

1. API No.	08323945 A ✓
2. OTC Prod. Unit No.	083205685
3. Date of Application	4/17/2014

4. Application for (check one)

A. Commingle Completion in the Wellbore (165:10-3-39)

B. Commingle Completion at the Surface (165:10-3-39)

C. Multiple (Dual) Completion (165:10-3-36)

D. Downhole Multiple Choke Assembly (165:10-3-37)

5. Operator Name	Arrowhead Energy, Inc.	OTC/OCC No.	10239 ✓	Email	arrowhead@arrowheadenergy.com
Address	2934 NW 156th Street			Phone No.	405-848-5777
City	Edmond	State	OK	Zip	73013
6. Lease Name/Well No.	4S Ranch 1-32 ✓			FAX No.	405-848-5782
Location within section:	C 1/4 SW 1/4 NE 1/4 ✓ 1/4	Sec.	32	Twp	17N
		Rge	4W ✓	County	Logan ✓

8. The following facts are submitted:	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
A. Name of common source of supply	Bigline Oswego ✓	Miss Meramac ✓	Hunton ✓
B. Top and bottom of pay section (perforations)	5963-67' ✓	6276-6536' O/A ✓	6685-6700' ✓
C. Type of production (oil or gas)	Gas ✓	Gas ✓	Oil ✓
D. Method of production (flowing or art. lift)	Pumping	Pumping	Pumping
E. Latest test data by zone (oil, gas, and water)	0 Oil, 8 MCF, 2 WTR	0 Oil, 15 MCF, 3 WTR ✓	1 Oil, 10 MCF, 2 WTR
F. Wellhead or bottom hole pressure	50# wellhead	50# wellhead	50# wellhead
G. Spacing order number and size of unit	unspaced ✓	586456/160A ✓	unspaced ✓
H. Increased density order number	N/A	N/A	N/A
I. Location exception order number and penalty	N/A	N/A	N/A

If 4A, 4B or 4D above, and size of the units under 8G above are not the same, have the different allocations been addressed?  Yes  No

9. List all operators with mailing addresses within 1/2 mile, producing from the above listed zones.

None producing within 1/2 mile ✓

OKLAHOMA CORPORATION COMMISSION  
Oil & Gas Division  
**Approved**

10. The operators listed above have been notified and furnished a copy of this application.  Yes  No

If no, an affidavit of mailing must be filed not later than five (5) days after submission of this application.

11. Classification of well (see OAC 165:10-13-2)  Oil  Gas

12. ATTACH THE FOLLOWING:

A. Correlation log section (porosity, resistivity, or gamma ray) with top and bottom of perforated intervals marked.

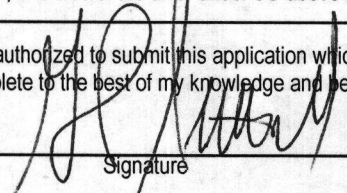
B. Diagrammatic sketch of the proposed completion of the well. ✓

C. Plat showing the location of all wells within 1/2 mile producing from the zones listed above. ✓

D. If 4B, 4C or 4D above, a Form 1024, Packer Setting Report, and a Form 1025 Packer Leakage Test.

E. If 4A, 4B or 4D above, and size of the units under 8G above are not the same, have the different allocations been addressed?  Yes  No

I hereby certify that I am authorized to submit this application which was prepared by me or under my supervision. The facts and proposals made herein are true correct and complete to the best of my knowledge and belief.

Jerry Stettisch  Signature

Field Operations Manager Title

405-640-2886 Phone (AC/NO)

**OCC USE ONLY**

S.A. Staff Signature

Phone No.

