PETERRA ENERGY SERVICES
DESIGNED FROM PROSPECT TO PRODUCER

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Bateman #1
API: 15-171-21157-00-00
Location: NW-NE-SW-SE of Sec 25-T17s-R31w
License Number: 35252 **Region:** Mid-Continent
Spud Date: 10/26/2015 **Drilling Completed:** 11/4/2015
Surface Coordinates: 1114' FSL & 3465' FWL

Bottom Hole Coordinates: Same as Surface Coordinates
Ground Elevation (ft): 2905' **K.B. Elevation (ft):** 2915'
Logged Interval (ft): 3600' To: 4700' **Total Depth (ft):** 4701'
Formation: Mississippian Dolomite @ TD
Type of Drilling Fluid: Chemical Drispac (Kansas Drilling Technologies)

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: ARCADIAN RESOURCES, LLC
Address: 208 E. 32nd
Hays, KS 67601

GEOLOGIST

Name: Eli J. Felts & Garet Dinkel (3600'-4400'), Keith Reavis & Garet Dinkel (4400'-4700')
Company: PETERRA Energy Services
Address: 110 South Main, Suite #510
Wichita, KS 67202
Phone: (316) 204-5059

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Arcadian Resources LLC — **27-17-31 Scott, Ks**
208 E. 32nd, Hays, Ks 67601 — **Bateman #1**
Job Ticket: 61783 — DST#:1
ATTN: Eli Felts — Test Start: 2015.11.01 @ 00:50:40

GENERAL INFORMATION:
Formation: Lansing K
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:41:40
Time Test Ended: 07:30:10
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Turley
Unit No: 79
Interval: 4215.00 ft (KB) To 4248.00 ft (KB) (TVD)
Total Depth: 4248.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2915.00 ft (KB), 2905.00 ft (CF), KB to GR/CF: 10.00 ft

Serial #: 8166
Press@RunDepth: 656.98 psig @ ft (KB) — Capacity: 8000.00 psig
Start Date: 2015.11.01 End Date: 2015.11.01 — Last Calib.: 2015.11.01
Start Time: 00:50:40 End Time: 07:30:10 — Time On Btm: 2015.11.01 @ 02:40:10
Time Off Btm: 2015.11.01 @ 05:13:40

TEST COMMENT: IF: 1/4 built to 3 died to 1/4.
ISI: No return.
FF: Surface blow died in 2 min. Flushed tool no blow.
FSI: No return. Had a loose hammer union.

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.75	110.06	Initial Hydro-static
2	98.09	110.34	Open To Flow (1)
33	481.59	128.74	Shut-In(1)
77	720.69	127.30	End Shut-In(1)
78	497.38	126.89	Open To Flow (2)
108	656.98	128.72	Shut-In(2)
152	727.74	127.21	End Shut-In(2)
154	2079.99	127.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
558.00	mcw 95%w 5%m	7.83
248.00	mcw oil spots 80%w 20%m	3.48
603.00	ocw m 2%o 48%w 50%m	8.46

Gas Rates

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

Trilobite Testing, Inc — Ref. No: 61783 — Printed: 2015.11.01 @ 06:38:11

DRILL STEM TEST REPORT

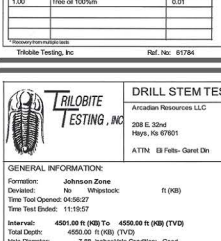
TRILOBITE TESTING, INC

Arcadian Resources LLC — **27-17-31 Scott, Ks**
208 E. 32nd, Hays, Ks 67601 — **Bateman #1**
Job Ticket: 61784 — DST#:2
ATTN: Eli Felts — Test Start: 2015.11.02 @ 02:00:00

GENERAL INFORMATION:
Formation: Marmaton
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:31:00
Time Test Ended: 08:05:00
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Interval: 4362.00 ft (KB) To 4382.00 ft (KB) (TVD)
Total Depth: 4362.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2915.00 ft (KB), 2905.00 ft (CF), KB to GR/CF: 10.00 ft

Serial #: 8166 Outside
Press@RunDepth: 101.94 psig @ 4363.00 ft (KB) — Capacity: 8000.00 psig
Start Date: 2015.11.02 End Date: 2015.11.02 — Last Calib.: 2015.11.02
Start Time: 02:00:00 End Time: 08:05:00 — Time On Btm: 2015.11.02 @ 03:29:30
Time Off Btm: 2015.11.02 @ 06:02:30

TEST COMMENT: IF: 1/4 blow built to 8.
ISI: No return.
FF: Surface blow built to 5.
FSI: No return.



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2210.46	110.75	Initial Hydro-static
2	26.33	110.73	Open To Flow (1)
32	55.67	128.03	Shut-In(1)
77	734.29	126.63	End Shut-In(1)
78	71.41	126.10	Open To Flow (2)
103	101.94	130.71	Shut-In(2)
152	705.87	129.45	End Shut-In(2)
153	2157.87	128.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	mcw 85%w 15%m	0.87
124.00	ocw m 1%o 49%w 50%m	1.74
1.00	free oil 100%m	0.01

Gas Rates

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

Trilobite Testing, Inc — Ref. No: 61784 — Printed: 2015.11.02 @ 08:12:14

DRILL STEM TEST REPORT

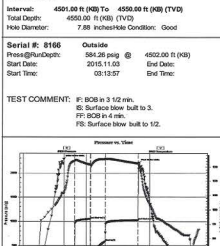
TRILOBITE TESTING, INC

Arcadian Resources LLC — **27-17-31 Scott, Ks**
208 E. 32nd, Hays, Ks 67601 — **Bateman #1**
Job Ticket: 61785 — DST#:3
ATTN: Eli Felts- Garet Din — Test Start: 2015.11.03 @ 03:13:57

