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

Operator: License # 32693	API No. 45 - 159-22469-0000
Name: Hawkins Oil, L.L.C.	County
Address: 427 S. Boston Avenue, Suite 915	C W/2 SE NE Sec. 20 Twp19S S. R. 9 East X West
City/State/Zip: Tulsa, Oklahoma 74103-4114	feet from S / (N) (circle one) Line of Section
Purchaser: National Cooperative Refinery Assn.	990 feet from (E) W (circle one) Line of Section
Operator Contact Person: James F. Hawkins, Jr.	Footages Calculated from Nearest Outside Section Corner:
Phone: ( <u>918</u> ) <u>382-7743</u>	(circle one) NE SE NW SW
Contractor: Name: C & G Drilling, Tim Gulick	Lease Name: Habiger Well #: C3
License: 32701	Field Name: Chase-Silica
Wellsite Geologist: Paul Ramondetta	Producing Formation: <u>Arbuckle</u>
Designate Type of Completion:	Elevation: Ground: 1720 Kelly Bushing: 1728
X New Well Re-Entry Workover	Total Depth: 3251 Plug Back Total Depth: 250
X Oil SWD SIOW Temp. Abd.	Amount of Surface Pipe Set and Cemented atFeet
Gas ENHR SIGW	Multiple Stage Cementing Collar Used?
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth setFee
If Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated fromNA
Operator:	feet depth to
Well Name:	ALT I WHM 8-24-06
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)
DeepeningRe-perfConv. to Enhr./SWD	Chloride content 9000 ppm Fluid volume 200 bbls
Plug Back Plug Back Total Depth	Dewatering method used Sun dry and close
Commingled Docket No	
Dual Completion Docket No	Location of fluid disposal if hauled offsite:
Other (SWD or Enhr.?) Docket No	Operator Name: Hawkins Oil, L.L.C.
9-1-05 9-27-05	Lease Name: License No.32693
Could Date	Quarter Sec TwpS. R East West
Recompletion Date    Completion Date	County: Docket No.:
700 700000	
INSTRUCTIONS: An original and two copies of this form shall be filed with Kansas 67202, within 120 days of the spud date, recompletion, workove Information of side two of this form will be held confidential for a period of 1 107 for confidentiality in excess of 12 months). One copy of all wireline logs TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells.	r or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. 2 months if requested in writing and submitted with the form (see rule 82-3-and geologist well report shall be attached with this form. ALL CEMENTING
All requirements of the statutes, rules and regulations promulgated to regula nerein are complete and correct to the dest of my knowledge.	te the oil and gas industry have been fully complied with and the statements
Signature:	KCC Office Use ONLY
Fitte: President Date: 7-19-100112	( J. B4 K. NO Letter of Confidentiality Attached
Subscribed and sworn to before me this 19th day of July Milder	OTAR If Denied, Yes Date:
/	02003996 Wireline Log Received RECEIVED
(RAAA) BARAN EXE	04/13/10 E S Geologist Report Received
Notary Public: Allly G & Nathr = 0	UIC Distribution SCC WICHTA
Date Commission Expires: 04-13-10	F OKL NICHTA
	William ACC WICHITA

