KOLAR Document ID: 1411564

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License #	API No.:
Name:	Spot Description:
Address 1:	
Address 2:	Feet from North / South Line of Section
City:	Feet from East / West Line of Section
Contact Person:	Footages Calculated from Nearest Outside Section Corner:
Phone: ()	□ NE □ NW □ SE □ SW
CONTRACTOR: License #	GPS Location: Lat:, Long:
Name:	(e.g. xx.xxxxx) (e.gxxx.xxxxxx)
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84
Purchaser:	County:
Designate Type of Completion:	Lease Name: Well #:
☐ New Well ☐ Re-Entry ☐ Workover	Field Name:
☐ Oil ☐ WSW ☐ SWD	Producing Formation:
☐ Gas ☐ DH ☐ EOR	Elevation: Ground: Kelly Bushing:
□ OG □ GSW	Total Vertical Depth: Plug Back Total Depth:
CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet
Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used?
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet
Operator:	If Alternate II completion, cement circulated from:
Well Name:	feet depth to:w/sx cmt.
Original Comp. Date: Original Total Depth:	
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD	Drilling Fluid Management Plan
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer	(Data must be collected from the Reserve Pit)
Commingled Paymit #	Chloride content:ppm Fluid volume:bbls
☐ Commingled Permit #: ☐ Dual Completion Permit #:	Dewatering method used:
SWD Permit #:	Location of fluid disposal if hauled offsite:
EOR Permit #:	·
GSW Permit #:	Operator Name:
	Lease Name: License #:
Spud Date or Date Reached TD Completion Date or	Quarter Sec TwpS. R East West
Recompletion Date Recompletion Date	County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
Confidentiality Requested
Date:
Confidential Release Date:
☐ Wireline Log Received ☐ Drill Stem Tests Received
Geologist Report / Mud Logs Received
UIC Distribution
ALT I II Approved by: Date:

KOLAR Document ID: 1411564

Page Two

Operator Name: _				Lease Name:			Well #:	
Sec Twp.	S. R.	E	ast West	County:				
	flowing and shu	ut-in pressures, v	vhether shut-in pre	ssure reached st	atic level, hydrosta	tic pressures, bot		val tested, time tool erature, fluid recovery,
Final Radioactivity files must be subm						iled to kcc-well-lo	gs@kcc.ks.gov	v. Digital electronic log
Drill Stem Tests Ta			Yes No			on (Top), Depth ar		Sample
Samples Sent to 0	Geological Surv	/ey	Yes No	Na	me		Тор	Datum
Cores Taken Electric Log Run Geologist Report / List All E. Logs Ru	_		Yes No Yes No Yes No					
		B	CASING eport all strings set-c		New Used	ion, etc.		
Purpose of Strir		Hole illed	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
			ADDITIONAL	CEMENTING / SO	UEEZE RECORD			
Purpose:		epth T Bottom	ype of Cement	# Sacks Used		Type and F	Percent Additives	
Perforate Protect Casi Plug Back T								
Plug Off Zor								
Did you perform a Does the volume Was the hydraulic	of the total base f	fluid of the hydrauli		_	=	No (If No, sk	ip questions 2 an ip question 3) out Page Three	,
Date of first Product Injection:	tion/Injection or R	esumed Production	Producing Meth	nod:	Gas Lift 0	Other (Explain)		
Estimated Production Per 24 Hours	on	Oil Bbls.					Gas-Oil Ratio	Gravity
DISPOS	SITION OF GAS:		N	METHOD OF COMP	LETION:			DN INTERVAL: Bottom
	Sold Used	I on Lease	Open Hole			mmingled mit ACO-4)	Тор	BOROTT
,	,			B.11 B1				
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid,	Fracture, Shot, Cer (Amount and Kind	menting Squeeze I of Material Used)	Record
TUBING RECORD:	: Size:	Set	Δ+-	Packer At:				
TODING RECORD:	. 3126.		n.	i donei Al.				

Form	ACO1 - Well Completion
Operator	Palomino Petroleum, Inc.
Well Name	ARROWHEAD 1
Doc ID	1411564

Tops

Name	Тор	Datum
Anhy.	2219	(+ 843)
Base Anhy.	2234	(+ 828)
Heebner	3927	(- 865)
Toronto	3949	(- 887)
Lansing	3975	(- 913)
Muncie Creek	4182	(-1120)
Stark	4299	(-1237)
BKC	4431	(-1369)
Marmaton	4463	(-1401)
Pawnee	4545	(-1483)
Ft. Scott	4577	(-1515)
Cherokee Sh.	4592	(-1530)
Miss.	4849	(-1787)
LTD	5049	(-1987)

Form	ACO1 - Well Completion
Operator	Palomino Petroleum, Inc.
Well Name	ARROWHEAD 1
Doc ID	1411564

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Type and Percent Additives
Surface	12.250	8.625	23	220	Common	2% gel, 3% c.c.

	Estroleum ए:	.niogist	
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GLOBAL OIL FIELD RVICES, LLC

24 S. Lincoln RUSSELL, KS 67665

RECEIVED JUN 23 2010

Invoice

Date	Invoice #	
6/21/2018	3376	

Bill To

PALOMINO PETROLEUM INC
4924 SE 84TH ST
NEWTON,KS 67114

P.O. No.	Terms	Project	
ARROWHEAD#1	Due on receipt	3,44	

			L	
Quantity	Description	Rate		Amount
	60/40 POZMIX CEMENT		13.75	3,712.50
	BENTONITE GEL		30.00	300.00
	FLO-SEAL HANDLING		2.00	135.00
280	BULK MILEAGE		1.90 950.00	532.00
	BODIC MIDDLEGO		930.00	950.00
1	TRI-PLEX PUMP CHARGE FOR PLUG		850.00	850.00
45	HEAVY EQUIPMENT. ONE WAY		6.50	292.50
45	LMV- ONE WAY		2.75	123.75
	DRY WOLD BY WO			
1	DRY HOLE PLUG		62.50	62.50
	20% DISCOUNT IF PAID WITHIN 15 DAYS OF INVOICE			
	SCOTT CO SALES TAX		3.50%	0.00
	SCOTT CO STEEDS TIME	· ·	5.30%	0.00
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Phone # Fax # 785-445-3525 785-445-3526

Total

\$6,958.25

GLOBAL OIL FIELD SERVICES, LLC 3376

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GLOBAL OIL FIELD SERVICES, LLC

JUN 14 2018

Invoice

_	Date	Invoice #
	6/11/2018	3351

24 S. Lincoln RUSSELL, KS 67665

Bill To	
PALOMINO PETROLEUM INC 4924 SE 84TH ST NEWTON,KS 67114	

P.O. No.	Terms	Project
ARROWHEAD#1	Due on receipt	

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Quantity	Description	n 	Rate	Amount
	60/40 POZMIX CEMENT		13.75	2,337.50
	CALCIUM-CHLORIDE		80.00	480.00
	BENTONITE GEL HANDLING		30.00	
180	BULK MILEAGE		1.90	
	BULK MILEAGE		650.00	650.00
1	TRI-PLEX PUMP CHARGE FOR SURFACE		850.00	850.00
45	HEAVY EQUIPMENT. ONE WAY		6.50	
45	LMV- ONE WAY		2.75	
141	0% DISCOUNT IF PAID WITHIN 15 DAYS O	EINVOICE		
	SCOTT CO SALES TAX	I INVOICE	8.50%	0.00
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nk you for your	business.			
Pho	e# Fax#		Total	\$5,195.75

	Phone #	Fax#
78	5-445-3525	785-445-3526

GLOBAL OIL FIELD SERVICES, LLC 3351

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Prepared For: Palomino Petroleum

4924 SE. 84th St. Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

Start Date: 2018.06.12 @ 04:39:15 End Date: 2018.06.12 @ 10:10:30 Job Ticket #: 63607 DST #: 1

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



Palomino Petroleum

4924 SE. 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63607

DST#: 1

Test Start: 2018.06.12 @ 04:39:15

GENERAL INFORMATION:

Time Tool Opened: 06:34:45

Time Test Ended: 10:10:30

Formation:

LKC H-I

Deviated:

No Whipstock: ft (KB)

Tester:

Test Type: Conventional Bottom Hole (Initial)

Mike Roberts

Unit No:

81

4178.00 ft (KB) To 4249.00 ft (KB) (TVD)

Interval: Total Depth: Hole Diameter:

4249.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Serial #: 8647

Inside

Press@RunDepth:

125.87 psig @

4214.00 ft (KB)

Capacity:

8000.00 psig

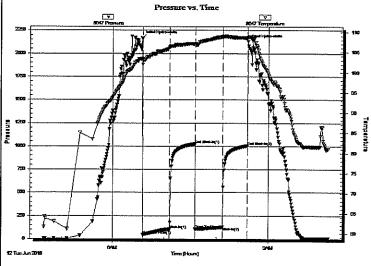
Start Date: Start Time: 2018.06.12 04:39:15 End Date: End Time: 2018.06.12 10:10:30 Last Calib.:

2018.06.12

Time On Btm: Time Off Btm: 2018.06.12 @ 06:34:30 2018.06.12 @ 08:36:15

TEST COMMENT: IF:Built to 7" blow (ipro)

IS:No return blow FF:Built to 4" blow FS:No return blow



		Р	RESSUF	RE SUMMARY
	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	
	0	2163.67	103.35	Initial Hydro-static
	1	44.37	101.97	Open To Flow (1)
	32	103.62	106.25	Shut-in(1)
	61	1022.61	107.14	End Shut-In(1)
7	61	105.44	106.66	Open To Flow (2)
Tempereture	93	125.87	108.86	Shut-ln(2)
ž	121	1002.78	108.60	End Shut-In(2)
	122	2126.36	108.80	Final Hydro-static
ļ	ļ			

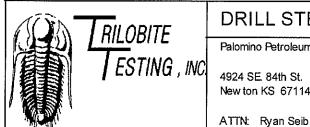
Recovery

Length (ft)	Description	Volume (bbl)		
184.00	mud 100%m	1.47		

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

Trilobite Testing, Inc.

