

# KANSAS CORPORATION COMMISSION

## ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow  24 hr SZ  
 Deliverability

(See Instructions on Reverse Side)

Test Date: 9-9-04

API No. 15 - 023-20561-0000

Company <u>Rosewood Resources</u>		Lease <u>Zumbelman</u>			Well Number <u>1-24</u>	
County <u>Cheyenne</u>	Location <u>NE SW</u>	Section <u>24</u>	TWP <u>3S</u>	Range (E/W) <u>41 W</u>	Acres Attributed <u>80</u>	
Field <u>Cherry Creek</u>		Reservoir <u>Niobrara</u>		Gas Gathering Connection <u>Branch Systems Inc.</u>		
Completion Date <u>6-5-04</u>		Plug Back Total Depth <u>1536</u>		Packer Set at		
Casing Size <u>4.5"</u>	Weight <u>10.5#</u>	Internal Diameter <u>4.052"</u>	Set at <u>1536</u>	Perforations <u>1332 - 1370</u>	To	
Tubing Size <u>None</u>	Weight	Internal Diameter	Set at	Perforations	To	
Type Completion (Describe) <u>SINGLE (Vertical)</u>		Type Fluid Production <u>Gas (dry)</u>		Pump Unit or Traveling Plunger? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Producing Thru (Annulus / Tubing) <u>annulus</u>		% Carbon Dioxide <u>1.0</u>		% Nitrogen <u>18.0</u>		Gas Gravity - G <sub>g</sub> <u>0.64</u>
Vertical Depth (H) <u>1544 TD 1370' H</u>		Pressure Taps		(Meter Run) (Prover) Size <u>(2")</u>		
Pressure Buildup:	Shut in <u>7-15</u>	20 <u>04</u> at <u>8</u>	<input checked="" type="checkbox"/> (AM) (PM)	Taken <u>9-9</u>	20 <u>04</u> at <u>8</u>	<input checked="" type="checkbox"/> (AM) (PM)
Well on Line:	Started <u>9-9</u>	20 <u>04</u> at <u>8</u>	<input checked="" type="checkbox"/> (AM) (PM)	Taken <u>9-13</u>	20 <u>04</u> at <u>8</u>	<input checked="" type="checkbox"/> (AM) (PM)

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**OBSERVED SURFACE DATA**

Duration of Shut-in 1356 Hours

Station Dynamic Property	Circle one: Meter Prover Pressure psig (Pm)	Pressure Differential in Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>c</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
					psig	psia	psig	psia		
Shut-In			<u>86</u>	<u>83</u>	<u>280</u>	<u>294.4</u>				
Flow			<u>86</u>	<u>83</u>	<u>264</u>	<u>278.4</u>			<u>24</u>	

**FLOW STREAM ATTRIBUTES**

Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mcf/d	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>pv</sub>	Metered Flow R (Mcf/d)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>m</sub>
						<u>85</u>		

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>c</sub>)<sup>2</sup> = \_\_\_\_\_ : (P<sub>w</sub>)<sup>2</sup> = \_\_\_\_\_ : P<sub>d</sub> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ : (P<sub>a</sub>)<sup>2</sup> = 0.207  
(P<sub>a</sub>)<sup>2</sup> = \_\_\_\_\_

(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> ) <sup>2</sup> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	(P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>c</sub> <sup>2</sup> - P <sub>a</sub> <sup>2</sup> 2. P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> divided by: P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1. or 2. and divide by: $\left[ \frac{P_c^2 - P_w^2}{P_c^2 - P_a^2} \right]$	Backpressure Curve Slope = "n" ----- or----- Assigned Standard Slope	n x LOG $\left[ \right]$	Antilog	Open Flow Deliverability Equals R x Antilog (Mcf/d)

Open Flow Mcf/d @ 14.65 psia Deliverability Mcf/d @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 15 day of January, 20 05.

Russ Smith  
Witness (if any)

Rosewood Resources  
For Company

I declare under penalty of perjury under the laws of the state of Kansas that I am authorized to request exempt status under Rule K.A.R. 82-3-304 on behalf of the operator Rosewood Resources and that the foregoing pressure information and statements contained on this application form are true and correct to the best of my knowledge and belief based upon available production summaries and lease records of equipment installation and/or upon type of completion or upon use being made of the gas well herein named.

