KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1100821

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30259
Name: Werth, Andy dba Werth Exploration Trust
Address 1: 1308 SCHWALLER AVE
Address 2:
City: HAYS State: KS Zip: 67601 + 2242
Contact Person: Andy Werth
Phone: (785) 625-4968
CONTRACTOR: License # 34743
Name: White Knight Drilling LLC
Wellsite Geologist: Roger Moses
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [ ] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core, Expl., etc.)*:

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

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

10/29/2012	11/05/2012	12/06/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-065-23876-00-00
Spot Description:
SW - NE - NE - NE Sec. 3 Twp. 7 S. R. 22 [ ] East [x] West
360 Feet from [x] North / [ ] South Line of Section
395 Feet from [x] East / [ ] West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- [x] NE
- [ ] NW
- [ ] SE
- [ ] SW

County: Graham
Lease Name: Worcester Well #: 1-3
Field Name:
Producing Formation: Kansas City J
Elevation: Ground: 2235 Kelly Bushing: 2240
Total Depth: 3835 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 214 Feet
Multiple Stage Cementing Collar Used? [x] Yes [ ] No
If yes, show depth set: 1717 Feet
If Alternate II completion, cement circulated from: 1717
feet depth to: 1717 w/ 475 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 18000 ppm Fluid volume: 450 bbls
Dewatering method used: Evaporated

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

- [ ] **Letter of Confidentiality Received**
  Date:
- [ ] **Confidential Release Date:**
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** Deanna Garrison **Date:** 12/19/2012

Side Two

1100821

Operator Name: Werth, Andy dba Werth Exploration Trust Lease Name: Worcester Well #: 1-3

Sec. 3 Twp. 7 S. R. 22 ☐ East ☑ West County: Graham

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:

Radiation guard log
micro resistivity

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
surface	12.25	8.625	23	214	COM	160	
production	7.875	5.5	15.5	3835	EA2	145	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

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

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 01/06/2013

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Werth, Andy dba Werth Exploration Trust
Well Name	Worcester 1-3
Doc ID	1100821

Tops

Name	Top	Datum
Anhydrite	1876	+364
Base Anhydrite	1910	+330
Topeka	3238	-998
Heebner	3439	-1199
Toronto	3463	-1223
Lansing	3480	-1240
Base Kansas City	3671	-1431
Conglomerate	3726	-1486
Arbuckle	3775	-1535

ALLIED CEMENTING CO., LLC. 034673

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: RUSSELL

DATE 10-29-17	SEC. 3	TWP. 7	RANGE 22	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE WORCESTER	WELL # 1-3	LOCATION Hill City - 4E - 7N - 3/4E				COUNTY GRAHAM	STATE KS
OLD OR NEW (Circle one)		SOUTH INTO					

CONTRACTOR White Knight
TYPE OF JOB SURFACE
HOLE SIZE 12 1/4 T.D. 215
CASING SIZE 8 5/8 DEPTH 215
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15 FT
PERFS.
DISPLACEMENT 12.74 bbl

OWNER

CEMENT
AMOUNT ORDERED 160 sk 3% 2%

EQUIPMENT

PUMP TRUCK CEMENTER Bob S.
409 HELPER Kevin
BULK TRUCK
473 DRIVER Tony
BULK TRUCK
DRIVER

COMMON	160	@ 17.9	2864.00
POZMIX		@	
GEL	3	@ 23.46	70.38
CHLORIDE	6	@ 64.66	384.60
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING 169 sk		@ 2.45	413.21
MILEAGE 537.85 Tm x 26			1398.49

TOTAL 5146.77

REMARKS:

SERVICE

DEPTH OF JOB 215
PUMP TRUCK CHARGE 1512.25
EXTRA FOOTAGE @
MILEAGE Jersey 68 @ 7.7 523.60
MANIFOLD @
Ldv 68 @ 4.4 299.20
@

TOTAL 2335.05

CHARGE TO: WERTH EXPLORATION
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

ALLIED CEMENTING CO., LLC

Cementing & Acidizing Services

CEMENTING LOG

STAGE NO.

Date 10-27-12 District Russell Ticket No. 34673

Company WORTH ENERGY CORPORATION Rig Duke #11

Lease WORCESTER Well No. 1-1

County GRAHAM State KS

Location Hill City Field

CASING DATA: Conductor ☐ PTA ☐ Squeeze ☐ Misc ☐

Surface ☒ Intermediate ☐ Production ☐ Liner ☐

Size 8 5/8 Type _____ Weight 23 Collar _____

Casing Depths: Top 0 Bottom 215

Drill Pipe: Size _____ Weight _____ Collars _____

Open Hole: Size _____ T.D. _____ ft. P.B. to _____ ft.

CAPACITY FACTORS:

Casing:	Bbls/Lin. ft. .0637	Lin. ft./Bbl.		
Open Holes:	Bbls/Lin. ft.	Lin. ft./Bbl.		
Drill Pipe:	Bbls/Lin. ft.	Lin. ft./Bbl.		
Annulus:	Bbls/Lin. ft. .0637	Lin. ft./Bbl.		
	Bbls/Lin. ft.	Lin. ft./Bbl.		

Perforations: From _____ ft. to _____ ft. Amt. _____

CEMENT DATA:

Spacer Type _____

Amt. _____ Sks Yield _____ ft³/sk Density _____ PPG

LEAD: Pump Time _____ hrs. Type _____

Excess _____

Amt. 160 Sks Yield 1.34 ft³/sk Density 15.2 PPG

TAIL: Pump Time _____ hrs. Type _____

Excess _____

Amt. _____ Sks Yield _____ ft³/sk Density _____ PPG

WATER: Lead _____ gals/sk Tail _____ gals/sk Total _____ Bbls.

Pump Trucks Used 409

Bulk Equip. 423

Float Equip: Manufacturer _____

Shoe: Type _____ Depth _____

Float: Type _____ Depth _____

Centralizers: Quantity _____ Plugs Top _____ Btm _____

Stage Collars _____

Special Equip. _____

Disp. Fluid Type _____ Amt. _____ Bbls. Weight _____ PPG

Mud Type _____ Weight _____ PPG

COMPANY REPRESENTATIVE _____

CEMENTER Bob S.

TIME AM/PM	PRESSURES PSI: DRILL PIPE CASING	PRESSURES PSI: ANNULUS	FLUID PUMPED DATA: TOTAL FLUID	FLUID PUMPED DATA: Pumped Per Time Period	FLUID PUMPED DATA: RATE Bbls Min.	REMARKS
						On location
						R.U. to drilling
						R.U. to P.
						Drill to T.D.
						Run casing
						Circulate on bottom
						Pump cmt. 160 sk
						Pump plug
						Shut in casing
						Cement to surface
						R.D. derrick
						no plug

SWIFT Services, Inc.

CHARGE TO: Worth Exploration
ADDRESS:
CITY, STATE, ZIP CODE:

TICKET № 22933

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. Hays, KS	1-3	Worcester	Graham	KS		11-5-12	
2. Ness City, KS	TICKET TYPE ☐ SERVICE ☐ SALES	CONTRACTOR: Abercrombie Drlg.	RIG NAME/NO. #1	SHIPPED VIA	DELIVERED TO: Ness City, KS	ORDER NO.	
3.	WELL TYPE: Oil	WELL CATEGORY: Oil Field	JOB PURPOSE: Cement Longstring		WELL PERMIT NO.	WELL LOCATION	
4.							
REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575		1			MILEAGE #113	70	mi			6.00	420.00
579		1			Pump Charge - Cmt - Longstring	1	pa	3535	ft	1500.00	1500.00
221		1			Liquid KCL	2	gal			25.00	50.00
290		1			Flocheck-21	22	gal			2.50	825.00
390		1			D-Air	2	gal			35.00	70.00
402		1			Centralizers	9	ea	5½	in	70.00	630.00
403		1			Cmt. Baskets	3	ea	5½	in	250.00	750.00
404		1			Port Collar	1	ea	5½	in	2400.00	2400.00
406		1			Latch Down Plug & Baffle	1	ea	5½	in	350.00	350.00
407		1			Top Cmt Rbr Plug 4½-4½	1	ea	5½	in	350.00	350.00
419		1			Rotating Head Rental	1	ea	5½	in	300.00	300.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X

DATE SIGNED: 11-5-12 | TIME SIGNED: 11:00 ☐ A.M ☐ P.M

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL P.1	7195.00
P.2	4552.63
	11747.63
TAX	
TOTAL	

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR: Lee Rowan | APPROVAL

Thank You!

SWIFT Services, Inc.

PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 23934

CUSTOMER	WELL	DATE	PAGE	OF
Mull Drilling	1-3 Worcester	11-5-12	2	2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	TIME	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
325		2				Standard Cement	135	sx	16.45	Mi	17.50	2362.50
276		2				Flocele	44	lbs			3.00	132.00
283		2				Salt	375	lb			.50	187.50
284		2				Gel	932	lbs	9	sx	.25	315.00
290		2				D-Air	93	lbs			3.50	325.50
281		2				SERVICE CHARGE Cement	CUBIC FEET 135				2.50	337.50
583		2				MILEAGE CHARGE TOTAL WEIGHT 12375 lbs LOADED MILES 70	TON MILES 6.3245 Tons				1.00	63.25

CONTINUATION TOTAL 3552.63

JOB LOG

SWIFT Services, Inc.