Operator Name:	Hawkins	Oil, LLC	Lease Name:.	Habige	r Co	Well #:	C-3
Sec. 20 Twp.	<u>19</u> s. a. <u>9</u>	☐ East 🏋 West	County:	Rice			-
tested, time tool ope temperature, fluid re	en and closed, flowing covery, and flow rate	and base of formations pog g and shut-in pressures, as if gas to surface test, a final geological well site	whether shut-in prolong with final cha	essure reached	static level, hydros	tatic pressui	res, bottom hole
Drill Stem Tests Take		Yes No		og Format	ion (Top), Depth an	d Datum	Sample
Samples Sent to Ge	eological Survey	Yes No	Nan	ne		Тор	Datum
Cores Taken		Yes No					
Electric Log Run (Submit Copy)		🔀 Yes 🗌 No				•	
List All E. Logs Run:	:						
		CACINO	DECORP				
		CASING Report all strings set-c		ew Used ermediate, produc	ction, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacjs Used	Type and Percent Additives
1		8-5/8 Surface	28#	250'	Class A	165	3%cc 2% gel
		Prod. 5-1/2	14.0#	3249 <b>'</b>	Quick Set	100	
		ADDITIONAL	CEMENTING / SQI	JEEZE RECORI	D		
Purpose: Perforate	Depth Top Bottom	Type of Cement	#Sacks Used		Type and Pe	rcent Additives	3
Protect Casing Plug Back TD Plug Off Zone							
Shots Per Foot		ON RECORD - Bridge Plug Footage of Each Interval Per			acture, Shot, Cement S		rd Depth
6	3240 to 3	248		23 gram	shaped ch	2200	
		<u>~ + V</u>		23 gram	snapeu cn	arge	3251'
TUBING RECORD	Size	Set At	Packer At	Liner Run	Yes No	770 3	
2-3/8  Date of First, Resumerd Production, SWD or Enhr. Producing Method							
			Flowing	g X Pumpi	ng Gas Lift	Oth	er (Explain)
Estimated Production Per 24 Hours	Oil	Bbls. Gas I	Mcf Wate	er E	lbis. Ga	s-Oil Ratio	Gravity
Disposition of Gas METHOD OF COMPLETION Production Interval							
Vented Sold	Used on Lease	Open Hole		Dually Comp.	Commingled		
(If vented, Sumit ACO-18.) Other (Specify)							

GL: 1720

KB: 1728

All depths measured from KB

#### PAUL RAMONDETTA

Well Site Geologist PO Box 782351 Wichita, Kansas 67278

#### GEOLOGICAL REPORT

OPERATOR: Hawkins Oil, L.L.C.

WELL NAME: Habiger C#3

FIELD: Chase-Silica

LOCATION: W/2 SE NE SEC 20-19S-9W

Rice County, Kansas

Surface Casing: 8 5/8" @ 250 feet Production Casing: 5 ½" @ 3251 feet Logs: Cased hole gamma-ray neutron only

Contractor: C&C Drilling, Rig #2

Spud: August 31, 2005 Completed: September 24, 2005

#### FORMATION TOPS

	Sample/ Drill Time	E Log	Datum
Heebner		2748	-1020
Brown Lime	2869	2871	-1143
Lansing	2894	2896	-1168
B/ Kunsas City	3167	3169	-1441
Conglomerate	3224		
Arbuckie	3236	3239	-1511

RTD 3251

Samples begin @ 2950'

Two LKC zones contained slight to fair shows of oil that should be tested prior to abandonment of the well.

Top of cement is @ 2420 feet.

Log depths

Lansing-Kansas City

Limestone, white-cream, colitic grainstone, excellent porosity with a good drill break, 2980-2994 sporty stain and fluorescence with abundant barren porosity, faint odor, trace free oil, no free oil toward base of zone, likely wet.

Limestone, cream, excellent collicastic porosity, 20% fluorescence, no visible stain, no 3048-3054 free oil.

Arbuckle

3239-3244 Dolomite, fine crystalline, sucrosic with poor intercrystalline porosity, faint odor, grey chert.

3244-3247 Dolomite, fine crystalline, sucrosic, hard, siliceous, grey chert...

3247-3251 Dolomite, fine to medium crystalline, friable, scattered rhombic-vugular porosity, drill break, show of live free oil, odor and fluorescence, colitic chert, less oil at base.

DST#1 (Arbuckle) 3237-3251, 30-45-45-60, recovered 2400' total fluid: 30' clean oil, 1030' O&MCSW, 1340' salt water. IFP 72-609 FFP622-984, SIP 1094-1094.

The well was perforated 3240-3248 natural in an effort to isolate the upper oil zone from bottom water, but it is now pumping 300 BFPD with roughly 1% oil cut. It is recommended to squeeze and try again.