I hereby request a one-year exemption from open flow testing for the Zimbelman 1-24 gas well on the grounds that said well:

(Check one)

- is a coalbed methane producer
- is cycled on plunger lift due to water
- is a source of natural gas for injection into an oil reservoir undergoing ER
- is on vacuum at the present time; KCC approval Docket No. \_\_\_\_\_
- is not capable of producing at a daily rate in excess of 250 mcf/D

I further agree to supply to the best of my ability any and all supporting documents deemed by Commission staff as necessary to corroborate this claim for exemption from testing.

Date: 1/15/05

Signature: Paul Smith

Title: Reservoir Engineer

**Instructions:** If a gas well meets one of the eligibility criteria set out in KCC regulation K.A.R. 82-3-304, the operator may complete the statement provided above in order to claim exempt status for the gas well.

At some point during the current calendar year, wellhead shut-in pressure shall have been measured after a minimum of 24 hours shut-in/buildup time and shall be reported on the front side of this form under **OBSERVED SURFACE DATA**. Shut-in pressure shall thereafter be reported yearly in the same manner for so long as the gas well continues to meet the eligibility criterion or until the claim of eligibility for exemption **IS** denied.

The G-2 form conveying the newest shut-in pressure reading shall be filed with the Wichita office no later than December 31 of the year for which it's intended to acquire exempt status for the subject well. The form must be signed and dated on the front side as though it was a verified report of annual test results.

## Constant Time Multipoint Back Pressure Test (Using Surface Pressure Data and Variable Choke)

Property Description		Completion Data	
WellName	Zimelman 01-24	Perforations	1332' - 1370'
Operator	Rosewood Resources, Inc.	Completion Date	June 5, 2004
Field	Cherry Creek	Frac Job	270,000 SCF N2; 48,595 gal MavFoam 70; 100,000 lbs sand
Location	SW NE 03N 41W 24	Prod Csg	4-1/2 @ 1539', 55 sx
County	Cheyenne	Tubing	None
State	Kansas	Packer	None

Reservoir Data			Other	
Zone	Niobrara		Test Date	July 13, 2004
BHT, degF	92		Test Number	Initial
Gas Gravity	0.6		Bar. Pressure	14.65 psi
% CO2	0		Surf Temp	60 deg F
% N2	0		Shut-in Time	120 hours
% H2S	0		Choke Nipple	Variable in
Correlation	M	(M = Misc Gas, Y = Condensate Fluids)		Using 6 in positive choke factors
Tpc	358.5			
Ppc	672.5			

Observed Data							
Rate No.	Choke Size, in.	Duration, hours	Choke Pressure, psig	Choke Pressure, psia	Flowing Temp, deg F	Liquid Production, bbls	
Shut-in	blank		280	295	-	0	
1	5/32	1	266	281	60	0	
2	7/32	1	252	267	60	0	
3	9/32	1	237	252	60	0	
4	3/8	1	212	227	60	0	
5	7/32	24	203	218	60	0	

Rate of Flow Calculations							
Rate No.	Fp Coefficient, Mcfd/psia	Choke Pressure, psia	Fg Gravity Factor	Ft Temperature Factor	Fpv Deviation Factor	Q Mcf/day	
1	0.4274	280.65	1.29	1.00	1.02	158.57	
2	0.8623	266.65	1.29	1.00	1.02	303.60	
3	1.4580	251.65	1.29	1.00	1.02	483.83	
4	2.6400	226.65	1.29	1.00	1.02	787.34	
5	0.8623	217.65	1.29	1.00	1.02	246.77	

Pressure Calculations							
Rate No.	Pc, psia	Pw, psia	Pc^2 / 1000	Pw^2 / 1000	(Pc^2 - Pw^2) / 1000	Q, Mcf/day	% (Pw/Shut-In), psig
1	294.65	280.65	86.82	78.76	8.05	159	95.0%
2	294.65	266.65	86.82	71.10	15.72	304	90.0%
3	294.65	251.65	86.82	63.33	23.49	484	84.6%
4	294.65	226.65	86.82	51.37	35.45	787	75.7%
5	294.65	217.65	86.82	47.37	39.45	247	72.5%
CAOF	294.65	14.65	86.82	0.21	86.60	577	0.0%
n =	1.08	Determined from "best fit" line through points 1,2,3,4 (see Chart)					
C =	4.65	Calculated using point 5 (24 hr) and n determined above					
CAOF =	577	Calculated using "n" and "C" above.					

