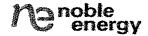
# KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

		For Commi	ssion		······	<del></del>			Che	cked by	
		Witness (if	any)				~~~~	-070	For	Company	) 
the facts sta	ted therei	n, and that sa	id report is true	and correc	t. Executed	this the	13 d	lay of A	tudo	Scort	STEINKE
•					tates that he			make the	above repo	ort and that he h	
Open Flow	- 9	<u> </u>	Mcfd @ 14.6		UNE	Deliverabil		1 04-	3-7/1	Mcfd @ 14.65 ps	sia !
			SEE	AFA	CHEO	SHE	E	FOR	Ju.	2004	
			divided by: $P_c^2 - P_w^2$	by:		Standa	rd Slope		180		(Mcfd)
(P <sub>c</sub> ) <sup>2</sup> - (P <sub>a</sub> or (P <sub>c</sub> ) <sup>2</sup> - (P <sub>d</sub>	1	(c)2 - (Pw)2	1. $P_c^2 - P_a^2$ 2. $P_c^2 - P_d^2$	LOG of formula 1. or 2. and divide	P <sub>2</sub> - P <sub>w</sub> .	Ass	e = "n" or igned	nxL	og	Antilog	Deliverability Equals R x Antilog
(P <sub>c</sub> ) <sup>2</sup> =	; ,,	<b>I</b>	Choose formula 1 or 2:	P <sub>d</sub> =	<u>*</u>	Backpres	- 14.4) + * sure Curve	, <del>, , , =</del>	 	(	Open Flow
(P \2 -		/D \2	•	•	OW) (DELIVI	•			WIC	HITA, KS (P.	) <sup>2</sup> = 0.207 ) <sup>2</sup> =
						-	1.		CONSERVA	TION DIVISION	
Coeffiecie (F <sub>b</sub> ) (F <sub>p</sub> ) Mcfd		Meter or ver Pressure psia	Extension √P <sub>m</sub> x h	Fac F	tor T	Factor	Fac		AUG	PRATION COMPOS (Cubic F	SION Fluid eet/ Gravity ) G <sub>m</sub>
Plate		Circle one:	Press	Grav	/itv	Flowing	Devia	ation KA	NSAS CORR	CEIVED	Flowing
Flow	0.50	147	9.6	68	1	EAM ATTRI	RUTES		147	744	
Shut-In	<u> </u>	ida	01.	10	68		275		1,1	77.1	!
	(inches)	psig (Pm)	Inches H <sub>2</sub> 0		•	psig psia		psig	psia		
Static / Dynamic Property	Orifice Size (inches)	Meter Prover Pressu	Differential re in	Flowing Well Head Temperature t		Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Wellhead Pressure (P <sub>w</sub> ) or (P <sub>1</sub> ) or (P <sub>c</sub> )		Duration (Hours)	Liquid Produced (Barrels)
<u> </u>		Circle one:	Pressure			SURFACE Casi		Ti	ubing	Duration of Shut	i-in <u>96</u> Hours
Well on Lin	ne:	Started	20	at		(AM) (PM)	iaken		20	at	,
Pressure B		Jiiut III								<u>o</u>	
			1.12		7			1.1-			meter
Vertical De	pth(H)		Casing		Press	ure Taps			7,6		Run) Prover) Size
Producing	Thru (Anı	nulus / Tubing	1) 0	% C	Carbon Dioxid			% Nitroge	en 4.6	Gas G	ravity - G
Type Comp	oletion (De	escribe) 60	ls	Type Flui	d Production	600		Pump Un	it or Traveling	g Plunger? Yes	<b>√</b> No
Tubing Siz	e "V	Weigh	t	Internal [	Diameter	Set a	t	Perfor	ations	То	
Casing Siz	e 4.	< Weigh	10.5	Internal [	Diameter	Set a	t	Perfor	ations	1450 To	1486
Completion	n Date	6/3/04		Plug Bac	k Total Dept	159		Packer S	et at		
Field Ch	erry	Creek		Reservoi	Niob	rara		Gas Gath	nering Conr	nection Bitter	Creek
County	eyenne	Locati	NWSW	Section	32	TWP 7	35	RNG (E/	711	J	Acres Attributed
Company	Nobe	E ENER				Lease Z	neygan	att 13	5-32		Well Number
	verabilty			lest Dati	ין צעעל י	root		API	No. 15	13-2056	19-00-00
Type Test:  Ope	n Flow				(See Instruct		verse Side)	•			
Type Test					(See Instruct	ione on Ro	iorea Sida	1			

