

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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

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

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Palomino Petroleum, Inc.
Well Name	ARROWHEAD 1
Doc ID	1411564

Tops

Name	Top	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)

Ryan & Co
Petroleum Geologist

302 E. Tenth St. Lawrence, Kansas City, MO 64108

Palomino Petroleum

Arrowhead # 1

718' ESL & 335' FWL

22' 20s 34w

Scott KS

UV Drilling Rig # 10

417.18 6/16/18
5049 5049

2600' RTD

2600' RTD

2400' RTD

3650' RTD

2400' Chemical

15-17-2122

3062'

3057'

KB

8 5/8" @

220'

CNO, DIL,

Micro

Anhydrite	2219 (+843)	2225 (+937)
Heebner	3927 (-865)	3928 (-866)
Lanning	3975 (-912)	3976 (-914)
Stark	4299 (-1237)	4299 (-1237)
DICK	4431 (-1369)	4431 (-1369)
Macintosh	4463 (-1401)	4460 (-1398)
Pawnee	4545 (-1483)	4547 (-1485)
Fl. Scott	4577 (-1515)	4580 (-1518)
Checokee Sh	4593 (-1530)	4593 (-1531)
Mississippian	4849 (-1787)	4849 (-1787)

4849 7/18/18 2018 1/16/18 2018

3600

3600
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
3700
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
3800
- 10
- 20
- 30
- 40
- 50

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

Mud ✓ @ 3702
wt. - 8.7
v.l. - 5.7
v.c. - 6.4
c.c. - 2,100
c.l. - 2.4

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

fine sand, 2-3% silt, 1% clay

65, AA

- 80
- 90
4100
- 10
- 20
- 30
- 40
50
- 60
- 70
- 80
- 90
4300
- 10
- 20
- 30
- 40
50

45.5 gm, for 1/2 hr, dense/hard,

45.5 gm, for 1/2 hr, dense/hard,

LS, AA

45.5 gm, for 1/2 hr, dense/hard,
hard, 1/2 002 p, chky, no

45.5 gm, for 1/2 hr, dense/hard,
chky, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

Shy, BLK, Carb

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

4200

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

50

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

4300

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

40

45.5 gm, for 1/2 hr, dense/hard,
hard, n. 002 p, n.f.

4184 (-1122)

4299 (-1237)

DST # 1 4179-4249
30-30-30-30
Rec. 184 mud
FF-7" W. Return
FF-4"
HP-2123#-2124#
FFP-43#-103# FFP-105#-125#
FSA P-1032# FSA P-1002#

Mud @ 4249'
W. - 83
V. - 57
W. - 64
C. - 200
L. - 2#

DST # 2 4295-4350'
15-30-15-30
Rec. 1424 TF
FF-100-11"

40
 50
 60
 70
 80
 90

4295-4350'
 15-30-15-30
 Rec. 1424 T.F.
 FF-0.0.0-1" N. Retina
 FF-0.0.0-2"
 310' mud (10020m)
 310' mud (3080m, 20700)
 804' mud (290m, 98900)
 HP-2227#-2145#
 FFR-219#-485# FFR-525#-703#
 FFR-1077# FFR-1074#

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4400

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4500

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4600

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4500

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 80
 90

4600

DST # 3 4422'-4540'
 Rec. 62' mud w/ oil spots
 FF-21
 FF-1/2" N. Retina
 HP-2371#-2279#
 FFR-27#-108# FFR-110#-125#
 FFR-278# FFR-281#

DST # 4 4535'-4610'
 Rec. 308' T.F. 682' SSP
 FF-18" FFR-Dead
 FF-45" FFR-10"
 62' 500 (6090, 40900)
 124' m.cog (5090, 30900, 20700)
 122' 9000m (1000, 2000, 2000, 5000)
 HP-2345#-2275#
 FFR-33#-92# FFR-107#-155#

AIKC 4493
 (-1369)

Marmaton 4460
 (-1398)

Parma 4547
 (-1485)

Ft. Scott 4580
 (-1578)

Cherokee (L)
 4593 (-1531)

3

4

(-15/81)
Cherokee, GA
45-93 (-1531)

46 500 (6090s, 40700)
124 McCoy (5090s, 30800, 20700)
122 9000m (15080, 20200, 20800, 5080)
H1-2045# 2275#
FFP-23# 92# FFP-107# 139#
FSP-9-560# FSP-596#

45 cm - 100% w/ 100% p. odd.
USP
Sh, 600 Carb
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

90
4600
10

45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4600
Wt. - 9.2
Vis - 5.2
Wt - 8.0
Cl - 4,500
LCM - 1#

20
30
40
50

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4600
Wt. - 9.2
Vis - 5.2
Wt - 8.0
Cl - 4,500
LCM - 1#

60
70
80
90

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4740
Wt. - 9.2
Vis - 6.0
Wt - 8.8
Cl - 5,000
LCM - 1#

4700
60
70
80

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4740
Wt. - 9.2
Vis - 6.0
Wt - 8.8
Cl - 5,000
LCM - 1#

40
50
60
70

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4740
Wt. - 9.2
Vis - 6.0
Wt - 8.8
Cl - 5,000
LCM - 1#

90
4800
10

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4740
Wt. - 9.2
Vis - 6.0
Wt - 8.8
Cl - 5,000
LCM - 1#

30
40

45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, AA
45 cm - 100% w/ 100% p. odd.
USP
Sh, 97 gm

Mud ✓ @ 4740
Wt. - 9.2
Vis - 6.0
Wt - 8.8
Cl - 5,000
LCM - 1#

50

Muscle p.p. 2
4849 (-1787)

orange sand, a very fine, nodular
1/15

shiny, drab gray

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

ls, congl. - fm, sh, wh, x-lm, no
dense, nodular, 1/15, 1/15, 1/15

- 40

- 50

- 60

- 70

- 80

- 90

4900

- 10

- 20

- 30

- 40

- 50

- 60

- 70

- 80

- 90

5000

- 10

- 20

- 30

- 40

- 50

Mississippian
4849 (1987)

RTD 5049
(1987)

LS, AA

LS, AA

GLOBAL OIL FIELD SERVICES, LLC

24 S. Lincoln
RUSSELL, KS 67665

RECEIVED

JUN 23 2018

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	

Quantity	Description	Rate	Amount
270	60/40 POZMIX CEMENT	13.75	3,712.50
10	BENTONITE GEL	30.00	300.00
67.5	FLO-SEAL	2.00	135.00
280	HANDLING	1.90	532.00
	BULK MILEAGE	950.00	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
1	DRY HOLE PLUG	62.50	62.50
	20% DISCOUNT IF PAID WITHIN 15 DAYS OF INVOICE	8.50%	0.00
	SCOTT CO SALES TAX		

Thank you for your business.

Total

\$6,958.25

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

GLOBAL OIL FIELD SERVICES, LLC

3376

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT:

Russell

DATE <u>6-17-18</u>	SEC. <u>22</u>	TWP. <u>20S</u>	RANGE <u>34W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH	
LEASE <u>Arrowshead</u>	WELL #. <u>1</u>	LOCATION <u>Scott city - 6W to chardeRj</u>		COUNTY <u>Scott</u>	STATE <u>KS</u>			
OLD OR <u>NEW</u> (CIRCLE ONE)				<u>13.5 East into</u>				

CONTRACTOR W W Drilling P.g #10
 TYPE OF JOB Plug
 HOLE SIZE _____ T.D. _____
 CASING SIZE _____ DEPTH _____
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. _____
 PERFS _____
 DISPLACEMENT _____

OWNER _____
 CEMENT AMOUNT ORDERED 2705x 60/40 4% gel

EQUIPMENT _____
 PUMP TRUCK CEMENTER Jason
 # 409 HELPER Tony
 BULK TRUCK _____
 # 473 DRIVER Tom
 BULK TRUCK _____
 # _____ DRIVER _____

COMMON _____ @ _____
 POZMIX _____ @ _____
 GEL _____ @ _____
 CHLORIDE _____ @ _____
 ASC _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 HANDLING _____ @ _____
 MILEAGE _____ @ _____
 TOTAL _____

REMARKS:

1st plug 505x 2270ft
2nd plug 805x 1230ft
3rd plug 405x 600ft
4th plug 505x 270ft
5th plug 205x 60ft
Rathole 305x

SERVICE

DEPTH OF JOB _____
 PUMP TRUCK CHARGE _____
 EXTRA FOOTAGE _____ @ _____
 MILEAGE _____ @ _____
 MANIFOLD _____ @ _____
 _____ @ _____
 TOTAL _____

CHARGE TO: Palomino Petroleum Inc
 STREET 4924 SE 84th St
 CITY Newton STATE KS ZIP 67114

PLUG & FLOAT EQUIPMENT

8 5/8 Plug _____ @ _____
 _____ @ _____
 _____ @ _____
 _____ @ _____
 TOTAL _____

Global Oil Field Services, LLC
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME _____
 SIGNATURE Keith Miller

SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

GLOBAL OIL FIELD SERVICES, LLC

24 S. Lincoln
RUSSELL, KS 67665

RECEIVED

JUN 14 2018

Invoice

Date	Invoice #
6/11/2018	3351

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

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

Quantity	Description	Rate	Amount
170	60/40 POZMIX CEMENT	13.75	2,337.50
6	CALCIUM-CHLORIDE	80.00	480.00
4	BENTONITE GEL	30.00	120.00
180	HANDLING	1.90	342.00
	BULK MILEAGE	650.00	650.00
1	TRI-PLEX PUMP CHARGE FOR SURFACE	850.00	850.00
45	HEAVY EQUIPMENT. ONE WAY	6.50	292.50
45	LMV- ONE WAY	2.75	123.75
	20% DISCOUNT IF PAID WITHIN 15 DAYS OF INVOICE		
	SCOTT CO SALES TAX	8.50%	0.00

Thank you for your business.

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

Total \$5,195.75

GLOBAL OIL FIELD SERVICES, LLC

3351

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT:

Russell KS

DATE <u>6-2-19</u>	SEC <u>22</u>	TWP. <u>20S</u>	RANGE <u>34W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Arrowhead</u>	WELL # <u>1</u>	LOCATION <u>Cherokee RD 135 RD 20 East</u>		COUNTY <u>Scott</u>	STATE <u>KS</u>		
OLD OR NEW (CIRCLE ONE)							

CONTRACTOR W W Drilling Rig #10 OWNER Palomino Petroleum

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D.

CASING SIZE 6 5/8 DEPTH 220'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX. MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 25'

PERFS

DISPLACEMENT 12 1/2 bbl

EQUIPMENT

PUMP TRUCK # 409 CEMENTER Cody

BULK TRUCK # 410 DRIVER Kris

BULK TRUCK # DRIVER

CEMENT AMOUNT ORDERED 170 sk 60/40 3% CC

2% Gel

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

TOTAL

REMARKS:

Ran 5 ft of 8 5/8 casing + Lt Hooked
for 90' breaks circulation Hooked to pump
trucks pumped 170 sk of cement and
displaced 12 1/2 bbl of H2O and 5 hrs
in.

Cement did not excludure to surface.