Remarks:	
<div style="border: 2px solid black; padding: 5px; transform: rotate(-2deg); display: inline-block;"> <p style="margin: 0;"><b>RECEIVED</b></p> <p style="margin: 0;"><b>JAN 24 2005</b></p> <p style="margin: 0;"><b>KCC WICHITA</b></p> </div>	
Prepared By:	Ovidio Alfaro
Company:	Rosewood Resources, Inc.
Date:	August 12, 2004

MIKE KERKER  
President



Telephones  
970-522-4761 — 522-4764

**PRODUCTION ENGINEERING**

440 - 442 SOUTH FRONT STREET  
BOX 590  
STERLING, COLORADO 80751

COMPANY: ROSEWOOD RESOURCES, INC.

STATE: KANSAS

ADDRESS: PO BOX 227  
YUMA, CO 80759

COUNTY: CHEYENNE

WELL: ZIMBELMAN #1-24

FIELD: WILDCAT

TEST DESCRIPTION: FOUR-POINT TEST

INSTRUMENT TYPE: 10K SILICON CRYSTAL PRESS/TEMP PROBE

PROCEDURE CHRONOLOGY

-----  
FIRST DATA POINT 07:40 07-13-04  
GAUGE LANDED @ 1332' MV 07:57 07-13-04  
BEGIN FLOW TEST 08:00 07-13-04  
GAUGE OFF BOTTOM 11:55 07-14-04  
-----

PRESSURE/TEMPERATURE INFORMATION

-----  
CASING PRESSURE (IN, OUT) (psig) 280, 203  
MAXIMUM BHT (deg F) 91.65  
SHUT IN BHP (psia) 301.66  
Pwf (10/64) (psia) 288.11  
Pwf (14/64) (psia) 275.89  
Pwf (18/64) (psia) 261.44  
Pwf (24/64) (psia) 235.25  
Pwf (14/64 - 24 hour) (psia) 225.07  
-----

FILE NAME: ZIMBELMAN #1-24.ASC

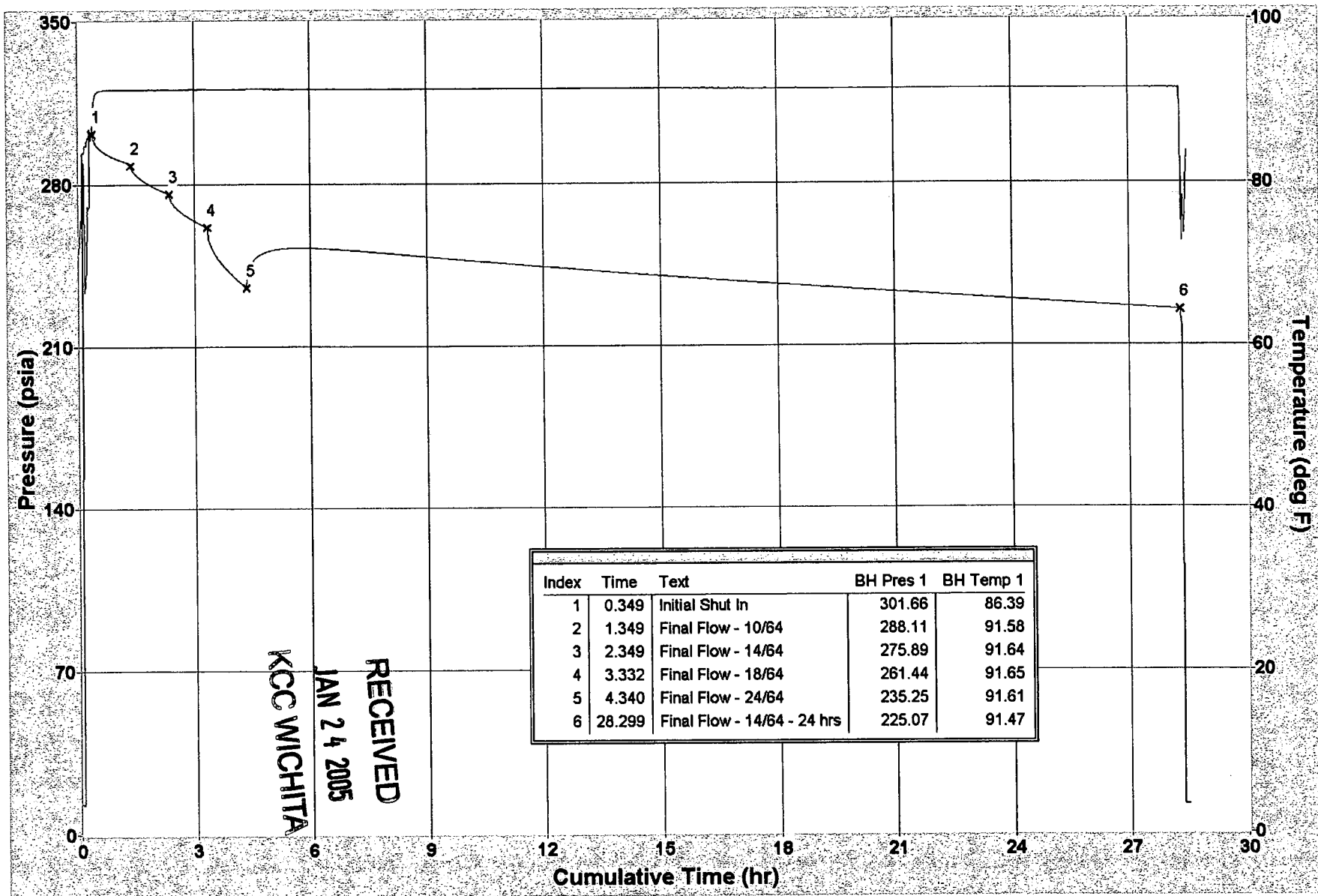
FILE FORMAT: TIME (hrs), PRESSURE (psia), TEMP (Deg F)