100 Glenborough Drive Suite 100 Houston, TX 77067-3610

Tel: 281.872.3100 Fax: 281.872.3111 www.nobleenergyinc.com



August 13, 2004

Jim Hemmen Kansas Corporation Commission 130 S. Market Room 2078 Wichita, KS 67202-3802

Subject:: Open flow test of Noble Energy gas wells Cheyenne County, KS

Dear Mr. Hemmen:

This letter is in response to correspondence dated July 16, 2004 from the KCC. The four wells in question produce from the Niobrara formation. The Niobrara is a chalk with very low permeability, usually 1 md or less. In order for a Niobrara gas well to produce, it must be stimulated with a hydraulic fracture treatment that uses proppant to keep the fracture open.

These four wells were all perforated and frac'd in the Niobrara. Following the frac treatments, the wells were flowed to atmosphere for about 5 days to recover load fluid from the frac and ensure that the wells were not flowing back excessive sand. They were then shut in for 3 days. After 72 hours, a 2" orifice plate tester was installed and a four-point test with a 24-hour extended flow test was conducted. A copy of these results were reported to KCC and are referenced in the 7/16/04 letter.

This initial four-point test is used by Noble only as a qualitative assessment of the well's potential. We look at the initial shut in pressure and whether or not the well is misting or producing water during the test. We typically take the 24-hour one-point rate and divide it by four as an initial estimate of what the well will first produce for plate sizing and pipeline nominations. We do not believe the initial four-point test is indicative of the long term performance of the Niobrara reservoir. The well is producing in linear flow from the hydraulic fracture during the four-point test. The true reservoir performance is not observed until the well begins flowing in radial flow and that does not occur until the well has produced for more than 2-3 days.

We believe a 30-day average rate of production provides the best value to use in the potential test and we have attached those values for these wells. We use the shut-in casing pressure prior to the well being turned on, the average flowing pressure and the slope of the 4-point test above to determine the value of "C". We then calculate the AOF using a flowing pressure of 14.65 psia. Those calculations are attached, also.

We are also enclosing production graphs of offset wells in the area. The graphs show that no well has ever produced over 250 MCFPD. Thus, we feel that Niobrara gas wells in Cheyenne County, KS should be considered exempt from testing.

Should you have any questions, please contact the undersigned at 281-874-6773.

Sincerely, Noble Energy, Inc.

RECEIVED KANSAS CORPORATION COMMISSION

AUG 1 6 2004

CONSERVATION DIVISION WICHITA, KS

Scott Steinke Petroleum Engineer

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 Noble Energy, Inc
and that the foregoing pressure infor	mation and statements contained on this application form are true and
correct to the best of my knowledge ar	nd belief based upon available production summaries and lease records
of equipment installation and/or upon t	ype of completion or upon use being made of the gas well herein named.
I hereby request a one-year exem	ption from open flow testing for the
as well on the grounds that said well:	· · · · · · · · · · · · · · · · · · ·
(Objects and	· · · · · · · · · · · · · · · · · · ·
(Check one) is a coalbed metha	ne producer
is cycled on plunge	·
	ral gas for injection into an oil reservoir undergoing ER
	present time; KCC approval Docket No
<b>├</b>	roducing at a daily rate in excess of 250 mcf/D
3 <u>77</u> , 10 110; 0apable of p.	outling at a saily hate in cheese of see mens
I further agree to supply to the bes	st of my ability any and all supporting documents deemed by Commission
taff as necessary to corroborate this	claim for exemption from testing.
,	
Date: 81304	RECEIVED  KANSAS CORPORATION COMMISSION
	AUG 1 6 2004
	CONSERVATION DIVISION WICHTA NO
	1
	Signature: Suff in Attento  Title: 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.