CHARGE TO: Palomino Petroleum

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

PLUG & FLOAT EQUIPMENT

@

@

@

@

@

TOTAL

Global Oil Field Services, LLC
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

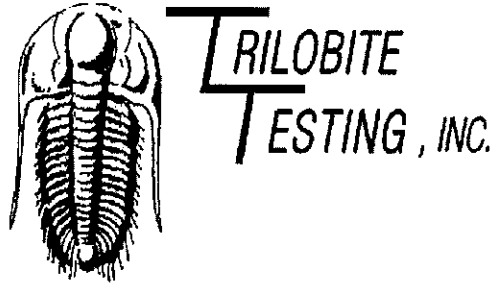
PRINTED NAME

SIGNATURE [Signature]

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS



DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE. 84th St.
Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

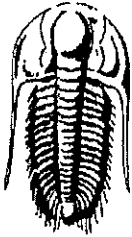
22-20s-34w Scott,KS

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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:

Formation: **LKC H - I**
 Deviated: **No Whipstock:** ft (KB)
 Test Type: **Conventional Bottom Hole (Initial)**
 Time Tool Opened: **06:34:45**
 Tester: **Mike Roberts**
 Time Test Ended: **10:10:30**
 Unit No: **81**
 Interval: **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 #: 8647

Inside

Press@RunDepth: **125.87 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:

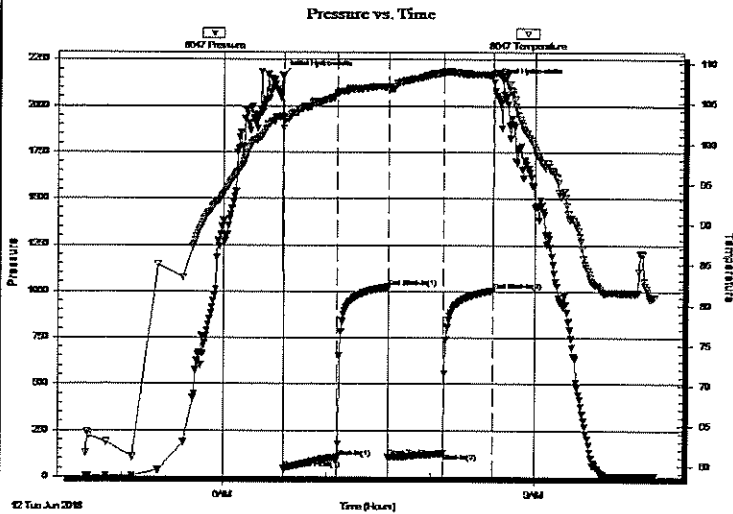
10:10:30

Time On Btm: **2018.06.12 @ 06:34:30**

Time Off Btm: **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

PRESSURE SUMMARY



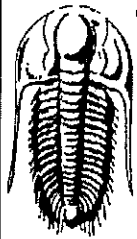
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.67	103.35	Initial Hydro-static
1	44.37	101.97	Open To Flow (1)
32	103.62	106.25	Shut-In(1)
61	1022.61	107.14	End Shut-In(1)
61	105.44	106.66	Open To Flow (2)
93	125.87	108.86	Shut-In(2)
121	1002.78	108.60	End Shut-In(2)
122	2126.36	108.80	Final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

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.**

DRILL STEM TEST REPORT

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

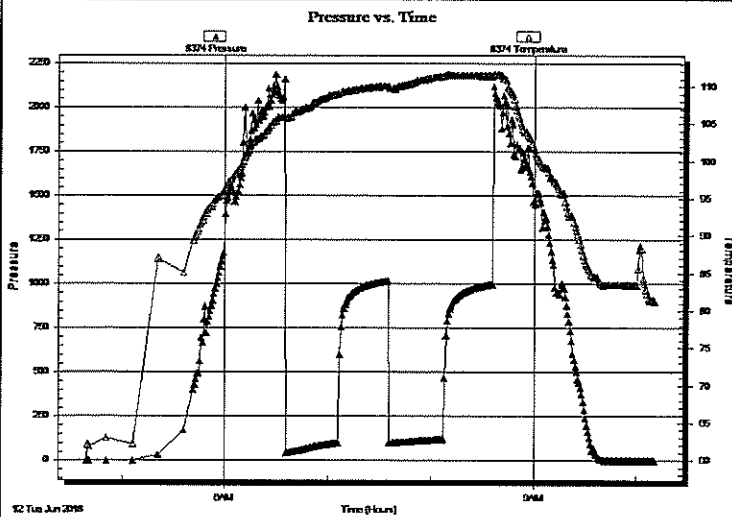
22-20s-34w Scott,KS
Arrowhead #1
Job Ticket: 63607 **DST#: 1**
Test Start: 2018.06.12 @ 04:39:15

GENERAL INFORMATION:

Formation: LKC H-1	Deviated: No Whipstock: _____ ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 06:34:45	Time Test Ended: 10:10:30	Tester: Mike Roberts
Interval: 4178.00 ft (KB) To 4249.00 ft (KB) (TVD)	Total Depth: 4249.00 ft (KB) (TVD)	Unit No: 81
Hole Diameter: 7.88 inches	Hole Condition: Fair	Reference Elevations: 3062.00 ft (KB)
		3057.00 ft (CF)
		KB to GR/CF: 5.00 ft

Serial #: 8374	Outside				
Press@RunDepth: _____ 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

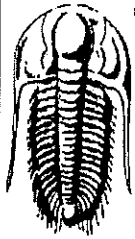
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

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.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

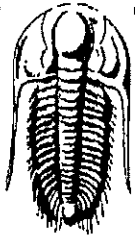
22-20s-34w Scott,KS
Arrowhead #1
Job Ticket: 63607 **DST#: 1**
Test Start: 2018.06.12 @ 04:39:15

Tool Information

Drill Pipe:	Length: 4062.00 ft	Diameter: 3.80 inches	Volume: 56.98 bbl	Tool Weight: 1500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 83000.00 lb
			<u>Total Volume: 57.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	37.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4178.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	102.00 ft			
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.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE. 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63607

DST#: 1

ATTN: Ryan Seib

Test Start: 2018.06.12 @ 04:39:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.34 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

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: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