DATE 9-5-12 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Kodiak Exploration	1-3	Winchester	Cement Longstring	22453

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
								TD 5530 TD 5535'
	1030							On loc - Rig LD DC
								Start 5½ 15.5#/ft csg to 5532'
								Insert float shoe/fill up
								LD Baffle - ST - 28' @ 5387' = 90.6
								Cent 1-2-3-4-6-8-11-14-17-49
								Baskets 15/50 TOC 1770' w/ 50 sacks
								Drop fill up ball 5 ft ext.
	1400							Tag / Fin csg - 5' up
	1415							CIR / Rotate csg
	1510							Fin circ
			7			~		Flush FH - 30 SKS cmt
		6					320	Pump 10 BBL KCL flush
		3					250	Pump 330 gal Flush - 21
		6					300	Pump 10 BBL KCL wtr
		4					220	Start 145 SKS FH-1 cmt
			35				130/100	Fin cmt
								Wash out Pump & Lines
								Drop LD. Plug
		9					350	Start Displ
		9	67				450	Lost full rtn
		9	75				950	Slow rate
		7	85				650	Slow rate
		6/5½	90				450	Slow rate
	1515		90½				750/1000	Plug down - Hold - Release - 1 1/4 BO
	1600						0	Job Complete
								Wash up & Release
	1615							Thank You
								Tom, Brian & Bob

COPELAND
Acid & Cement

FIELD ORDER № C 39192

BOX 438 • HAYSVILLE, KANSAS 67060
316-524-1225

DATE 11/9/11 20

IS AUTHORIZED BY: Lario Exploration
(NAME OF CUSTOMER)

Address _____ City _____ State _____

To Treat Well As Follows: Lease Worcester Well No. 1-3 Customer Order No. _____

Sec. Twp. Range _____ County Graham State KS

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or affect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED _____ By _____
Well Owner or Operator Agent

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
	60	mileage pump truck	4.00	240.00
	60	mileage pickup	2.00	120.00
	1	Pump Charge (Port-collar)		950.00
	475	65/35 poz. 2% gel.	9.25	3,931.25
	15	4% calcl. gel.	22.00	330.00
	440	Bulk Charge	1.25	550.00
		Bulk Truck Miles 1945 T x 60 m = 1,167 Tm x 1.00	1.00	1,243.00
		Process License Fee on _____ Gallons		
		TOTAL BILLING		7,404.25

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative Nicholas L.

Station G. B

John B
Well Owner, Operator or Agent

Remarks _____

NET 30 DAYS

GEOLOGIC REPORT LOG

API: 15-065-23021-0000

COMPANY Werth Exploration Trst
1308 Schwaller Hays, KS

WELL Worcester #1-3

FIELD 4920' FSL & 395' FEL

LOCATION

SEC. 3 TWP. 7s RGE. 22w

COUNTY Graham

STATE Kansas

3

PRODUCTION Oil

ELEVATION KB 2240
DF
GL 2235

Drilling Measured From: Kelly Bushing

Samples Saved From 3150 To: T.D.

Drilling Time From 3100 To: T.D.

Samples Examined From: 3150 To: T.D.

Geological Supervision From 3100 To Total Depth

Wellsite Geologist Roger L. Moses

Electrical Surveys Nabors Services
Radiation Guard
Micro

OPERATOR Werth Exploration Trust
CONTRACTOR White Knight Drilling
COMM: 10-29-2012 COMP:

CASING RECORD

SURF: 8 5/8" @ 214' PROD: 5 1/2" @ 3833

TOTAL DEPTH DRILLERS: 3830

TOTAL DEPTH LOG 3835

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Anhydrite	1871 (+369)	1876	+364	+21
Base Anhydrite	1906 (+334)	1910	+330	+24
Topeka	3234 (-994)	3238	-998	-1
Heebner	3435 (-1195)	3439	-1199	Even
Toronto	3458 (-1218)	3463	-1223	-1
Lansing	3476 (-1236)	3480	-1240	Even
Base Kansas City	3666 (-1426)	3671	-1431	Even
Marmaton	3704 (-1464)	3708	-1468	—
Conglomerate	3724 (-1484)	3726	-1486	—
Arbuckle	3771 (-1531)	3775	-1535	+28

REFERENCE WELL FOR STRUCTURE Worcester #1-3
1650' FSL & 4620' FEL, Sec 3-7s-22w Graham Cty
KS. Murfin Drilling Company, Inc

DAILY PENETRATION		BIT RECORD						
DATE	DEPTH	NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
10-29-12	Spudded	1	12 1/4	RR		214	214	5
10-30-12	214	2	7 7/8	JZ	ENP0123	3840	3426	
10-31-12	1073	3	7 7/8	JZ		3830	404	
11-1-12	2531							
11-2-12	3512							
11-3-12	3538							
11-4-12	3642							
11-5-12	3830							

FORMATION	INTERVAL	DESCRIPTION OF SHOW	LOG ANALYSIS B	LOG ANALYSIS S W

DRILL STEM TESTS

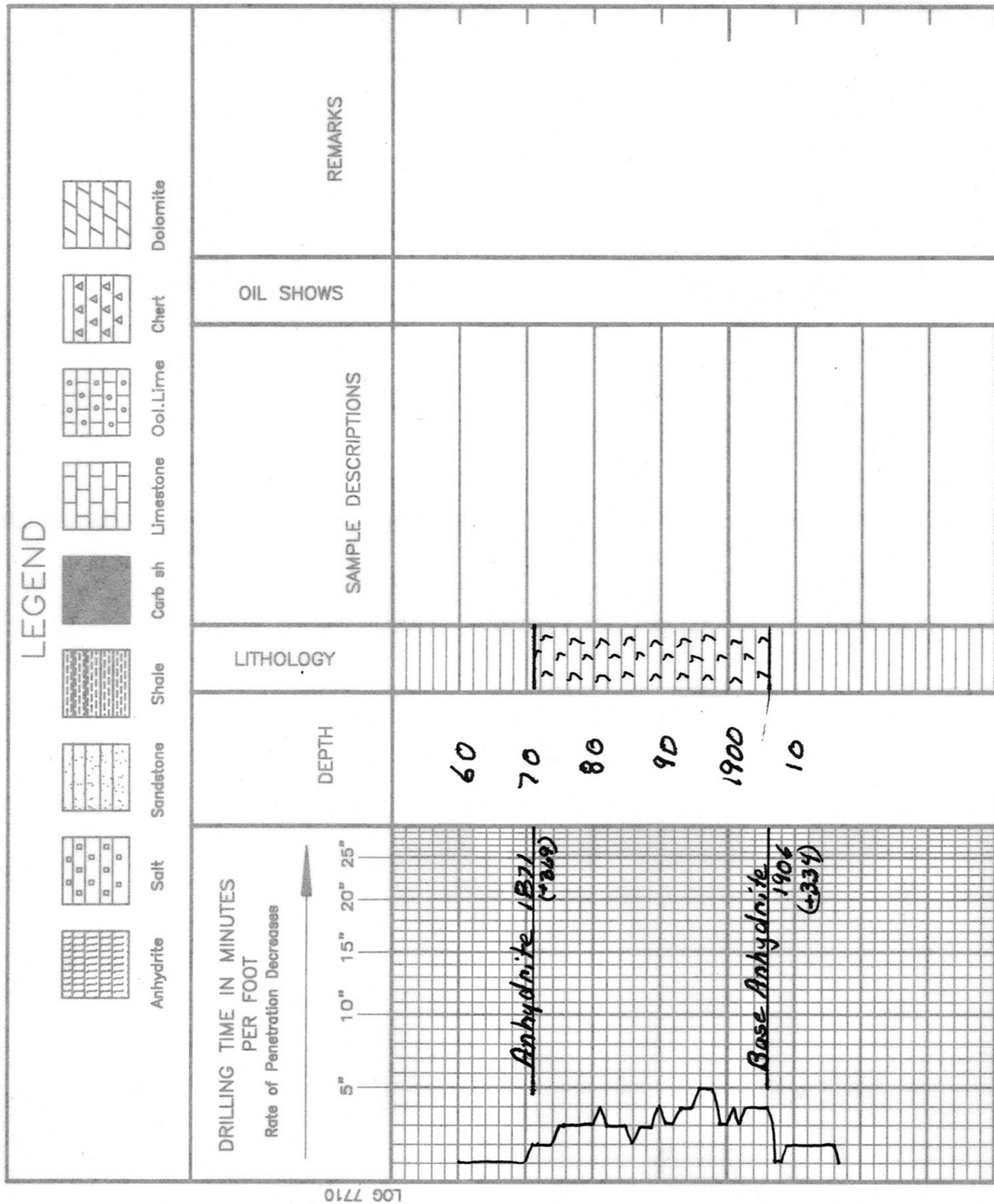
No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH-FHH	RECOVERY
1	3422-3512	198/15	806/60	431/45	789/60	1681-1666	240' Mud 600' Sli G M W Gas 2%, M 10%, W 83%
2	3537-3566	94/15	771/45	146/17	761/45	1725-1676	40' W M, Skim Oil 180' M W w/ Skim Oil
3	3617-3642	63/10	313/45	83/15	302/45	1764-1744	60' GIP 120' G M O G 10%, Mud 30%, O 60%

REMARKS AND RECOMMENDATIONS Based on smple shows and relative structural position, 5½" casing was run to further evaluate L/KC & Arbuckle zones