Ref. No: 63607



Palomino Petroleum

Arrowhead #1

4924 SE 84th St. New ton KS 67114

Job Ticket: 63607

22-20s-34w Scott,KS

DST#:1

Test Start: 2018.06.12 @ 04:39:15

GENERAL INFORMATION:

Formation:

LKC H-I

Deviated:

interval:

Whipstock: No

ft (KB)

Test Type: Conventional Bottom Hole (Initial) Tester:

Time Tool Opened: 06:34:45

Unit No: 81

Mike Roberts

Time Test Ended: 10:10:30

4178.00 ft (KB) To 4249.00 ft (KB) (TVD)

Reference Elevations:

3062.00 ft (KB)

Total Depth: 4249.00 ft (KB) (TVD)

3057.00 ft (CF)

Hole Diameter:

7.88 inches Hole Condition: Fair

KB to GR/CF:

5.00 ft

Serial #: 8374 Press@RunDepth:

Outside

psig @

4214.00 ft (KB)

Capacity:

8000.00 psig

Start Date:

2018.06.12

End Date:

2018.06.12

Last Calib.:

2018.06.12

Start Time:

04:39:15

End Time:

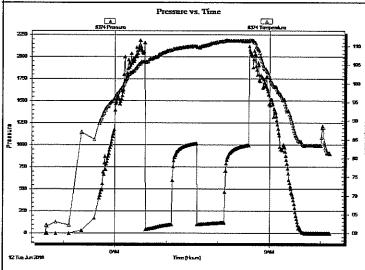
10:10:45

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 7" blow (ipro)

IS:No return blow FF:Built to 4" blow FS:No return blow



	PRESSURE SUMMARY							
	Time	Pressure	Temp	Annotation				
•	(Min.)	(psig)	(deg F)					
۱ ه								
.								
Temperatura								

Recovery

Length (ft)	Description	Volume (bbl)		
184.00	mud 100%m	1.47		

Gas Rai	tes	
Choke (inches)	Pressure (nsin)	Gas Rate (Mcf/d)

Trilobite Testing, Inc.

Ref. No: 63607



22-20s-34w Scott,KS

4924 SE. 84th St. New ton KS 67114

Palomino Petroleum

Arrowhead #1

Job Ticket: 63607 DST#:1

Test Start: 2018.06.12 @ 04:39:15

ATTN: Ryan Seib

Tool Information

Drill Pipe: Heavy Wt. Pipe: Length:

Length: 4062,00 ft Diameter:

0.00 ft Diameter:

3.80 inches Volume: 0.00 inches Volume: 56.98 bbl 0.00 bbl Tool Weight:

1500.00 lb

TOOL DIAGRAM

Drill Collar: Length: 122.00 ft Diameter: 2.25 inches Volume: Total Volume:

0.60 bbl 57.58 bbl

Weight set on Packer: 20000.00 lb Weight to Pull Loose: 83000.00 lb

Tool Chased 0.00 ft String Weight: Initial 65000.00 lb

Final 66000.00 lb

Drill Pipe Above KB: Depth to Top Packer:

37.00 ft 4178.00 ft

Depth to Bottom Packer: Interval between Packers:

ft 71.00 ft

102.00 ft

Tool Length:

Number of Packers:

2 Diameter: 6.75 inches

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4148.00		
Shut In Tool	5.00			4153.00		
Hydraulic tool	5.00			4158.00		
Jars	5.00			4163.00		
EM Tool	3.00			4166.00		
Safety Joint	3.00			4169.00		
Packer	5.00			4174.00	31.00	Bottom Of Top Packer
Packer	4.00			4178.00		
Stubb	1.00			4179.00		
Perforations	1.00			4180.00		
Change Over Sub	1.00			4181.00		
Drill Pipe	32.00			4213.00		
Change Over Sub	1.00			4214.00		
Recorder	0.00	8647	Inside	4214.00		
Recorder	0.00	8374	Outside	4214.00		
Perforations	30.00			4244.00		
Bullnose	5.00			4249.00	71.00	Bottom Packers & Anchor

Total Tool Length:

102.00

Trilobite Testing, Inc.

Ref. No: 63607



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63607

DST#: 1

FLUID SUMMARY

Test Start: 2018.06.12 @ 04:39:15

ATTN: Ryan Seib

Palomino Petroleum

4924 SE. 84th St.

New ton KS 67114

Mud and Cushion Information

Mud Type: Gel Chem

9.00 lb/gal

57.00 sec/qt

Viscosity: Water Loss: Resistivity:

Mud Weight:

8.34 in³ 0.00 ohm.m

Salinity: Filter Cake: 3200.00 ppm 1.00 inches Cushion Type:

Cushion Length: Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

0 deg API

0 ppm

psig

ft

bbl

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
184.00	mud 100%m	1.470

Total Length:

184.00 ft

Total Volume:

1.470 bbl

Num Fluid Samples: 0

Num Gas Bombs:

Laboratory Location:

0

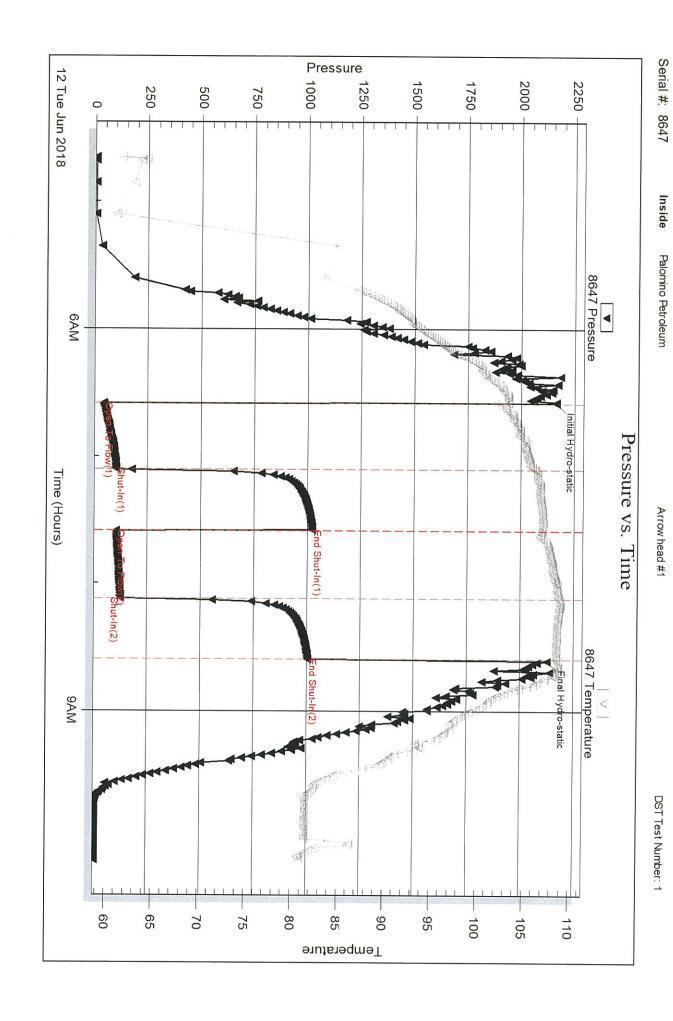
Serial #:

Laboratory Name:

Recovery Comments:

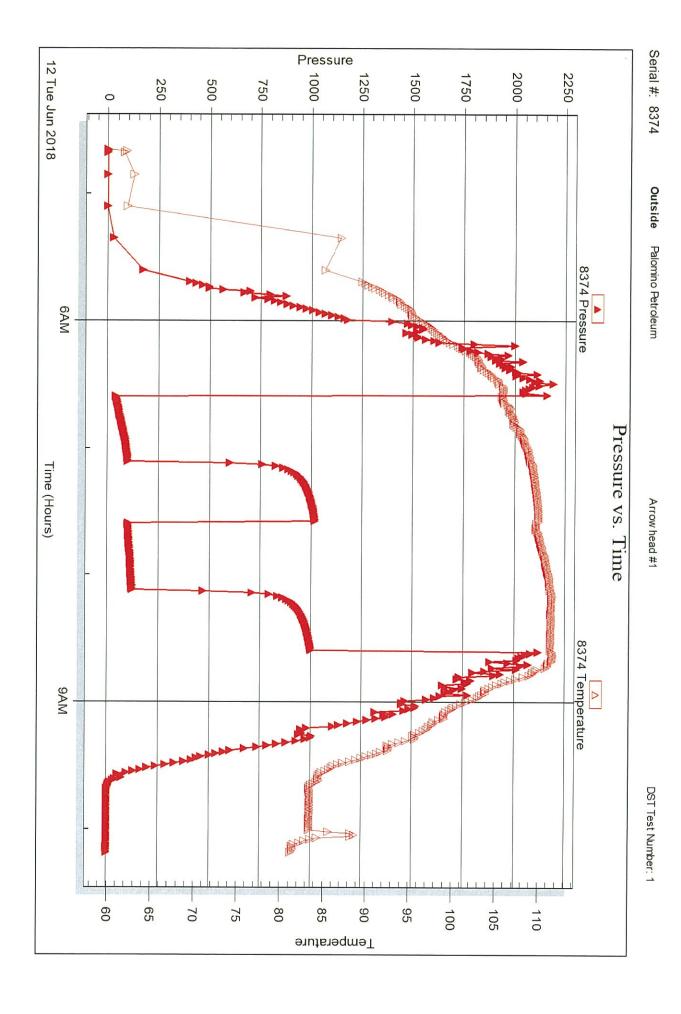
Trilobite Testing, Inc

Ref. No: 63607



Trilobite Testing, Inc

Ref. No: 63607





Prepared For: Palomino Petroleum

4924 SE. 84th St. Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

Start Date: 2018.06.12 @ 19:10:15 End Date: 2018.06.13 @ 00:32:00 Job Ticket #: 63608 DST #: 2