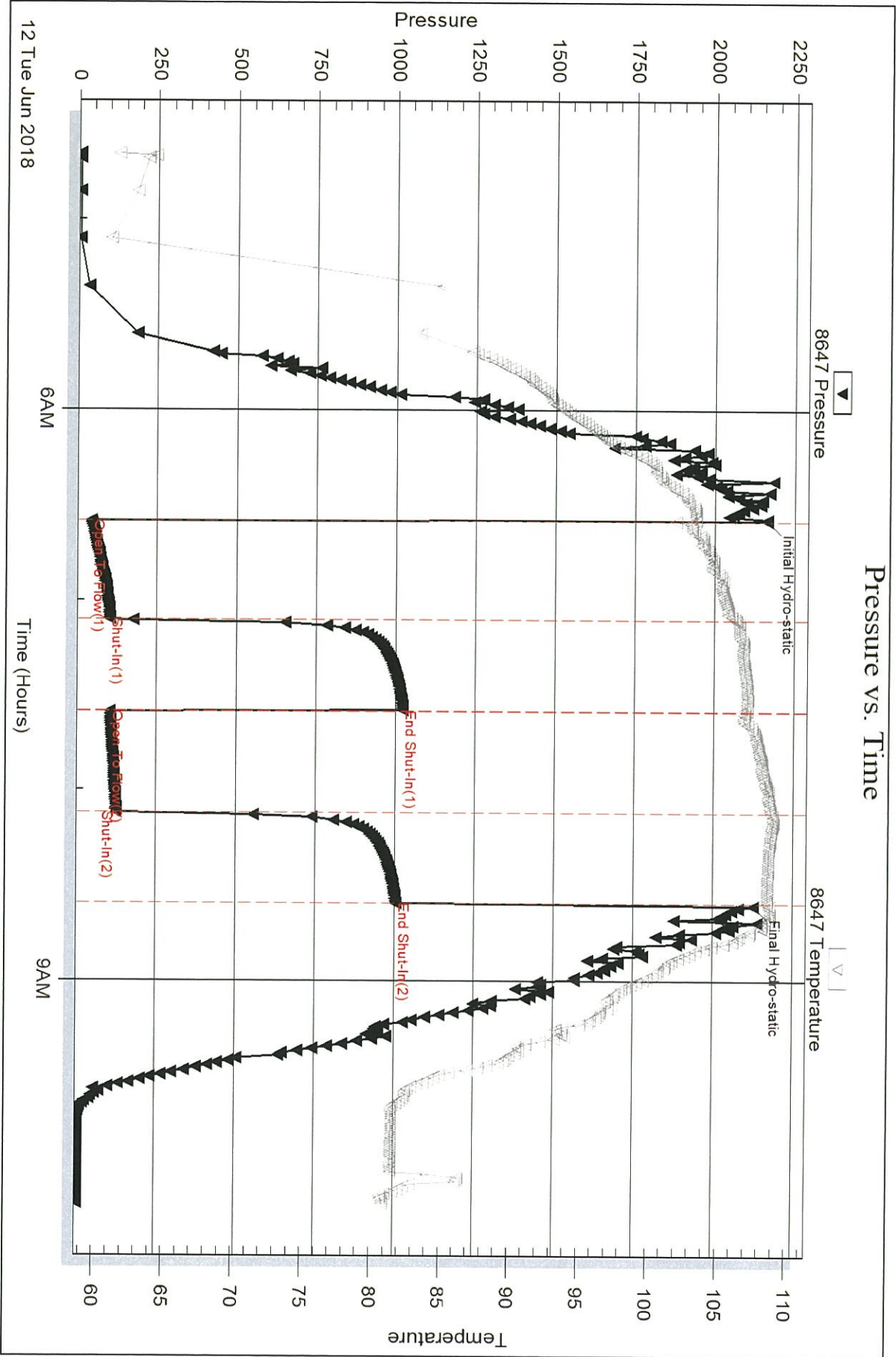
Serial #: 8647

Inside

Palomino Petroleum

Arrow head #1

DST Test Number: 1



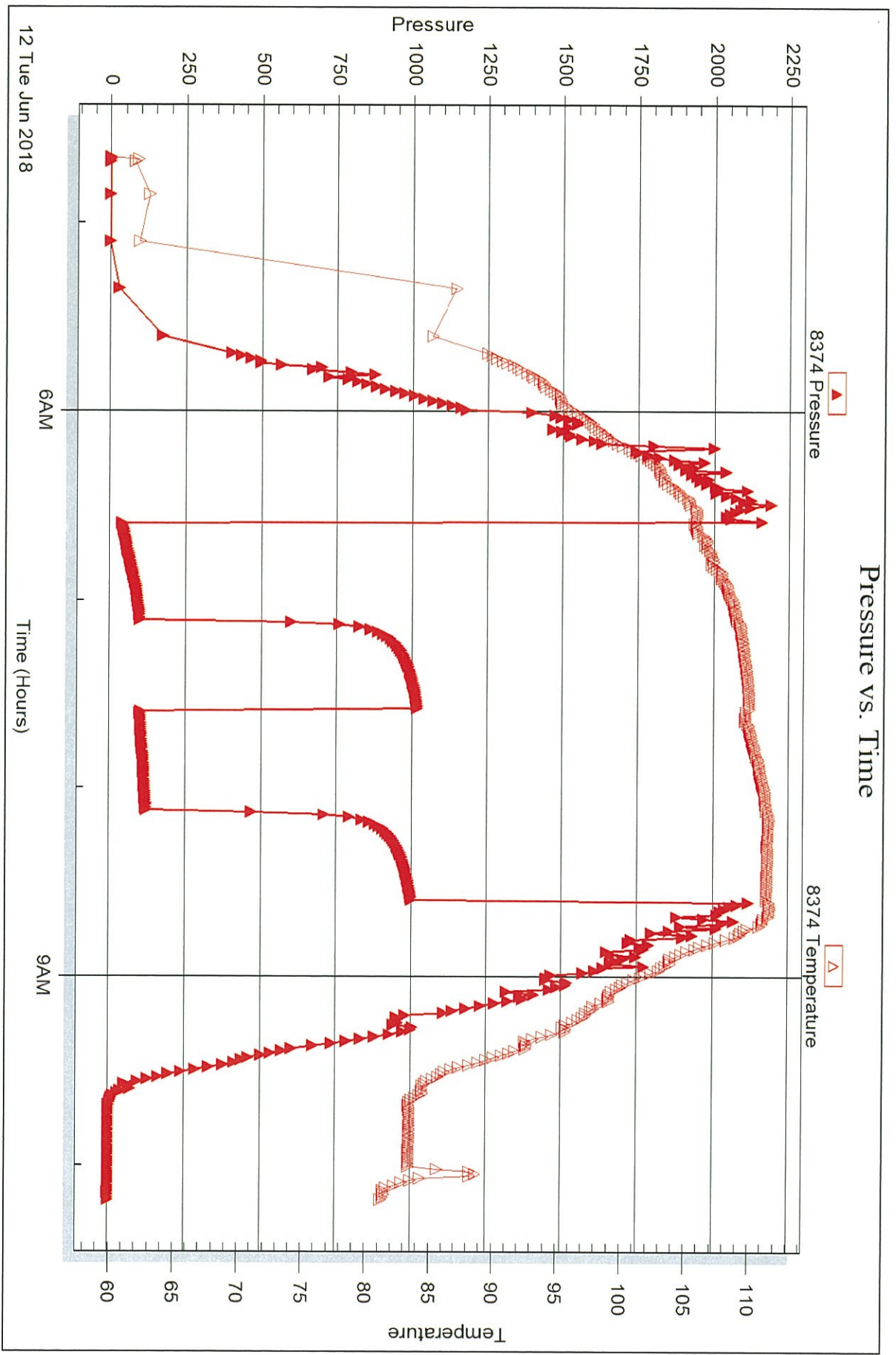
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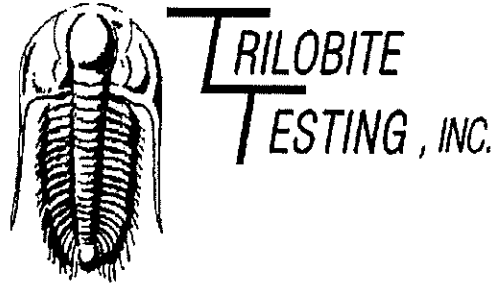
Outside

Palomino Petroleum

Arrow head #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE. 84th St.
Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

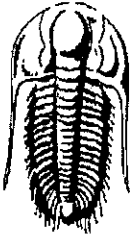
Start Date: 2018.06.12 @ 19:10:15

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

Printed: 2018.06.18 @ 14:02:01



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

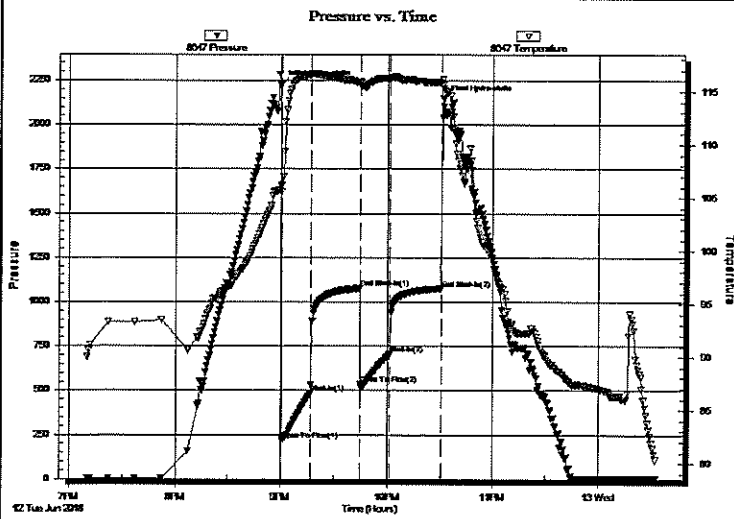
22-20s-34w Scott,KS
Arrowhead #1
Job Ticket: 63608 DST#: 2
Test Start: 2018.06.12 @ 19:10:15

GENERAL INFORMATION:

Formation: **LKC K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:00:15
Time Test Ended: 00:32:00
Test Type: Conventional Bottom Hole (Reset)
Tester: Mike Roberts
Unit No: 81
Interval: **4295.00 ft (KB) To 4350.00 ft (KB) (TVD)**
Reference Elevations: 3062.00 ft (KB)
Total Depth: 4350.00 ft (KB) (TVD) 3057.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8647 Inside
Press@RunDepth: 703.62 psig @ 4335.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.06.12 End Date: 2018.06.13 Last Calib.: 2018.06.13
Start Time: 19:10:15 End Time: 00:32:00 Time On Btm: 2018.06.12 @ 21:00:00
Time Off Btm: 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



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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)
45	535.21	115.58	Open To Flow (2)
62	703.62	116.24	Shut-In(2)
91	1074.63	115.87	End Shut-In(2)
92	2145.09	115.69	Final Hydro-static

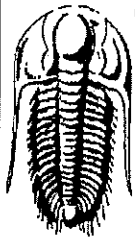
Recovery

Length (ft)	Description	Volume (bbl)
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 multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63608

DST#: 2

ATTN: Ryan Seib

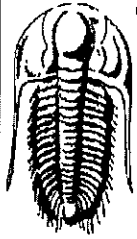
Test Start: 2018.06.12 @ 19:10:15

Tool Information

Drill Pipe:	Length: 4162.00 ft	Diameter: 3.80 inches	Volume: 58.38 bbl	Tool Weight:	1500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	86000.00 lb
			<u>Total Volume: 58.98 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4295.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	86.00 ft				
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.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63608

DST#: 2

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:

ft

Water Salinity:

13000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

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

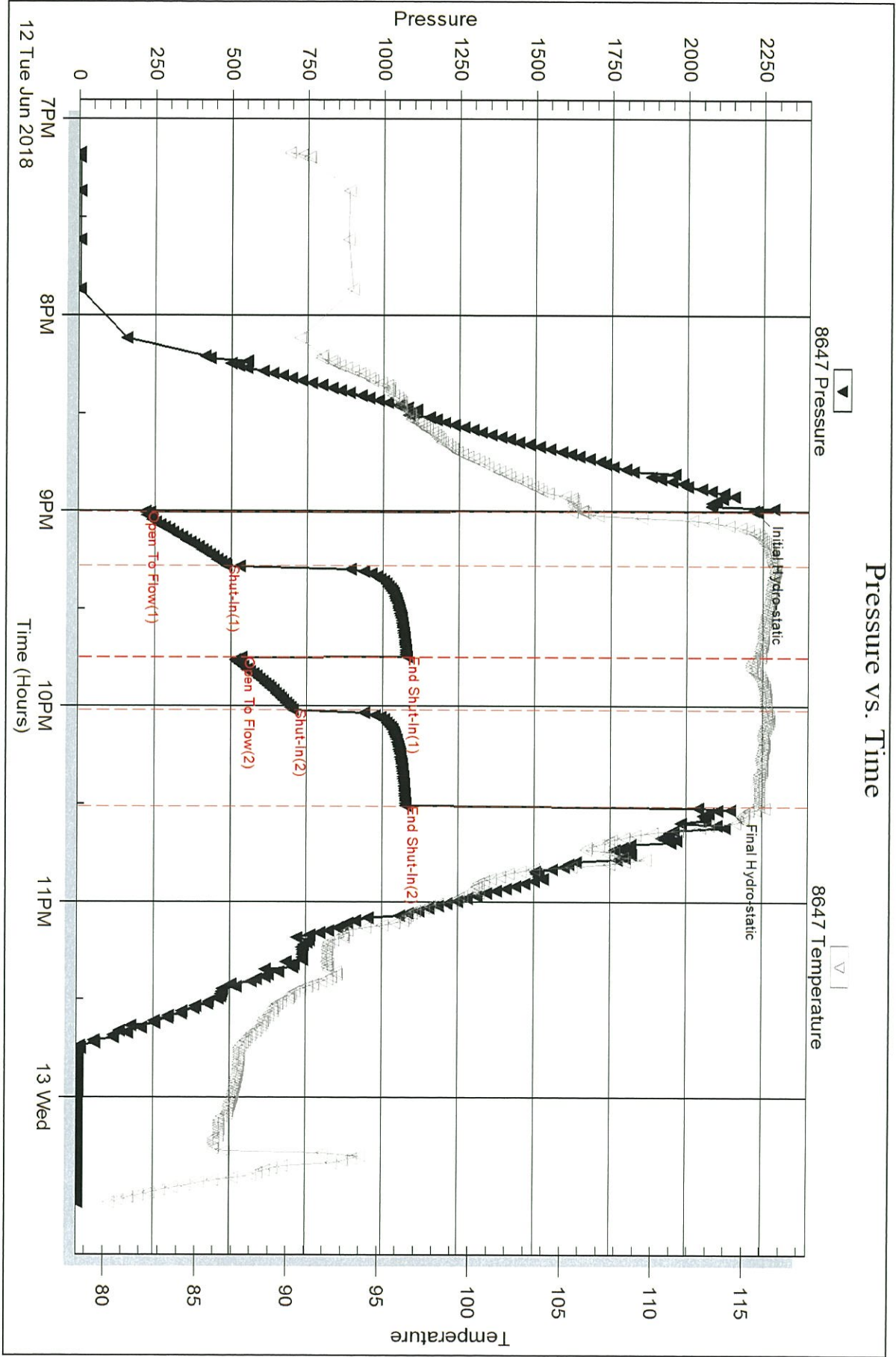
Serial #: 8647

Inside

Palomino Petroleum

Arrow head #1

DST Test Number: 2

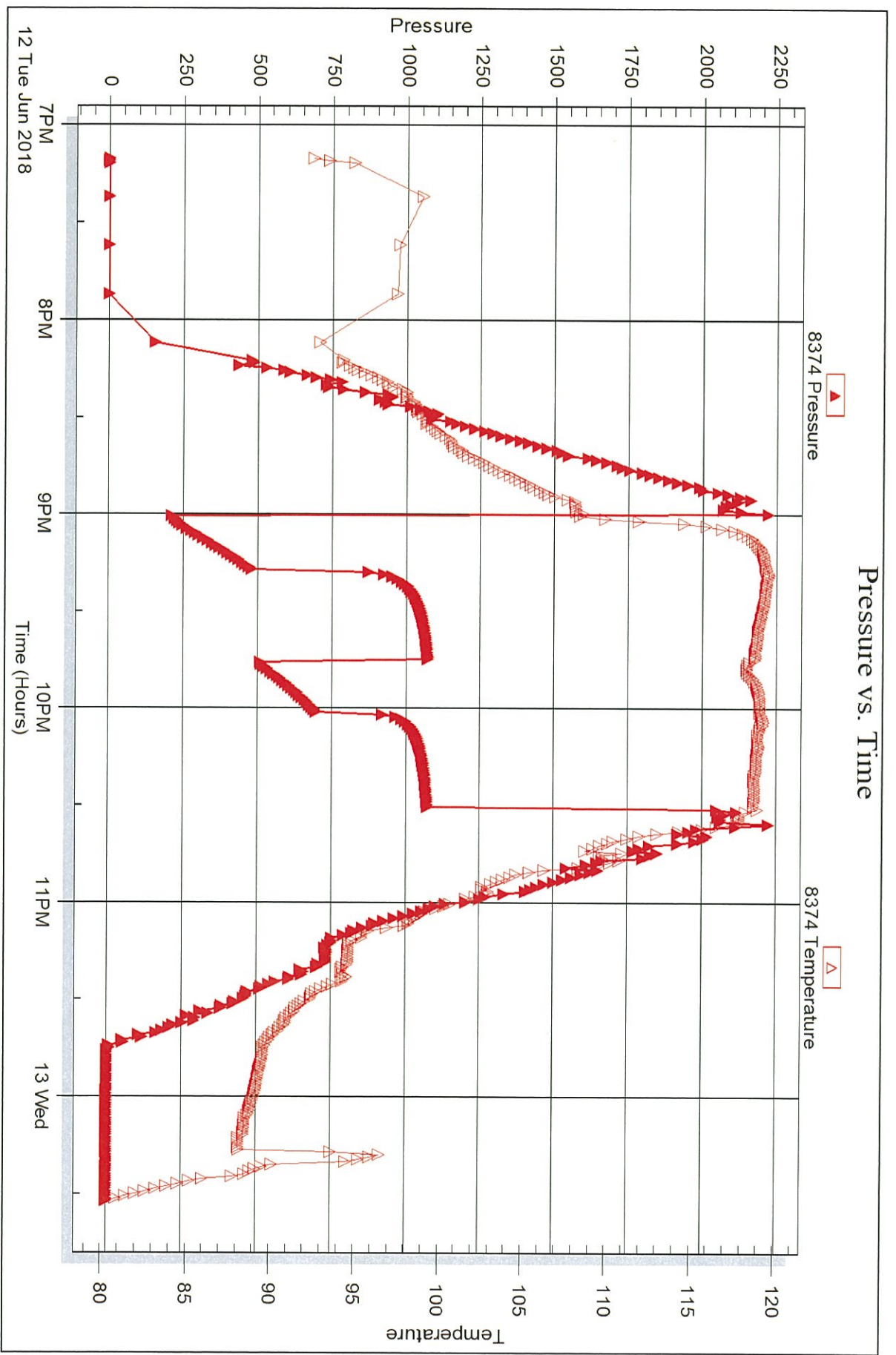


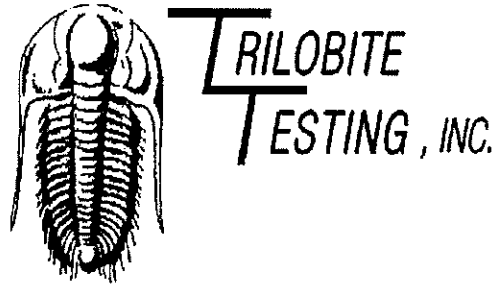
Serial #: 8374

Outside Palomino Petroleum

Arrow head #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE. 84th St.
Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

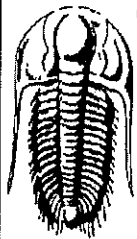
Start Date: 2018.06.13 @ 19:07:15

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

Printed: 2018.06.18 @ 14:01:39



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63609

DST#: 3

ATTN: Ryan Seib

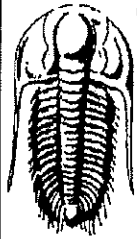
Test Start: 2018.06.13 @ 19:07:15

Tool Information

Drill Pipe:	Length: 4290.00 ft	Diameter: 3.80 inches	Volume: 60.18 bbl	Tool Weight: 1500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 60.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4422.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	118.00 ft			
Tool Length:	149.00 ft			
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			4392.00	
Shut In Tool	5.00			4397.00	
Hydraulic tool	5.00			4402.00	
Jars	5.00			4407.00	
EM tool	3.00			4410.00	
Safety Joint	3.00			4413.00	
Packer	5.00			4418.00	31.00 Bottom Of Top Packer
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	8647	Inside	4525.00	
Recorder	0.00	8374	Outside	4525.00	
Perforations	10.00			4535.00	
Bullnose	5.00			4540.00	118.00 Bottom Packers & Anchor
Total Tool Length:	149.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE. 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63609

DST#: 3

ATTN: Ryan Seib

Test Start: 2018.06.13 @ 19:07:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	mud with oil spots 100% _m	0.305

Total Length: 62.00 ft

Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

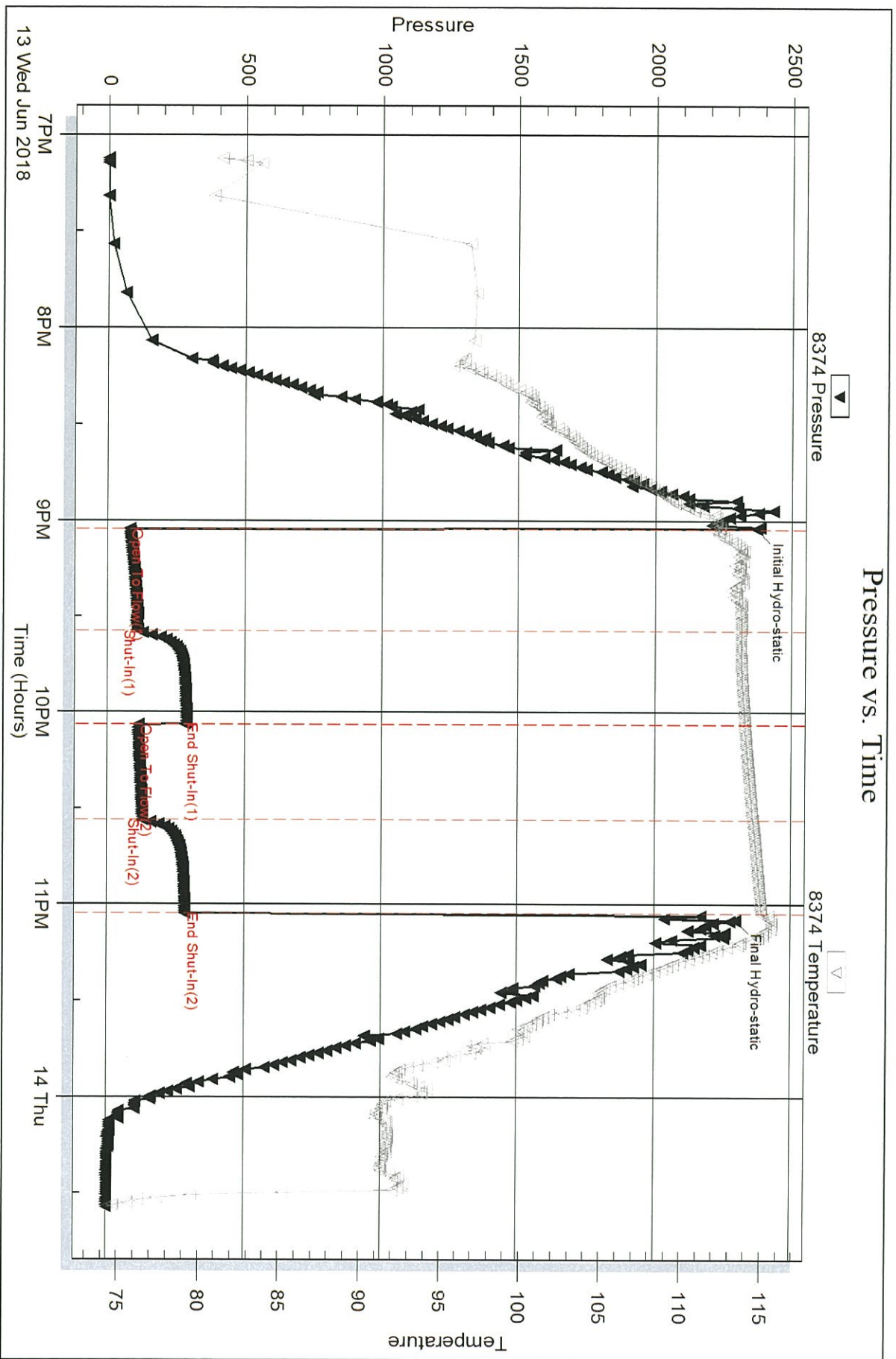
Serial #: 8374

Outside

Palomino Petroleum

Arrow head #1

DST Test Number: 3



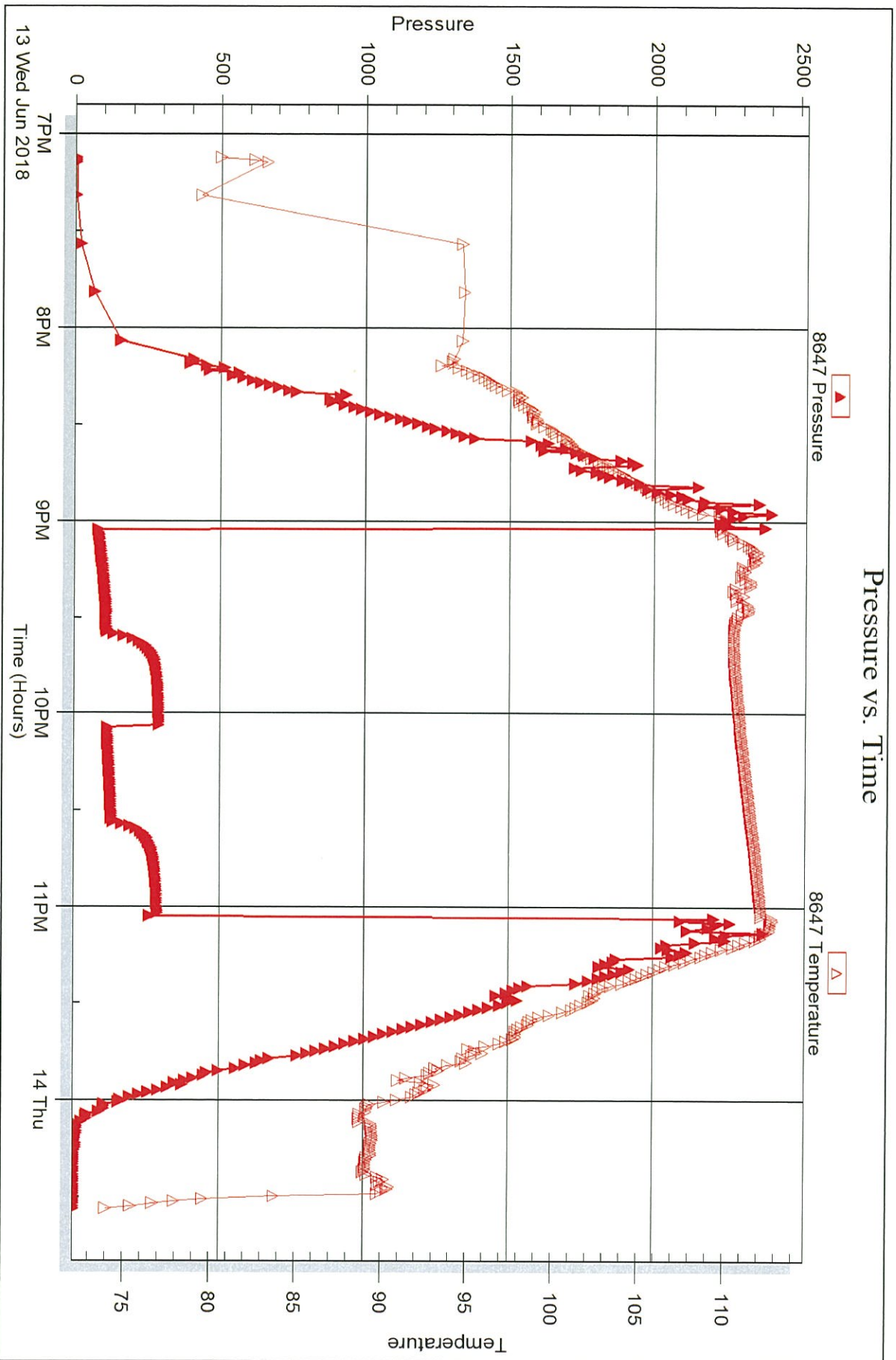
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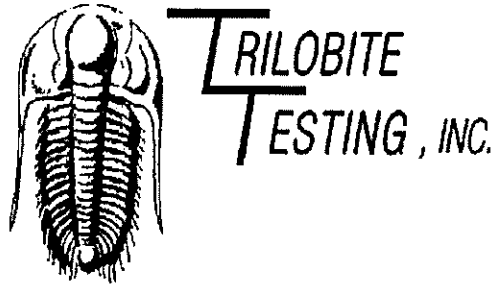
Inside