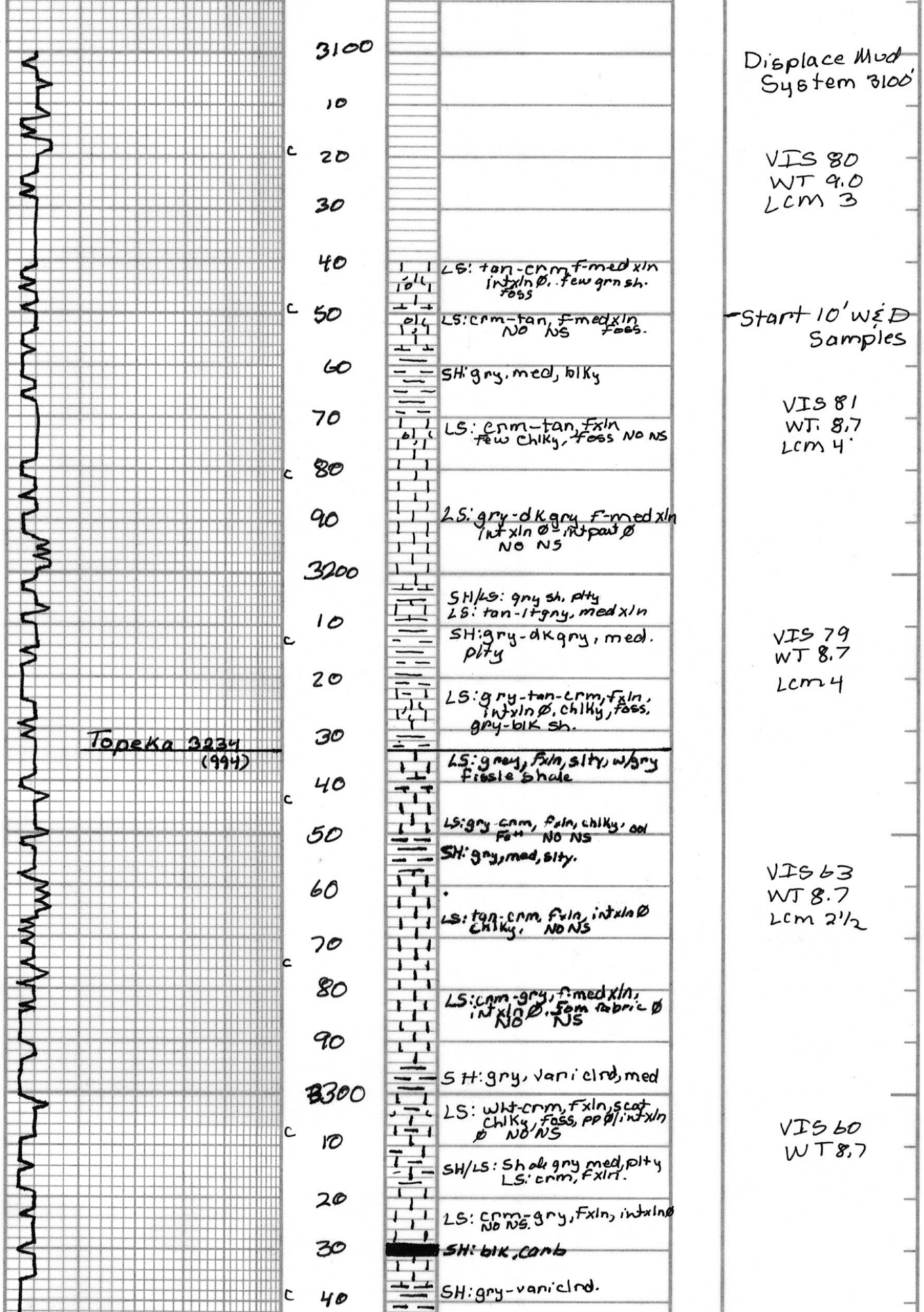
Respectfully

Ralph Moses

7515



LOG 7710


3100
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3300
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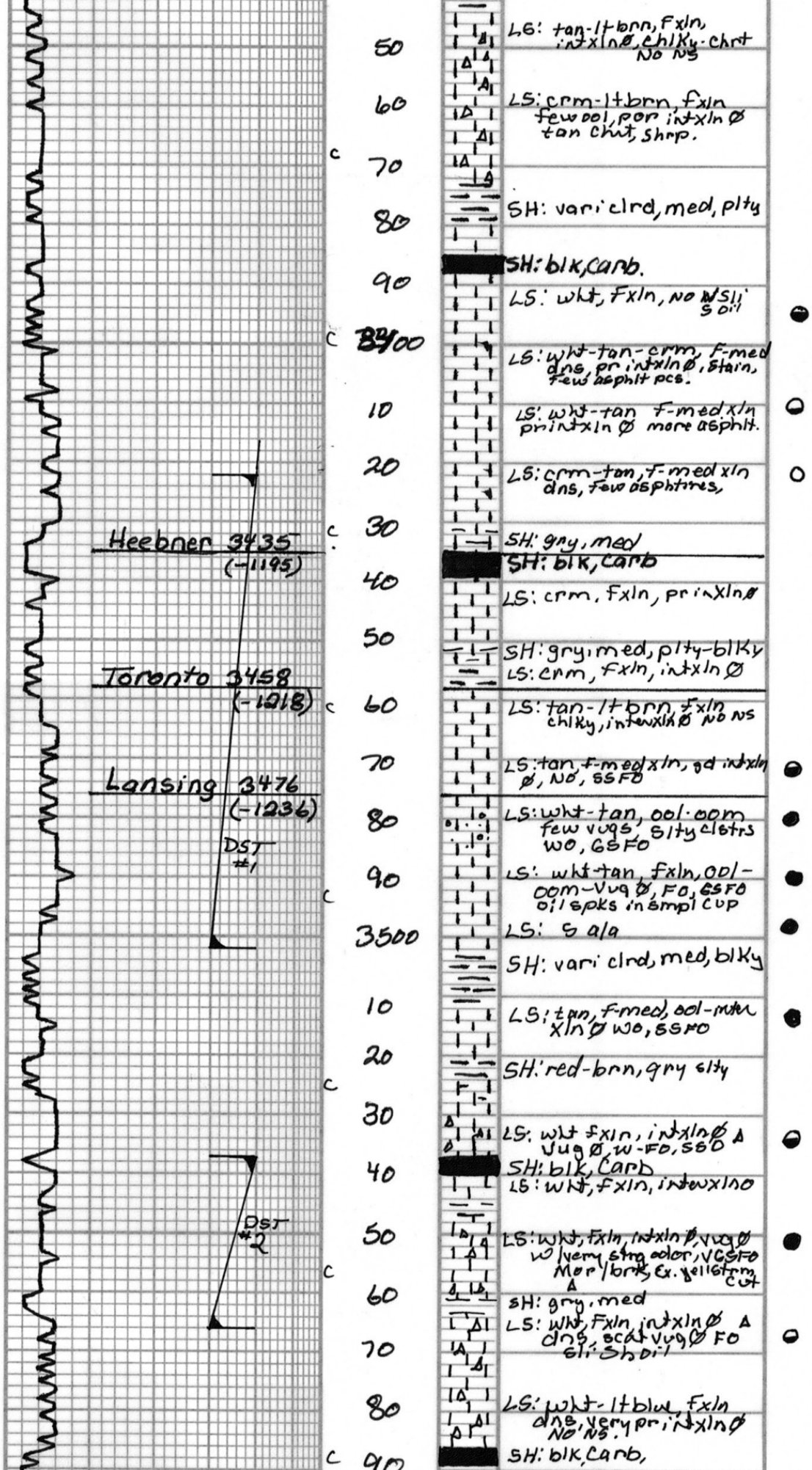
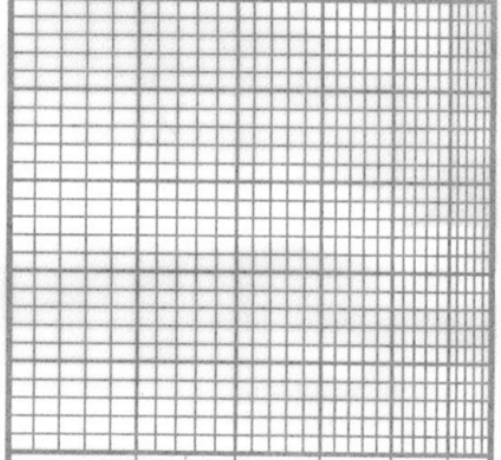
Topeka 3234
(994)
LS: tan-crm, f-med xln int xln Ø, few grn sh. foss
LS: crm-tan, f-med xln NO NS foss.
SH: gry, med, blky
LS: crm-tan, fxln few chlky, foss NO NS
LS: gry-dk gry f-med xln int xln Ø, int part Ø NO NS
SH/LS: gry sh, plty LS: tan-lt gry, med xln
SH: gry-dk gry, med. plty
LS: gry-tan-crm, fxln, int xln Ø, chlky, foss, gry-blk sh.
LS: gray, fxln, slty, w/gry fissle shale
LS: gry-crm, fxln, chlky, ool foss NO NS
SH: gry, med, slty.
LS: tan-crm, fxln, int xln Ø chlky, NO NS
LS: crm-gry, f-med xln, int xln Ø, foss fabric Ø NO NS
SH: gry, vari clrd, med
LS: wht-crm, fxln, scat chlky, foss, pp Ø/int xln Ø NO NS
SH/LS: Sh dk gry med, plty LS: crm, fxln.
LS: crm-gry, fxln, int xln Ø NO NS.
SH: blk, carb
SH: gry-vari clrd.
Displace Mud System 3100'
VIS 80
WT 9.0
LCM 3
Start 10' W&D Samples
VIS 81
WT. 8.7
LCM 4
VIS 79
WT 8.7
LCM 4
VIS 63
WT 8.7
LCM 2 1/2
VIS 60
WT 8.7


LS: tan-lt brn, fxln, intxln Ø, chlky, chrt No NS
50
VIS 64
WT 8.7
60
LS: crm-lt brn, fxln few ool, por intxln Ø tan chrt, shrp.
70
SH: vari clrd, med, plty
80
SH: blk, carb.
90
LS: wht, fxln, no NS, sl oil
3400
LS: wht-tan-crm, f-med dns, pr intxln Ø, stain, few asphlt pcs.
VIS 64
WT 8.7
10
LS: wht-tan f-med xln pr intxln Ø more asphlt.
20
LS: crm-tan, f-med xln dns, few asphltres,
30
SH: gry, med
Heebner 3435
(-1195)
SH: blk, carb
40
LS: crm, fxln, pr intxln Ø
50
SH: gry, med, plty-blky
LS: crm, fxln, intxln Ø
Toronto 3458
(-1218)
VIS 63
WT 8.7
60
LS: tan-lt brn, fxln chlky, intexln Ø NO NS
70
LS: tan, f-med xln, gd intxln Ø, NO, SSFO
Lansing 3476
(-1236)
80
LS: wht-tan, ool-oom few vugs, slty clstrs WO, GSFO
DST #1
90
LS: wht-tan, fxln, ool-oom-Vug Ø, FO, GSFO oil spks in smpl cup
3500
LS: S a/a
SH: vari clrd, med, blky
10
LS: tan, f-med, ool-oom xln Ø WO, SSFO
VI 54
WT 8.8
20
SH: red-brn, gry slty
30
LS: wht fxln, intxln Ø Vug Ø, w-FO, SSO
40
SH: blk, carb
LS: wht, fxln, intexln o
DST #2
50
LS: wht, fxln, intxln Ø, vug Ø w/ very strg odor, VGSFO Mor/brk, Ex. yellstrm cut
60
SH: gry, med
VIS 54
WT 8.8
LS: wht, fxln, intxln Ø dns, scat vug Ø FO sl. Sh oil
70
80
LS: wht-lt blue, fxln dns, very pr intxln Ø NO NS.
90
SH: blk, carb,

