

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

FORM G-2
(Rev.8/98)

TYPE TEST:

☒ Open Flow
☐ Deliverability

TEST DATE: 2/13/2001

API No. 15-135-22744-0001

Company American Warrior		Lease Seltman			Well Number 2 OWWO	
County Ness	Location NE NW SW		Section 24	TWP 18s	RNG(E/W) 21w	Acres Attributed 160
Field Pabst	Reservoir Chase		Gas Gathering Connection American Warrior			
Completion Date 10-1-2000	Plug Back Total Depth 2258		Packer Set at			
Casing Size 5.500	Weight 14.000	Internal Diameter 5.012	Set at 2310	Perforations 2186	To 2230	
Tubing Size 2.375	Weight 4.700	Internal Diameter 1.995	Set at 2250	Perforations	To	
Type Completion (Describe) perforated	Type Fluid Production water		Pump Unit or Traveling Plunger? pumping unit			
Producing Thru(Annulus/Tubing) annulus		% Carbon Dioxide .171	% Nitrogen 48.635		Gas Gravity- Gg .754	
Vertical Depth (ft) 2208	Pressure Taps flange		Meter Run Size 2.067			
Pressure Buildup: Shut in		2/10/2001 @ 1030		TAKEN	2/13/2001 @ 1535	
Well on Line: Started		2/13/2001 @ 1535		TAKEN	2/14/2001 @ 1515	

OBSERVED SURFACE DATA

Static/ Dynamic Property	Orifice Size in.	Meter Pressure psig	Pressure Diff. In. H ₂ O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P _w) (P _t) (P _c)		Tubing WellHead Press. (P _w) (P _t) (P _c)		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						476	490			77.0	
Flow	1.000	44.0	11.00	24		337	351			23.5	

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _b) Mcf/d	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW R Mcf/d	GOR	G _m
5.070	58.4	25.35	1.1516	1.0365	1.0034	153		.754

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

(P _c) ² = 240.5		(P _w) ² = 123.5		Pd =		% (P _c - 14.4) + 14.4 =		(Pa) ² = 0.207
(P _c) ² - (P _a) ²		(P _c) ² - (P _w) ²		$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$ or $\frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2}$		LOG		(Pd) ² =
240.28		117.00		2.054		.3125		.886
								.2769
								1.892
								291

OPEN FLOW 291 Mcfd @ 14.65 psia DELIVERABILITY 255 Mcfd @ 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 herein and that said report is true and correct. Executed this the _____ day of _____, 19 _____

Witness (if any)

For Company

For Commission

Checked by

**KANSAS CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST**

FORM G-1
8-7-58

TYPE TEST: ☒ Initial ☐ Annual ☐ Special		TEST DATE: 1/24/2001	
COMPANY American Warrior		LEASE Seltman	
		WELL NO. 2 OWWO	
COUNTY Ness	LOCATION NE NW SW	SECTION 24 18s 21w	ACRES 160
FIELD Pabst	RESERVOIR Chase	PIPELINE CONNECTION	
COMPLETION DATE 10-1-2000	PLUG BACK DEPTH TOTAL DEPTH	2258	PACKER SET AT
CASING SIZE 5.500	WT. 14.000	ID 5.012	SET AT 2310
			PERF. 2186
			TO 2230
TUBING SIZE 2.375	WT. 4.700	ID 1.995	SET AT 2250
			PERF.
			TO
TYPE COMPLETION (Describe) perforated		TYPE FLUID PRODUCTION water	
PRODUCING THRU (Annulus/Tubing) annulus		RESERVOIR TEMPERATURE F 90	BAR PRESS - Pa 14.4 psia
GAS GRAVITY - Gg .754	% CARBON DIOXIDE .171	% NITROGEN 48.635	API GRAVITY OF LIQUID
VERTICAL DEPTH (ft) 2208		TYPE METER CONN.	PROVER SIZE 2"
REMARKS well hooked to disposal system no water rates 1st test failed- loaded with water			