Palomino Petroleum

Arrow head #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE. 84th St.
Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

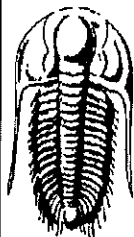
Start Date: 2018.06.14 @ 10:00:15

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

Printed: 2018.06.18 @ 14:01:17



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Palomino Petroleum
 4924 SE 84th St.
 Newton KS 67114
 ATTN: Ryan Seib

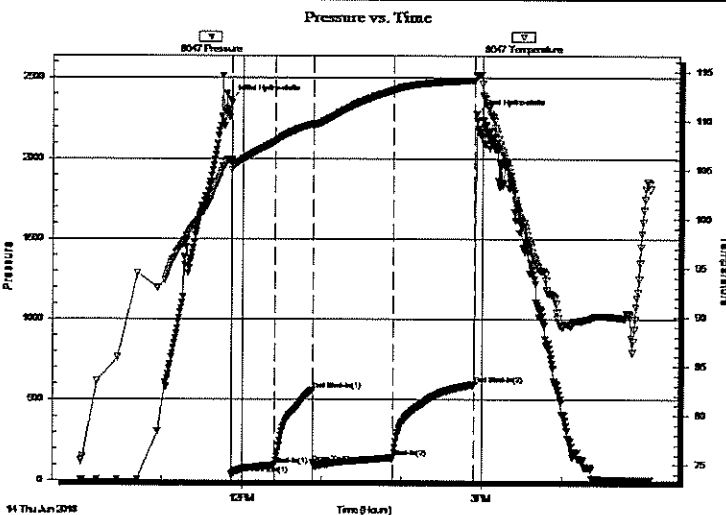
22-20s-34w Scott,KS
Arrowhead #1
 Job Ticket: 63610 DST#: 4
 Test Start: 2018.06.14 @ 10:00:15

GENERAL INFORMATION:

Formation: **Pawnee-Ft.Scott**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 11:52:15
 Tester: Mike Roberts
 Time Test Ended: 17:05:30
 Unit No: 81
 Interval: **4535.00 ft (KB) To 4610.00 ft (KB) (TVD)**
 Reference Elevations: 3062.00 ft (KB)
 Total Depth: 4535.00 ft (KB) (TVD)
 3057.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 8647 Inside
 Press@RunDepth: 139.67 psig @ 4605.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.06.14 End Date: 2018.06.14 Last Calib.: 2018.06.14
 Start Time: 10:00:15 End Time: 17:05:30 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)
 IS:No return blow
 FF:Built to 45" blow (Ipro)
 FS:Return blow 10"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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)
62	560.05	109.65	End Shut-in(1)
62	107.02	109.51	Open To Flow (2)
122	139.67	113.10	Shut-In(2)
183	596.42	114.10	End Shut-In(2)
184	2275.90	114.57	Final Hydro-static

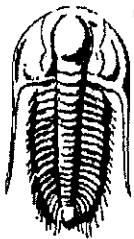
Recovery

Length (ft)	Description	Volume (bbl)
0.00	682 Gip	0.00
62.00	gco 60%g 40%o	0.30
124.00	mco g 20% m 30% o 50% g	1.19
122.00	gcow m 10% g 20% o 20% w 50% m	1.71

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63610

DST#: 4

ATTN: Ryan Seib

Test Start: 2018.06.14 @ 10:00:15

GENERAL INFORMATION:

Formation: Pawnee-Ft.Scott

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:52:15

Time Test Ended: 17:05:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

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

Total Depth: 4535.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3062.00 ft (KB)

3057.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8374

Outside

Press@RunDepth: psig @ 4605.00 ft (KB)

Start Date: 2018.06.14

End Date:

2018.06.14

Start Time: 10:00:15

End Time:

17:05:45

Capacity:

8000.00 psig

Last Calib.:

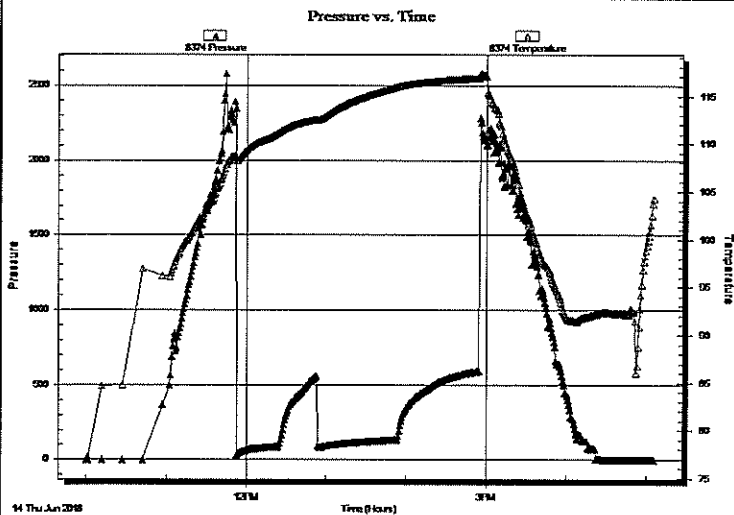
2018.06.14

Time On Btm:

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"

PRESSURE SUMMARY



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

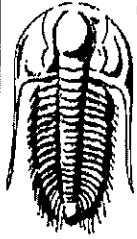
Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63610

DST#: 4

ATTN: Ryan Seib

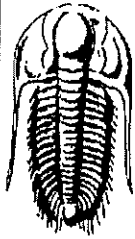
Test Start: 2018.06.14 @ 10:00:15

Tool Information

Drill Pipe:	Length: 4412.00 ft	Diameter: 3.80 inches	Volume: 61.89 bbl	Tool Weight:	1500.00 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: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose:	90000.00 lb
			Total Volume: 62.49 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4535.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.00 ft				
Tool Length:	106.00 ft				
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			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				



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

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

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 25 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 16000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.98 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 4000.00 ppm		
Filter Cake: 1.00 inches		

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: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: RW= .521@ 76.4= 16,000 ppm
API= 29@ 90 corrected to 25 @ 60