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Company Name    Rosewood Resources, Inc.  
 Well Name        Zimbelman #1-24  
 Type of Test     4-Point Test  
 Date(s) of Test   July 13-14, 2004



# Zimbelman #1-24





**PRODUCTION ENGINEERING**

Sterling, Colorado 80751

**WELL TESTING DATA**

Date of Test JULY 13-14, 2004

Lease ZIMBELMAN Well No. 1-24 Company ROSEWOOD RESOURCES

Field WILDCAT County CHEYENNE State KANSAS Location \_\_\_\_\_

Production Casing 4 1/2" Wt. 10.5 # Set At 1540' Perf. 1332' To 1370'

Tubing Size NONE Set At \_\_\_\_\_ Perf. \_\_\_\_\_ To \_\_\_\_\_

Meter Run \_\_\_\_\_ Conn. \_\_\_\_\_ Well Shut-in \_\_\_\_\_ hrs. Shut-in Pressure Csg. pressure 280 psig.

Gravity \_\_\_\_\_ BHT \_\_\_\_\_ Tbg. pressure NA psig.

Test Run on: Casing, Tubing, Annulus (Cross out those not applicable)

Other remarks about test set-up: FOUR POINT TEST WITH CHOKE

**OBSERVATIONS**

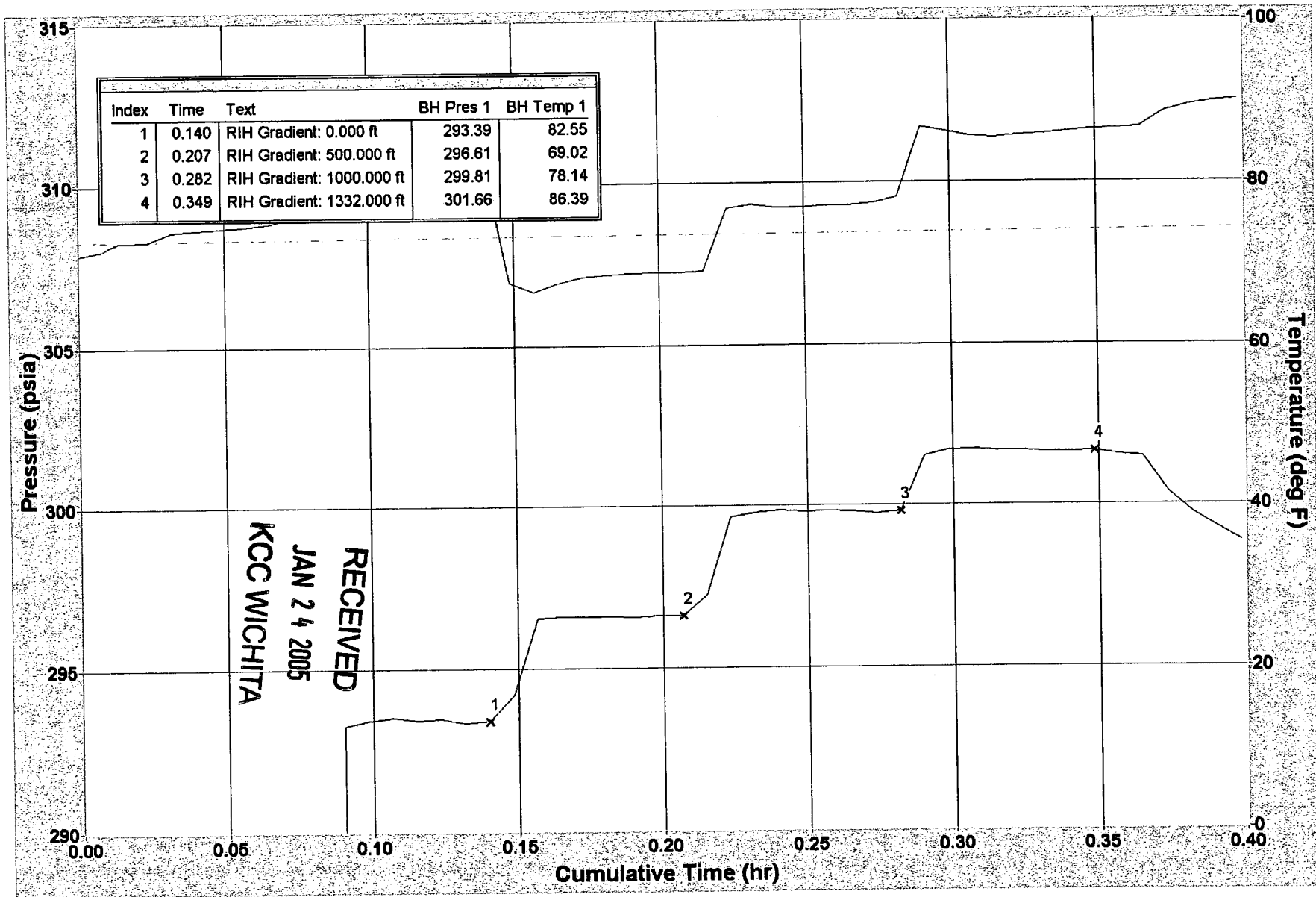
Date	Time	Orif. Size	Flow. Temp.	Meter or Prover Pressure psig.	Diff. hw Inches of Water	Wellhead Working psig.		Choke Size	Remarks
						Tbg.	Csg.		