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 Operator:
 Hawkins Oil, L.L.C.
 1980' FNL & 990' FEL
 3275' Arbuckle

 Habiger C #3
 Sec 20-19S-R9W
 API# 159-22469-0000

 C&G Drilling-Rig #2
 Rice County, Kansas
 GL 1720' - KB 1728'

<u>09/01/05:</u> Drilling at 275'. MIRU C&G Drilling. Spud well at 1:00 P.M. Drilled 260' of surface hole. Set 250' of 8-5/8" 28# surface pipe. MIRU Allied Cementing. Cemented surface with 165 sx 3% cc; 2% gell Class A cement. Good returns to surface.

Drilling ahead at 1435'. Directional Survey run at 571' – ¼ degree; 1011' – ½ degree. Drilling on native mud. Will shut down this afternoon and COOH. Resume drilling on Tuesday at 7:00 A.M.

<u>09/06/05:</u> Drilling ahead at 2078'. Shut down Friday at 1544'. Directional Survey at 1544' – ¾ degree. Back to drilling on native mud at 9:00 A.M. on 9/06/05.

<u>09/07/05:</u> Drilling ahead at 2548'. Preparing to mud up. Directional Survey at:  $2078' - \frac{3}{4}$  degree –  $\frac{7}{8}$  degree;  $\frac{2514' - \frac{3}{4}}{4}$  degree.

<u>09/08/05:</u> Drilling ahead at 2893'. Mud weight at 9.1; viscosity 40. Penetration rate 15' per hour.

<u>09/09/05:</u> Drilling ahead at 3184'. Directional Survey at 3109' – 7/8 degree. Viscosity 45; weight 9.1; water loss 10.4. Penetration rate at 10' per hour.

<u>09/10/05:</u> Preparing to run 5½" production casing. Top of Aruckle at 3236' (-1508). Cut 15' of Arbuckle to 3251' (-1523). Ran DST #1 from 3236' to 3251'. Open tool 30 minutes; shut in 30 minutes; open 45 minutes; shut in 60 minutes. Received 2500' of fluid – 2% oil.

Ran 3249' of 5½" 14# casing on cement float shoe. MIRU Allied Cementing cemented casing with 100 sx "quick set" cement. Lowered casing 1'; set slips. Released rig at 3:30 P.M. RDMO C&G Drilling.

MIRU Plains, Inc. GIH with 5½" casing swab. Swab well down to 2400'. MIRU Log Tech. GIH with 8' gun loaded with 4 shots per foot of 23 gram shots. Found new T.D. at 3528'...23' of scale fill up. COOH with gun. RDMO Log Tech. GIH with drag bite, scraper and 105 joints of 2-7/8" tubing. Tag new T.D., pull up one joint. SDFN. Preparing to clean out casing to original T.D. of 3251' and perforate Arbuckle.

MIRU power swivel and water pump. Reverse circulate out scale to rubber plug. Circulate hole clean. COOH with 105 joints of 2-7/8" tubing and drilling assembly. Casing swab well down to 2400'. MIRU Log Tech. Perforate Arbuckle from 3240' to 3248' with 6 shots per foot using 23 gram shaped charges. T.D. at 3251'. GIH and mark T.D. on swab line. GIH with 5-1/2" casing swab. Found fluid level at 2400'. No fluid entry after perforating. Swabbed well dry – no fluid entry, let sit 30 minutes, received 300' of fluid. Slight show of gas cut oil and water. SION at 3:30 P.M.

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#### Habiger C #3 Drilling Report page 2

<u>09/26/05:</u> 800' down to fluid - 50' of oil in hole. Swabbed it down to T.D. with three 30 minute intervals -300' of fluid every 30 minutes. SDFN. 360' of fluid per day -3-5% oil.

09/27/05: 750' down to fluid 50' of oil. Ran mud anchor 12' barrel 3231' of 2-7/8" tubing. Ran 2¼" valve on ¾" rods. Well would not pump. Pulled rods and found rubber cuttings from swab cups in valve. Cleaned out rubber and ran back in hole. Waiting on production.