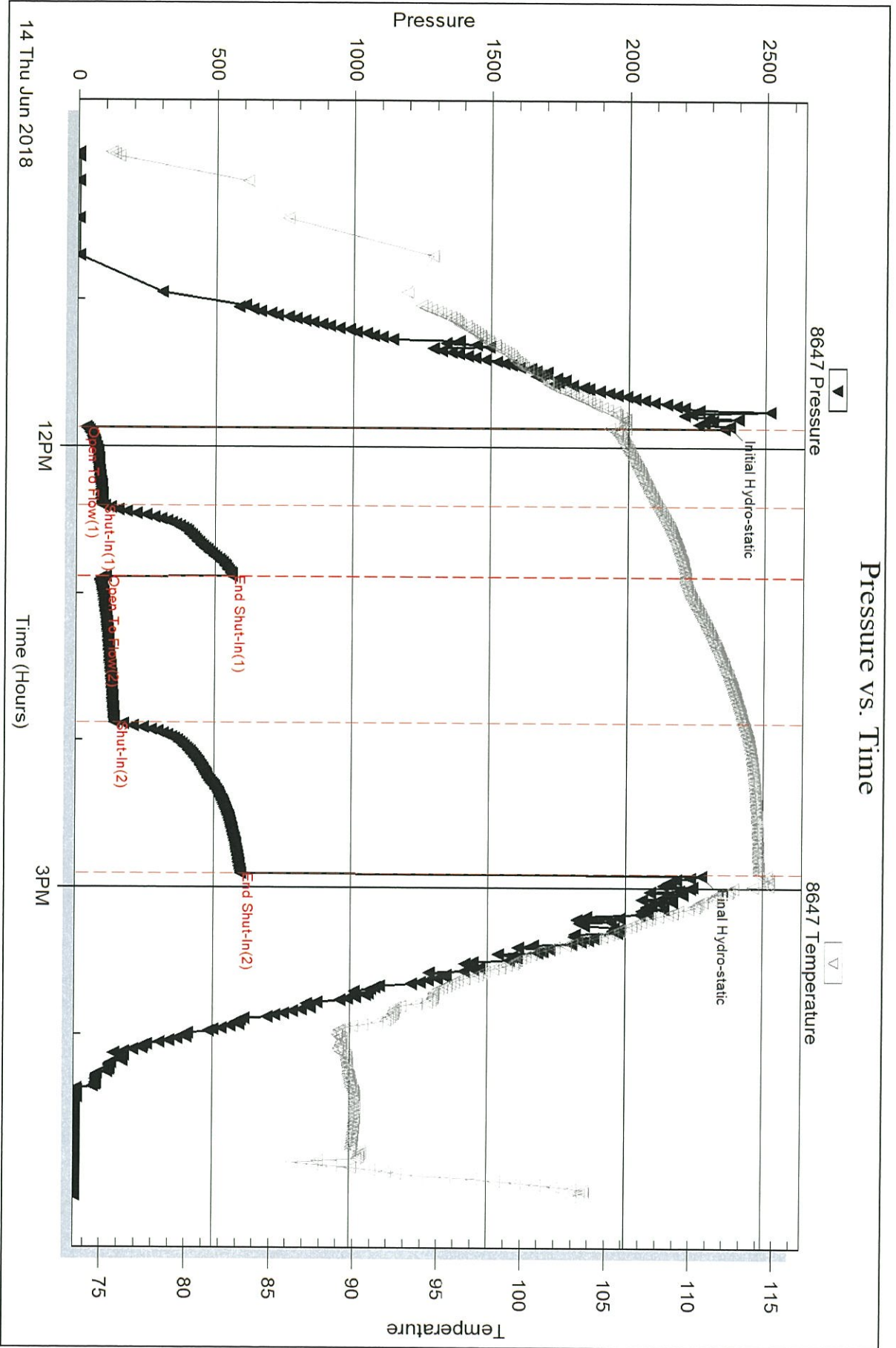
Serial #: 8647

Inside

Palomino Petroleum

Arrow head #1

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 63610

Printed: 2018.06.18 @ 14:01:18

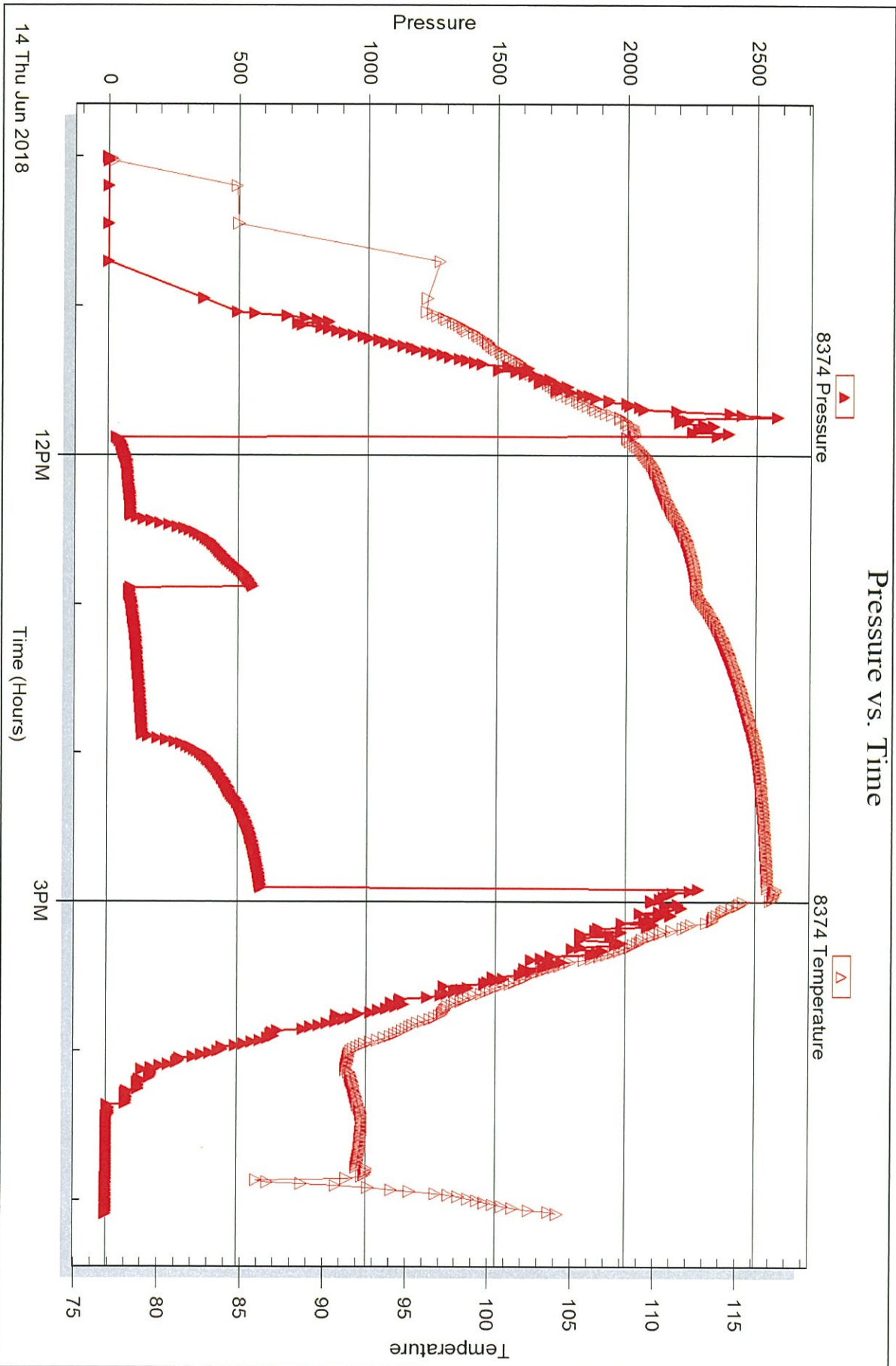
Serial #: 8374

Outside

Palomino Petroleum

Arrow head #1

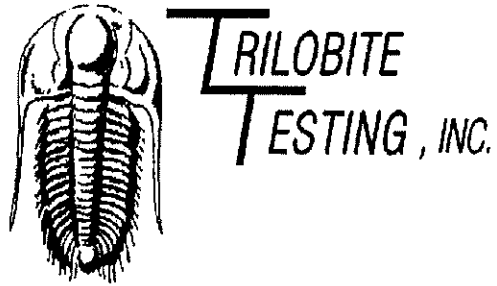
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 63610

Printed: 2018.06.18 @ 14:01:18



DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE. 84th St.
Newton KS 67114

ATTN: Ryan Seib

Arrowhead #1

22-20s-34w Scott,KS

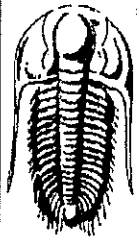
Start Date: 2018.06.16 @ 15:15:00

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

Printed: 2018.06.18 @ 14:00:43



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63611

DST#: 5

ATTN: Ryan Seib

Test Start: 2018.06.16 @ 15:15:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:20:45

Time Test Ended: 21:37:00

Test Type: Conventional Straddle (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: **4705.00 ft (KB) To 4860.00 ft (KB) (TVD)**

Total Depth: 5049.00 ft (KB) (TVD)

Hole Diameter: 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: 223.66 psig @ 4836.00 ft (KB)

Start Date: 2018.06.16

End Date:

2018.06.16

Start Time: 15:15:15

End Time:

21:37:00

Capacity: 8000.00 psig

Last Calib.: 2018.06.16

Time On Btm: 2018.06.16 @ 17:20:00

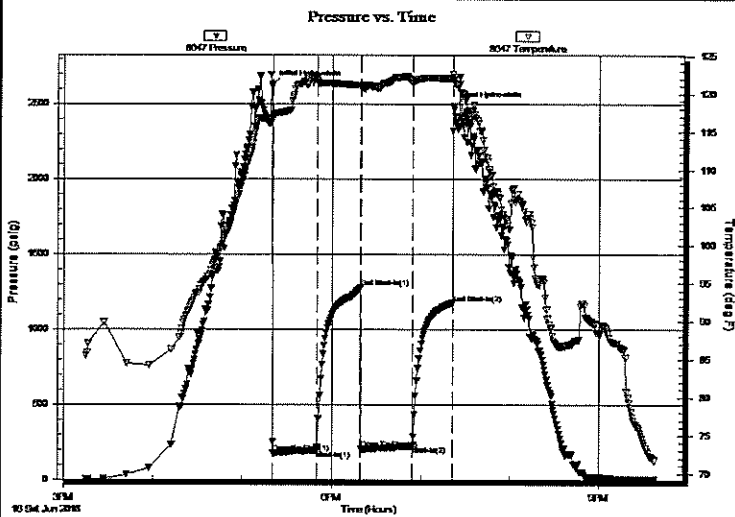
Time Off Btm: 2018.06.16 @ 19:21:45

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

IS:No return blow

FF:Built to 2" blow

FS:No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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)
60	1279.00	121.11	End Shut-In(1)
60	203.60	120.59	Open To Flow (2)
95	223.66	121.31	Shut-In(2)
121	1176.46	121.96	End Shut-In(2)
122	2489.23	122.18	Final Hydro-static

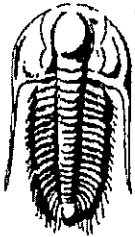
Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

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

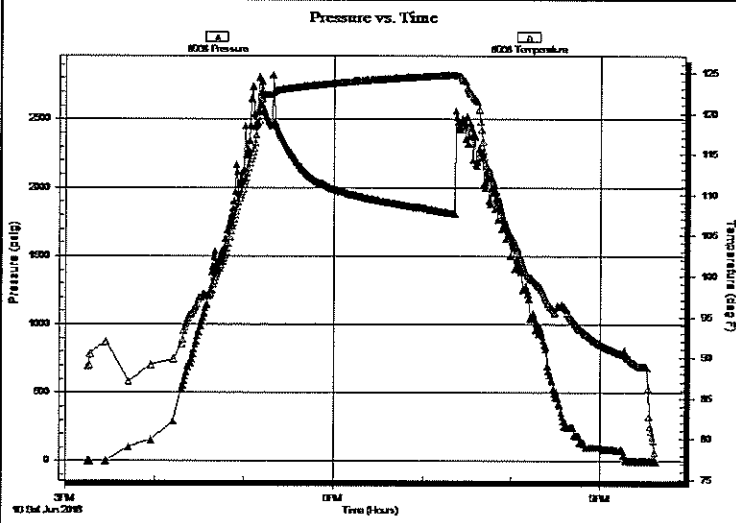
GENERAL INFORMATION:

Formation: **Cherokee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:20:45
 Time Test Ended: 21:37:00
 Test Type: Conventional Straddle (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Interval: **4705.00 ft (KB) To 4860.00 ft (KB) (TVD)**
 Total Depth: 5049.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 3062.00 ft (KB)
 3057.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8968 Below (Straddle)

Press@RunDepth: psig @ 4884.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.06.16 End Date: 2018.06.16 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



PRESSURE SUMMARY

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

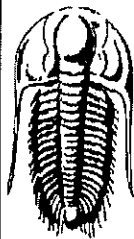
Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE. 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63611

DST#: 5

ATTN: Ryan Seib

Test Start: 2018.06.16 @ 15:15:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:20:45

Time Test Ended: 21:37:00

Test Type: Conventional Straddle (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: **4705.00 ft (KB) To 4860.00 ft (KB) (TVD)**

Reference Elevations: 3062.00 ft (KB)

Total Depth: 5049.00 ft (KB) (TVD)

3057.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8374 Outside

Press@RunDepth: psig @ 4836.00 ft (KB)

Start Date: 2018.06.16

End Date:

2018.06.16

Capacity:

8000.00 psig

Start Time: 15:15:15

End Time:

21:37:00

Last Calib.:

2018.06.16

Time On Btm:

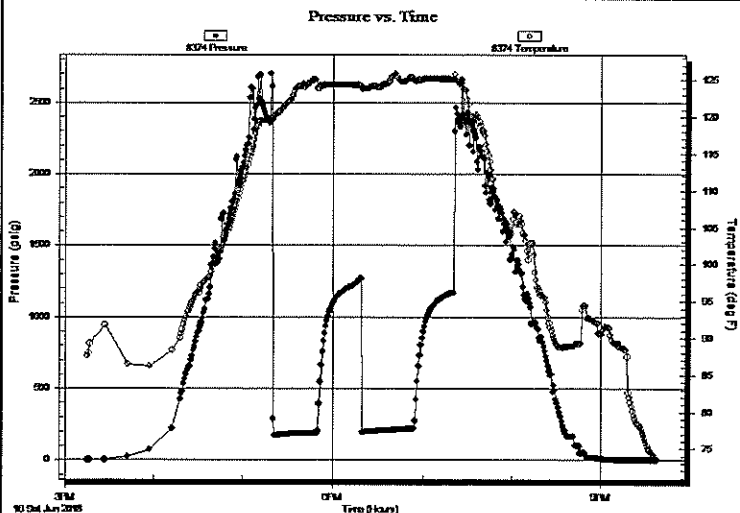
Time Off Btm:

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

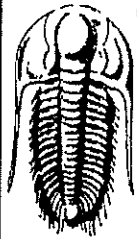
Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

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

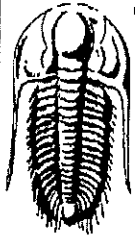
Tool Information

Drill Pipe:	Length: 4569.00 ft	Diameter: 3.80 inches	Volume: 64.09 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 90000.00 lb
		Total Volume: 64.69 bbl		Tool Chased 5.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4705.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	5049.00 ft			
Interval between Packers:	344.00 ft			
Tool Length:	375.00 ft			
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			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.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

22-20s-34w Scott,KS

4924 SE. 84th St.
New ton KS 67114

Arrowhead #1

Job Ticket: 63611

DST#: 5

ATTN: Ryan Seib

Test Start: 2018.06.16 @ 15:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: 1.00 inches

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: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

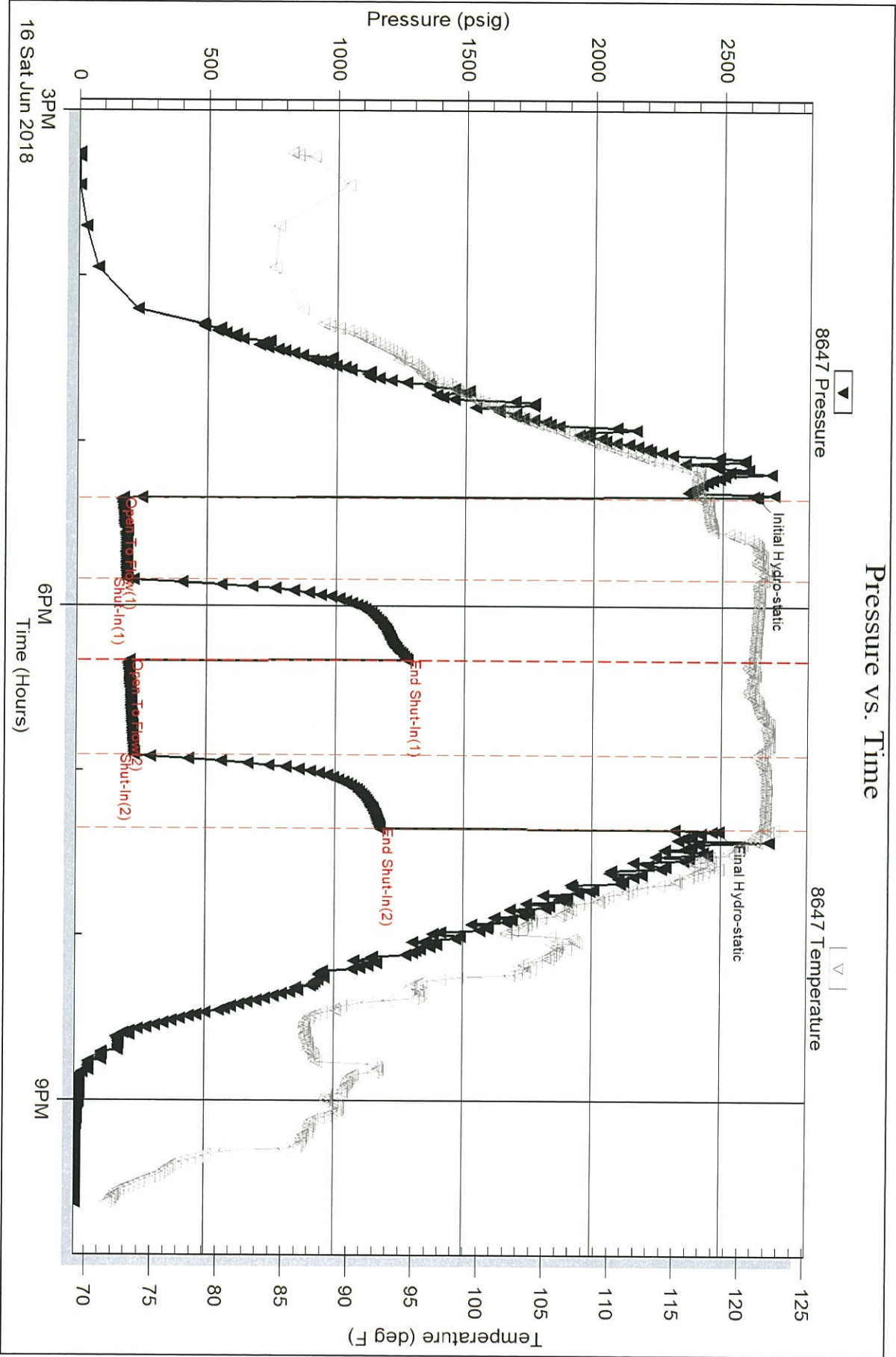
Serial #: 8647

Inside

Palomino Petroleum

Arrow head #1

DST Test Number: 5

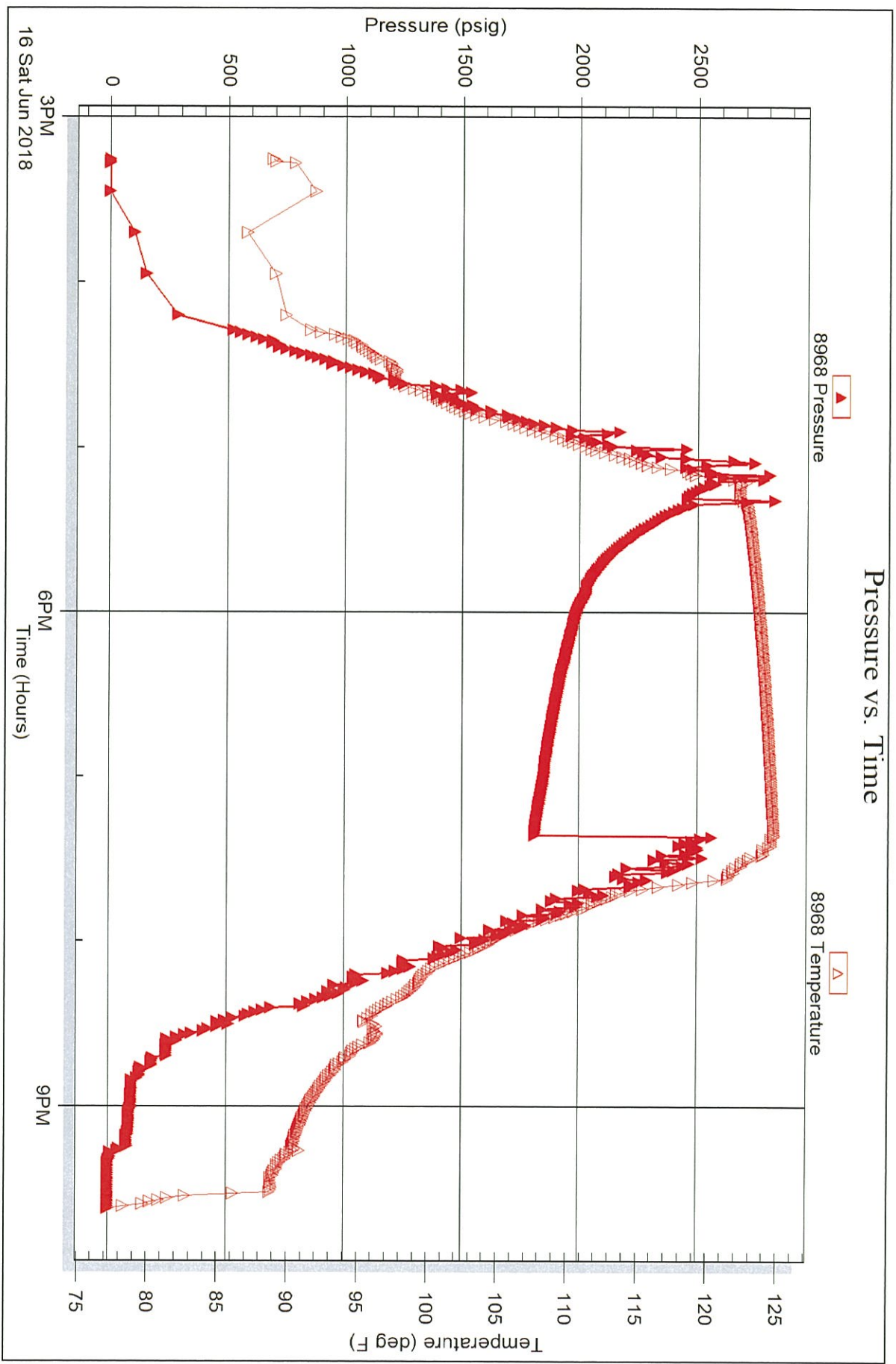


Serial #: 8968

Below (Stratth) Petroleum

Arrow head #1

DST Test Number: 5

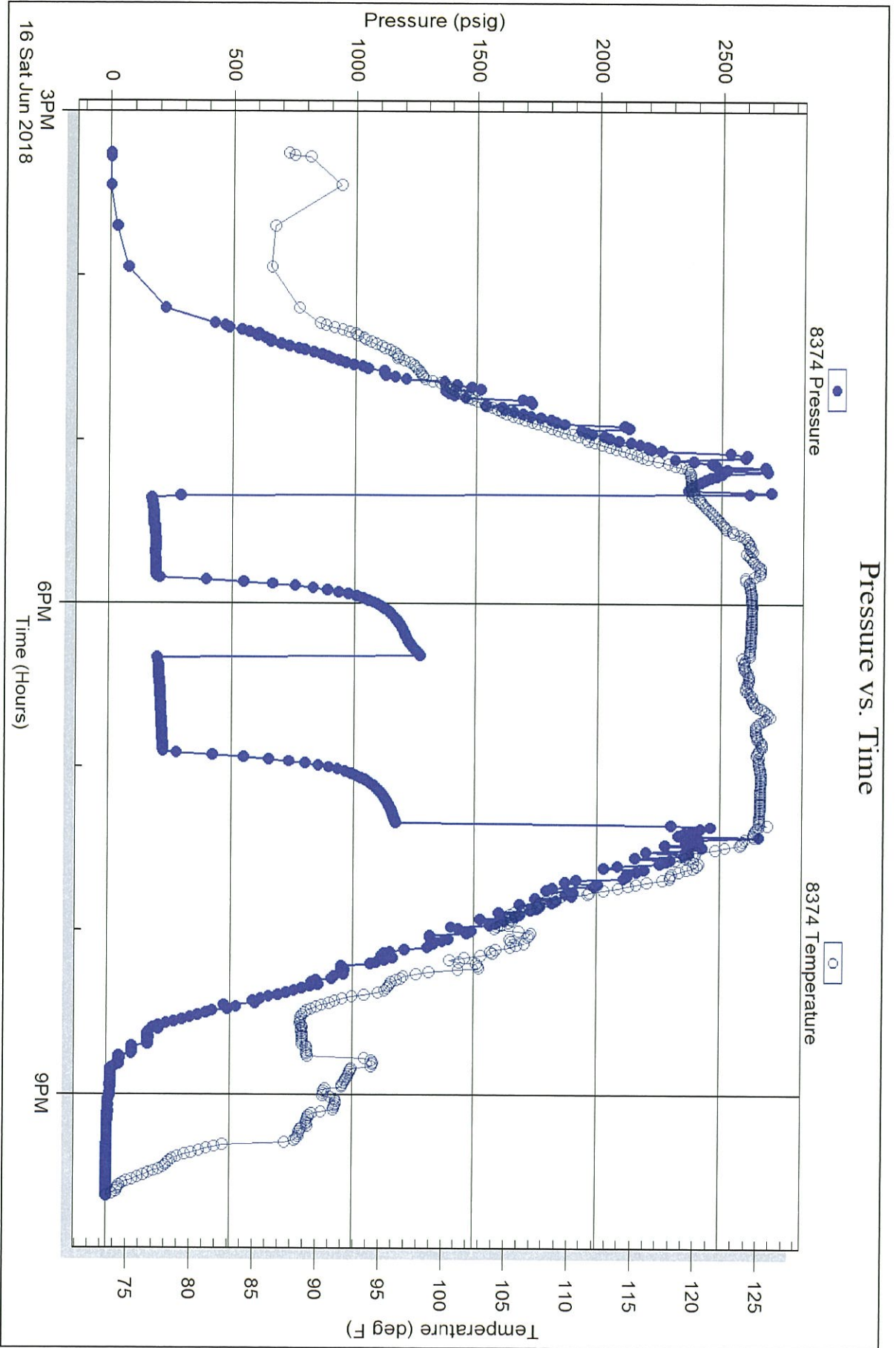


Serial #: 8374

Outside Palomino Petroleum

Arrow head #1

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 63611

Printed: 2018.06.18 @ 14:00:45



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63607

Well Name & No. Arrow Head 1 Test No. 1 Date 6-12-18
 Company Palomino Petroleum Elevation 3057 KB 3062 GL
 Address 4924 SE 84th St Newton KS 67114
 Co. Rep / Geo. Ryan Seib Rig WW10
 Location: Sec. 22 Twp 20 Rge. 34w Co. Scott State KS

Interval Tested 4178-4249 Zone Tested 1-I
 Anchor Length 71 Drill Pipe Run 4062 Mud Wt. 9.3
 Top Packer Depth 4173 Drill Collars Run 122 Vis 5.7
 Bottom Packer Depth 4178 Wt. Pipe Run 0 WL 8.4
 Total Depth 4249 Chlorides 3200 ppm System LCM 2
 Blow Description IF: Built to 7" (Ipro)
IS: No Return Blow
FF: Built to 4" Blow (Ipro)
FS: No Return Blow

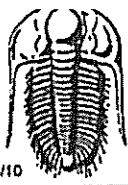
Rec	Feet of	%gas	%oil	%water	%mud
<u>184</u>	<u>MUD</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 184 BHT 109 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2163</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>03:37</u>
(B) First Initial Flow <u>43</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>04:39</u>
(C) First Final Flow <u>103</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>06:35</u>
(D) Initial Shut-In <u>1022</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>08:35</u>
(E) Second Initial Flow <u>105</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:10</u>
(F) Second Final Flow <u>125</u>	<input checked="" type="checkbox"/> Mileage <u>52 RT 52</u>	Comments <u>EM Tbb</u>
(G) Final Shut-In <u>1002</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2124</u>	<input type="checkbox"/> Straddle _____	
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1527</u>
	Sub Total <u>1527</u>	MP/DST Disc't _____

Approved By _____ Our Representative Mike Roberts

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63608

Well Name & No. Arrowhead 1 Test No. 2 Date 6-12-18
 Company Palomino Petroleum Elevation 3257 KB 3067 GL
 Address 4924 SE 84th St. Newton KS 67114
 Co. Rep / Geo. Ryan Seib Rig WW10
 Location: Sec. 22 Twp 20 Rge. 34W Co. Scott State KS

Interval Tested 4295-4350 Zone Tested K
 Anchor Length 55 Drill Pipe Run 4162 Mud Wt. 9.3
 Top Packer Depth 4291 Drill Collars Run 122 Vis 53
 Bottom Packer Depth 4295 Wt. Pipe Run 46 WL 6.4
 Total Depth 4350 Chlorides 3500 ppm System LCM 2
 Blow Description IF: Built to 88 1/2" Blow (Tpru) BOB 1 Min
IS: NO Return Blow
FF: Built to 100" Blow-BOB 2 Min
FS: NO Return Blow

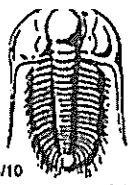
Rec	Feet of	%gas	%oil	%water	%mud
<u>620</u>	Feet of <u>MW</u>				
<u>504</u>	Feet of <u>SW</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total _____ BHT _____ Gravity _____ API RW 1541 @ 740 °F Chlorides 13000 ppm

(A) Initial Hydrostatic <u>2227</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>18:15</u>
(B) First Initial Flow <u>219</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>19:10</u>
(C) First Final Flow <u>485</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>21:00</u>
(D) Initial Shut-In <u>1077</u>	<input checked="" type="checkbox"/> Circ Sub <u>NL</u>	T-Pulled <u>22:30</u>
(E) Second Initial Flow <u>5.35</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>00!</u>
(F) Second Final Flow <u>70.3</u>	<input checked="" type="checkbox"/> Mileage <u>SORT</u> 52	Comments <u>EM tool</u>
(G) Final Shut-In <u>1074</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2145</u>	<input type="checkbox"/> Straddle	
Initial Open <u>15</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1527</u>
	Sub Total <u>1527</u>	MP/DST Disc'l _____