GENERAL INFORMATION:
Formation: Johnson Zone
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:56:27
Time Test Ended: 11:19:57
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Interval: 4501.00 ft (KB) To 4550.00 ft (KB) (TVD)
Total Depth: 4550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2915.00 ft (KB), 2905.00 ft (CF), KB to GR/CF: 10.00 ft

Serial #: 8166 Outside
Press@RunDepth: 584.26 psig @ 4502.00 ft (KB) — Capacity: 8000.00 psig
Start Date: 2015.11.03 End Date: 2015.11.03 — Last Calib.: 2015.11.03
Start Time: 03:13:57 End Time: 11:19:57 — Time On Btm: 2015.11.03 @ 04:54:57
Time Off Btm: 2015.11.03 @ 08:29:27

TEST COMMENT: IF: BOB in 1 1/2 min.
ISI: Surface blow built to 3.
FF: BOB in 4 min.
FSI: Surface blow built to 1/2.



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2289.22	111.64	Initial Hydro-static
2	58.45	111.64	Open To Flow (1)
32	311.83	134.11	Shut-In(1)
76	1049.31	131.55	End Shut-In(1)
77	330.18	131.14	Open To Flow (2)
119	684.28	135.38	Shut-In(2)
213	1021.68	132.35	End Shut-In(2)
215	2207.89	130.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
248.00	gocm 40%g 10%o 50%m	3.48
620.00	mcgo 40%g 55%o 5%m	8.70
651.00	go 40%g 60%o	9.13
0.00	279 GIP	0.00

Gas Rates

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

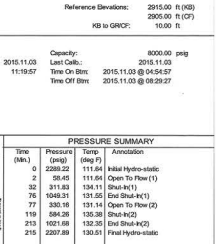
Trilobite Testing, Inc — Ref. No: 61785 — Printed: 2015.11.03 @ 11:33:38

Operator: Arcadian Resources, LLC
Well Name: Bateman #1
API #: 15-171-21157
Location: NW-NE-SW-SE 1114' FSL & 3465' FWL
County: Scott State: Kansas
Elevation: 2905 GL 2915 KB

PETERRA Energy Services
Wichita, Kansas
Eli J. Felts
Consulting Petroleum Geologist

SAMPLE TOPS

Formation	Depth	Datum
Anhydrite Top (driller pick)	2272	643
Anhydrite Base (driller pick)	2293	622
Topeka Lime	3667	-752
Heebner Shale	3910	-995
Lansing	3953	-1038
"G" Zone	4059	-1144
Muncie Creek	4124	-1209
Stark Shale	4212	-1297
Hushpuckney Shale	4258	-1343
Base Kansas City	4298	-1383
Marmaton	4345	-1430
Pawnee Lime	4421	-1506
Ft. Scott Lime	4464	-1549
Cherokee Shale	4489	-1574
Johnson Zone	4524	-1609
Mississippian	4598	-1684



REFERENCE WELLS- E-LOG TOPS

FORMATION	Bateman #1 Arcadian Resources 27-17-31		Brungardt #1 Chief Drilling 25-17-31		Brungardt #1 Casino Cord. Tops 25-17-31		Rodenberg #1 Chief Drilling Company Elevation: 2914 KB	
	Depth	Datum	Depth	Datum	Depth	Datum	Depth	Datum
Anhydrite Top	2270	645	2287	643	2298	635	2258	656
Anhydrite Base	2290	625	2287	623	2298	614	2278	636
Topeka Lime	3673	-758	3692	-752				
Heebner Shale	3909	-994	3898	-988	3907	-995	3892	-978
Lansing	3950	-1035	3940	-1030	3947	-1035	3931	-1017
Muncie Creek	4124	-1209	4113	-1203	4125	-1213	4115	-1201
Stark Shale	4211	-1296	4200	-1290	4216	-1304	4198	-1284
Hushpuckney Sh.	4258	-1343	4249	-1339			4246	-1332
Base Kansas City	4302	-1387	4292	-1382	4305	-1393	4289	-1375
Marmaton	4345	-1430	4332	-1422	4350	-1438	4342	-1428
Pawnee Lime	4420	-1505	4412	-1502	4428	-1516	4412	-1498
Ft. Scott Lime	4464	-1549	4457	-1547	4474	-1562	4456	-1542
Cherokee Shale	4488	-1573	4480	-1570	4496	-1584	4477	-1563
Johnson Zone	4528	-1613	4520	-1610	4538	-1626	4517	-1603
Mississippian	4599	-1684	4554	-1644	4570	-1658	4547	-1633

COMMENTS: Due to positive results in Drill Stem Test #3 in the Johnson Zone. It is recommended to set production casing to further evaluate the zone.

Respectfully Submitted,
Eli J. Felts
Consulting Petroleum Geologist

ROCK TYPES

Anhy, Bent, Brec, Cht, Clyst, Coal, Congl, Dol, Gyp, Igne, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Shgy, Sltst, Ss, Till

OTHER SYMBOLS

POROSITY: Earthy, Fenest, Fracture, Inter, Moldic, Organic, Pinpoint, Vuggy
OIL SHOW: Even, Spotted, Ques, Dead, Gas show, New symbol
SORTING: Well
Moderate, Poor
ROUNDING: Rounded, Subrnd, Subang, Angular
INTERVAL: Core, Dst
EVENT: pipesymbol, Rft, Sidewall