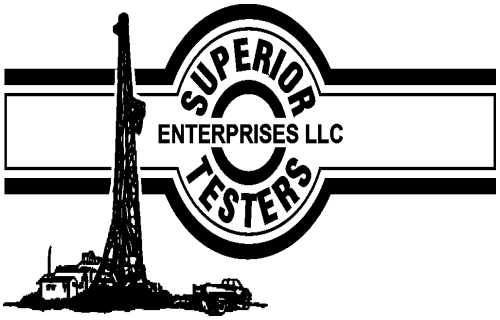
		SH: gry-dkgry, med plty.	
	3600	LS: wht, fxln, dns, int xln Ø, pp Ø, few chlky vso, sli-gsfo	
	10	LS: wht, fxln, oom-vug Ø vwo, gsfo, Inc/Brk	
c	20		
DST #3		LS: wht-lt brn, fxln, oom-ooc Ø, vug Ø	VIS 53 WT 8.8 LCM 1½
	30		
	40	SH: blk Carb	
		LS: wht, fxln, dns, pp Ø, oom Ø, few vug Ø lt even stn, go, GSFO Inc on Brk	
c	50	LS: wht-gry, spkld, int xln Ø pp Ø, sli chlky. F-GO GSFO	
	60		
Base Kansas City 3666 (-1426)			
	70	SH: vari clrd, med, fissile plty.	VIS 64 WT 8.9 LCM 2
c	80	SH: s a/a	
	90	LS: wht-crm fxln, spkld, chlky in pt. no vsso	
	3700		
Marmaton 3704 (-1464)			
	10	LS: wht-lt gry, few yell fxln, sli chlky, por vis Ø NO, vsso	
c	20	SH:	
Conglomerate 3724 (-1484)		LS: wht, gry, fxln, wo vsso	
	30	CGL: sndclstns, clr-sligry, fn grnd, mod srtd Δ full sat w/oil abund lx cons sndgrns	
	40	CGL: sndclstns s a/a GO, better stn of oil	VIS 63 WT 8.9 LCM 2
c		LS: wht-yellow fxln dns. cht, sharp w: FO SFO	
	50	CGL: s a/a, more asphltns in smpls, dead oil Δ few spots live oil Δ	
	60	LS: yell-wht, fxln, dns int xln Ø, wo SSFO few suc/Rhomb doloxlns dns, few sndy	
Arbuckle 3721 (-1531)	70		
c		Dolo: crm-wht, mttld, lt grn to brn stn. suc Rhomb xtals. VG vug Ø F-GO - GSFO	
	80	Dolo: crm-tan-wht few lt brn, suc/Rhomb xts, pp Ø-vug Ø, very heavy stn/lw-GOdor VGSFO. Gd yell strm cut	VIS 45 WT 9.2 LCM 1
	90		
	3800	Dolo: crm-lt brn, suc Rhomb xln, lt stain wo, sli SOil, sho diminishing.	
c	10	Dolo: wht-lt tan, suc Rhomb xln, vwo very little lt stain	
	20	Dolo: s a/a	
DTD 3830 LTD 3835	30		
	40		



DRILLING TIME Minutes/Foot Rate of Penetration Decreases	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS

CONTRACTOR White Knight Drilling
LEASE Worcester IP Oil
ELEVATION 2240 KB RTD 3830

LOCATION 4920' FSL & 395' FEL
SEC 3 TWP 7s RNG 22w
COUNTY Graham STATE Kansas



DRILL STEM TEST REPORT

Prepared For: **Werth Exploration Trust**

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

Worcester #1-3

3/7S/22W/Graham

Start Date: 2012.11.02 @ 20:23:00
End Date: 2012.11.03 @ 03:24:30
Job Ticket #: 16908 DST #: 1

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2012.11.03 @ 03:52:15

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16908 **DST#: 1**

Test Start: 2012.11.02 @ 20:23:00

GENERAL INFORMATION:

Formation: **Toronto-Lansing/KC z**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:13:30
Time Test Ended: 03:24:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3422.00 ft (KB) To 3512.00 ft (KB) (TVD)
Total Depth: 3512.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

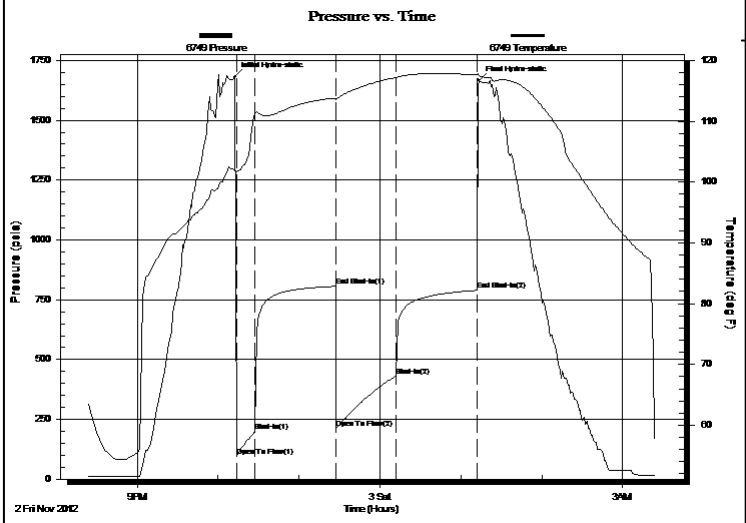
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6749 **Inside**

Press@RunDepth: 431.55 psia @ 3507.59 ft (KB)
Start Date: 2012.11.02 End Date: 2012.11.03
Start Time: 20:23:00 End Time: 03:24:30

Capacity: 5000.00 psia
Last Calib.: 2012.11.03
Time On Btm: 2012.11.02 @ 22:12:30
Time Off Btm: 2012.11.03 @ 01:13:30

TEST COMMENT:
1ST Open 15 Minutes/Good blow /Blow built to bottom of bucket in 4 minutes 20 seconds
1ST Shut In 60 Minutes/No blow back
2ND Open 45 Minutes/Good blow /Blow built to bottom of bucket in 5 minutes 30 seconds
2ND Shut In 60 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1681.28	102.08	Initial Hydro-static
1	96.91	101.72	Open To Flow (1)
15	198.31	111.33	Shut-In(1)
75	805.78	113.79	End Shut-In(1)
75	211.61	113.64	Open To Flow (2)
120	431.55	117.19	Shut-In(2)
180	789.28	117.63	End Shut-In(2)
181	1666.19	117.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
240.00	Mud 100%	3.37
600.00	Slightly gassy Muddy Water	8.42
0.00	Gas 2% Mud 10% Water 88%	0.00
0.00	Recovery Chlorides 25,000 ppm	0.00
0.00	Recov. Resist. .35 ohms @ 60 deg.	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16908 **DST#: 1**

Test Start: 2012.11.02 @ 20:23:00

GENERAL INFORMATION:

Formation: **Toronto-Lansing/KC z**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:13:30
Time Test Ended: 03:24:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3422.00 ft (KB) To 3512.00 ft (KB) (TVD)
Total Depth: 3512.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

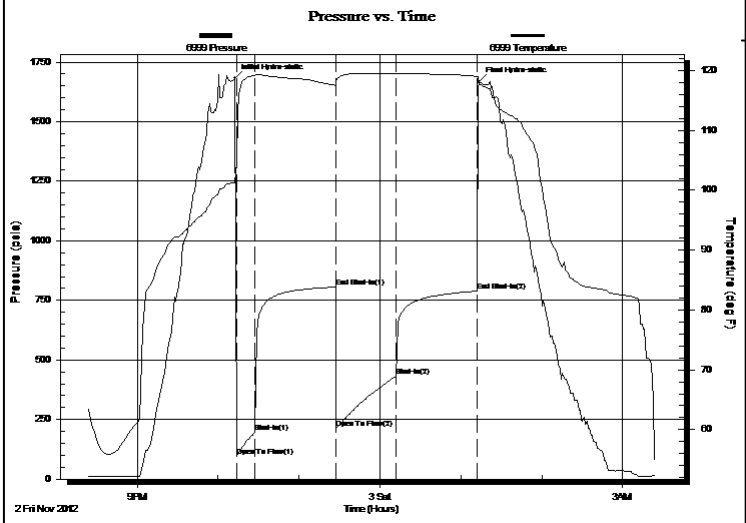
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6999 **Outside**

Press@RunDepth: 788.97 psia @ 3508.59 ft (KB)
Start Date: 2012.11.02 End Date: 2012.11.03
Start Time: 20:23:00 End Time: 03:25:00

Capacity: 5000.00 psia
Last Calib.: 2012.11.03
Time On Btm: 2012.11.02 @ 22:12:30
Time Off Btm: 2012.11.03 @ 01:13:30

TEST COMMENT:
1ST Open 15 Minutes/Good blow /Blow built to bottom of bucket in 4 minutes 20 seconds
1ST Shut In 60 Minutes/No blow back
2ND Open 45 Minutes/Good blow /Blow built to bottom of bucket in 5 minutes 30 seconds
2ND Shut In 60 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1681.71	101.29	Initial Hydro-static
1	96.45	104.79	Open To Flow (1)
15	198.13	119.20	Shut-In(1)
75	805.79	117.54	End Shut-In(1)
75	211.80	117.91	Open To Flow (2)
120	431.18	119.43	Shut-In(2)
180	788.97	119.00	End Shut-In(2)
181	1666.54	117.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
240.00	Mud 100%	3.37
600.00	Slightly gassy Muddy Water	8.42
0.00	Gas 2% Mud 10% Water 88%	0.00
0.00	Recovery Chlorides 25,000 ppm	0.00
0.00	Recov. Resist. .35 ohms @ 60 deg.	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16908 **DST#: 1**

Test Start: 2012.11.02 @ 20:23:00

Tool Information

Drill Pipe:	Length:	3415.00 ft	Diameter:	3.80 inches	Volume:	47.90 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		2000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		32000.00 lb
					Total Volume:	47.90 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		20.00 ft					String Weight:	Initial	27000.00 lb
Depth to Top Packer:		3422.00 ft						Final	30000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		89.59 ft							
Tool Length:		116.59 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3400.00		
Hydrolic Tool	5.00			3405.00		
Jars	5.00			3410.00		
Safety Joint	2.00			3412.00		
Packer	5.00			3417.00	27.00	Bottom Of Top Packer
Packer	5.00			3422.00		
Perforations	5.00			3427.00		
Change Over Sub	0.75			3427.75		
Drill Pipe	63.09			3490.84		
Change Over Sub	0.75			3491.59		
Anchor	15.00			3506.59		
Recorder	1.00	6749	Inside	3507.59		
Recorder	1.00	6999	Outside	3508.59		
Bullnose	3.00			3511.59	89.59	Bottom Packers & Anchor
Total Tool Length:	**116.59**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16908 **DST#: 1**