5, 6, 14 Date

Approved  Rejected

*Handwritten initials*

45 Ranch 1-32  
C SW NE  
32-17N-4W

16" 32# Conductor 93'  
w/60 SX to SURFACE

8 5/8" 24# set @ 720'  
w/400 SX to SURFACE

2 7/8" N80 Tbg

5 1/2" 17# set to 6784 w/190 SX

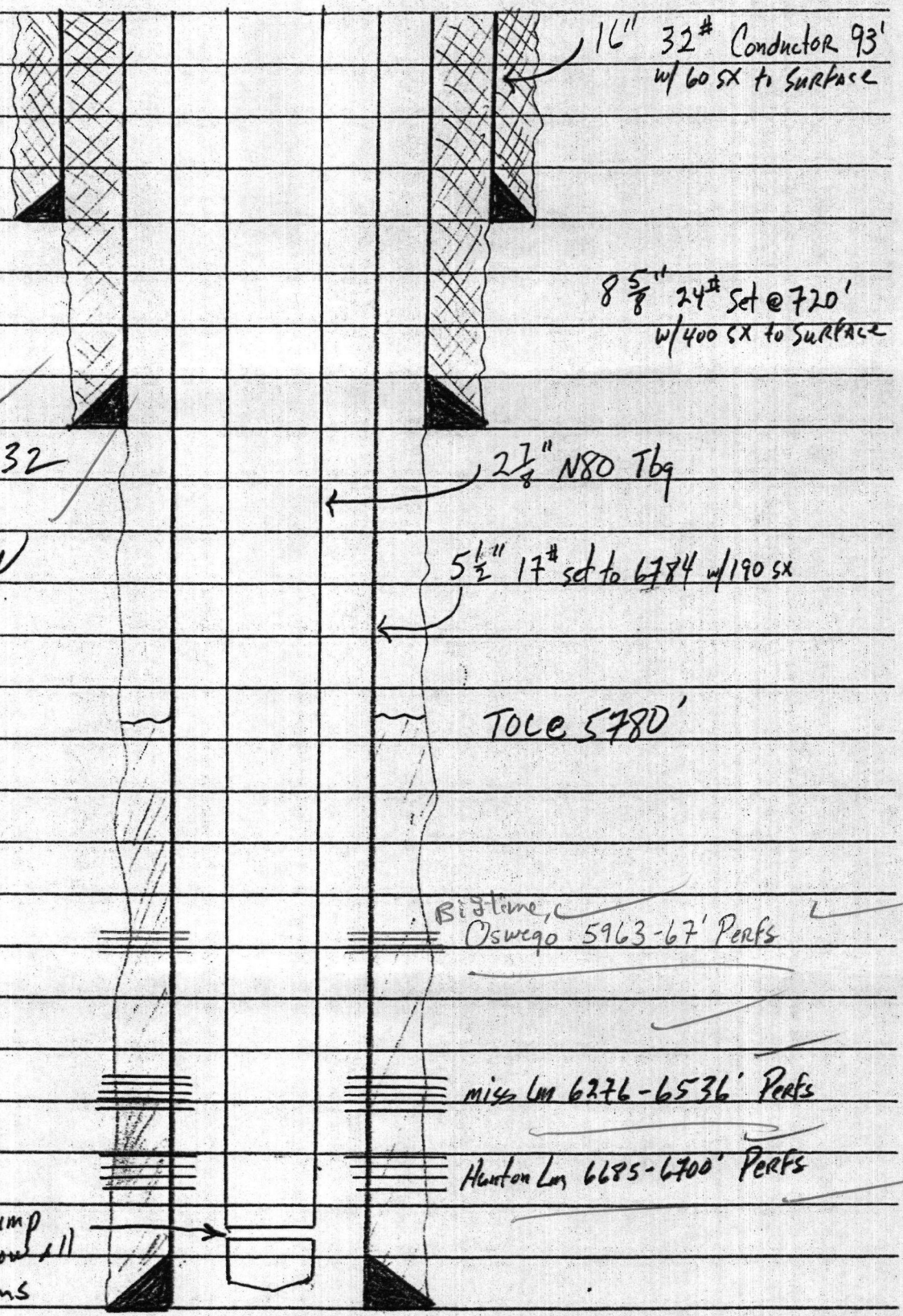
TOC @ 5780'

Bistone, c  
Oswego 5963-67' Perfs

Miss Lm 6276-6536' Perfs

Horton Lm 6685-6700' Perfs

Downhole pump  
Intake below all  
Perforations



  
**BAKER  
HUGHES****Baker Atlas****COMPENSATED Z-DENSILOG<sup>SM</sup>  
COMPENSATED NEUTRON LOG  
MINILOG<sup>®</sup>  
GAMMA RAY LOG**