10/04/05: Trenching for lead and electric line installation and repairing tail bearing on pumping unit.

11/02/05: Finished repairing tail bearing and POP. All water first day. SS oil second day.

11/04/05: Well pumping 310 barrels, less than 1% oil; 3 bo/d and not pounding fluid.

**12/02/05:** Shot fluid level. 54 joints or 1674' down to fluid.

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Operator:

Hawkins Oil, LLC. Habiger "C" 3

Well: Dst No:

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Comments relative to analysis of the data obtained from the drill stem test that was run in the Arbuckle formation by Diamond Testing.

This analysis is based upon the liquid recovery and equations applicable to liquid recovery tests. It has been reported that the tested reservoir system consisted of a single porosity zone 15 feet in thickness with an average porosity of 15 percent. A late time slope equivalent to approximately—1 is revealed on the diagnostic plots. This type of flow regime may be indicative of a partially penetrated reservoir system and/or to the presence of a constant pressure boundary causing hemispherical flow. A vertical water-well model was used for type curve matching and non-linear regression analysis.

The semi-log plots indicate a maximum initial reservoir pressure of 1103 psi and a maximum final reservoir pressure of 1103 psi, which is equivalent to a subsurface pressure gradient of 0.340 psi/ft at gauge depth.

The Average Production Rates, which were used in this analysis, have been calculated from analysis of the flow pressure curves using a liquid gradient for the recovered water of 0.438 psi/ft and a liquid gradient for the recovered oil of 0.347 psi/ft.

The calculated Skin Factors indicate significant well-bore damage was present at the time of this formation test.

The evaluation criteria used in the drill stem test analysis system indicate this is a good mechanical test and the results obtained in this analysis should be reliable within reasonable limits relative to the assumptions which have been made.

Michael Hudson Reservoir Analyst (888) 389-8389



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# Drill Stem Test - Buildup Radial Flow Analysis

Hawkins Oil LLC Habiger "C" 3, Dst 1

# **Analysis Results**

Total Sandface Rate (q <sub>i</sub> B <sub>t)</sub>	215.340 bb/d	Apparent Skin
Semilog Slope (m)	1,41	Skin - Damag
Water Permeability (kw)	979.575 md	Pressure Drop
Oil Permeability (k <sub>0</sub> )	41.902 md	Damage Ratio
Flow Capacity (kh)	14693.626 md.ft	Flow Efficienc
Total Mobility (k/p4)	1658.96 md/cp	- contra managemental series
Total Transmissivity(kt/µ)	24884.40 md.ft/cp	

# Fluid Properties

Water Compressibility (c <sub>W</sub> )	3.06554e-6 psi-1
Water Formation Volume Factor (B <sub>W</sub> )	1.006
Water Viscosity (µw)	0.608cp
Solution Gas Ratio (R <sub>sw</sub> )	0 scl/bbl
Specific Gravity (G)	1.000
Gas Gravity (G)	0.650
PVT Reference Pressure (ppv7)	1102.05 psi

#### **Pressures**

Initial Pressure (p <sub>i</sub> )	1102.05 psi
Extrapolated Pressure (p*)	1102.60 psi
Final Flowing Pressure (Pwfo)	990.93 nsi

Apparent Skin (s')	83.679
Skin - Damage	83,679
Pressure Drop Due to Skin (Aps)	102.32 psi
Darnage Ratio (DR)	12.626
Flow Efficiency (FE)	0.079