7-13-04	8:00					-	280	-	INITIAL SHUT IN
	8:15					-	271	10/64	BEGIN FOUR POINT TEST
	8:30					-	270		
	8:45					-	268		
	9:00					-	266		
	9:15					-	257	14/64	
	9:30					-	255		
	9:45					-	254		
	10:00					-	252		
	10:15					-	244	18/64	
	10:30					-	242		
	10:45					-	240		
	11:00					-	237		
	11:15					-	224	24/64	
	11:30					-	220		
	11:45					-	216		
7-13-04	12:00					-	212		END FOUR POINT TEST
7-13-04	12:00					-	212	14/64	BEGIN OVERNIGHT FLOW
7-14-04	11:55					-	203	14/64	END OVERNIGHT FLOW

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**KCC WICHITA**

Company Name    Rosewood Resources, Inc.  
 Well Name        Zimbelman #1-24  
 Type of Test     4-Point Test  
 Date(s) of Test   July 13-14, 2004



# RIH Gradient



MIKE KERKER  
President



Telephones  
970-522-4761 — 522-4764

**PRODUCTION ENGINEERING**

440 - 442 SOUTH FRONT STREET  
BOX 590  
STERLING, COLORADO 80751

Company: Rosewood Resources, Inc.  
Well: Zimbelman #1-24  
Field: Wildcat

County: Cheyenne  
State: Kansas

Engineer:  
Gauge Type: Silicon Crystal  
Serial No.: 5375  
Gauge Range: 1000  
Gauge Depth: 1332 ft