FILE NO:	COMPANY	ARROWHEAD ENERGY, INC.	
API NO: 35-083-23945	WELL	4/S RANCH 1-32	
	FIELD	WEST CRESCENT	
	COUNTY	LOGAN	STATE OKLAHOMA
Ver. 3.87	LOCATION:	OTHER SERVICES	
	660' FSL & 660' FWL	HDIL/GR	
	SEC <u>32</u>	TWP <u>17N</u>	RGE <u>4W</u>
PERMANENT DATUM	GL	ELEVATION	1067 FT
LOG MEASURED FROM	KB	15 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		
		ELEVATIONS:	
		KB	1082 FT
		DF	1080 FT
		GL	1067 FT

DATE	22-Nov-2010		
RUN	TRIP	1	1
SERVICE ORDER	552622		
DEPTH DRILLER	6800 FT		
DEPTH LOGGER	6778 FT		
BOTTOM LOGGED INTERVAL	6778 FT		
TOP LOGGED INTERVAL	4550 FT		
CASING DRILLER	8.625 IN	Ø731 FT	Ø
CASING LOGGER	NOT LOGGED		
BIT SIZE	7.875 IN		
TYPE OF FLUID IN HOLE	WATER BASED MUD		
DENSITY	VISCOSITY	9.1 LB/G	70 S
PH	FLUID LOSS	10.5	7.6 G3
SOURCE OF SAMPLE	FLOWLINE		
RM AT MEAS. TEMP.	1.24 OHMM	Ø75 DEGF	Ø
RMF AT MEAS. TEMP.	0.93 OHMM	Ø75 DEGF	Ø
RMC AT MEAS. TEMP.	1.55 OHMM	Ø75 DEGF	Ø
SOURCE OF RMF	RMC	CALCULATED	CALCULATED
RM AT BHT	0.76 OHMM	Ø134 DEGF	Ø
TIME SINCE CIRCULATION	9 HOURS		
MAX. RECORDED TEMP.	134 DEGF		
EQUIP. NO.	LOCATION	HL 6596	WOODWARD,OK
RECORDED BY	S.JARSKI		
WITNESSED BY	MR. JERRY STETTNI SCH		

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

**REMARKS**

RUN 1 TRIP 1 : LCM = 15 PPB

Z-DENSILOG AND COMPENSATED NEUTRON LOG RECORDED WITH LIMESTONE MATRIX  
CNC BOREHOLE AND SALINITY CORRECTED  
RHO MATRIX = 2.71 G/CC RHO FLUID = 1.0 G/CC

BVOL = TOTAL BOREHOLE VOLUME  
CVOL = TOTAL BOREHOLE VOLUME MINUS 5.5" CASING

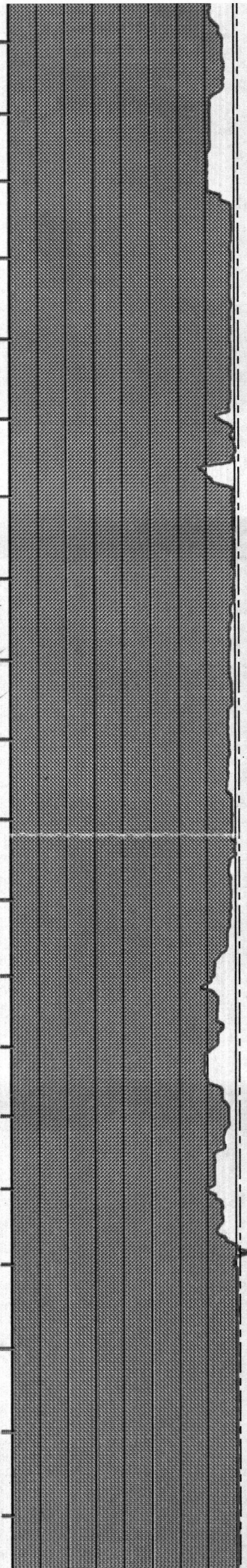
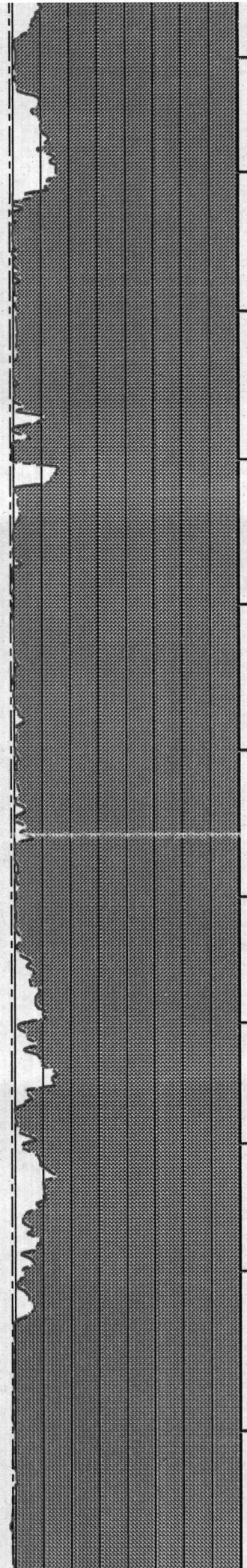
RIG: DAN DARLING #2  
CREW: J.JONES; S.GLENNIE  
BAKER ATLAS APPRECIATES ARROWHEAD ENERGY'S WORK!!!