Test Start: 2012.11.02 @ 20:23:00

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:	64.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psia		
Salinity:	800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	Mud 100%	3.367
600.00	Slightly gassy Muddy Water	8.416
0.00	Gas 2% Mud 10% Water 88%	0.000
0.00	Recovery Chlorides 25,000 ppm	0.000
0.00	Recov. Resist. .35 ohms @ 60 deg.	0.000

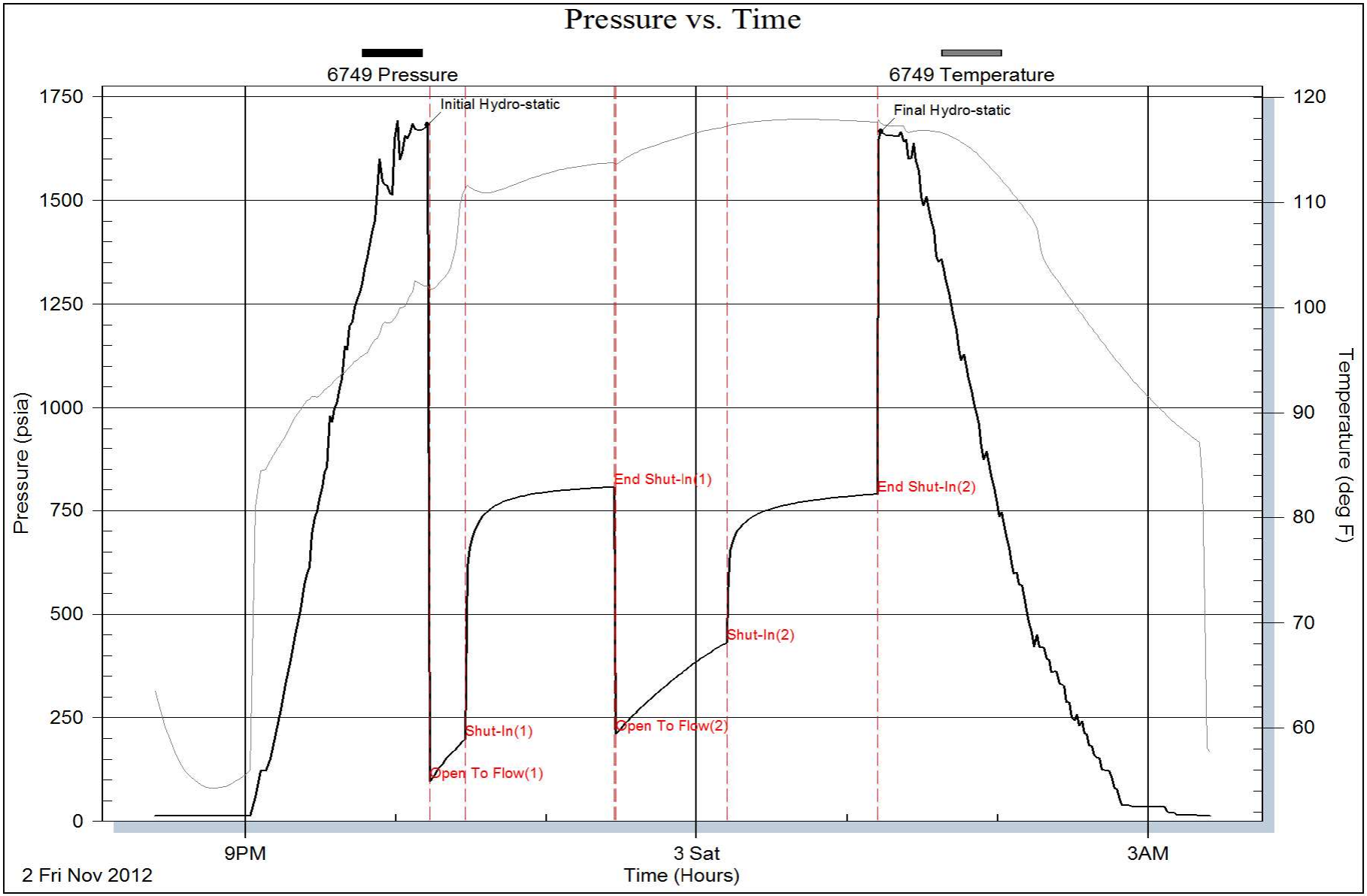
Total Length: 840.00 ft Total Volume: 11.783 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

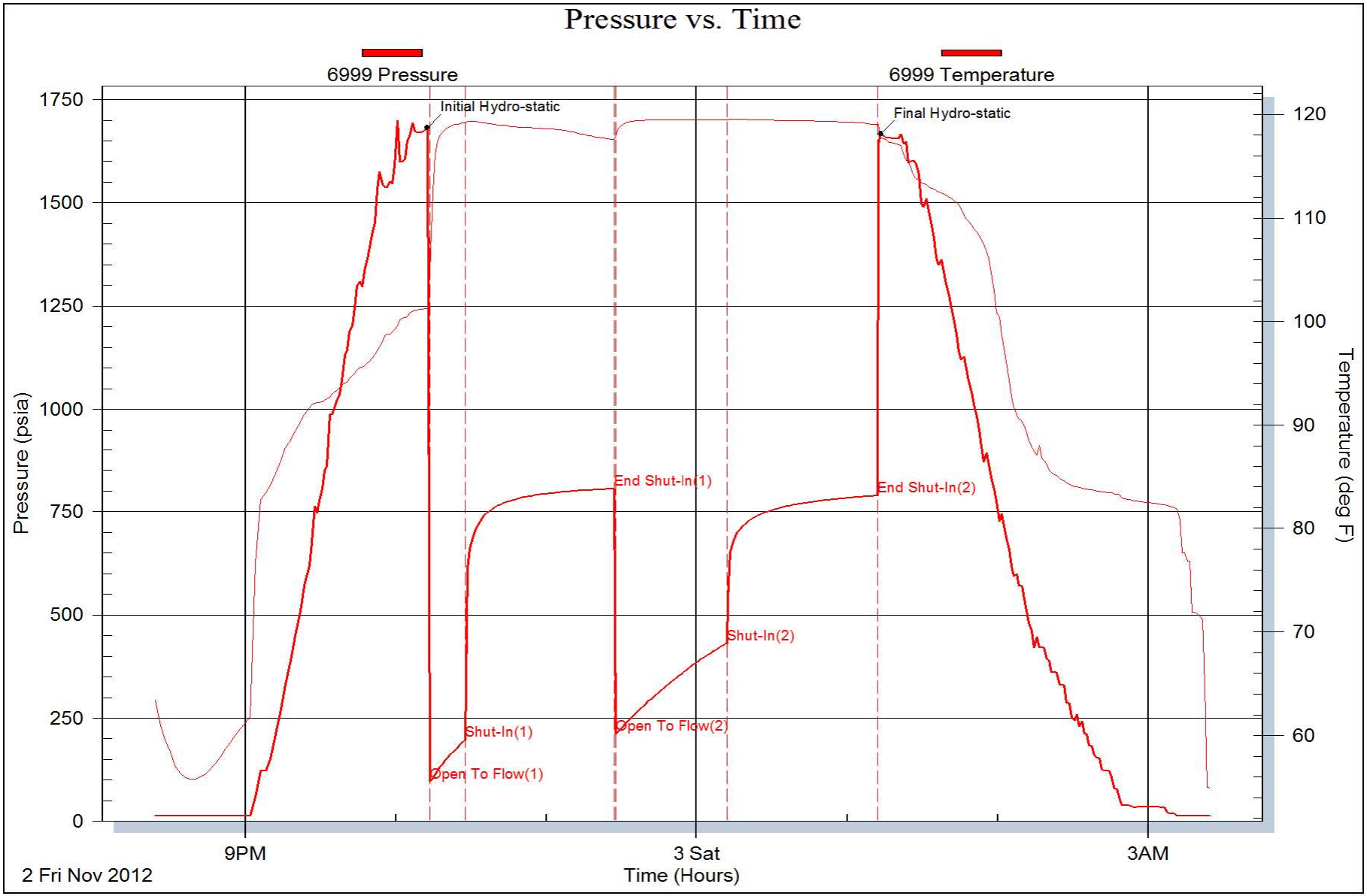
Recovery Comments:

Serial #: 6749 **Inside** Werth Exploration Trust Worcester #1-3 DST Test Number: 1



Superior Testers Enterprises LLC Ref. No: 16908 Printed: 2012.11.03 @ 03:52:16

Serial #: 6999 **Outside** Werth Exploration Trust Worcester #1-3 DST Test Number: 1



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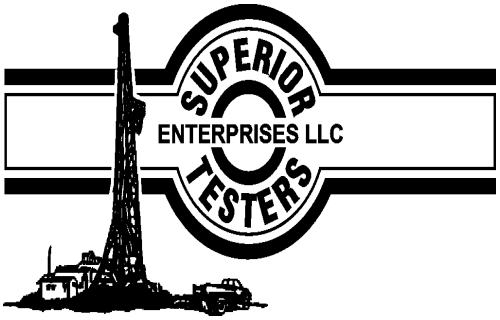


DRILL STEM TEST REPORT

Prepared For: **Werth Exploration Trust**

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

Worcester #1-3

3/7S/22W/Graham

Start Date: 2012.11.03 @ 12:06:00
End Date: 2012.11.03 @ 17:27:00
Job Ticket #: 16909 DST #: 2

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2012.11.03 @ 17:48:23

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16909 **DST#: 2**

Test Start: 2012.11.03 @ 12:06:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:29:30
Time Test Ended: 17:27:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3537.00 ft (KB) To 3538.00 ft (KB) (TVD)
Total Depth: 3538.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