Date: 07/13/2004

Well Type: Gas Production  
Test Type: RIH Gradient  
Well Status: Shut In

Tubing: TO  
Tubing: TO  
Casing: TO  
Perfs.: 1332' - 1370'  
Perfs.:  
Elevation:

PBTD 1540 ft  
Oil Level None  
H2O Level None

Zero: Master Valve

Shut-in BHP 302 @ 1332 ft Shut-in BHT 86 F @ 1332 ft  
Shut-in WHP 293 Shut-in WHT 83 F  
Casing CSGP 293

[ GRADIENT DATA ]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	293.39	
2	500	500	296.61	0.006
3	1000	1000	299.81	0.006
4	1332	1332	301.66	0.006

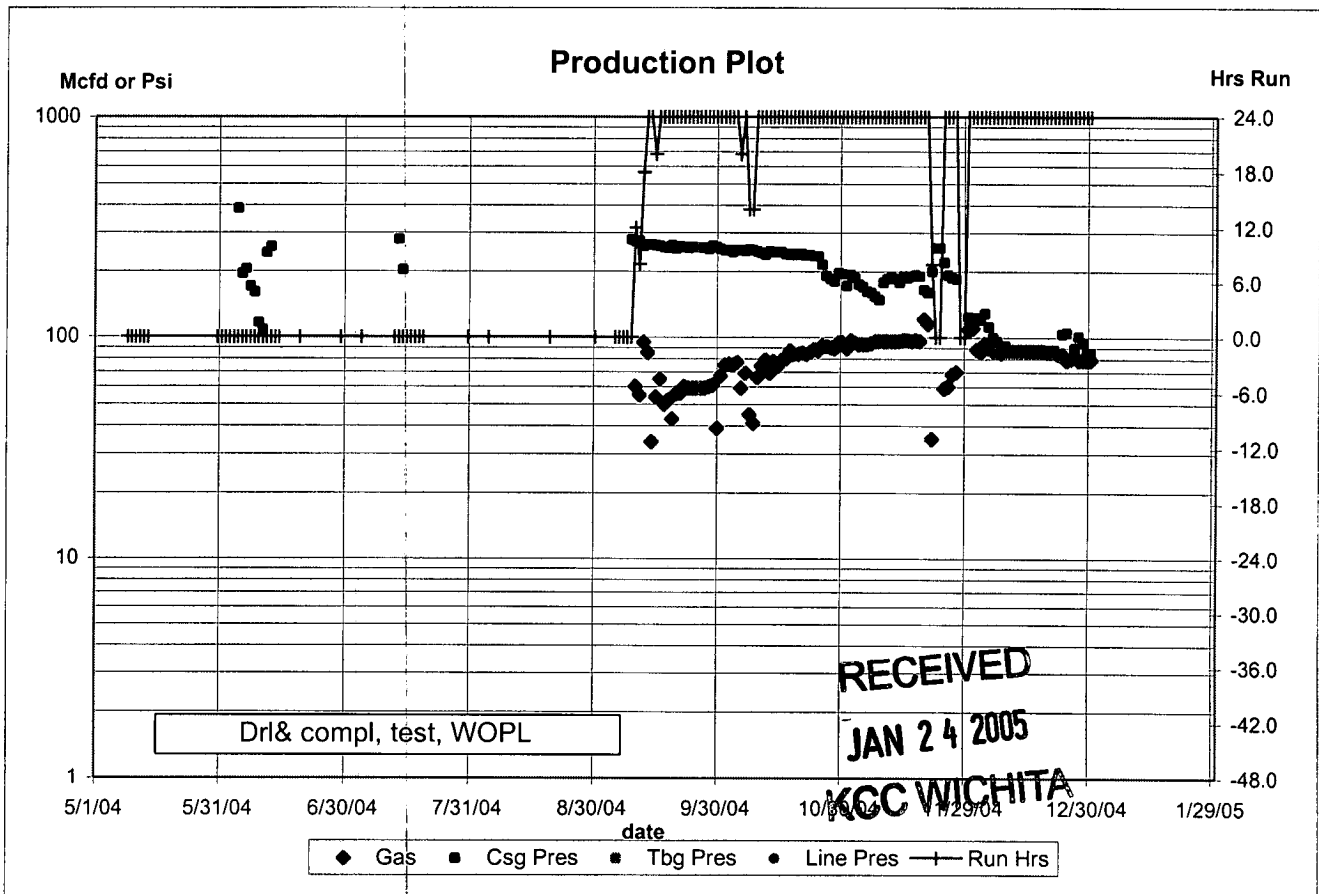
Remarks: File Name: ZIMB124.\*  
Bomb On Bottom: 07:57 am