**EQUIPMENT DATA**

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TIRM	3981 XA	178317	

200

100



300  
*300*  
*300*

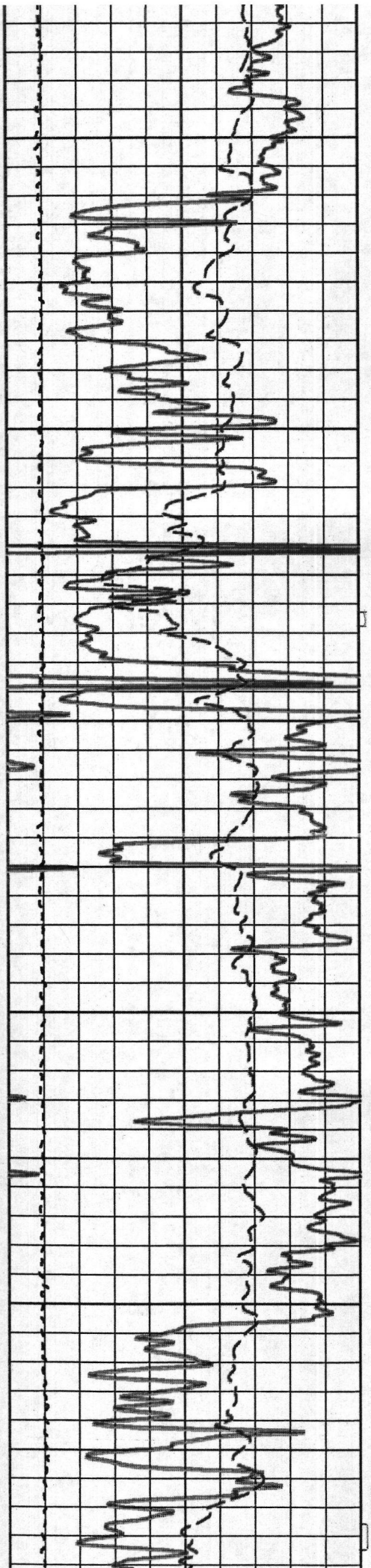