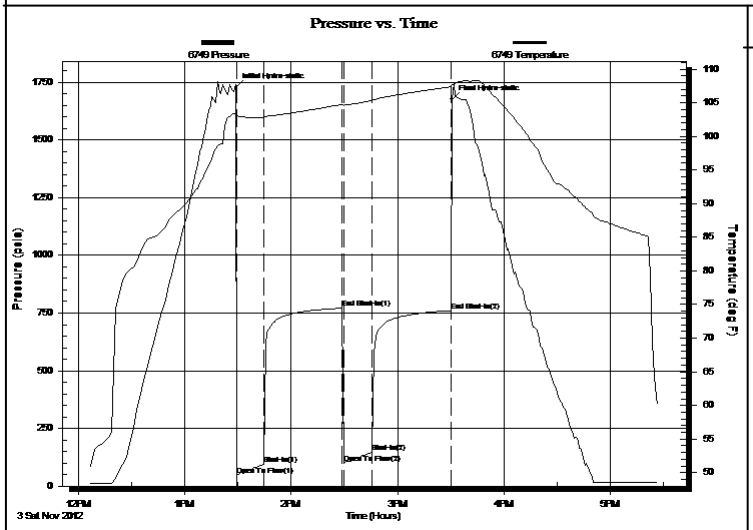
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6749 **Inside**

Press@RunDepth: 146.03 psia @ 3564.00 ft (KB)
Start Date: 2012.11.03 End Date: 2012.11.03
Start Time: 12:06:00 End Time: 17:27:00

Capacity: 5000.00 psia
Last Calib.: 2012.11.03
Time On Btm: 2012.11.03 @ 13:29:00
Time Off Btm: 2012.11.03 @ 15:30:30

TEST COMMENT:
1ST Open 15 Minutes/Good blow /Blow built to bottom of bucket in 14 minutes
1ST Shut In 45 Minutes/No blow back
2ND Open 17 Minutes/Good blow /Blow built to bottom of bucket in 16 minutes 30 seconds
2ND Shut In 45 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1725.54	103.41	Initial Hydro-static
1	47.55	103.04	Open To Flow (1)
16	94.19	102.79	Shut-In(1)
60	771.32	104.74	End Shut-In(1)
61	101.05	104.63	Open To Flow (2)
77	146.03	105.31	Shut-In(2)
121	760.66	107.39	End Shut-In(2)
122	1675.59	107.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	Watery Mud with skim of oil in sample	0.56
0.00	Water 30% Mud 70%	0.00
180.00	Muddy Water w/light skim of oil	2.52
0.00	Mud 20% Water 80%	0.00
0.00	Recovery Chlorides 57000 ppm	0.00
0.00	Recov Resist. .12 ohms @ 68 Deg	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16909 **DST#: 2**

Test Start: 2012.11.03 @ 12:06:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:29:30
Time Test Ended: 17:27:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3537.00 ft (KB) To 3538.00 ft (KB) (TVD)
Total Depth: 3538.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

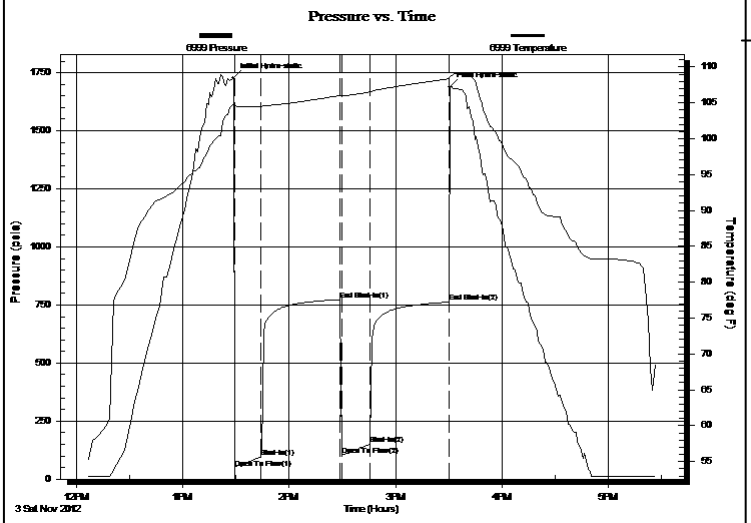
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6999 **Outside**

Press@RunDepth: 762.34 psia @ 3565.00 ft (KB)
Start Date: 2012.11.03 End Date: 2012.11.03
Start Time: 12:06:00 End Time: 17:27:00

Capacity: 5000.00 psia
Last Calib.: 2012.11.03
Time On Btm: 2012.11.03 @ 13:28:30
Time Off Btm: 2012.11.03 @ 15:30:30

TEST COMMENT:
1ST Open 15 Minutes/Good blow /Blow built to bottom of bucket in 14 minutes
1ST Shut In 45 Minutes/No blow back
2ND Open 17 Minutes/Good blow /Blow built to bottom of bucket in 16 minutes 30 seconds
2ND Shut In 45 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1728.28	104.85	Initial Hydro-static
1	48.49	104.58	Open To Flow (1)
16	94.74	104.45	Shut-In(1)
60	773.13	106.00	End Shut-In(1)
61	101.31	105.92	Open To Flow (2)
77	148.95	106.51	Shut-In(2)
122	762.34	108.36	End Shut-In(2)
122	1690.01	108.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	Watery Mud with skim of oil in sample	0.56
0.00	Water 30% Mud 70%	0.00
180.00	Muddy Water w/light skim of oil	2.52
0.00	Mud 20% Water 80%	0.00
0.00	Recovery Chlorides 57000 ppm	0.00
0.00	Recov Resist. .12 ohms @ 68 Deg	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Werth Exploration Trust

1308 Schw aller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16909 **DST#: 2**

Test Start: 2012.11.03 @ 12:06:00

Tool Information

Drill Pipe:	Length:	3514.00 ft	Diameter:	3.80 inches	Volume:	49.29 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		42000.00 lb
					Total Volume:	49.29 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		4.00 ft					String Weight:	Initial	29000.00 lb
Depth to Top Packer:		3537.00 ft						Final	32000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		31.00 ft							
Tool Length:		58.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3515.00		
Hydrolic Tool	5.00			3520.00		
Jars	5.00			3525.00		
Safety Joint	2.00			3527.00		
Packer	5.00			3532.00	27.00	Bottom Of Top Packer
Packer	5.00			3537.00		
Anchor	26.00			3563.00		
Recorder	1.00	6749	Inside	3564.00		
Recorder	1.00	6999	Outside	3565.00		
Bullnose	3.00			3568.00	31.00	Bottom Packers & Anchor
Total Tool Length:	**58.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16909 **DST#: 2**

Test Start: 2012.11.03 @ 12:06:00

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psia		
Salinity:	2000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	Watery Mud with skim of oil in sample	0.561
0.00	Water 30% Mud 70%	0.000
180.00	Muddy Water w/light skim of oil	2.525
0.00	Mud 20% Water 80%	0.000
0.00	Recovery Chlorides 57000 ppm	0.000
0.00	Recov Resist. .12 ohms @ 68 Deg	0.000

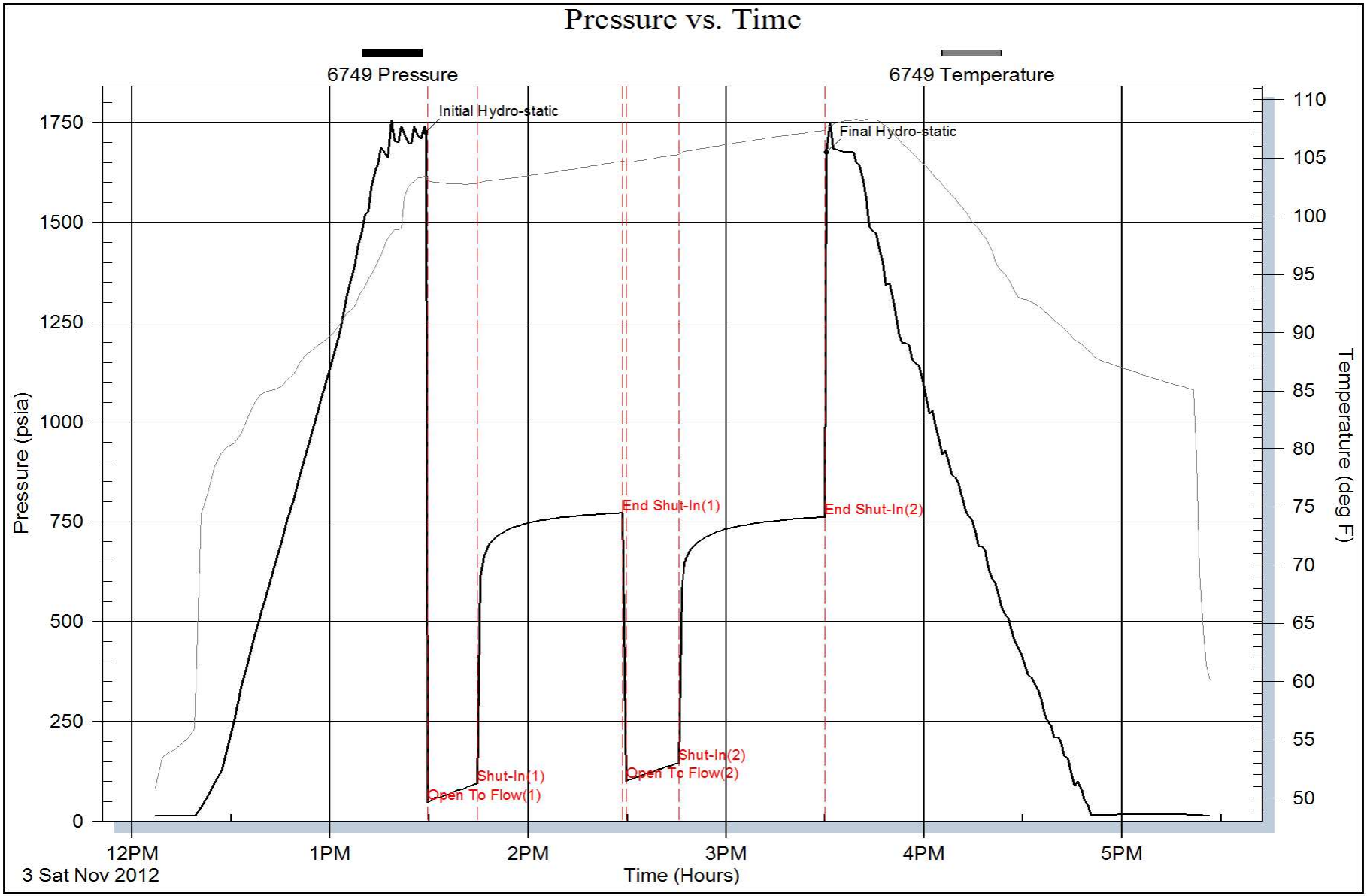
Total Length: 220.00 ft Total Volume: 3.086 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