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



Palomino Petroleum

4924 SE 84th St. Newton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63608

DST#: 2

Test Start: 2018.06.12 @ 19:10:15

GENERAL INFORMATION:

Time Tool Opened: 21:00:15

Time Test Ended: 00:32:00

Formation:

Interval:

Total Depth:

Hole Diameter:

LKC K

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

3062.00 ft (KB)

Reference Elevations:

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Serial #: 8647

Press@RunDepth:

Inside

703.62 psig @

4350.00 ft (KB) (TVD)

4335.00 ft (KB)

2018.06.13

Capacity:

8000.00 psig

Start Date: Start Time: 2018.06.12 19:10:15

4295.00 ft (KB) To 4350.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

End Date: End Time:

00:32:00

Last Calib.:

2018.06.13

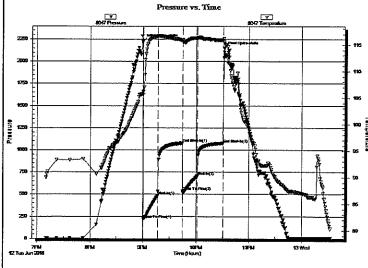
Time On Btm: Time Off Btm: 2018.06.12 @ 21:00:00 2018.06.12 @ 22:31:45

TEST COMMENT: IF:Built to 88 1/2" blow (lpro) BOB in 1 min

IS:No return blow

FF:Built to 60" blow BOB in 2 min.

FS:No return blow



•	Time	Pressure	Temp	Annotation
	(Min.)	(psig)	(deg F)	7 (Tariotation
	0	2227.08	106.15	Initial Hydro-static
	1	219.22	105.55	Open To Flow (1)
	17	485.00	116.62	Shut-In(1)
	45	1077.81	115.91	End Shut-In(1)
7 8	45	535.21	115.58	Open To Flow (2)
Interectors.	62	703.62	116.24	Shut-ln(2)
2	91	1074.63	115.87	End Shut-In(2)
	92	2145.09	115.69	Final Hydro-static

PRESSURE SUMMARY

Recovery

Description	Volume (bbl)
mud 100%m	3.24
mcw 30%m 70 %w	4.35
mcw 2%m 98% w	11.28
	mud 100%m mcw 30%m 70 %w

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63608



Palomino Petroleum

4924 SE. 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63608

DST#: 2

Test Start: 2018.06.12 @ 19:10:15

GENERAL INFORMATION:

Time Tool Opened: 21:00:15

Time Test Ended: 00:32:00

Formation:

Interval:

Total Depth:

Hole Diameter:

LKC K

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

81

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Serial #: 8374

Outside

Press@RunDepth:

psig @

4295.00 ft (KB) To 4350.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

4335.00 ft (KB) End Date:

2018.06.13

Capacity: Last Calib.: 8000.00 psig

Start Date: Start Time:

2018.06.12

4350.00 ft (KB) (TVD)

Time On Btm:

2018.06.13

19:10:15

End Time:

00:32:00

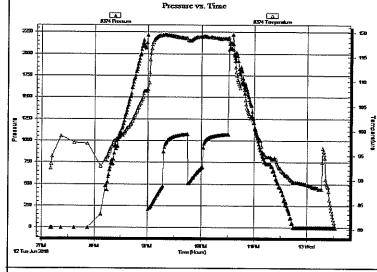
Time Off Btm:

TEST COMMENT: IF:Built to 88 1/2" blow (lpro) BOB in 1 min

IS:No return blow

FF:Built to 60" blow BOB in 2 min.

FS:No return blow



PRESSU	JRE .	SUMMA	RY

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

	i				!

Recovery

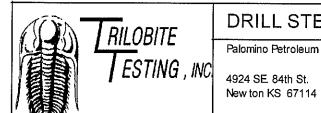
Length (ft)	Description	Volume (bbi)
310.00	mud 100%m	3.24
310.00	mcw 30%m 70 %w	4.35
804.00	mcw 2%m 98% w	11.28
* Recovery from r	nultinie tests	

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63608



22-20s-34w Scott,KS

4924 SE 84th St. Arrowhead #1

New ton KS 67114 Job Ticket: 63608

Test Start: 2018.06.12 @ 19:10:15

ATTN: Ryan Seib

Tool Information

Drill Pipe: Length: 4162.00 ft Diameter: Heavy Wt. Pipe: Length:

Length:

0.00 ft Diameter: 122.00 ft Diameter: 3.80 inches Volume: 0.00 inches Volume: 2.25 inches Volume:

Total Volume:

58.38 bbl 0.00 bbl 0.60 bbl

58.98 bbl

Tool Weight:

1500.00 lb Weight set on Packer: 20000.00 lb

Weight to Pull Loose: 86000.00 lb Tool Chased

String Weight: Initial

0.00 ft

DST#: 2

TOOL DIAGRAM

68000.00 lb Final 72000.00 lb

Drill Pipe Above KB: Depth to Top Packer:

Drill Collar:

20.00 ft 4295.00 ft

fţ

Depth to Bottom Packer: Interval between Packers:

55.00 ft 86.00 ft

Tool Length:

Number of Packers:

2 Diameter: 6.75 inches

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4265.00		
Shut In Tool	5.00			4270.00		
Hydraulic tool	5.00			4275.00		
Jars	5.00			4280.00		
EM tool	3.00			4283.00		
Safety Joint	3.00			4286.00		
Packer	5.00			4291.00	31.00	Bottom Of Top Packer
Packer	4.00			4295.00		
Stubb	1.00			4296.00		
Perforations	5.00			4301.00		
Change Over Sub	1.00			4302.00		
Drill Pipe	32.00			4334.00		
Change Over Sub	1.00			4335.00		
Recorder	0.00	8647	Inside	4335.00		
Recorder	0.00	8374	Outside	4335.00		
Perforations	10.00			4345.00		
Bullnose	5.00			4350.00	55.00	Bottom Packers & Anchor

Total Tool Length:

86.00

Trilobite Testing, Inc.

Ref. No: 63608



Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St. New ton KS 67114 Arrowhead #1

Job Ticket: 63608

ATTN: Ryan Seib

Test Start: 2018.06.12 @ 19:10:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight:

9.00 lb/gal

Cushion Length: Cushion Volume: Water Salinity:

13000 ppm

FLUID SUMMARY

DST#: 2

Viscosity:

53.00 sec/qt 6.37 in³

Gas Cushion Type:

psig

ft

bbl

Water Loss: Resistivity:

Filter Cake:

Salinity:

0.00 ohm.m 3500.00 ppm

1.00 inches

Gas Cushion Pressure:

Recovery Information

Recovery Table

Length ft	Description	Volume bbl	
310.00	mud 100%m	3.237	
310.00	mcw 30%m 70 %w	4.348	
804.00	mcw 2%m 98% w	11.278	

Total Length:

1424.00 ft

Total Volume:

18.863 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

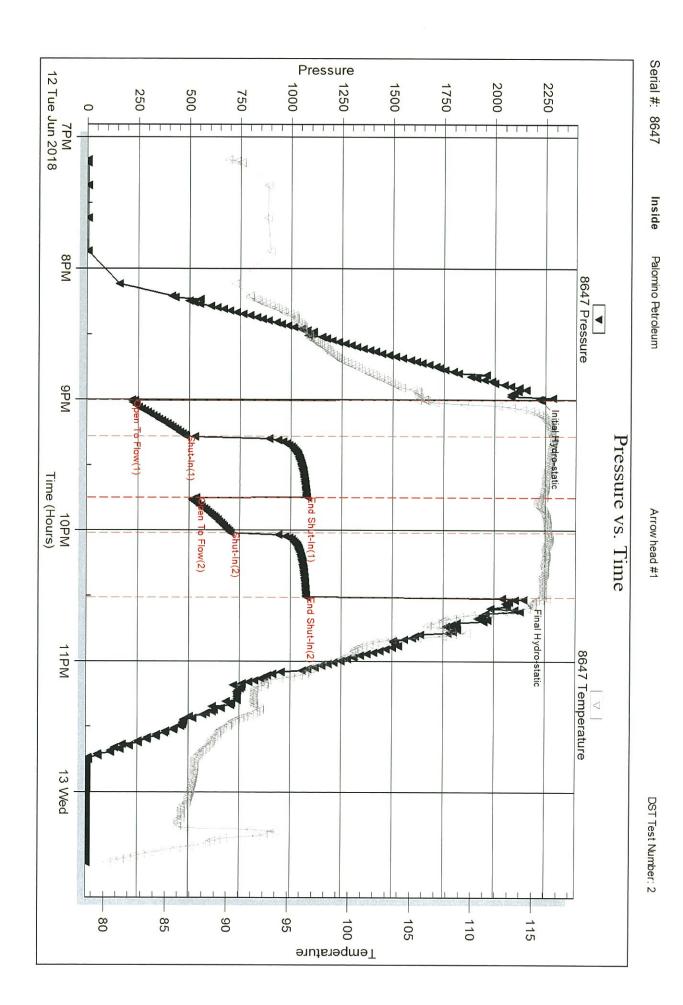
Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .541@ .740= 13,000 ppm

Trilobite Testing, Inc.