# Reservoir Parameters

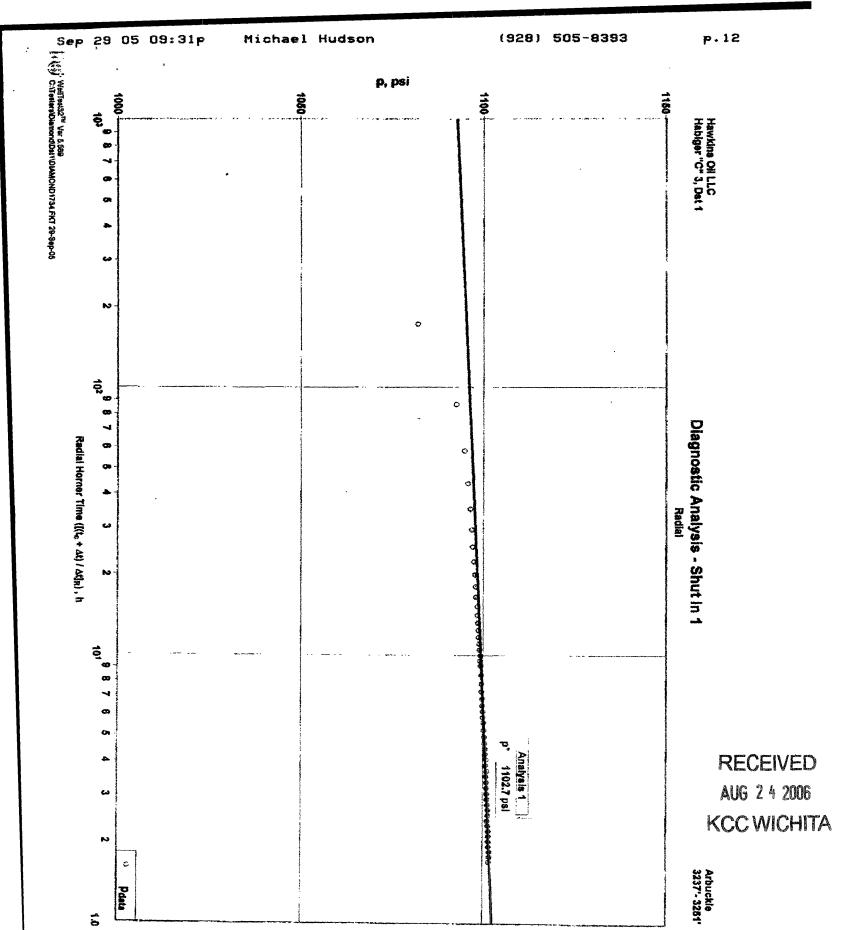
•	
Net Pay (h)	15.000 ft
Total Porosity ( $\phi_t$ )	15.00%
Water Saturation (Sw)	35.00%
Oil Saturation (So)	65.00 %
Gas Saturation (Sg)	0.00%
Wellbore Radius (r <sub>w</sub> )	0.33 ft
Formation Temperature (T)	113.8°F
Formation Compressibility (c <sub>f</sub> )	4.109e-6 psi
Total Compressibility (c <sub>t</sub> )	1.621e-5 psi <sup>-1</sup>