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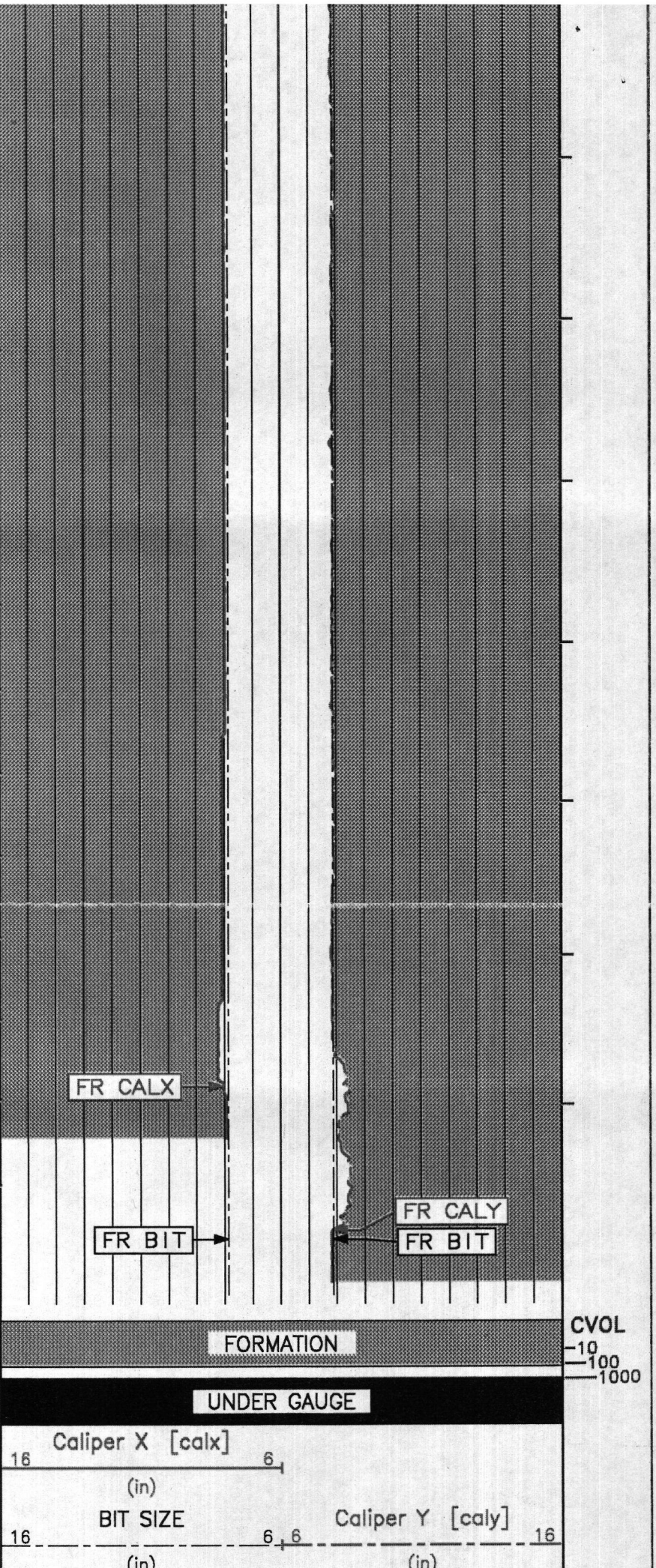
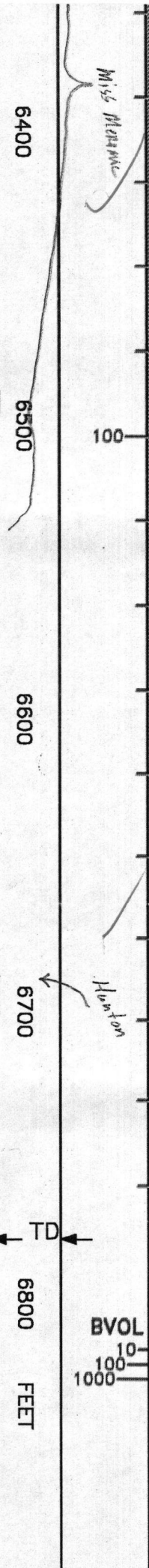
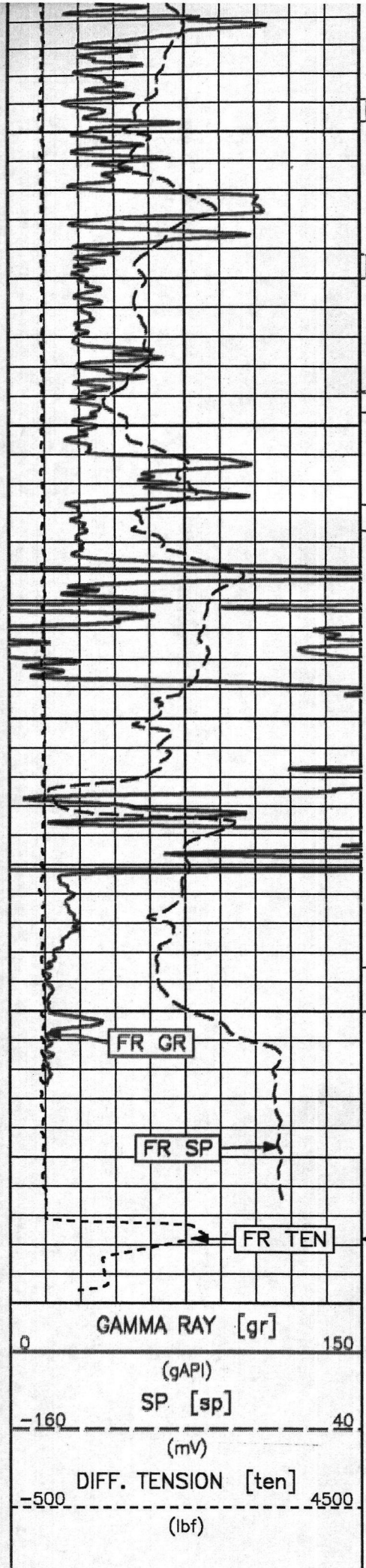