OBSERVED SURFACE DATA

RATE NO.	ORIFICE SIZE in.	(PROVER) PRESSURE psig	DIFF. (h _w) (h _t)	FLOWING TEMP. t.	WELLHEAD TEMP. t.	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w) (P _t) (P _c) psia	psig	(P _w) (P _t) (P _c) psia		
SHUT-IN						604	618			288.00	
1.	.375	24.00		52		586	600			.50	
2.	.375	50.00		46		571	585			.50	
3.	.375	105.00		40		536	550			.50	
4.	.375	170.00		38		485	499			.50	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F _p) Mcfd	(PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW Q Mcfd	GOR	G _m
1.	2.440	38.4	38.40	1.1516	1.0078	1.0016	108		.754
2.	2.440	64.4	64.40	1.1516	1.0137	1.0035	184		.754
3.	2.440	119.4	119.40	1.1516	1.0198	1.0067	344		.754
4.	2.440	184.4	184.40	1.1516	1.0218	1.0104	535		.754

PRESSURE CALCULATION

RATE NO.	P _t psia	P _c psia	P _w psia	(P _c) ² Thousands	(P _w) ² Thousands	PLOTING POINTS		% SHUT-IN 100 $\left[\frac{P_w - P_a}{P_c - P_a} \right]$
						(P _c) ² - (P _w) ² Thousands	Q Mcfd	
1.	600.4	618.4	600.4	382.4	360.5	21.9	108.9	97.0
2.	585.4	618.4	585.4	382.4	342.7	39.7	184.1	94.5
3.	550.4	618.4	550.4	382.4	303.0	79.4	344.4	88.7
4.	499.4	618.4	499.5	382.4	249.5	132.9	535.0	80.3

INDICATED WELLHEAD OPEN FLOW

1372

Mcfd @ 14.65 psia

"n" =

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 herein and that said report is true and correct. Executed this the 6 day of Feb, 2001

Witness (if any)