Ref. No: 63608



Trilobite Testing, Inc

Ref. No:

63608

Serial #: 8374

Outside Palomino Petroleum

Arrow head #1

DST Test Number: 2

Trilobite Testing, Inc

Ref. No:

63608



Prepared For: Palomino Petroleum

4924 SE. 84th St. Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

Start Date: 2018.06.13 @ 19:07:15
End Date: 2018.06.14 @ 00:34:15
Job Ticket #: 63609 DST #: 3

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



Palomino Petroleum

4924 SE, 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63609

DST#: 3

Test Start: 2018.06.13 @ 19:07:15

GENERAL INFORMATION:

Time Tool Opened: 21:02:45

Time Test Ended: 00:34:15

Formation:

Marmaton

Deviated:

Whipstock: No

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

81

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Interval: Total Depth: 4422.00 ft (KB) To 4540.00 ft (KB) (TVD)

4540.00 ft (KB) (TVD)

Hole Diameter:

7.88 inches Hole Condition: Fair

Serial #: 8374

Press@RunDepth:

Outside

125.89 psig @ 2018.06.13

4525.00 ft (KB)

End Date:

2018.06.14

Capacity:

Last Calib.:

8000.00 psig

2018.06.14

Start Date: Start Time:

19:07:15

End Time:

00:34:15

Time On Btm:

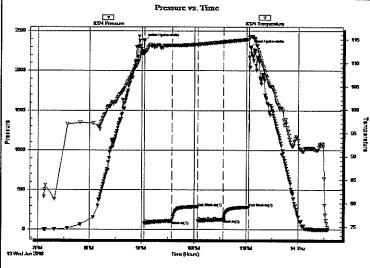
2018.06.13 @ 21:02:30

Time Off Btm:

2018.06.13 @ 23:04:45

TEST COMMENT: IF:Built to 2" blow

IS:No return blow FF:Built to 1/2" blow FS:No return blow



	PRESSURE SUMMARY						
	Time	Pressure	Temp	Annotation			
	(Min.)	(psig)	(deg F)				
	0	2371.45	112.40	Initial Hydro-static			
	1	77.77	111.92	Open To Flow (1)			
	32	108.28	113.72	Shut-In(1)			
	62	278.97	113.98	End Shut-In(1)			
7	62	110.95	113.94	Open To Flow (2)			
nuterectue.	91	125.89	114.48	Shut-ln(2)			
1	121	281.51	115.04	End Shut-In(2)			
	123	2299.05	115.64	Final Hydro-static			
ı							
- 1							

Recovery

Length (ft)	Description	Volume (bbl)
52.00	mud w ith oil spots 100%m	0.30
Recovery from ma	altiple tests	

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63609



Palomino Petroleum

4924 SE. 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63609

DST#: 3

Test Start: 2018.06.13 @ 19:07:15

GENERAL INFORMATION:

Time Tool Opened: 21:02:45

Time Test Ended: 00:34:15

Formation:

Marmaton

Deviated:

No Whipstock: ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

81

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Interval: Total Depth: 4422.00 ft (KB) To 4540.00 ft (KB) (TVD)

Hole Diameter:

4540.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Serial #: 8647

Press@RunDepth:

Inside

psig @

4525.00 ft (KB)

End Date:

2018.06.14

Capacity: Last Calib.:

8000.00 psig 2018.06.14

Start Date: Start Time:

19:07:15

2018.06.13

End Time:

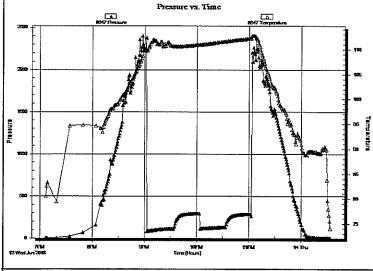
00:34:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 2" blow

IS:No return blow FF:Built to 1/2" blow FS:No return blow



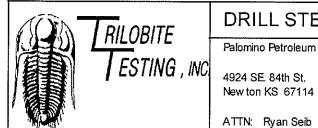
	PRESSURE SUMMARY							
-								
	Time	Pressure	Temp	Annotation				
a	(Min.)	(psig)	(deg F)					
6		1						
					l			
•					ı			
-								
erriere dure 1								
rrje v					l			
•					-			
					- 1			
.								
ļ								

Recovery Length (ft) Description Volume (bbl) 62.00 mud with oil spots 100%m 0.30

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

Recovery from multiple tests Trilobite Testing, Inc

Ref. No: 63609



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63609

DST#: 3

TOOL DIAGRAM

Test Start: 2018.06.13 @ 19:07:15

Tool Information

Drill Pipe: Heavy Wt. Pipe: Length:

Length:

Length: 4290.00 ft Diameter: 0.00 ft Diameter: 122.00 ft Diameter:

3.80 inches Volume: 0.00 inches Volume: 2.25 inches Volume:

Total Volume:

60.18 bbl 0.00 bbl 0.60 bbl

60.78 bbl

4407.00

4525.00

4525.00

4535.00

4540.00

Tool Weight: Weight set on Packer: 20000.00 lb

1500.00 lb

Tool Chased

Weight to Pull Loose: 90000.00 lb

0.00 ft

Bottom Of Top Packer

Bottom Packers & Anchor

String Weight: Initial

31.00

118.00

Printed: 2018.06.18 @ 14:01:40

68000.00 lb Final 69000.00 lb

Drill Pipe Above KB: Depth to Top Packer:

Drill Collar:

21.00 ft 4422.00 ft

Depth to Bottom Packer: Interval between Packers:

ft

118.00 ft 149.00 ft

Tool Length:

Number of Packers:

Tool Comments:

Jars

Recorder

Bullnose

Perforations

2

Diameter:

6.75 inches

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4392.00	
Shut In Tool	5.00			4397.00	
Hydraulic tool	5.00			4402,00	

8647

8374

Inside

Outside

EM tool 3.00 4410.00 Safety Joint 3.00 4413.00 Packer 5.00 4418.00 Packer 4.00 4422.00 Stubb 1.00 4423.00 Perforations 5.00 4428.00 Change Over Sub 1.00 4429.00 Drill Pipe 95.00 4524.00 Change Over Sub 1.00 4525.00 Recorder

0.00

0.00

10.00

5.00

5.00

Total Tool Length: 149.00



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63609

DST#: 3

FLUID SUMMARY

Test Start: 2018.06.13 @ 19:07:15

4924 SE. 84th St. New ton KS 67114

Palomino Petroleum

ATTN: Ryan Seib

Mud and Cushion Information

Mud Type: Gel Chem

9.00 lb/gal

Mud Weight: Viscosity: 61.00 sec/qt

Water Loss: 7.97 in³ Resistivity: 0.00 ohm.m

Salinity: 4200.00 ppm Filter Cake: 1.00 inches Cushion Type:

Cushion Length: Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

0 deg API

Water Salinity: 0 ppm

Recovery Information

Recovery Table

Length Description Volume fť bbl 62.00 mud with oil spots 100%m 0.305

Total Length:

62.00 ft

Total Volume:

0.305 bbl

0

Num Fluid Samples: 0

Num Gas Bombs:

Serial #:

ft

bbl

psig

Laboratory Name:

Laboratory Location:

Recovery Comments:

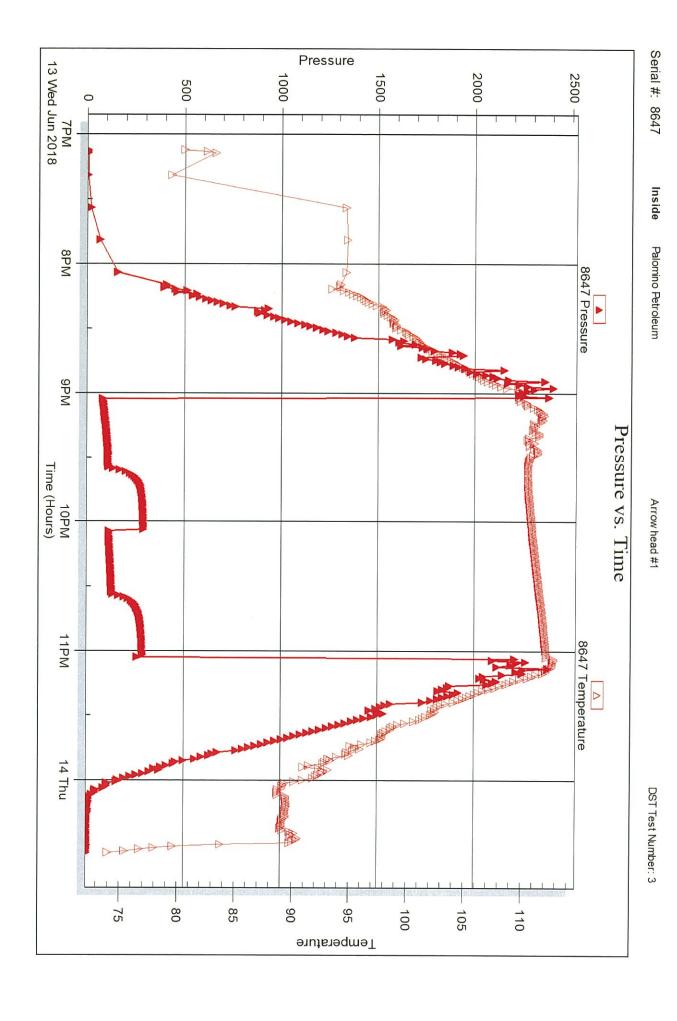
Trilobite Testing, Inc.