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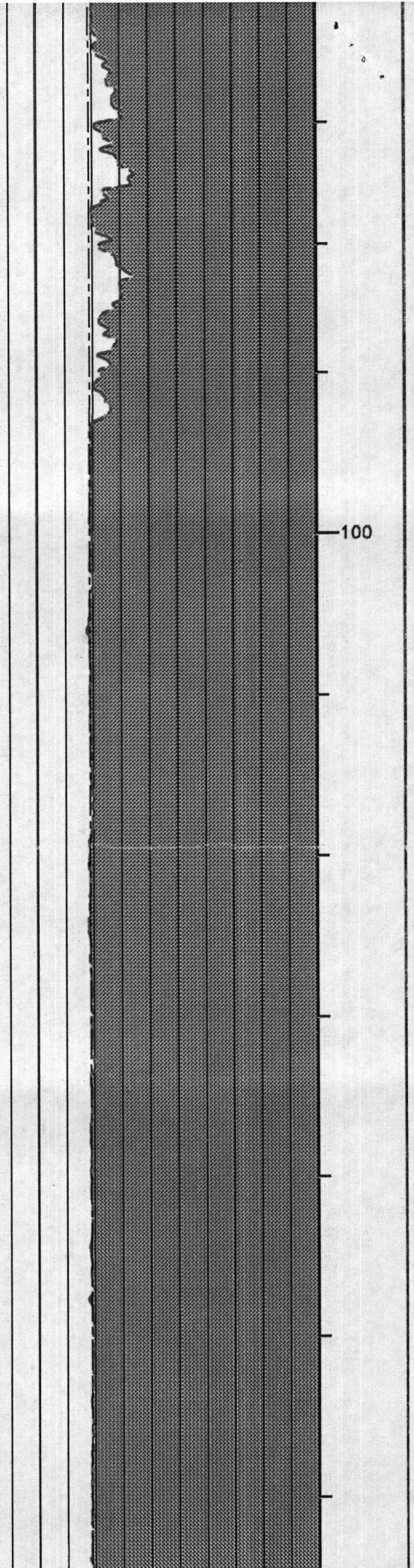
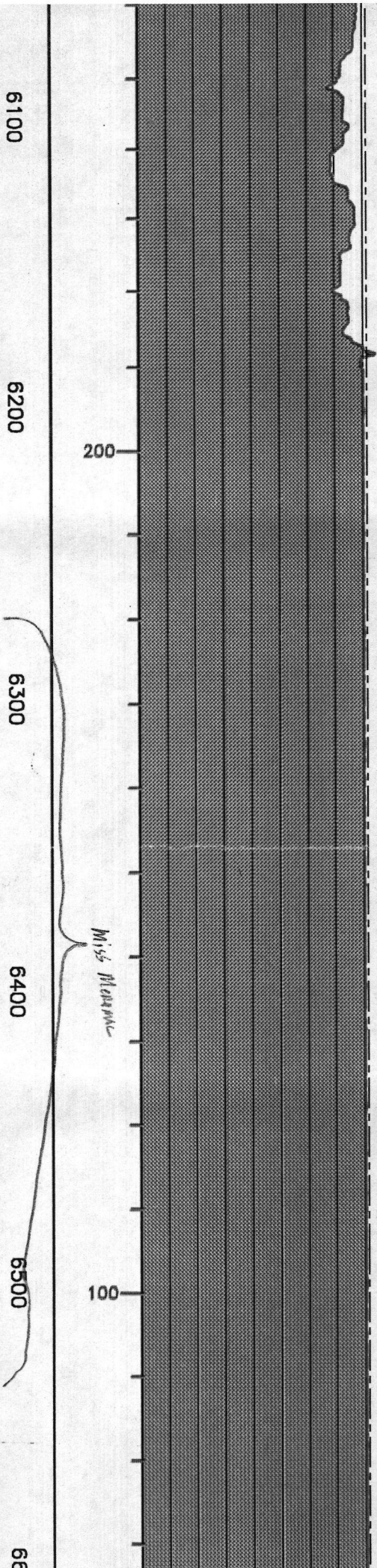
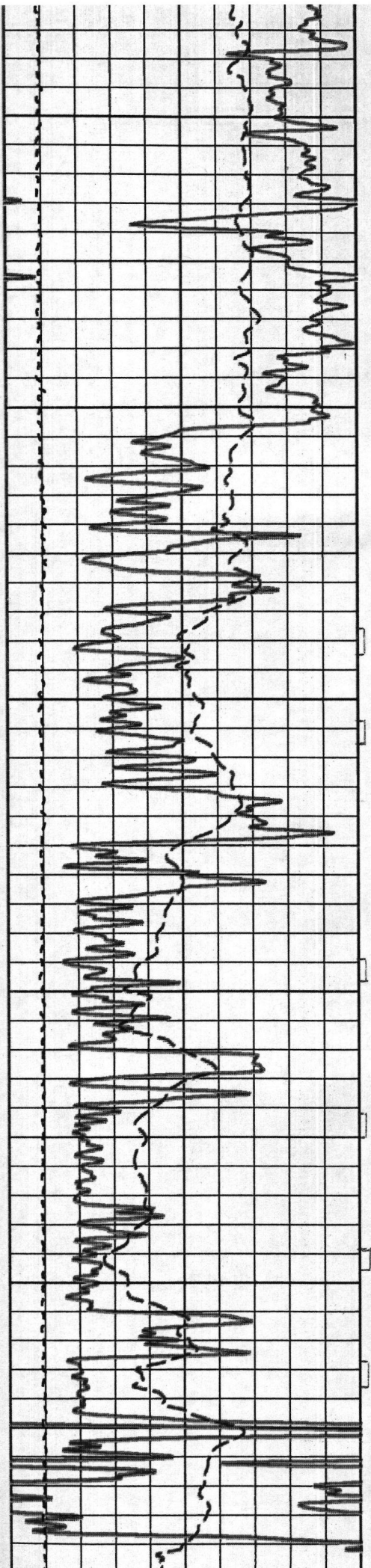
6000