# **ZWEYGARDT 13-32**

JULY 2004

Date	Time	Total Flow U	Units	Flow Time	Units	Flow Rate	Units	DP Avg	Units	SP Avg	Units	PT Avg	Units	Sequence
04/07/01	07:00:02		SCF	24:00:00	hrs	63,810.40	SCFD	9.94	InH2O	148.05	psi	66.23	DegF	26
04/07/02	07:00:02		SCF	24:00:00	hrs	64,097.10	SCFD	9.90	InH2O	148.15	psi	59.94	DegF	27
04/07/03	07:00:02		SCF	24:00:00	hrs	62,124.50	SCFD	9.42	InH2O	148.79	psi	68.67	DegF	28
04/07/04	07:00:01		SCF	24:00:00	hrs	61,245.90	SCFD	9.19	InH2O	149.04	psi	71.45	DegF	29
04/07/05	07:00:01		SCF	24:00:00	hrs	61,895.90	SCFD	9.35	InH2O	148.52	psi	67.59	DegF	30
04/07/06	07:00:02		SCF	24:00:00	hrs	62,108.10	SCFD	9.41	InH2O	148.30	psi	66.99	DegF	31
04/07/07	07:00:01		SCF	23:59:59	hrs	61,908.20	SCFD	9.39	InH2O	148.36	<u>psi</u>	69.07	DegF	32
04/07/08	07:00:02		SCF	24:00:01	hrs	59,825.30	SCFD	8.86	InH2O	149.34	psi	77.58	DegF	33
04/07/09	07:00:02		SCF	23:59:59	hrs	59,836.10	SCFD	8.87	InH2O	148.85	psi	76.88	DegF	34
04/07/10	07:00:01	THE RESERVE OF THE PARTY OF THE	SCF	24:00:00	hrs	61,093.60	SCFD	9.32	InH2O	147.71	psi	76.56	DegF	35
04/07/11	07:00:02		SCF	24:00:01	hrs	62,220.40	SCFD	9.68	InH2O	147.01	psi	75.06	DegF	36
04/07/12	07:00:02		SCF	23:59:59	hrs	62,422.30	SCFD	9.75	InH2O	147.13	psi	75.84	DegF	37
04/07/13	07:00:01		SCF	24:00:00	hrs	60,971.00	SCFD	9.36	InH2O	147.63	psi	80.74	DegF	38
04/07/14	07:00:01		SCF	24:00:00	hrs	59,909.10	SCFD	9.03	InH2O	147.91	psi	81.60	DegF	39
04/07/15	07:00:02		SCF	24:00:01	hrs	61,879.50	SCFD	9.62	InH2O	147.05	psi	77.70	DegF	40
04/07/16	07:00:01		SCF	23:59:59	hrs	61,075.40	SCFD	9.26	InH2O	147.97	psi	74.84	DegF	41
04/07/17	07:00:01		SCF	24:00:00	hrs	61,814.60	SCFD	9.36	InH2O	148.13	psi	68.06	DegF	42
04/07/18	07:00:01		SCF	24:00:00	hrs	60,633.40	SCFD	9.08	InH2O	148.38	psi	73.22	DegF	43
04/07/19	07:00:02		SCF	24:00:01	hrs	60,225.00	SCFD	9.01	InH2O	148.29	psi	76.38	DegF	44
04/07/20	07:00:02	59,668.40	SCF	24:00:00	hrs	59,668.40	SCFD	8.89	InH2O	148.46	psi	79.50	DegF	45
04/07/21	07:00:02	58,257.00	SCF	24:00:00	hrs	58,257.00	SCFD	8,48	InH2O	149.17	psi	82.18	DegF	46
04/07/22	07:00:02	59,137,80	SCF	23:59:59	hrs	59,138.50	SCFD	8.67	InH2O	148.82	psi	76.92	DegF	47
04/07/23	07:00:02	63,359.10	SCF	24:00:01	hrs	63,358.30	SCFD	9.94	InH2O	146.38	psi	67.94	DegF	48
04/07/24	07:00:02	65,380.10	SCF	24:00:00	hrs	65,380.10	SCFD	10.37	InH2O	145.77	psi	55.72	DegF	49
04/07/25	07:00:02	65,302.20	SCF	24:00:00	hrs	65,302.20	SCFD	10.34	InH2O	145.78	psi	55.68	DegF	50
04/07/26	07:00:02	64,869.40	SCF	24:00:00	hrs	64,869.40	SCFD	10.31	InH2O	145.64	psi	60.37	DegF	51
04/07/27	07:00:01	64,432.00	SCF	23:59:59	hrs	64,432.70	SCFD	10.32	InH2O	145.35	psi	66.53	DegF	52 53
04/07/28	07:00:02	64,169.60	SCF	24:00:00	hrs	64,169.60	SCFD	10.35	InH2O	145.05	psi	71,12	DegF	
04/07/29	07:00:01	64,921.30	SCF	24:00:00	hrs	64,921.30	SCFD	10.52	InH2O	144.72	psi	66.68	DegF	54
04/07/30	07:00:01	62,297.80	SCF	24:00:01	hrs	62,297.10	SCFD	9.57	InH2O	147.16	psi	68.67	DegF	55
04/07/31	07:00:02	59,756.10	SCF	23:59:57	hrs	59,758.20	SCFD	8.77	InH2O	148.68	psi	71.68	DegF	56
	and Total:		MCF	j			_	_	0	N= 147	,			