Ref. No: 63609

Trilobite Testing, Inc

Ref. No:

63609



Trilobite Testing, Inc

Ref. No:

63609



Prepared For: Palomino Petroleum

4924 SE. 84th St. Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

Start Date: 2018.06.14 @ 10:00:15 End Date: 2018.06.14 @ 17:05:30 Job Ticket #: 63610 DST#: 4

Trilobite Testing, Inc.

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



Palomino Petroleum

4924 SE 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63610

DST#: 4

Test Start: 2018.06.14 @ 10:00:15

GENERAL INFORMATION:

Time Tool Opened: 11:52:15

Time Test Ended: 17:05:30

Formation:

Pawnee-Ft.Scott

Deviated:

Whipstock: No

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

81

3062.00 ft (KB)

Reference Elevations:

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

interval: Total Depth:

Start Time:

4535.00 ft (KB) To 4610.00 ft (KB) (TVD)

Hole Diameter:

4535.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Inside

Serial #: 8647 Press@RunDepth: Start Date:

139.67 psig @ 2018.06.14

4605.00 ft (KB)

End Time:

End Date:

2018.06.14 17:05:30

Capacity: Last Calib.;

8000.00 psig 2018.06.14

Time On Btm:

2018.06.14 @ 11:51:15

Time Off Btm:

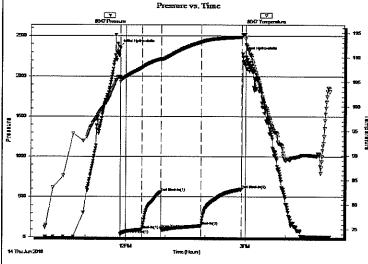
2018.06.14 @ 14:55:00

TEST COMMENT: IF:Built to 18" blow (Ipro)

10:00:15

IS:No return blow

FF:Built to 45" blow (Ipro) FS:Return blow 10"



	PRESSURE SUMMARY					
	Time	Pressure	Temp	Annotation		
	(Min.)	(psig)	(deg F)			
	0	2365.58	105.98	Initial Hydro-static		
	1	33.17	105.01	Open To Flow (1)		
	33	92.13	107.89	Shut-in(1)		
i	62	560.05	109.65	End Shut-In(1)		
1	62	107.02	109.51	Open To Flow (2)		
unterature	122	139.67	113.10	Shut-In(2)		
2	183	596.42	114.10	End Shut-In(2)		
	184	2275.90	114.57	Final Hydro-static		
		'				

Recovery

Length (ft)	Description	Volume (bbl)	
0.00	682 Gip	0.00	
62.00	gco 60%g 40%o	0.30	
124.00	mcog 20%m 30%o 50%g	1.19	
122.00	gcow m 10%g 20%o 20%w 50%m	1.71	
*Recovery from n	nultiple tests		

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 63610



Palomino Petroleum

4924 SE 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63610

DST#: 4

Test Start: 2018.06.14 @ 10:00:15

GENERAL INFORMATION:

Formation:

Pawnee-Ft.Scott

Deviated: No

Time Tool Opened: 11:52:15

Time Test Ended: 17:05:30

Interval:

4535.00 ft (KB) To 4610.00 ft (KB) (TVD)

Total Depth:

4535.00 ft (KB) (TVD)

Whipstock:

Hole Diameter:

7.88 inches Hole Condition: Fair

ft (KB)

Test Type:

Conventional Bottom Hole (Reset)

Tester:

Mike Roberts

Unit No:

Reference Elevations:

3062.00 ft (KB)

KB to GR/CF:

3057.00 ft (CF) 5.00 ft

Serial #: 8374

Outside

Press@RunDepth:

psig @

4605.00 ft (KB)

End Date:

2018.06.14

Capacity: Last Calib.: 8000.00 psig

Start Date: Start Time: 2018.06.14 10:00:15

End Time:

17:05:45

Time

(Min.)

Time On Btm:

Pressure

(psig)

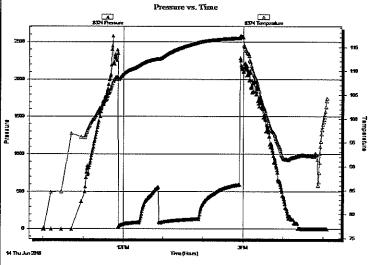
2018.06.14

Time Off Btm:

TEST COMMENT: IF:Built to 18" blow (Ipro)

IS:No return blow

FF:Built to 45" blow (Ipro) FS:Return blow 10"



- 100 7	
- 100 Tamparatura - 25	
- 60	
- 65	

Temp (deg F)

PRESSURE SUMMARY

Annotation

Recovery

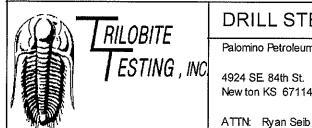
0.00
0.30
1.19
50%m 1.71

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63610



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63610

DST#: 4

TOOL DIAGRAM

Test Start: 2018.06.14 @ 10:00:15

Tool Information

Drill Collar:

Drill Pipe:

Length: 4412.00 ft Diameter: Heavy Wt. Pipe: Length:

Length:

0.00 ft Diameter: 122.00 ft Diameter: 3.80 inches Volume: 0.00 inches Volume: 2.25 inches Volume:

61.89 bbl 0.00 bbl 0.60 bbl

62.49 bbl

Tool Weight: Weight set on Packer: 20000.00 lb Weight to Pull Loose: 90000.00 lb

1500.00 lb

Drill Pipe Above KB: Depth to Top Packer:

30.00 ft

4535.00 ft ft

Depth to Bottom Packer: Interval between Packers: 75.00 ft 106.00 ft

Tool Length: Number of Packers:

Tool Comments:

2

Total Volume:

Tool Chased String Weight: Initial

0.00 ft 70000.00 lb

Final 70000.00 lb

Diameter: 6.75 inches

Palomino Petroleum

4924 SE 84th St.

New ton KS 67114

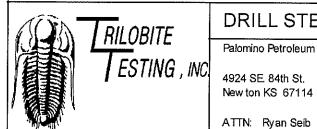
Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4505.00		
Shut in Tool	5.00			4510.00		
Hydraulic tool	5.00			4515.00		
Jars	5.00			4520.00		
EM Tool	3.00			4523.00		
Safety Joint	3.00			4526.00		
Packer	5.00			4531.00	31.00	Bottom Of Top Packer
Packer	4.00			4535.00		
Stubb	1.00			4536.00		
Perforations	3.00			4539.00		
Change Over Sub	1.00			4540.00		
Drill Pipe	64.00			4604.00		
Change Over Sub	1.00			4605.00		
Recorder	0.00	8647	Inside	4605.00		
Recorder	0.00	8374	Outside	4605.00		
Bullnose	5.00			4610.00	75.00	Bottom Packers & Anchor
Total Tool Length:	106.00					

Total Tool Length:

106.00

Trilobite Testing, Inc.

Ref. No: 63610



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63610

Serial #:

DST#:4

FLUID SUMMARY

25 deg API

16000 ppm

Test Start: 2018.06.14 @ 10:00:15

Oil API:

Water Salinity:

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight:

9.00 lb/gal

Viscosity: Water Loss: Resistivity:

Salinity:

Filter Cake:

7.98 in³ 0.00 ohm.m 4000.00 ppm

52.00 sec/qt

1.00 inches

Cushion Type:

Cushion Length: Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

bbl

psig

ft

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	682 Gip	0.000
62.00	gco 60%g 40%o	0.305
124.00	mcog 20%m 30%o 50%g	1.193
122.00	gcow m 10%g 20%o 20%w 50%m	1.711

Total Length:

308.00 ft

Total Volume:

3.209 bbl

Num Fluid Samples: 0

Num Gas Bombs:

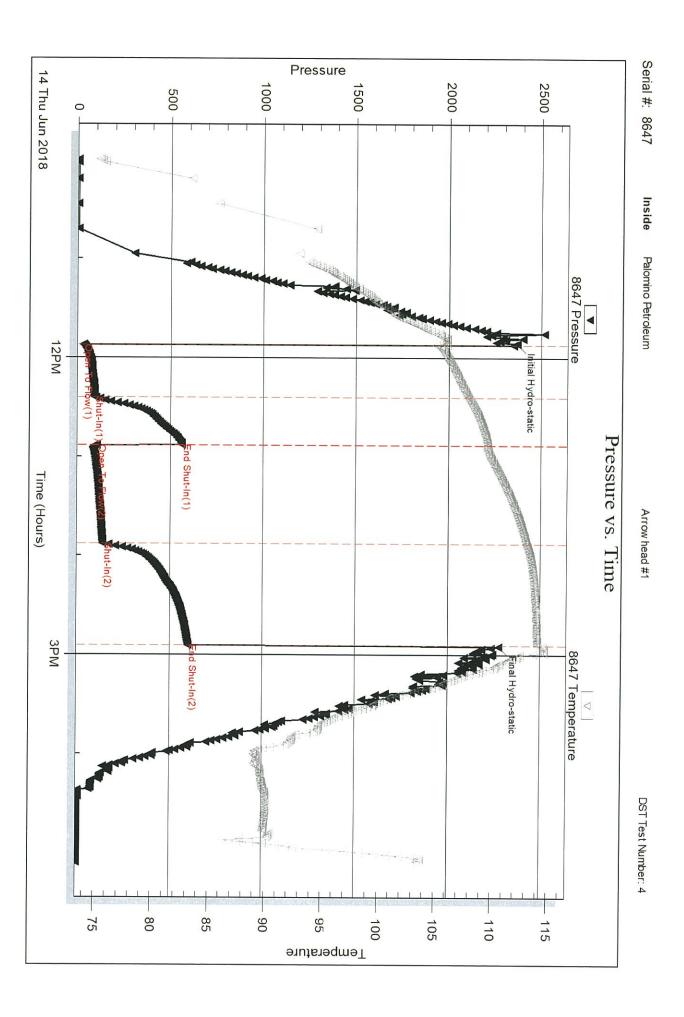
Laboratory Location:

