88	
8	sand	96	red bed
78	Lime	174	no oil
31	Shale	205	
9	Lime	214	
19	Shale	233	
8	Lime	241	
3	Shale	244	
9	Lime	253	
34	Shale	287	
1	Lime	288	
9	Shale	297	
27	Lime	324	
5	Shale	329	
25	Lime	354	
3	shale	357	
5	Lime	362	
4	Shale	366	
8	Lime	374	Hertha

374

Thickness of Strata	Formation	Total Depth	Remarks
172	Shale	546	
4	Lime	550	
2	Shale	552	
4	Lime	556	
5	Shale	561	
7	Lime	568	
17	Shale	585	
3	Lime	588	
8	Shale	596	
9	Lime	605	
134	Shale	739	
2	Lime	741	
90	Shale	831	
2	limy sand	833	good oil show
8	sand	841	solid - good saturation
99	Shale	940	TD



PRESSURE PUMPING LLC
 PO Box 884, Chanute, KS 66720
 820-431-8210 or 800-467-8676

12243

12119

TICKET NUMBER 55561

LOCATION Doyawa, KS.

FOREMAN Jim Green

FIELD TICKET & TREATMENT REPORT
 CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-21-18	7532	Thomas C #2-1	SW 1/4	17	28	JO
CUSTOMER			TRUCK #			
ST Petroleum			669	Jim Green		
MAILING ADDRESS			467	Ken Car		
18800 Sunflower Rd			675	Ken Car		
CITY			548	Cus Ken		
Edgerton						
STATE						
KS						
ZIP CODE						
66021						

JOB TYPE Long string HOLE SIZE 5 3/8 HOLE DEPTH 990 CASING SIZE & WEIGHT 2 7/8" EWE
 CASING DEPTH 1925 DRILL PIPE 8 3/4" TUBING _____ OTHER _____
 SLURRY WEIGHT _____ SLURRY VOL _____ WATER gal/ek _____ CEMENT LEFT in CASING _____
 DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Held safety meeting. Mix and pump 4 gal rub flush hole. Mix and pump 1275k Poz Blend I/A with 270 Gal 4/4" F10-seal. Circulated cement + surface flush pump clear of cement. Pump 2 3/8" rubber plug to total depth of casing. Pressure up to 800 PSI well held good, set plug.

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE	467	1500
CE0002	30	MILEAGE	467	214.50
CE0711	min	Cement Ton Mileage	548	660
WE0853	2 HRS	VAL TK.	675	260
				2574.50
		Less = 40%		1029.80
				1544.70
CC5840-A1028	127sk	Poz-Blend I/A Cement		1714.50
CC5965	415#	Gal		123.90
CC6075	32"	F10-Seal		64.00
CP8176	1	2 3/8" Rubber Plug		45.00
				1947.40
		Less = 40%		778.96
				1168.44
				7.975%
		SALES TAX		93.18
		ESTIMATED TOTAL		2806.36
				(4672.21)

AUTHORIZATION [Signature] TITLE Inspector DATE 12-21-18
 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 (QES) (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 contracts@qes.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 includes applicable taxes or permits/ license fees. Customer shall pay all applicable taxes and process/ permit fees related to the Services and 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 1.5% 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 their acceptance of the Services or Products.

4. **Ownership of Materials.** 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 delivery in delivering goods. In case of strike, labor or other business or equipment outage, it is the Customer's responsibility to secure work-around/shipment from the carrier before Customer accepts delivery. Additionally, QES will not be liable for any damage or delays in delivery of materials due to a force majeure (as defined herein), acts or omissions of the Customer, third party material or manufacturing errors, impossibility or imperfect quality of performance by 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 of 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 a fit and proper site to receive and accommodate Services and Products. Upon QES' request, Customer will provide documentation to verify that the well or service site is acceptable to receive 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. **Material Handling and Hazardous Materials.** Customer agrees that for any waste created as part of the Services, Customer will be responsible for the generation, packaging of any applicable laws or regulations pertaining to the transportation, storage and handling of hazardous materials.

7. **Confidentiality, Data Transmission and Storage.** QES does not warrant or guarantee the accuracy of any records or analysis, history 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, but not limited to, back-up, digital or paper copies for storage.