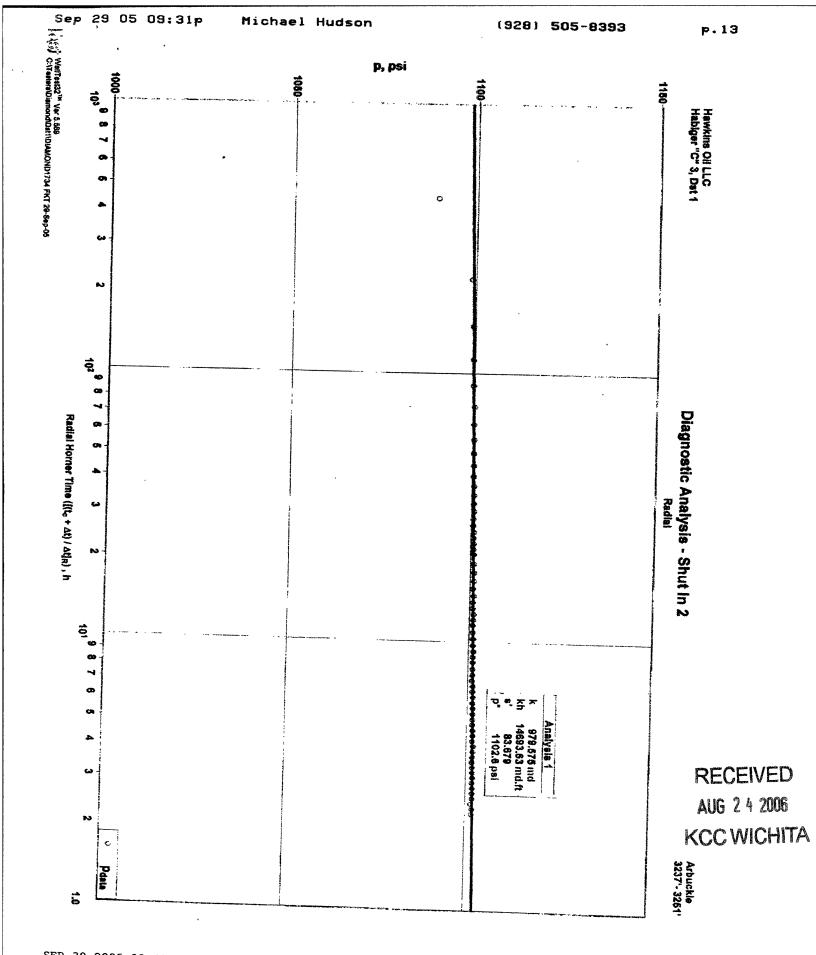
# **Production and Times**

Corrected Flow Time (t <sub>C</sub> )	1.2361 hr
Cumulative Water Production During Test	10.718bb
Final Water Rate	208.100 bbild
Cumulative Oil Production	0.263 bbl
Final Oil Rate	5.100 bbl/d

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1665.04 md/cp 24975.63 md.ft/cp

# **Vertical Water Well Model**

Hawkins Oil LLC Habiger \*C\* 3, Dst 1

#### **Model Parameters**

Water Permeability (k <sub>w</sub> )	983.166 md	Total Mobility (k/pa);
Oil Permeability (k <sub>o</sub> )	42.055 md	Total Transmissivity (kh/µ),
Skin (s)	84.027	
Wellbore Storage Constant Dim. (CD)	21.88	Production and

# **Formation Parameters**

Net Pay (h)	
	15.000 ft
Total Porosity (+t)	15.00%
Water Saturation (Sw)	35.60%
Oil Saturation (So)	65.00%
Gas Saturation (Sg)	0.00%
Wellbore Radius (r <sub>W</sub> )	0.33ft
Formation Temperature (T)	113.8*F
Formation Compressibility (c <sub>f</sub> )	4.109e-6 psi <sup>-1</sup>
Total Compressibility (c <sub>i</sub> )	1.621e-5 psi-1

#### **Forecasts**

Forecast Flowing Pressure (Pflow)	990.93 psi
3 - Month Constant Rate Forecast @ Curr. Skin	208.001 bbl/d
6 - Month Constant Rate Forecast @ Curr. Skin	208.002 bbl/d
Forecast Flow Duration (t <sub>flow</sub> )	12.00 month
Constant Rate Forecast @ Curr. Skin	208.001 bb/d
Pi / II (Actual)	1.919 bbl/d/psi
Constant Rate Forecast @ Skin=0	2626.552 bbl/d
PI / II (Ideal)	
Constant Pata Formani (5) (1)	24.233 bbl/d/psi
Constant Rate Forecast @ Skin=-4	5880.684 bbl/d

### Production and Pressure

Ole Olevini.
215.340 bbl/d
208.100 bbl/d
5.100 bbl/d -
990.93 psi
1101.93 psi
10.718bbl
0.263 bbl