Laboratory Name: Recovery Comments: RW= .521@ 76.4= 16,000 ppm

API= 29@ 90 corrected to 25 @ 60

Trilobite Testing, Inc

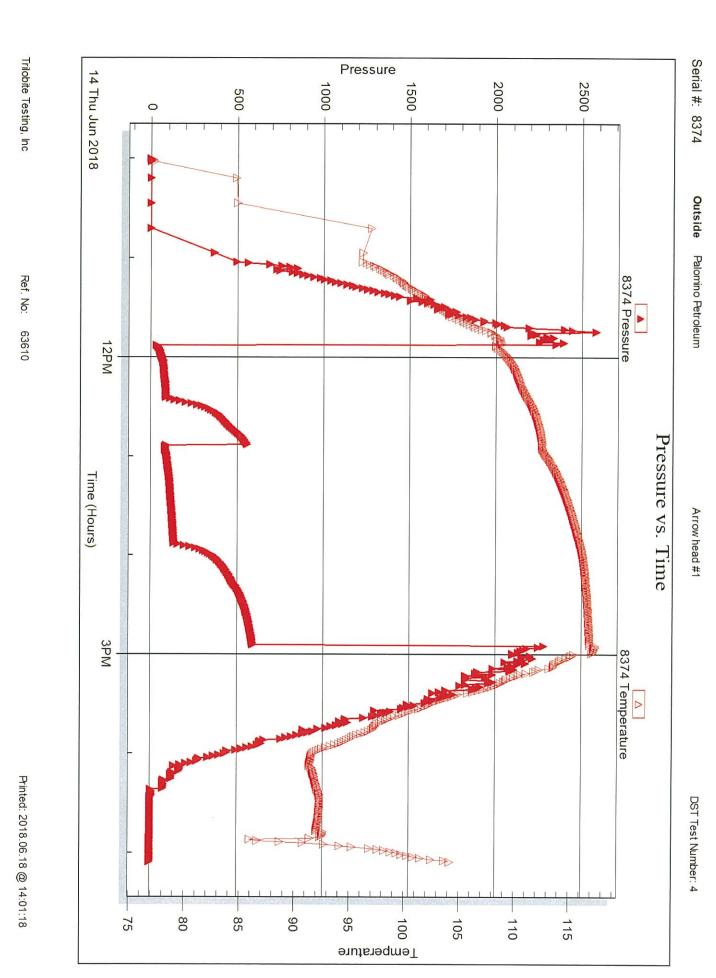
Ref. No: 63610



Trilobite Testing, Inc

Ref. No:

63610





Prepared For: Palomino Petroleum

4924 SE. 84th St. Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

Start Date: 2018.06.16 @ 15:15:00 End Date: 2018.06.16 @ 21:37:00 Job Ticket #: 63611 DST #: 5

Trilobite Testing, Inc.

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



Palomino Petroleum

4924 SE. 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63611

DST#:5

Test Start: 2018.06.16 @ 15:15:00

GENERAL INFORMATION:

Time Tool Opened: 17:20:45

Time Test Ended: 21:37:00

Formation:

Cherokee

Deviated:

No Whipstock: ft (KB)

Test Type: Conventional Straddle (Reset)

Tester:

Unit No:

Mike Roberts

81

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

interval: Total Depth:

Start Time:

4705.00 ft (KB) To 4860.00 ft (KB) (TVD)

Hole Diameter:

5049.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Serial #: 8647

Inside

Press@RunDepth: Start Date:

223.66 psig @ 2018.06.16

15:15:15

4836.00 ft (KB)

End Date: End Time: 2018.06.16 21:37:00

Last Calib.:

8000.00 psig 2018.06.16

Time On Btm:

Capacity:

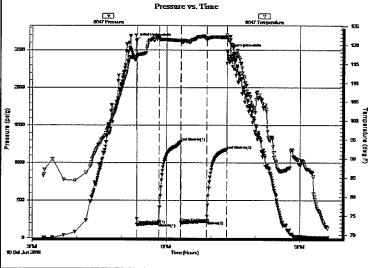
2018.06.16 @ 17:20:00

Time Off Btm:

2018.06.16 @ 19:21:45

TEST COMMENT: IF:Built to 7 1/2" blow

IS:No return blow FF:Built to 2" blow FS:No return blow



	PRESSURE SUMMARY						
į	Time	Pressure	Temp	Annotation			
,	(Min.)	(psig)	(deg F)				
	0	2631.63	116.84	Initial Hydro-static			
•	1	176.34	117.17	Open To Flow (1)			
)	31	194.28	121.74	Shut-In(1)			
٠,	60	1279.00	121.11	End Shut-In(1)			
ij	60	203.60	120.59	Open To Flow (2)			
Temperature (deg F	95	223.66	121.31	Shut-In(2)			
(deg.	121	1176.46	121.96	End Shut-In(2)			
J	122	2489.23	122.18	Final Hydro-static			
				į			

Recovery

Length (ft)	Description	Volume (bbl)
184.00	mud 100%m	1.47
·		

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63611



Palomino Petroleum

4924 SE 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63611

DST#:5

Test Start: 2018.06.16 @ 15:15:00

GENERAL INFORMATION:

Time Tool Opened: 17:20:45

Time Test Ended: 21:37:00

Formation:

Cherokee

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Straddle (Reset)

Tester:

Mike Roberts

Unit No:

81

Reference Elevations:

3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Interval: Total Depth:

Hole Diameter:

4705.00 ft (KB) To 4860.00 ft (KB) (TVD) 5049.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Serial #: 8968 Press@RunDepth: Below (Straddle)

psig @ 2018.06.16

4884.00 ft (KB)

End Date:

2018.06.16

Capacity: Last Calib.:

8000.00 psig 2018.06.16

Start Date: Start Time:

15:15:15

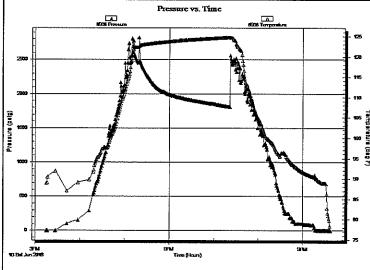
End Time:

21:37:00

Time On Btm: Time Off Btm:

TEST COMMENT: IF:Built to 7 1/2" blow

IS:No return blow FF:Built to 2" blow FS:No return blow



	PRESSURE SUMMARY						
	Time	Pressure	Temp	Annotation			
	(Min.)	(psig)	(deg F)				
gme ^T							
Temperatura (dag F)							
6							
3							
				i			

Recovery

Volume (bbl)
1,47

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63611



Palomino Petroleum

4924 SE. 84th St. New ton KS 67114

ATTN: Ryan Seib

22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63611

DST#: 5

Test Start: 2018.06.16 @ 15:15:00

GENERAL INFORMATION:

Time Tool Opened: 17:20:45

Time Test Ended: 21:37:00

Formation:

interval:

Total Depth:

Cherokee

Deviated:

Whipstock: No

ft (KB)

Test Type: Conventional Straddle (Reset)

Tester:

Mike Roberts

Unit No:

81

Reference Elevations:

3062.00 ft (KB) 3057.00 ft (CF)

KB to GR/CF:

5.00 ft

Hole Diameter:

5049.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

4705.00 ft (KB) To 4860.00 ft (KB) (TVD)

Serial #: 8374 Press@RunDepth:

Outside

psig @

4836.00 ft (KB)

2018.06.16

Capacity:

8000.00 psig

Start Date:

2018.06.16

End Date:

Last Calib.:

2018.06.16

Start Time:

15:15:15

End Time:

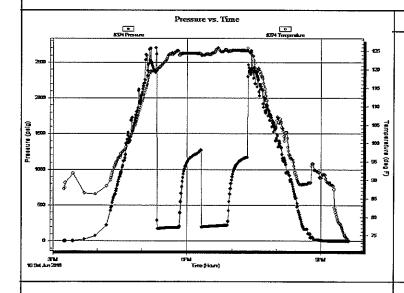
21:37:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 7 1/2" blow

IS:No return blow FF:Built to 2" blow FS:No return blow



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

PRESSURE SUMMARY

Recovery

Length (ft)	Description	Volume (bbl)
184.00	mud 100%m	1.47
*Recovery from r	nultiple tests	

Gas Rates

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

Trilobite Testing, Inc.