AVG 62 MCFPD

C = 0.0101

Pc (6/9/04) = 262 psis = 275 psia Pw= 147 psia

AUG 1 6 2004

CONSERVATION DIVISION

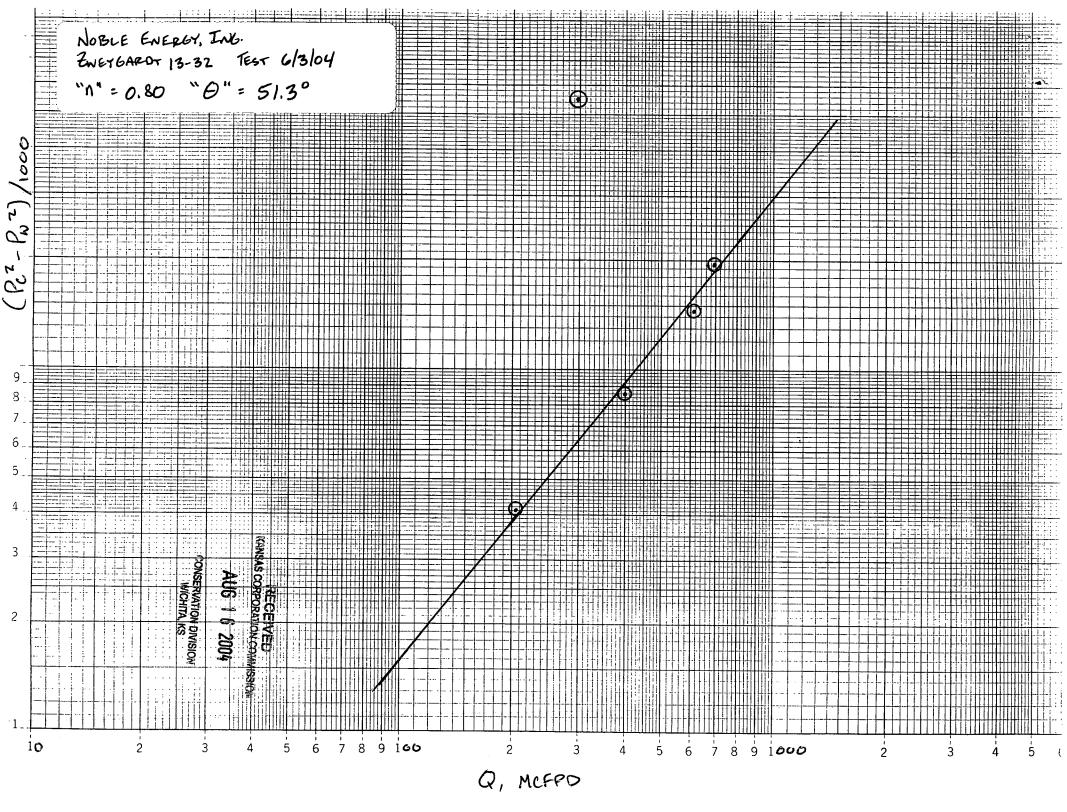
$$Q = C(P_C^2 - P_W^2)^{N}$$

$$62 = C(275^2 - 147^2)^{0.80}$$

# **ZWEYGARDT 13-32**

JUNE 2004

Date	Time	Total Flow	Units	Flow Time	Units	Flow Rate	Units	DP Avg	Units	SP Avg	Units	PT Avg	Units	Sequence
04/06/07	16:05:27	0.00	SCF	00:00:00	hrs	0.00	SCFD	0.00	InH2O	12.57	psi	146.27	DegF	1
04/06/07	16:05:43	0.00	SCF	00:00:00	hrs	0.00	SCFD	0.00	InH2O	12.58	psi	102.46	DegF	2
04/06/08	07:00:01	0.00	SCF	00:00:00	hrs	0.00	SCFD	0.00	InH2O	0.08	psi	85.83	DegF	3
04/06/09	07:00:01	0.00	SCF	00:00:00	hrs	0.00	SCFD	0.00	InH2O	0.20	psi	79.27	DegF	4
04/06/10	07:00:02	0.00	SCF	00:00:00	hrs	0.00	SCFD	0.00	InH2O	0.22	psi	69.91	DegF	5
04/06/11	07:00:02	35,820.90	SCF	14:10:20	hrs	60,661.10	SCFD	9.24	InH2O	144.27	psi	65.52	DegF	6
04/06/12	07:00:02	56,730.80	SCF	24:00:03	hrs	56,728.80	SCFD	8.01	InH2O	146.17	psi	70.71	DegF	7
04/06/13	07:00:02	55,922.40	SCF	23:59:59	hrs	55,923.10	SCFD	7.80	InH2O	146.46	psi	72.19	DegF	8
04/06/14	07:00:02	55,237.00	SCF	24:00:01	hrs	55,236.30	SCFD	7.64	InH2O	146.72	psi	75.51	DegF	9
04/06/15	07:00:02	54,830.70	SCF	24:00:00	hrs	54,830.70	SCFD	7.46	InH2O	147.41	psi	73.04	DegF	10
04/06/16	07:00:02	56,281.80	SCF	24:00:00	hrs	56,281.80	SCFD	7.96	InH2O	145.16	psi	71.66	DegF	11
04/06/17	07:00:02	60,261.80	SCF	23:59:59	hrs	60,262.50	SCFD	9.04	InH2O	142.49	psi	58.10	DegF	12
04/06/18	07:00:01	61,032.10	SCF	24:00:00	hrs	61,032.10	SCFD	9.28	InH2O	141.79	psi	56.22	DegF	13
04/06/19	07:00:01	60,707.50	SCF	24:00:00	hrs	60,707.50	SCFD	8.94	InH2O	143.32	psi	48.10	DegF	14
04/06/20	07:00:02	59,040.40	SCF	23:59:58	hrs	59,041.80	SCFD	8.52	InH2O	143.86	psi	53.69	DegF	15