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Actual  
**ZIMBELMAN 01-24**

	<u>Gas</u>	<u>Csg Press</u>	<u>Tbg Press</u>	<u>Line Press</u>	<u>Hrs</u>	
2004/01						
2004/02						
2004/03						
2004/04						
2004/05	null	null	null	null	null	Spud & TD 1417' set Csg
2004/06	null	null	null	null	null	N2Frac 100k#
2004/07	0	null	null	null	0.0	4 pt 7/14/04. WOPL 56dys(EOM)
2004/08	0	null	null	null	0.0	SI = 1124 hrs. WOPL day: 86
2004/09	1220	261.1	null	null	22.2	SI: 1356hrs WOPL 93dys. G-2. On Line.
2004/10	2420	234.2	null	null	23.2	
2004/11	2337	185.9	null	null	23.4	
2004/12	2690	96.2	null	null	24.0	
<b>TOTAL</b>	<b>8667</b>	<b>194.4</b>			<b>23.2</b>	



Actual  
**ZIMBELMAN 01-24**

Gas	Csg Press	Tbg Press	Line Press	Hrs	
05/09/2004	null	null	null	null	<b>Spud 11:00am Set Surf Csg 318 &amp; WOC</b>
05/10/2004	null	null	null	null	<b>TD 1544 set 4.5" 10.5# Prd Csg @ 1536</b>
05/11/2004	null	null	null	null	WOC. RR. RDMO. & WOCU
05/12/2004	null	null	null	null	WOCU day 1
05/13/2004	null	null	null	null	WOCU day 2
05/14/2004	null	null	null	null	WOCU day 3
05/31/2004	null	null	null	null	WOCU day 20
06/01/2004	null	null	null	null	WOCU day 21
06/02/2004	null	null	null	null	WOCU day 22
06/03/2004	null	null	null	null	WOCU day 23
06/04/2004	null	null	null	null	<b>TOC 470 PBDT 1536 Perf 1332-1370 spf2</b>
06/05/2004	null	<b>385</b>	null	null	<b>N2FRAC 100k# SICP 2hr &amp; Flo to Pit 14/64"</b>
06/06/2004	null	<b>195</b>	null	null	FCP 14/64 chk. Gd Mist & SOW
06/07/2004	null	<b>205</b>	null	null	FCP 14/64 chk. Gd Mist & SOW
06/08/2004	null	<b>170</b>	null	null	FCP 20/64 chk. Hvy Mist & SOW
06/09/2004	null	<b>160</b>	null	null	FCP 20/64 chk. Lt Mist & SOW & Gas & N2
06/10/2004	null	<b>116</b>	null	null	FCP 20/64 chk Lt Mist & SOW
06/11/2004	null	<b>108</b>	null	null	FCP 20/64 chk Dry Gas. <b>Shut In.</b>
06/12/2004	null	<b>243</b>	null	null	SI = 24 hrs. WOPL day: 7
06/13/2004	null	<b>259</b>	null	null	SI = 48 hrs. WOPL
06/14/2004	null	null	null	null	SI = 72 hrs. WOPL
06/15/2004	null	null	null	null	SI = 96 hrs. WOPL
06/20/2004	null	null	null	null	<b>SI = 216 hrs. WOPL day: 15</b>
<b>06/30/2004</b>	null	null	null	null	<b>SI = 456 hrs. WOPL day: 25</b>
07/05/2004	0	null	null	0.0	<b>SI = 576 hrs. WOPL day: 30</b>
07/13/2004	0	null	null	0.0	SI = 768 hrs. WOPL
07/14/2004	0	<b>280</b>	null	0.0	<b>SI 792hrs 4-pt 8am-12pm &amp; start 24Hr Flow</b>
07/15/2004	0	<b>203</b>	null	0.0	<b>end 8am &amp; SHUT IN. SI = 0 hrs. WOPL</b>
07/16/2004	0	null	null	0.0	SI = 24 hrs. WOPL
07/17/2004	0	null	null	0.0	SI = 48 hrs. WOPL
07/18/2004	0	null	null	0.0	SI = 72 hrs. WOPL
07/19/2004	0	null	null	0.0	SI = 96 hrs. WOPL
07/20/2004	0	null	null	0.0	<b>SI = 120 hrs. WOPL day: 45</b>
<b>07/31/2004</b>	0	null	null	0.0	SI = 384 hrs. WOPL day: 56
08/05/2004	0	null	null	0.0	<b>SI = 504 hrs. WOPL day: 60</b>
08/20/2004	0	null	null	0.0	<b>SI = 864 hrs. WOPL day: 75</b>
<b>08/31/2004</b>	0	null	null	0.0	SI = 1128 hrs. WOPL day: 86
09/05/2004	0	null	null	0.0	<b>SI = 1248 hrs. WOPL day: 90</b>
09/06/2004	0	null	null	0.0	SI = 1272 hrs. WOPL day: 91
09/07/2004	0	null	null	0.0	SI = 1296 hrs. WOPL day: 92
09/08/2004	0	null	null	0.0	<b>SI = 1320 hrs. WOPL day: 93</b>
09/09/2004	0	<b>280</b>	null	0.0	<b>SICP Hrs: 1356 G-2 taken. On Line.</b>
<b>09/10/2004</b>	60	274	null	12.0	<b>First Sales</b>
09/11/2004	55	275	null	8.0	
09/12/2004	95	261	null	18.0	
09/13/2004	85	264	null	24.0	
09/14/2004	34	265	null	24.0	
09/15/2004	54	262	null	20.0	
09/16/2004	65	261	null	24.0	