8. **WARRANTIES, LIMITATION OF REMEDY.** QES warrants that the Services and Products will (a) be free from defects in materials and workmanship (b) be performed in a good and workmanlike manner, in accordance with good oil field service practices and in conformity with the plans, specifications and technical information provided in writing by Customer, until the Services or Products are accepted by Customer or QES' written acceptance or (c) meet 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 shall (a) repair, (b) replace or (c) refund the purchase price of such Services or Products up to the amount of QES' or (d) a credit to Customer for the labor or paid by Customer for the defective shipment of the Services or Products upon their return to QES. In a case of products or parts not suitable of QES' manufacture, QES' liability will be limited to the extent of the necessary time for manufacturing of such products or parts under delivery 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 delivery, use, loss, or other claim, inherent, incidental, punitive or consequential damages of any kind. QES will not be responsible for the loss of benefits that have been lost in any way (temporarily or otherwise) by anyone other than an authorized representative of QES. (g) Injuries due to loss of production with recommended remediation procedures and to prevent or reduce environmental due to normal wear and tear.

9. 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.

10. 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 purposes of this section 9, the following definitions will apply: QES Group means QES Pressure Pumping LLC, its parent, subsidiaries and affiliate companies and its and their officers, directors, employees, contractors, subcontractors and affiliates. QES Group, and its Customer, its parent (if any), subsidiary and affiliated companies, contractors, subcontractors, partners and any entity with whom Customer has an economic interest with respect to the Services, including Customer's parent, indirect owners and partners and its and their officers, directors, employees, contractors and including QES, subcontractors and affiliates.

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: (A) LOSS OR DAMAGE TO ANY GEOLOGICAL FORMATION, STRATA, OR OIL OR GAS RESERVOIR, OR MINERAL OR WATER RESOURCES BENEATH THE SURFACE OF THE LAND OR WATER; (B) LOSS OR DAMAGE TO THE HOLE OR WELL; (C)

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 HEREOF, 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 herunder agrees to support as 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 WILL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT

11. **Assignment.** All insurance policies of either Party in any way related to the Services, whether then required by the Agreement, shall be the asset of the insured facilities assumed by such party, or made the other party group's and shall not be subject to either's compensation, QES' QES' or professional liability policies. (b) waive subrogation to the other party group and to the primary and secondary liability to any insurance of the other party group.

11. **Force Majeure.** Except for the obligation to make payments when due by the QES or Customer will be held liable or deemed to be in breach of this Agreement if any delay or failure, or a combination of resulting from the acts of God, civil or military authority, national change of law, any governmental action, acts of public enemy, war, insurrection, riot, explosion, strike, labor, strike, failure of transportation, railroads, strikes, strike of national labor, national or equipment shortages, or any similar or dissimilar cause beyond the reasonable control of either party. The Party so affected, or, as soon as such a cause or event occurs promptly notify the other Party in writing concerning the basis and the extent of the delay and take reasonable measures with proper respect 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, or as a consequence of force majeure occurrence, unless Customer terminates the work order or work resumes.

12. **Governing Law.** This Agreement will be governed by the laws of the State of Texas with respect to its conflicts of law provisions. The Parties agree to submit to the venue, jurisdiction and control of state courts located in Houston, Harris County, Texas with respect to any and all disputes that arise out of or result in any way from this Agreement. This Section 12 will survive the termination or expiration of this Agreement.

13. **Independent Contractor.** QES will be an independent contractor, as evidenced by the Services performed, and neither QES nor anyone employed by QES will be deemed to be an agent or servant 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 with the remaining terms as modified and remain in full force and effect.

15. **Waiver.** A waiver by the Party of either Party of any breach of any term, condition or condition of any Agreement will not constitute a release of that Party and shall be limited to a waiver of any subsequent 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 oral or written agreements, understandings, representations or warranties between the Parties relating to the subject matter hereof. The termination of this Agreement will be effective as to all parties and shall not be subject to any subrogation of such Party. This Agreement shall be a Master Service Agreement that any term or condition herein which conflicts with the terms of any other Master Service Agreement will be deemed null and void.