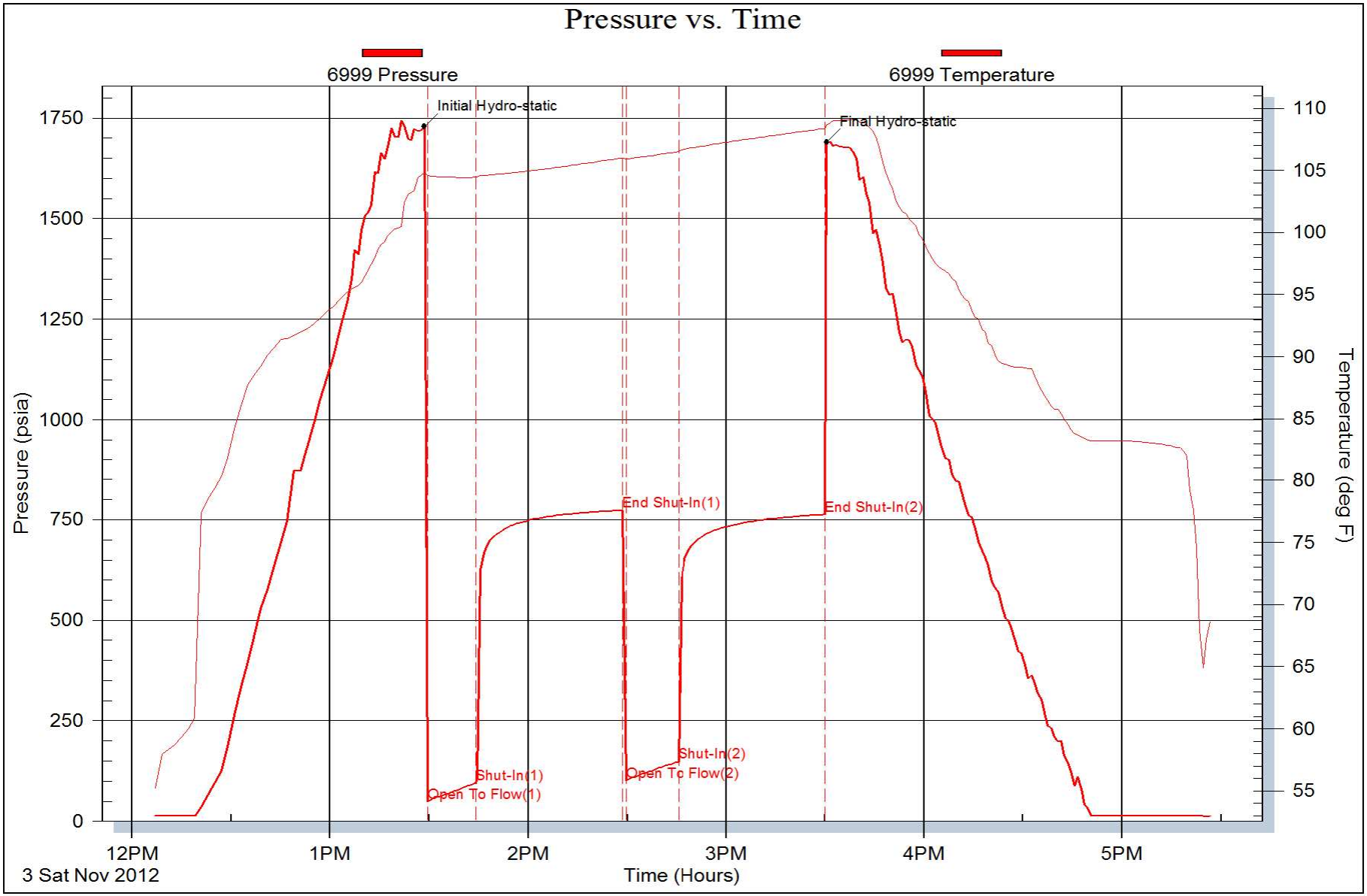
Recovery Comments:

Serial #: 6749 **Inside** Werth Exploration Trust Worcester #1-3 DST Test Number: 2



Superior Testers Enterprises LLC Ref. No: 16909 Printed: 2012.11.03 @ 17:48:24

Serial #: 6999 **Outside** Werth Exploration Trust Worcester #1-3 DST Test Number: 2



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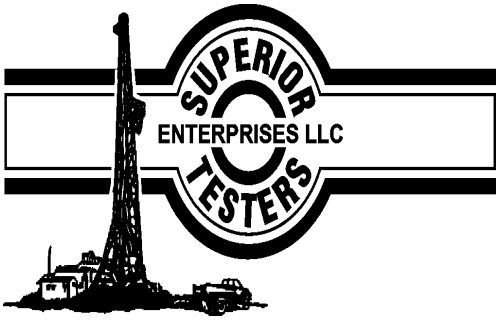


DRILL STEM TEST REPORT

Prepared For: **Werth Exploration Trust**

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

Worcester #1-3

3/7S/22W/Graham

Start Date: 2012.11.04 @ 02:30:00
End Date: 2012.11.04 @ 08:14:00
Job Ticket #: 16910 DST #: 3

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2012.11.04 @ 08:27:30

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16910 **DST#: 3**

Test Start: 2012.11.04 @ 02:30:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:13:30
Time Test Ended: 08:14:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3617.00 ft (KB) To 3642.00 ft (KB) (TVD)
Total Depth: 3642.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

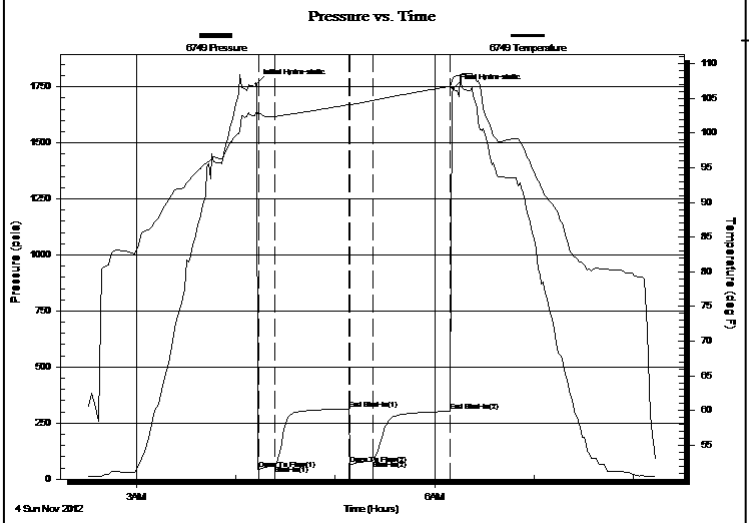
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6749 **Inside**

Press@RunDepth: 82.98 psia @ 3638.00 ft (KB)
Start Date: 2012.11.04 End Date: 2012.11.04
Start Time: 02:30:00 End Time: 08:14:00

Capacity: 5000.00 psia
Last Calib.: 2012.11.04
Time On Btm: 2012.11.04 @ 04:12:30
Time Off Btm: 2012.11.04 @ 06:11:00

TEST COMMENT:
1ST Open 10 Minutes/Good blow /Blow built to 8 inches
1ST Shut In 45 Minutes/Surface blow back
2ND Open 15 Minutes/Good blow /Blow built to bottom of bucket in 12 minutes
2ND Shut In 45 Minutes/Blow back built to 1/2 inch



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1763.68	103.23	Initial Hydro-static
1	43.08	102.77	Open To Flow (1)
11	62.89	102.41	Shut-In(1)
56	312.96	104.11	End Shut-In(1)
57	66.38	104.10	Open To Flow (2)
71	82.98	104.69	Shut-In(2)
117	301.99	106.75	End Shut-In(2)
119	1743.76	108.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	60 feet of gas in pipe	0.00
120.00	Gas cut Muddy Oil	1.68
0.00	Gas 10% Mud 30% Oil 60%	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16910 **DST#: 3**

Test Start: 2012.11.04 @ 02:30:00

GENERAL INFORMATION:

Formation: **Lansing/Kansas City**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:13:30
Time Test Ended: 08:14:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 3325 Hays/128

Interval: 3617.00 ft (KB) To 3642.00 ft (KB) (TVD)
Total Depth: 3642.00 ft (KB) (TVD)
Hole Diameter: 7.80 inches Hole Condition: Fair

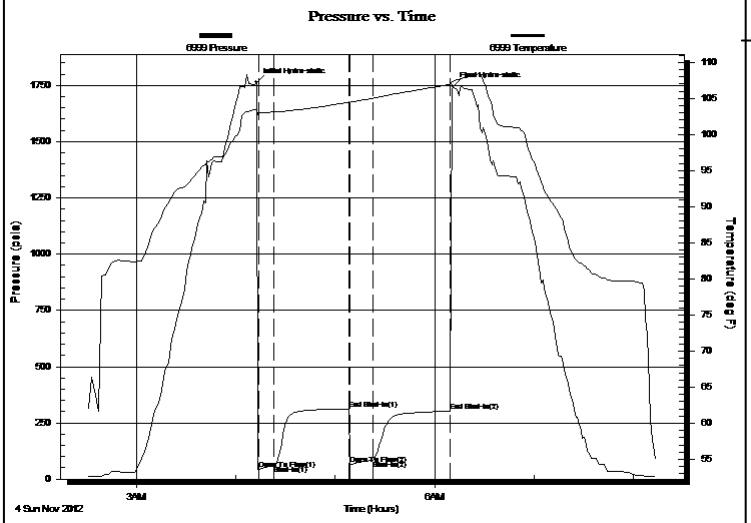
Reference Elevations: 2236.00 ft (KB)
2231.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6999 **Outside**

Press@RunDepth: 301.78 psia @ 3639.00 ft (KB)
Start Date: 2012.11.04 End Date: 2012.11.04
Start Time: 02:30:00 End Time: 08:14:00

Capacity: 5000.00 psia
Last Calib.: 2012.11.04
Time On Btm: 2012.11.04 @ 04:12:30
Time Off Btm: 2012.11.04 @ 06:11:00