Actual

**ZIMBELMAN 01-24**

Gas	Csg Press	Tbg Press	Line Press	Hrs	
10/16/2004	79	245	null	null	24.0
10/17/2004	80	240	null	null	24.0
10/18/2004	87	238	null	null	24.0
10/19/2004	84	240	null	null	24.0
10/20/2004	84	238	null	null	24.0
10/21/2004	85	240	null	null	24.0
10/22/2004	84	237	null	null	24.0
10/23/2004	86	237	null	null	24.0
10/24/2004	88	235	null	null	24.0
10/25/2004	87	235	null	null	24.0
10/26/2004	92	215	null	null	24.0
10/27/2004	91	191	null	null	24.0
10/28/2004	90	185	null	null	24.0
10/29/2004	89	180	null	null	24.0
10/30/2004	95	197	null	null	24.0
10/31/2004	95	195	null	null	24.0
11/01/2004	89	172	null	null	24.0
11/02/2004	97	193	null	null	24.0
11/03/2004	95	187	null	null	24.0
11/04/2004	93	174	null	null	24.0
11/05/2004	93	170	null	null	24.0
11/06/2004	93	162	null	null	24.0
11/07/2004	94	160	null	null	24.0
11/08/2004	96	154	null	null	24.0
11/09/2004	96	148	null	null	24.0
11/10/2004	96	178	null	null	24.0
11/11/2004	96	185	null	null	24.0
11/12/2004	96	189	null	null	24.0
11/13/2004	96	185	null	null	24.0
11/14/2004	96	178	null	null	24.0
11/15/2004	97	190	null	null	24.0
11/16/2004	97	187	null	null	24.0
11/17/2004	96	190	null	null	24.0
11/18/2004	97	193	null	null	24.0
11/19/2004	96	190	null	null	24.0
11/20/2004	121	165	null	null	24.0
11/21/2004	115	160	null	null	24.0
11/22/2004	35	200	null	null	8.0
11/23/2004	0	256	null	null	0.0
11/24/2004	0	256	null	null	0.0
11/25/2004	59	220	null	null	24.0
11/26/2004	60	192	null	null	24.0
11/27/2004	68	187	null	null	24.0
11/28/2004	70	185	null	null	24.0
11/29/2004	null	null	null	null	null
11/30/2004	null	null	null	null	null
12/01/2004	109	124	null	null	24.0
12/02/2004	110	115	null	null	24.0
12/03/2004	88	123	null	null	24.0

SI @ 30pm SI 16hrs

SI 40hr

SI 64hr &amp; on line

SI

SI