04/06/21	07:00:02	56,848.40	SCF	24:00:03	hrs	56,846.40	SCFD	7.99	InH2O	145.00	psi	63.07	DegF	16
04/06/22	07:00:01	57,448.10	SCF	23:59:59	hrs	57,448.80	SCFD	8.03	InH2O	144.80	psi	54.34	DegF	17
04/06/23	07:00:02	57,095.40	SCF	24:00:01	hrs	57,094.70	SCFD	8.14	InH2O	144.30	psi	65.99	DegF	18
04/06/24	07:00:02	56,322.70	SCF	24:00:00	hrs	56,322.70	SCFD	8.01	InH2O	144.50	psi	72.27	DegF	19
04/06/25	07:00:02	57,343.30	SCF	23:59:57	hrs	57,345.30	SCFD	8.21	InH2O	143.99	psi	64.61	DegF	20
04/06/26	07:00:02	57,247.00	SCF	24:00:03	hrs	57,245.00	SCFD	8.17	InH2O	144.53	psi	65.70	DegF	21
04/06/27	07:00:02	56,916.60	SCF	23:59:58	hrs	56,917.90	SCFD	8.03	InH2O	145.01	psi	64.41	DegF	22
04/06/28	07:00:02	57,109.70	SCF	24:00:02	hrs	57,108.40	SCFD	8.00	InH2O	145.20	psi	60.02	DegF	23
04/06/29	07:00:02	56,433.50	SCF	23:59:57	hrs	56,435.50	SCFD	7.95	InH2O	144.89	psi	67.72	DegF	24
04/06/30	07:00:02	63,999.10	SCF	24:00:03	hrs	63,996.90	SCFD	10.13	InH2O	147.27	psi	70.56	DegF	25
Flow Gre	and Total:	1.132.63	MCF											



#### こっしゅしひしつつ

## MULTIPOINT BACK PRESSURE TEST

Test Type;

INITIAL

State:

Test Date:

Company;

Noble Energy Inc.

Lease:

Zweygart

Well No.;

Pipeline Conn.

06/03/04 13 32

County:

Location; Reservior; NWSW/4,SEC,32-T3S-R41W Niobrara

Acres;

Field;

Cheyenne Cherry Creek

Packer Set;

None

Completion Date :

Casing Size; 4 1/2" Tubing Size ; Nane Wt. ; 10.5# WL;

PBTD: Snt @ ; Set @ ; 1596 1638

Perfs. :

N/A

Type of Completion;

Single Gas

Type Fluid Prod; None

Perfe;

N/A

Producing Thru; Casing

Gas Gravity ; .6 (est) Vertical Depth;

1488

Reservoir Temp. F; -% CO2; -- % N2; --Type Mater Conn.; None

Ber. Press.; Liquid API Grav Prover Size;

13 PSI N/A

Remarks: Used 2" critical flow prover & dead weight tester.