Ref. No: 63611



22-20s-34w Scott,KS

4924 SE 84th St. New ton KS 67114

Arrowhead #1 Job Ticket: 63611

DST#: 5

TOOL DIAGRAM

ATTN: Ryan Seib

Palomino Petroleum

Test Start: 2018.06.16 @ 15:15:00

Tool Information

Drill Pipe Above KB:

Drill Pipe: Heavy Wt. Pipe: Length:

Length: 4569.00 ft Diameter:

0.00 ft Diameter:

3.80 inches Volume: 0.00 inches Volume:

64.09 bbl 1dd 00.0

Tool Weight:

1500.00 lb

Drill Collar: Length:

122.00 ft Diameter:

2.25 inches Volume: Total Volume:

0.60 bbl 64.69 bbl Weight set on Packer: 25000.00 lb Weight to Pull Loose: 90000.00 lb Tool Chased

5.00 ft

String Weight: Initial 74000.00 lb

Final 75000.00 lb

Depth to Top Packer: Depth to Bottom Packer:

5049.00 ft Interval between Packers: 344.00 ft

4705.00 ft

375.00 ft

17.00 ft

2 Diameter:

6.75 inches

Tool Comments:

Number of Packers:

Tool Length:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4675.00		
Shut In Tool	5.00			4680.00		
Hydraulic tool	5.00			4685.00		
Jars	5.00			4690.00		
EM tool	3.00			4693.00		
Safety Joint	3.00			4696.00		
Packer	5.00			4701.00	31.00	Bottom Of Top Packer
Packer	4.00			4705.00		
Stubb	1.00			4706.00		
Perforations	1.00			4707.00		
Change Over Sub	1.00			4708.00		
Drill Pipe	127.00			4835.00		
Change Over Sub	1.00			4836.00		
Recorder	0.00	8374	Outside	4836.00		
Recorder	0.00	8647	Inside	4836.00		
Perforations	20.00			4856.00		
Blank Off Sub	1.00			4857.00		
Packer - Shale	3.00			4860.00		
Stubb	1.00			4861.00		
Perforations	22.00			4883.00		
Change Over Sub	1.00			4884.00		
Recorder	0.00	8968	Below	4884.00		
Drill Pipe	159.00			5043.00		
Change Over Sub	1.00			5044.00		
Bullnose	5.00			5049.00	344.00	Bottom Packers & Anchor

Total Tool Length:

375.00

Trilobite Testing, Inc.

Ref. No: 63611



22-20s-34w Scott,KS

Arrowhead #1

Job Ticket: 63611

DST#: 5

FLUID SUMMARY

Test Start: 2018.06.16 @ 15:15:00

4924 SE. 84th St. New ton KS 67114 ATTN: Ryan Seib

Palomino Petroleum

Mud and Cushion Information

Mud Type: Gel Chem Mud Weight:

10.00 lb/gal 58.00 sec/qt

Water Loss: Resistivity:

Viscosity:

Salinity:

Filter Cake:

7.97 in³ 0.00 ohm.m 5200.00 ppm

1.00 inches

Cushion Type:

Cushion Length: Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API: Water Salinity:

0 deg API 0 ppm

psig

Serial #:

ft

bbl

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
184.00	mud 100%m	1,470

Total Length:

184.00 ft

Total Volume:

1.470 bbl

Num Fluid Samples: 0 Laboratory Name:

Num Gas Bombs:

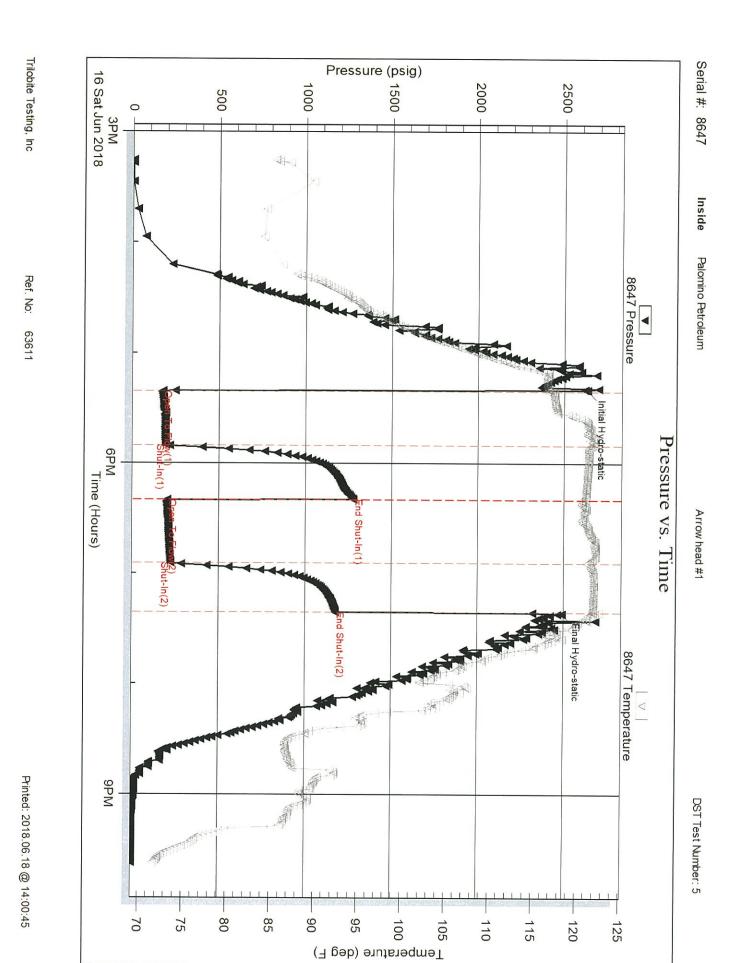
0

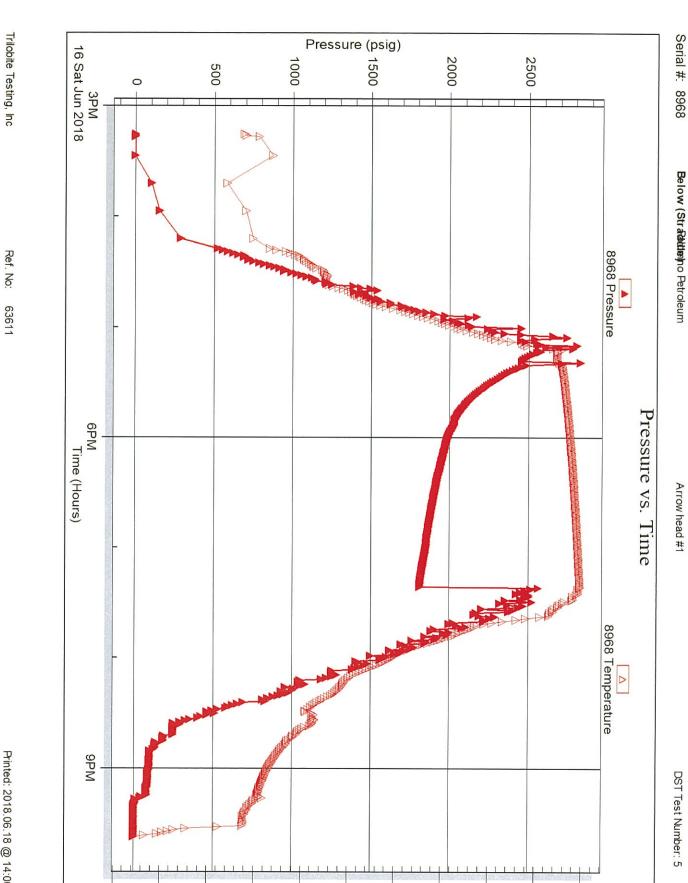
Recovery Comments:

Laboratory Location:

Trilobite Testing, Inc.

Ref. No: 63611





Temperature (deg F)

Temperature (deg F)



RILOBITE ESTING INC.

Test Ticket

1515 Commerce Parkway • Hays, Kansas 67601

NO. 63607

4/10 'PP-PEE'					
Well Name & No. HAFOW Head	1	_Test No/		Date 6-12-/	<u>'Ş</u>
Company Palomino Petrol	Pium	_ Elevation	1057	кв 3062	GL
Address 4924 SE 8445,	4 Newston KS	62114			
Co. Rep / Geo. Rvan Se , 5			110		
	Rge. <u>34</u> (co. <u>500f</u>	4	State KS	
Interval Tested 4178 - 4249	Zone Tested	- <u>L</u>			
Anchor Length 7/	Drill Pipe Run 40	062	M	ud Wt. <u>9.3</u>	
Top Packer Depth 4173	Drill Collars Run	22		s_57	
Bottom Packer Depth 4/78	Wt. Pipe Run 🕖		W	1 8.4	
Total Depth <u>4249</u>	Chiprides <u>320</u>	O ppr	n System LO	ом <u>2</u>	
Blow Description IF: Bilt to	1" (Ioro)		•		<u> </u>
IS: No Return	Blow				
FF. Builtho 4"	Blow (Ipro)				****
FS: No Potum					
Rec 184 Feet of MUD		%gas	%oil	%water /00	%muc
Rec Feet of		%gas	%oil	%water	%muc
Rec Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Total 184 BHT 109	Gravity API	RW@		hlorides	ppm
(A) Initial Hydrostatic 2163	1150 Test			tion 03/37	
(B) First Initial Flow 43	10 Jars 250		- T-Started	m 111 mm	
(C) First Final Flow	Safety Joint 75		- T-Open	06:35	
(D) Initial Shut-In	Circ Sub	NC	T-Pulled	08:35	
(E) Second Initial Flow	O Hourly Standby		T-Out	10:10	
(F) Second Final Flow	Mileage 52 R		Comments	EM 103	
(G) Final Shut-In / OO2	☐ Sampler				
(H) Final Hydrostatic 2/2/4	☐ Straddle				
. ,	☐ Shale Packer			Shale Packer	
Initial Open <u>30</u>	☐ Extra Packer			l Packer	
initial Shut-In3	☐ Extra Recorder			Copies	
Final Flow3 O	☐ Day Standby		-		
Final Shut-In 30	☐ Accessibility				
	Sub Total 1527		. 11.70011	011	
Approved By	Our Re	presentative	Whites?	Kokto	
	•				

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for all cost by the party for whom the test is made.



RILOBITE ESTING INC.