6100

6200









Wm. F. "Bill" Varner  
President

04/17/2014

Samir Alwazzi, Oil & Gas Specialist, Engineer  
Oklahoma Corporation Commission  
Oil & Gas Conservation Division  
Jim Thorpe Building  
P.O. Box 52000  
OKC, OK 73152-2000

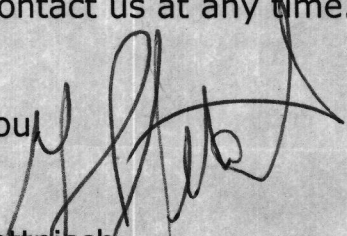
Good Day,

This Letter of affirmation is an attachment to the Commingling Application Form 1023 for the 4S Ranch 1-32 Well.

As Operator, Arrowhead Energy, Inc., attests and affirms no cross flow nor communication will occur in this well resulting in reservoir damage. With the depletion factors and low bottom hole pressures in these Zones, we have set our bottom hole pump assembly below all perforations and keep the well pumped down in a continuous fashion. The well is a very marginal producer.

Should you require any further information for this form 1023, please feel free to contact us at any time.

Thank You



Jerry Stettmisch  
Field Superintendent  
Arrowhead Energy, Inc.  
Office: 405-848-5777  
Cell: 405-640-2886