For Commission

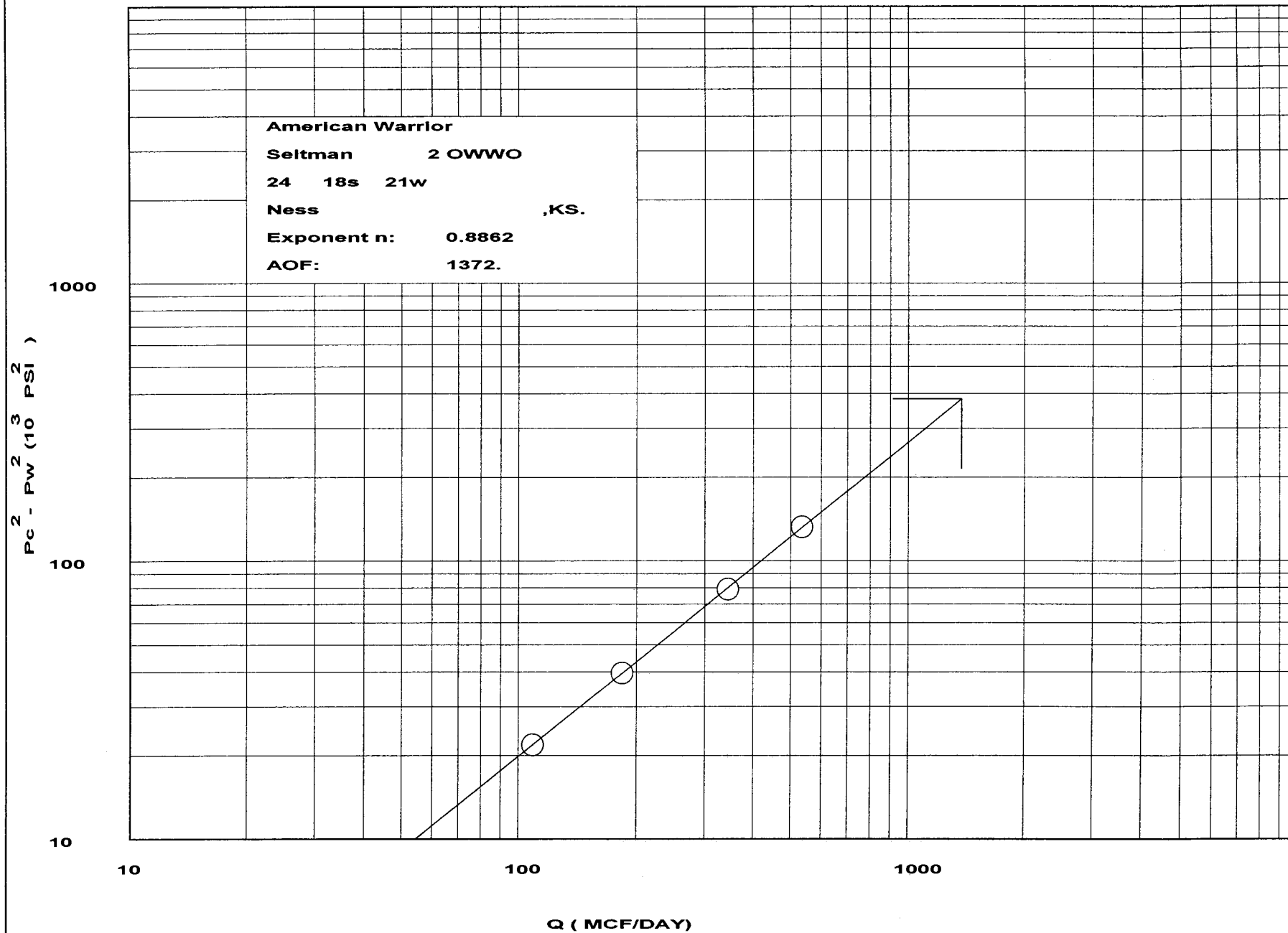
For Company

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER:

TEST DATE: 1/24/2001



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STATE OF KANSAS - CORPORATION COMMISSION
MULTIPOINT BACK PRODUCTION TEST

FORM CO-1 Rev.

TYPE TEST:		State	County	Section	TWP	Range	TEST DATE:
COMPANY		Lease	Well No.				
American Warrior, Inc.		Selman	2 OWWO				
COUNTY	LOCATION	SECTION	TWP	Range	ACRES		
Ness	NE NW SW	24	18 S	21 W	160		
AP WELL NUMBER		FEDERAL CONNECTION					
M. 135-22144-0001		Chase					
COMPLETION DATE		FLUID BACK		PACKER SET AT			
October 1, 2000		TOTAL DEPTH 2258					
CASING SIZE	WT.	ID.	SET AT	PERF.			
5 1/2	14	3.012	2310	2188-92, 2220 - 30			
TUBING SIZE	WT.	ID.	SET AT	PERF.			
2 3/8	4.7	1.995	2250	TO			
TYPE CONNECTION (Casing)		TYPE FLUID PRODUCTION					
Perforated							
PRODUCING THRU		RESERVOIR TEMPERATURE °F		BAR PRESS - P.			
				144 P.S.I.			
GAS GRAVITY - G _g		% CARBON DIOXIDE		% NITROGEN		API GRAVITY OF LIQUID	
VERTICAL DEPTH (ft)		TYPE METER CONNECTION		METER RUN (PROVER) SIZE			

REMARKS

OBSERVED DATA							DURATION OF SHUT-IN		
RATE NO.	CASE SIZE in.	ORIGIN (PROVER) PRESSURE P _{gh}	DEPT. (A) (B)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CSO WELL-HEAD PRESS. P _{gh} (P _{gh})(P _{gh}) P _{gh}	TSO WELL-HEAD PRESS. P _{gh} (P _{gh})(P _{gh}) P _{gh}	FLOW DURATION (HOURS)	LIQUID PROD. BBL.
SHUT IN									
1									
2									
3									
4									
5									

RATE OF FLOW CALCULATIONS

RATE NO.	COMPONENT (A) (B) Mch	(ORIGIN) (PROVER) PRESSURE P _{gh}	FREE FLOWING $\sqrt{P_g - P_{gh}}$	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _d	RATE OF FLOW Q Mcf	GOR (BBL/D)	G _g
1									
2									
3									
4									
5									

PRESSURE CALCULATIONS

RATE NO.	P _{gh} P _{gh}	P _{gh} P _{gh}	P _{gh} P _{gh}	Q _g THOUSANDS	Q _g THOUSANDS	FLOWING POINTS		% SHUT-IN (P _{gh} - P _{gh})
						Q _g - P _{gh} THOUSANDS	Q _g Mcf	
1								
2								
3								
4								
5								

INDICATED WELL-HEAD OPEN FLOW

Mch 9 14:05 P.M.