Test Ticket

NO. 63608

1515 Commerce Parkway - Hays, Kensas 67601

Date 6-12-18 Well Name & No. Test No. Elevation Address Co. Rep / Geo. Location: Sec. Interval Tested Zone Tested Anchor Length S Drill Pipe Run Mud Wt. Top Packer Depth **Drill Collars Run** Bottom Packer Depth Wt. Pipe Run Total Depth Chlorides opm System Blow Description Rec Feet of M %gas %oil %water %mud Feet of Rec %gas %oil %water %mud Rec Feet of %oas %oil %water %mud Rec Feet of %gas %oil %water %mud Rec Feet of %gas %oil %water %mud API RW 1541 @ 740 F Chlorides Rec Total BHT Gravity 13600 (A) Initial Hydrostatic 10 Test 1150 T-On Location 250 (B) First Initial Flow Jars Jars T-Started (C) First Final Flow ____ T-Open Salety Joint 75 T-Pulled (D) Initial Shut-In_ Fire Sub T-Out (E) Second Initial Flow Hourly Standby Comments EM D Mileage SJRT (F) Second Final Flow (G) Final Shut-In Sampler_ (H) Final Hydrostatic ____ Straddle ☐ Ruined Shale Packer___ ☐ Shale Packer_____ Rulned Packer _____ Initial Open ☐ Extra Packer ☐ Extra Copies __ Initial Shut-In Extra Recorder ____ 0 Sub Total Final Flow ☐ Day Standby _____ 1527 Total Final Shut-In ☐ Accessibility MP/DST Disc't 1527 Sub Total_ Approved By



RILOBITE ESTING INC.

Test Ticket

NO. 63609

1515 Commerce Parkway - Hays, Kansas 67601

man and the second seco					
Well Name & No. Arrow Head		Test No	3	Date <u>6~/3</u>	3-18_
Company Palomino Petrole	'u M	Elevation 💆	3 <i>057</i>	кв <u>Зо</u> Ь	<u>2</u> gl
	3t. Newtor		<u> </u>		
Co. Rep/Geo. Ryan Srib		Rig <u>[[] [</u>	W 10		
,	Rge. 34w			State <u>k</u>	5
Interval Tested 4422 - 4540	Zone Tested	Marmato	M		
Anchor Length 1/8	Drill Pipe Run	4		Mud Wt. <u>9.3</u>	
Top Packer Depth 4417	Drill Collars Rur			vis <u>6/</u>	
Bottom Packer Depth <u>4422</u>	Wt. Pipe Run	,		WL <u>8.0</u>	
Total Depth 4540		900 J	ppm System	LCM /	
Blow Description IF' Built to	2" Blow				
Is! No Return	1 Blow				
FF: Built to Y	2" Blows		****		
FS! No leturn	Blow				
Rec 62 Feet of MUD with	Oil Spot	S %gas	%oil	%water_	100%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Feet of		%gas	%oil	%water	%mud
Rec Total 62 BHT 115	Gravity	_ API RW		F Chlorides	ppm
(A) Initial Hydrostatic 237/	115	0	T-On L	ocation	
(B) First Initial Flow	Jars 25	50	T-Start	ted	
(C) First Final Flow 708	@ Safety Joint	75		n <u> 2/:</u>	······································
(D) Initlal Shut-In 278	Circ Sub	NC		ad <u>23: 0</u>	
(E) Second Initial Flow	O Hourly Standby		T-Out	1 11	/
(F) Second Final Flow	Mileage 51	RT 52	Comm	nents <u> </u>	<u>60/</u>
(G) Final Shut-In 28/	☐ Sampler			<u> </u>	
(H) Final Hydrostatic 2299	☐ Straddle		O Ru	lined Shale Packer	
4	☐ Shale Packer			ilned Packer	
Initial Open3	☐ Extra Packer			tra Copies	
Initial Shut-In 30	☐ Extra Recorder			otal 350	
Final Flow 30	☐ Day Standby			4000	
Final Shut-In <u>3</u>	☐ Accessibility		MP/D:	ST Disc't	
	Sub Total <u>1527</u>		- 1	1011	•
Approved By	O	ur Representative	フレレル	~ Kolado	

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for all cost by the party for whom the test is made.



RILOBITE ESTING INC.

Test Ticket

1515 Commerce Parkway • Hays, Kansas 67601

NO. 63610

				
Well Name & No. Arrows Head 1	Tes	it No. <u>4</u>	Date <u>(6-14-/8</u>	
Company Palomino Petrolewi	<u>77</u> Ele	valion <u>3057</u>	кв_ <u>3062</u>	GL
110011 01111 -1	Vewton KS 6711			
Co. Rep/Geo. Kvan Seit		101010		
Location: Sec. 22 Twp 20	47 11	SCOTT	State <u> </u>	
Interval Tested 4535-4610	_ Zone Tested Pawn	eo- Ft. Sco	T.	
Anchor Length 75	_ Drill Pipe Run 💋 🌿		Mud Wt. <u>9.3</u>	
Top Packer Depth 4531	Drill Collars Run <u>126</u>	2	vis <u>52</u>	
Bottom Packer Depth <u>4535</u>	_ Wt. Pipe Run		wl <i>8.0</i>	
Total Danih 4610	Chlorides <u>4000</u>	ppm System	LCM	
Blow Description IF: Built to	18" (Ipro)			
Is: No Leturn	Blow			
FF! Built to 4	15" (Ipro)			<u>.</u>
FS: 4800 All Form	Blow Return Blow	3 Built to 18) [1	
Rec		%gas %oil_	%water %	6mud
Rec L 2 Feet of GCD	60	%gas 40 %oil	%water %	6mud
Rec 124 Feet of MC C	50	%gas <u>30%il</u>	%water 20%	6mud
Rec 122 Feel of gcoum	10 .	%gas 20 %oil	20 %water 50 %	<u>6mud</u>
Rec Feet of	-	%gas %oil	%water %	<u>6mud</u>
Rec Total 308 BHT 119	Gravity 25 API RW	1521 @76.4-	F Chlorides <u>16000</u>	_ppm
(A) Initial Hydrostatic 2365	Test1150	T-On I	ocation <u>08:40</u>	
(B) First Initial Flow 33	0 Jars 250	T-Star	ted /0:00	
(C) First Final Flow92	Safety Joint 75	T-Ope		
(D) Initlal Shut-In560	Circ Sub	UC T-Pull		
(E) Second Initial Flow	Hourly Standby	T-Out		
(F) Second Final Flow	Mileage 52 RT 52	2 Comn	nents <u>EM Tool</u>	
(G) Final Shut-In 596	☐ Sampler		, , , , , , , , , , , , , , , , , , ,	
(H) Final Hydrostatic 2275	☐ Straddle	O 8i	uined Shale Packer	
2.0	☐ Shale Packer		uined Packer	
Initial Open 30	Extra Packer		ktra Copies	
Initial Shut-In 30	Extra Recorder		otal 0	
Final Flow DD 60	☐ Day Standby		1527	
Final Shut-In	Accessibility	MP/D	ST Disc't	
	Sub Total 1527		1011	
Approved By	Our Repres	entative	a Koleda	



Test Ticket

1515 Commerce Parkway • Hays, Kensas 67601

63611 NO.

4/10 .viveally	·		
Well Name & No. Arrow Head Company Palomino Petri	Test No. $\frac{5}{2}$	Dale <u>6-1</u> 057 KB 30	
Address 4924 SE 84H	St. Newton 67114		
Co. Rep/Geo. Ryan Seib	Rig_ <i>l</i> L2 (v	10	
Location: Sec. <u>22</u> Twp <u>20</u>	Rge. <u>34w</u> co. <u>Scot</u> :	<u>/</u> State _	<u> </u>
Interval Tested 4706-4860	50497D Zone Tested Ole ro Kee		
Anchor Length 160	Drill Pipe Run <u>4569</u>	Mud Wt.	09,5
Top Packer Depth 4695	Drill Collars Run <u>122</u>	Vis <u>58</u>	
Bottom Packer Depth 4700	Wt. Pipe Run 💋	WL <u>8.0</u>	
Total Depth 4860	Chlorides 5200 ppm	System LCM	
Blow Description IF. Built +	71/-11 51		
IS! No fetur			
FFI Built to	2" Blow	· · · · · · · · · · · · · · · · · · ·	
FS! No Retur			
Rec /84 Feet of MUD	%gas	%oil %water	/6-0 %mud
Rec Feet of	%gas	%oil %water	%mud
RecFeet of		%oil %water	
RecFeet of		%oil %water	
RecFeet of	%gas	%oil %water	%mud
Rec Total	Gravity API RW@	F Chlorides	ppm
(A) Initial Hydrostatic 263/	72 Test 1150	T-On Location 12;	•
(B) First Initial Flow / / G	☑ Jars250	T-Started/ 5 '.	13
(C) First Final Flow	Safety-Joint 75	T-Open / 7	
(D) Initial Shut-In 1279	© Circ Sub N C		<u> 20 </u>
(E) Second Initial Flow203	☐ Hourly-Standby	T-Out <u>3173</u>	37
(F) Second Final Flow 223	1 Mileage 52 RT 52	Comments <u>EM</u>	Tool
(G) Final Shut-In //76	☐ Sampler		
(H) Final Hydrostatic 2489	19 Stradgle 600	Ruined Shale Packe	
_	Shale Packer 250	Ruined Packer	
Initial Open30	☐ Extra Packer		
Initial Shut-In 30	☐ Extra Recorder	a cana oopios	
Final Flow 3 0	☐ Day Standby		
Final Shut-In 30	Accessibility	MP/DST Disc't	
	Sub Total 2377	11	1 /
Approved By	Our Representative	White Hold	1

Tritobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.