ODOLK	CO DATA
Flowing	Casing Wellhead
Tame	December

ORSERVED DATA

#### Shut-in Hrs.:

Rats No.	Orifice Size In.	Prover Press. psig	Flowing Temp. deg. F	Casing Wellhead Pressure psig	psia	Duration hrs.	Liquid Prod. bbis.
Shut-in	blank	247		247	280	ň	
1	3/16	239	70	239	252	4	0
2	17/64	230	70	230	243	•	0
3	11/32	217	70	217	230	1	0
4	3/8	206	70	206	219	•	Õ
	11/32	100	70	100	113	24	0

### RATE OF FLOW CALCULATIONS

Rate No.	Coa[]- cient mcfd	Prover Press, pela	Gravity Factor Fg	Temp, Factor Ft	Deviation Factor Fov	Rate of Flow Q mcfd	
1	0.6237	252	1,291	0.9905	1,0179	205	
2	1.2640	243	1.291	0.9905	1.0172	400	
3	2.0350	230	1,291	0.9905	1.0163	608	
4	2.4390	219	1.291	0.9905	1.0155	694	
5	2.0350	113	1.291	0.9905	1.0079	296	

#### PRESSURE CALCULATIONS

Pc psia	Pw psla	Pc^2 /1000	Pw^2 /1000	Pc^2-Pw^ <u>2</u> /1000	Q meld	Shut- In %
260	252	67.6	63.5	4 1		96.76
260	243	87.6				
260	230			•		93.12
260	219					87.85
260	113	67.6		•		83.40 40.49
	260 260 260 260 260	psia         psia           260         252           260         243           280         230           260         219	psla         psla         /1000           260         252         67.6           260         243         87.6           260         230         67.6           260         219         67.6	psla         psla         /1000         /1000           260         252         67.6         63.5           260         243         87.6         59.0           260         230         67.6         52.9           260         219         67.6         48.0	psia         psis         /1000         /1000         /1000           260         252         67.8         63.5         4.1           260         243         87.6         59.0         8.6           260         230         67.6         52.9         14.7           260         219         67.6         48.0         19.6	psia         psia         /1000         /1000         /1000         mcfd           260         252         67.6         63.5         4.1         205           260         243         67.6         59.0         8.6         400           260         230         67.6         52.9         14.7         608           260         219         67.6         48.0         19.6         694

INDICATED WELLHEAD OPEN FLOW =

349,82

Mcfd

"n" = 0.80

RECEIVED KANSAS CORPORATION COMMISSION

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 4th day of Tine . 20 04

Wayne Mahon

For Excell Drilling Co.

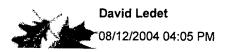
AUG 1 6 2004

CONSERVATION DIVISION WICHITA, KS

Broke Title: Field Technician RECEIVED

JUN 2 1 2004

KCC WICHITA



To: Scott Steinke/Production/Houston\_Onshore/Samedan@Samedan

Subject: one-pt test for KS wells

Scott,

Here is the pressure info on the 4 KS wells in question:

Zweygardt 13-33

SIFBU on 6-2-04

SICP on 6-9-04 at 242 psi

Turned on to sales 6-10-04 ,-

.500 orfice plate -

Production for 6-11-04 = 52 mcf

6-12-04 = 52 mcf

6-13-04 = 39 mcf

Zweygardt 22-5

SIFBU on 6-3-04

\*\*

SICP on 6-7-04 at 272 psi

Turned on to sales 6-7-04

.500 orfice plate

Production for 6-8-04 = 29 mcf

6-9-04 = 57 mcf

6-10-04 = 57 mcf

6-11-04 = 57 mcf

Zweygardt 31-5

SIFBU on 6-1-04

SICP on 6-7-04 at 265 psi

Turned on to sales 6-7-04 -

.500 orfice plate

Production for 6-8-04 = 31 mcf

6-9-04 = 31 mcf

6-10-04 = 55 mcf

6-11-04 = 46 mcf

Zweygardt 13-32

SIFBU on 6-4-04

11

SICP on 6-9-04 at 262 psi

Turned on to sales on 6-9-04 -

.500 orfice plate

Production for 6-10-04 = 35 mcf

6-11-04 = 54 mcf

6-12-04 = 54 mcf

6-13-04 = 54 mcf

If you need anything else, please call

David

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CONSERVATION DIVISION WICHITA, KS