T =

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 herein, and that said report is true and correct. Executed this the _____ day of _____, 19____.

Witness (If any)

For Company

For Commission

Checked By (Rev. 10/90)

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Rev. 000

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

(See Instructions on Reverse Side)

Type Test:

- ☐ Open Flow
☐ Deliverability

Test Date:

API No. 15-135-22744-0001

Company American Warrior, Inc.		Lease Seltman		Well Number 2	
County Neosho	Location NE NW SW	Section 24	TWP 18 S	RNG (E/W) 21 W	Acres Atributed 160
Field Fabst		Reservoir Chase		Gas Gathering Connection	
Completion Date October 1, 2000		Plug Back Total Depth 2258		Packer Set at	
Casing Size 5 1/2	Weight 14	Internal Diameter 5.012	Set at 2310	Perforations 2186-92, 2220-30	To
Tubing Size 2 3/8	Weight 4.7	Internal Diameter 1.995	Set at 2250	Perforations	To
Type Completion (Describe) Perforated		Type Fluid Production		Pump Unit or Traveling Plunger? Yes / No Pump Unit	
Producing Thru (Annulus / Tubing)		% Carbon Dioxide		% Nitrogen	Gas Gravity - G _s

Vertical Depth (ft) _____ Pressure Taps _____ (Mole Ratio) (Prover) Size _____

Pressure Buildup: Shut in _____ 10 _____ at _____ (AM) (PM) Taken _____ 10 _____ at _____ (AM) (PM)

Well on Line: Started _____ 10 _____ at _____ (AM) (PM) Taken _____ 10 _____ at _____ (AM) (PM)

OBSERVED SURFACE DATA								Duration of Shut-in _____ Hours	
Static / Dynamic Property	Casing Size Inches	Casing Material or Prover Pressure psig	Pressure Differential in (ft) inches H ₂ O	Flowing Temperature °F	Well Head Temperature °F	Casing Wellhead Pressure (P _{cs}) = (P ₁) or (P ₂) psig	Tubing Wellhead Pressure (P _{tu}) = (P ₁) or (P ₂) psig	Deviation (Stems)	Liquid Produced (Stems)
Shut-in									
Flow									

FLOW STREAM ATTRIBUTES

Field Coefficient (F ₁) (F ₂) Mod	Casing Material or Prover Pressure psig	Press. Extension $\frac{1}{2} P_s \times H_w$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _{pv}	Molecular Flow R (Mod)	GOR (Cubic Feet Stem)	Flowing Fluid Gravity G _s

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P₁)₁ = _____ (P₁)₂ = _____ P₂ = _____ % (P₂ - 14.4) + 14.4 = _____ (P₂)₁ = 0.207 (P₂)₂ = _____

$\frac{(P_1)^2 - (P_2)^2}{(P_2)^2 - (P_1)^2}$	$\frac{(P_1)^2 - (P_2)^2}{(P_2)^2 - (P_1)^2}$	Choose Formula 1 or 2: 1. $P_1^2 - P_2^2$ 2. $P_1^2 - P_2^2$ divided by: $P_2^2 - P_1^2$	LOG of Formula 1, or 2, and divide by: $P_2^2 - P_1^2$	Backpressure Curve Slope = "n" Assigned Standard Slope	n x LOG	Arbiting	Open Flow Deliverability Equals R x Arbiting Mod

Open Flow _____ Mod @ 14.65 psia Deliverability _____ Mod @ 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 _____ day of _____, 19 _____.

Witness (if any)

For Company

For Commission

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER:

TEST DATE: 1-12-2001

American Warrior

Seltman 2

24 18s 21w

Ness ,KS.