Approved By _____ Our Representative Mike Roberts

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TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63609

Well Name & No. Arrowhead 1 Test No. 3 Date 6-13-18
 Company Palomino Petroleum Elevation 3057 KB 3062 GL
 Address 4924 SE 84th St. Newton 67114
 Co. Rep / Geo. Ryan Seib Rig WW 10
 Location: Sec. 22 Twp 20 Rge. 34W Co. Scott State KS

Interval Tested 4422-4540 Zone Tested Marmaton
 Anchor Length 118 Drill Pipe Run 4290 Mud Wt. 9.3
 Top Packer Depth 4417 Drill Collars Run 122 Vis 61
 Bottom Packer Depth 4422 Wt. Pipe Run 0 WL 8.0
 Total Depth 4540 Chlorides 4200 ppm System LCM 1
 Blow Description IF: Built to 2" Blow
IS: No Return Blow
FF: Built to 1/2" Blow
FS: No Return Blow

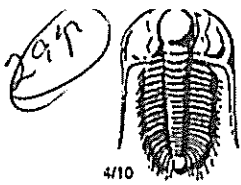
Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>MUD with Oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 62 BHT 115 Gravity _____ API RW _____ @ _____ F Chlorides _____ ppm
 (A) Initial Hydrostatic 2371 Test 1150 T-On Location 14:30
 (B) First Initial Flow 77 Jars 250 T-Started 19:07
 (C) First Final Flow 108 Safety Joint 75 T-Open 21:03
 (D) Initial Shut-In 278 Circ Sub NC T-Pulled 23:03
 (E) Second Initial Flow 110 Hourly Standby _____ T-Out 00:34
 (F) Second Final Flow 125 Mileage 52 RT 52 Comments EM Tool
 (G) Final Shut-In 281 Sampler _____ 350
 (H) Final Hydrostatic 2299 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 350
 Day Standby _____ Total 1877
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1527

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Approved By _____ Our Representative Mike Roberts

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63610

Well Name & No. Arrows Head 1 Test No. 4 Date 6-14-18
 Company Palomina Petroleum Elevation 3057 KB 3062 GL
 Address 4924 SE 84th St. Newton KS 67114
 Co. Rep / Geo. Ryan Seib Rig LULU10
 Location: Sec. 22 Twp 20 Rge. 34W Co. SCOTT State KS

Interval Tested 4535-4610 Zone Tested Pawnee - Ft. Scott
 Anchor Length 75 Drill Pipe Run 4412 Mud Wt. 9.3
 Top Packer Depth 4531 Drill Collars Run 122 Vis 52
 Bottom Packer Depth 4535 Wt. Pipe Run 0 WL 8.0
 Total Depth 4610 Chlorides 4000 ppm System LCM 1
 Blow Description IF: Built to 18" (Ipro)
IS: No Return Blow
FF: Built to 45" (Ipro)
FS: ~~Return Blow~~ Return Blow Built to 10"

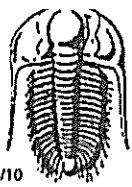
Rec	Feet of	%gas	%oil	%water	%mud
<u>6</u>	<u>682 GIP</u>				
<u>62</u>	<u>900</u>	<u>60</u>	<u>40</u>		
<u>124</u>	<u>mcog</u>	<u>50</u>	<u>30</u>		<u>20</u>
<u>122</u>	<u>900wm</u>	<u>10</u>	<u>20</u>	<u>20</u>	<u>50</u>

Rec Total 308 BHT 114 Gravity 25 API RW 521 @ 76.4 °F Chlorides 16000 ppm

(A) Initial Hydrostatic 2365 Test 1150 T-On Location 08:40
 (B) First Initial Flow 33 Jars 250 T-Started 10:00
 (C) First Final Flow 92 Safety Joint 75 T-Open 11:53
 (D) Initial Shut-In 560 Circ Sub NC T-Pulled 13:53
 (E) Second Initial Flow 107 Hourly Standby _____ T-Out 17:05
 (F) Second Final Flow 139 Mileage 52RT 52 Comments EM Tool
 (G) Final Shut-In 596 Sampler _____
 (H) Final Hydrostatic 2275 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1527
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1527

Approved By _____ Our Representative Mike Bolatz

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63611

Well Name & No. Arrow Head 1 Test No. 5 Date 6-16-18
 Company Palomino Petroleum Elevation 3057 KB 3062 GL
 Address 4924 SE 84th St. Newton 67114
 Co. Rep / Geo. Ryan Sib Rig W2W10
 Location: Sec. 22 Twp 20 Rge. 34W Co. Scott State KS

Interval Tested 4700-4860 5049^{TD} Zone Tested Cherokee
 Anchor Length 160 Drill Pipe Run 4569 Mud Wt. ~~9.5~~ 9.5
 Top Packer Depth 4695 Drill Collars Run 122 Vis 58
 Bottom Packer Depth 4700 Wt. Pipe Run 6 WL 8.0
 Total Depth 4860 Chlorides 5200 ppm System LCM 1
 Blow Description IF: Built to 7 1/2" Blow
IS: No Return Blow
FF: Built to 2" Blow
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>184</u>	<u>MUD</u>			<u>100</u>	
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 124 Gravity ~~12.2~~ API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2631</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>12:30</u>
(B) First Initial Flow <u>176</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>15:15</u>
(C) First Final Flow <u>194</u>	<input checked="" type="checkbox"/> Safety-Joint 75	T-Open <u>17:20</u>
(D) Initial Shut-In <u>1279</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>19:20</u>
(E) Second Initial Flow <u>203</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>21:37</u>
(F) Second Final Flow <u>223</u>	<input checked="" type="checkbox"/> Mileage <u>52 RT 52</u>	Comments <u>EM Tool</u>
(G) Final Shut-In <u>1176</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2489</u>	<input checked="" type="checkbox"/> Straddle 600	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 2377

Total 2377
 MP/DST Disc't _____

Approved By _____ Our Representative Mike Roberts

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