TEST COMMENT:
1ST Open 10 Minutes/Good blow /Blow built to 8 inches
1ST Shut In 45 Minutes/Surface blow back
2ND Open 15 Minutes/Good blow /Blow built to bottom of bucket in 12 minutes
2ND Shut In 45 Minutes/Blow back built to 1/2 inch



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1763.63	103.42	Initial Hydro-static
1	43.54	102.72	Open To Flow (1)
11	62.22	103.12	Shut-In(1)
56	312.75	104.49	End Shut-In(1)
57	66.20	104.49	Open To Flow (2)
71	83.07	105.03	Shut-In(2)
117	301.78	106.94	End Shut-In(2)
119	1746.02	107.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	60 feet of gas in pipe	0.00
120.00	Gas cut Muddy Oil	1.68
0.00	Gas 10% Mud 30% Oil 60%	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Werth Exploration Trust

1308 Schw aller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16910 **DST#: 3**

Test Start: 2012.11.04 @ 02:30:00

Tool Information

Drill Pipe:	Length:	3602.00 ft	Diameter:	3.80 inches	Volume:	50.53 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:		42000.00 lb
					Total Volume:	50.53 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		12.00 ft					String Weight:	Initial	27000.00 lb
Depth to Top Packer:		3617.00 ft						Final	28000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		25.00 ft							
Tool Length:		52.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3595.00		
Hydrolic Tool	5.00			3600.00		
Jars	5.00			3605.00		
Safety Joint	2.00			3607.00		
Packer	5.00			3612.00	27.00	Bottom Of Top Packer
Packer	5.00			3617.00		
Anchor	20.00			3637.00		
Recorder	1.00	6749	Inside	3638.00		
Recorder	1.00	6999	Outside	3639.00		
Bullnose	3.00			3642.00	25.00	Bottom Packers & Anchor
Total Tool Length:	**52.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Werth Exploration Trust

1308 Schwaller Avenue
Hays, Kansas 67601+2242

ATTN: Roger Moses

3/7S/22W/Graham

Worcester #1-3

Job Ticket: 16910 **DST#: 3**

Test Start: 2012.11.04 @ 02:30:00

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:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psia		
Salinity:	2000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	60 feet of gas in pipe	0.000
120.00	Gas cut Muddy Oil	1.683
0.00	Gas 10% Mud 30% Oil 60%	0.000

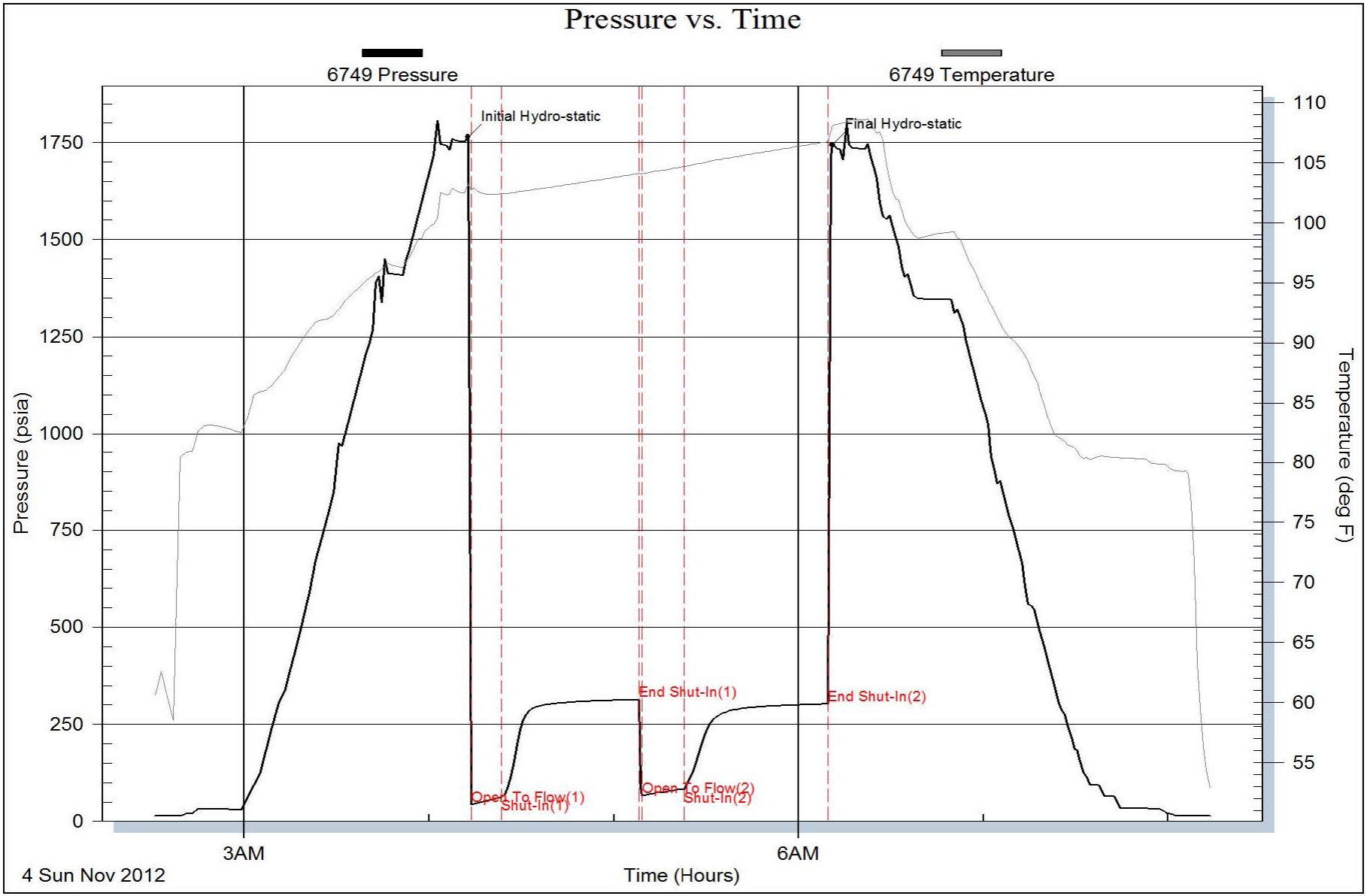
Total Length: 120.00 ft Total Volume: 1.683 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 6749 **Inside** Werth Exploration Trust Worcester #1-3 DST Test Number: 3



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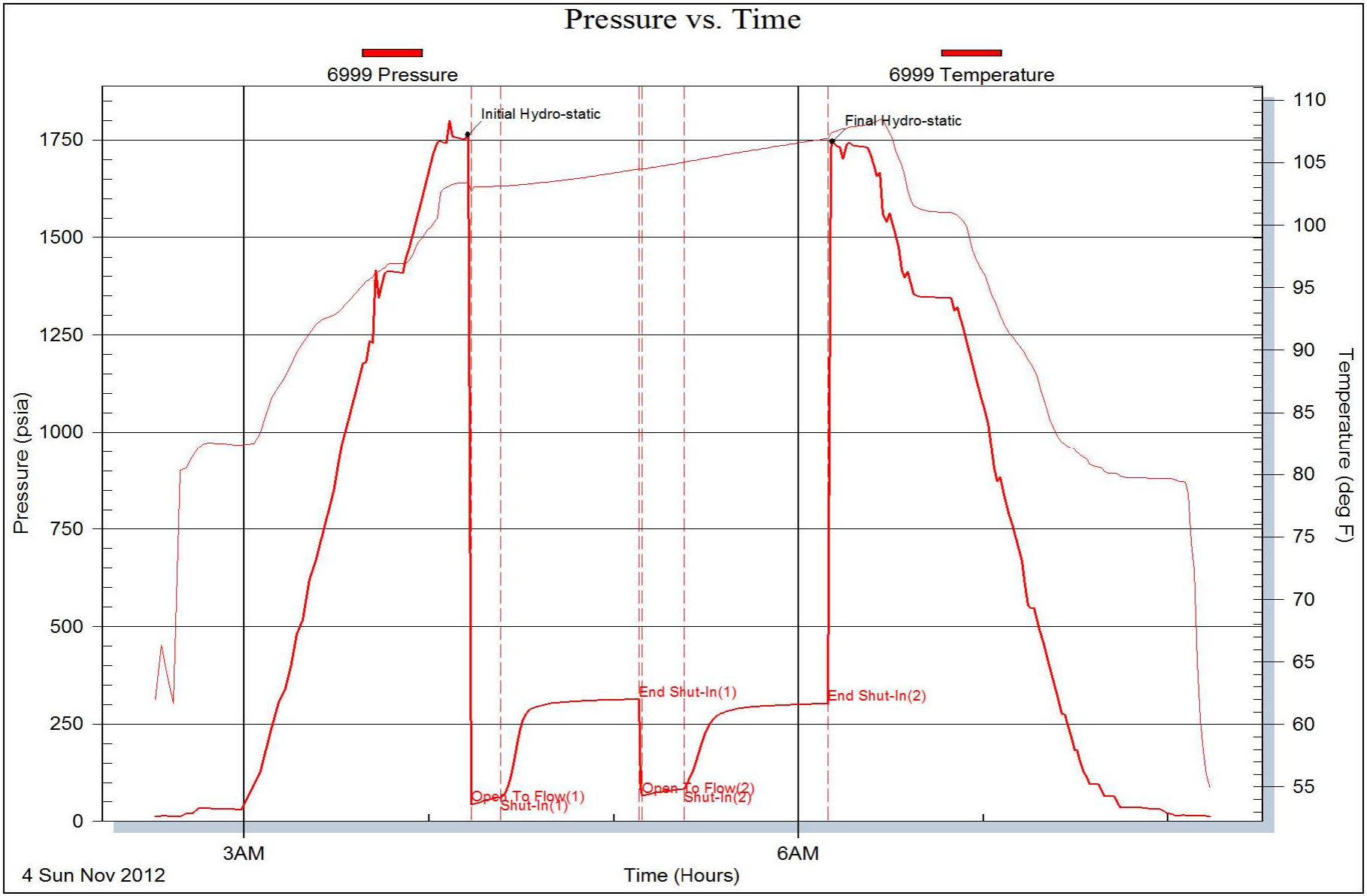
Serial #: 6999 **Outside** Werth Exploration Trust Worcester #1-3 DST Test Number: 3



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