Exponent n: 0.4769

AOF: 549.

Handwritten: 2 1/2

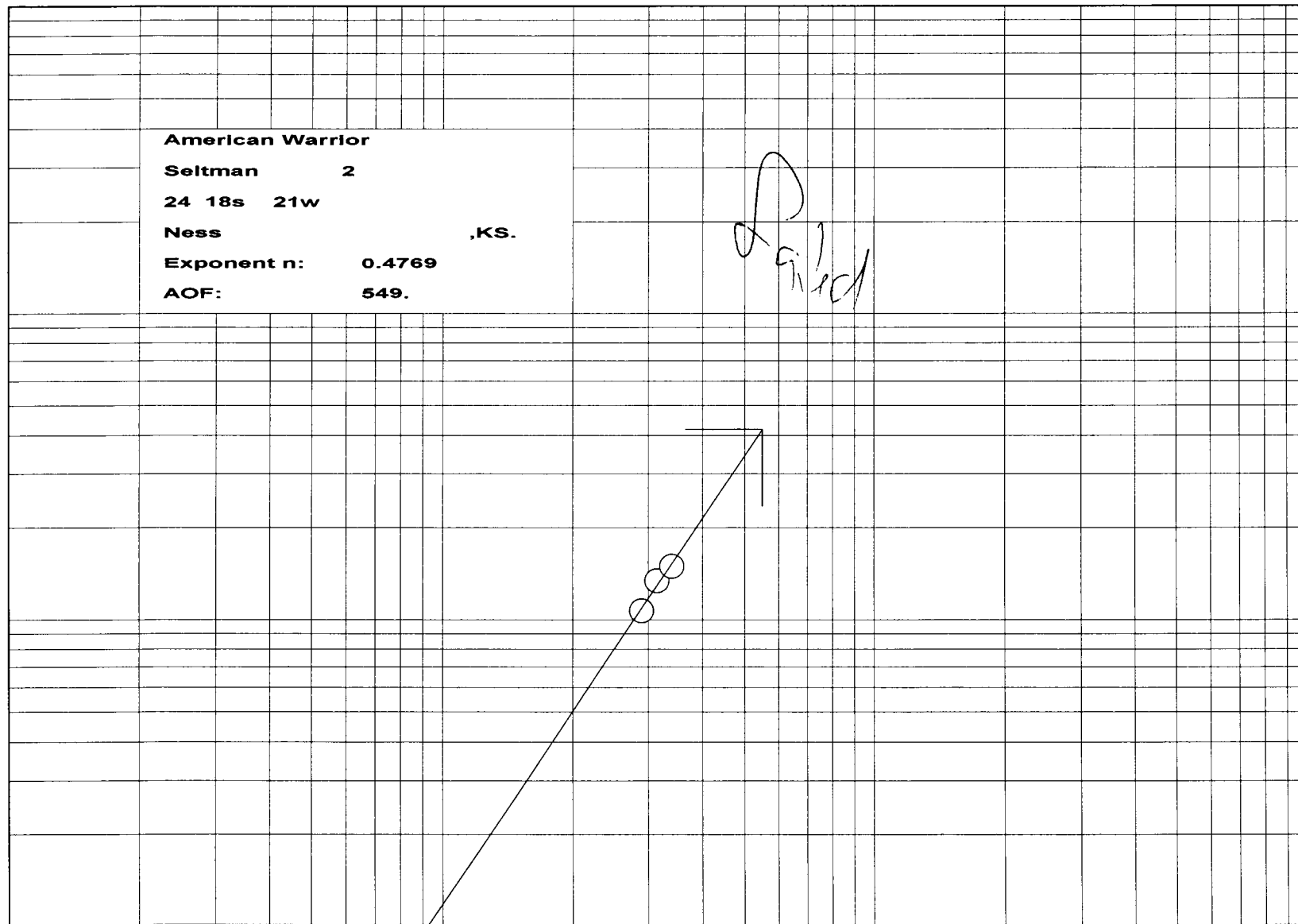
$P_c^2 - P_w^3$ (10 PSI)²

10

100

1000

Q (MCF/DAY)



[illegible]