# Synthesis Results

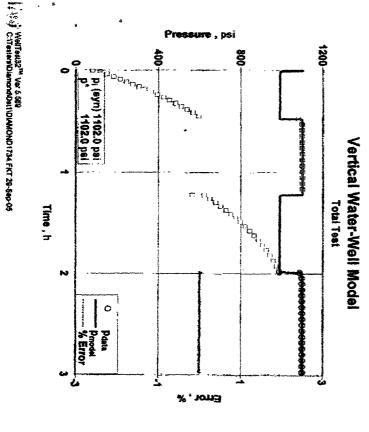
Average Error	-0.00%
Synthetic Initial Pressure (p <sub>i</sub> )	1101.97 psi
Extrapolated Pressure at Specified Time	1101.97 psi
Pressure Drop Due To Skin (Δp <sub>S</sub> )	102.30 psi
Flow Efficiency (FE)	0.078
Damage Ratio (DR)	12,746

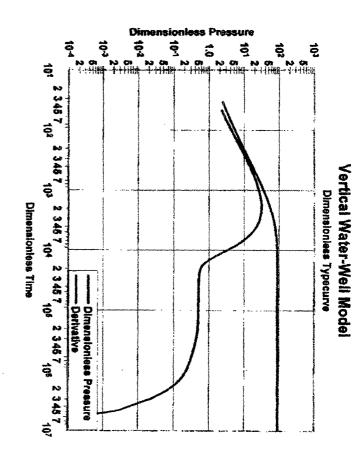
# Fluid Properties

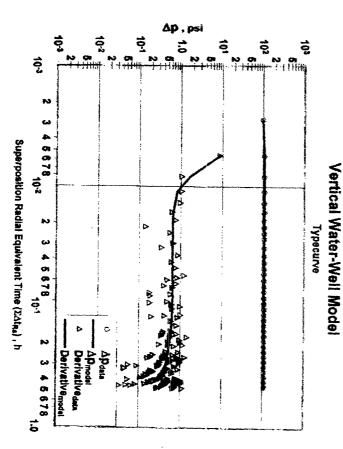
Water Compressibility (cw)	3.06554e-6 psi <sup>-1</sup>
Water Formation Volume Factor (B <sub>W</sub> )	1.006
Water Viscosity (µ <sub>W</sub> )	0.608 cp
Solution Gas Ratio (R <sub>SW</sub> )	0 scf/bbt
Specific Gravity (G)	1.000
PVT Reference Pressure (ppvT)	1102.05 psi

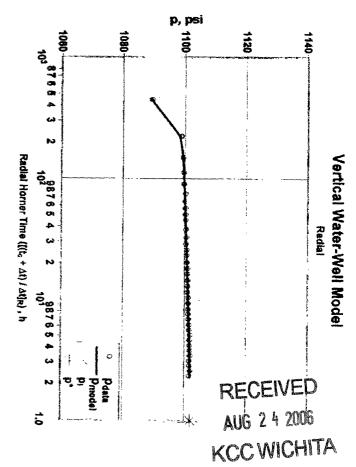
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# REMIT TO P.O. BOX 31 RUSSELL, KANSAS 67665 REMIT TO P.O. BOX 31 RUSSELL, KANSAS 67665

RUSSELL, KANSAS 67665				•	SDIC	Mrs	* Bond
DATE 9-11-05	SEC.	TWP.	RANGE 9w	CALLEDOUT	ON LOCATION	JOB START	JOB FINISH
LEASE Habigur	WELL#	3	LOCATION Chas	5e JN/E 21	v us	COUNTY	STATE.
OLD OR NEW Cir	rcle one)						
CONTRACTOR	C+M	Drillin	19 Rig 2	OWNER			
TYPE OF JOB	Prod (	osiny					
HOLE SIZE	75,	<u>T.D.</u>	325/14	_ CEMENT	1 1000		
CASING SIZE	52	DEP'		_ AMOUNT O	RDERED / CO.	M 145C	
TUBING SIZE		DEP'			Hol Seal	500 Mal	Flush
DRILL PIPE		DEP'		**************************************			~ <del></del>
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To Allied Cementin			144	1-3- F/C		@ <b>Z63.</b> ø	
You are hereby requ	iested to r	ent cemen	iting equipment	<u> </u>		@ <i>_<b>S</b>08</i> 0	250.00
and furnish cemente	er and help	per to assi	st owner or			@	
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