

GAS SUPPLY EVALUATION DEPARTMENT  
GAS SUPPLY DIVISION

INITIAL WELL TEST EVALUATION

Date SEPT. 25, 1973

TO: Contract Operations  
Gas Purchases  
Liberal  
Midland

WELL DESCRIPTION

NOV 01 26 1973

Operator RUPE OIL CO Station No. \_\_\_\_\_  
Well Name & No. VONDRA #1 - Tubing System ELLSWORTH COUNTY  
Location 16-16-7 County ELLSWORTH State KANSAS  
Reservoir TARKIO Field \_\_\_\_\_  
Perfs: 1756 to 1772 ; \_\_\_\_\_ to \_\_\_\_\_ : \_\_\_\_\_ to \_\_\_\_\_  
\_\_\_\_\_ to \_\_\_\_\_ ; \_\_\_\_\_ to \_\_\_\_\_ ; \_\_\_\_\_ to \_\_\_\_\_

TEST RESULTS

Shut-in Pressure 661.4 psia; Duration 72.0 hours; Date 9-4-73  
Wellhead "n" 0.649 Absolute "n" 0.661  
Calculated Deliverability: 365 MCF/d after 72.0 hours at 80 % PC  
Stabilized Deliverability: 333 MCF/d against 494 psia Line Pressure.  
1.0 Hour 4 Point Wellhead Potential 2351 MCF/d  
1.0 Hour 4 Point Absolute Potential 2482 MCF/d  
20.7 Hr. Wellhead Potential 833 MCF/d; 20.7 Hr. Absolute Potential 848 MCF/d  
72.0 Hr. Wellhead Potential 708 MCF/d; \_\_\_\_\_ Hr. Absolute Potential \_\_\_\_\_ MCF/d  
Stabilized Wellhead Potential 567 MCF/d; Stabilization Time 1,000 hours.  
Stabilization Factors: ESTIMATED  
20.7 hours to 72 hours: 0.850 72 hours to Trb: 0.800

Wkr By: SR Smith  
Gas Supply Evaluation Dept.

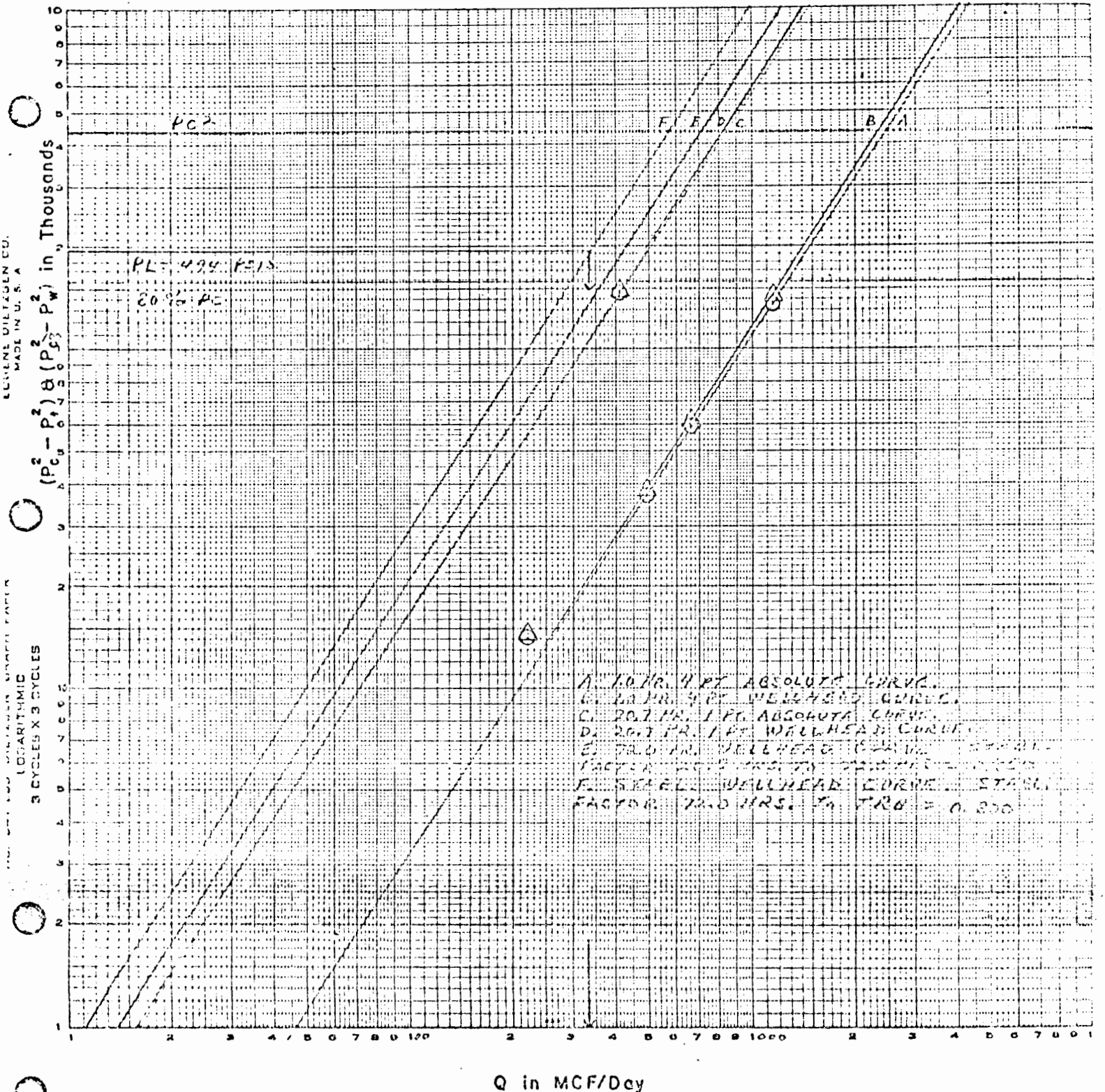
# BACK PRESSURE CURVE

Operator RUPE OIL Co. Lease VONDRA Well No. 1-T

County ELLSWORTH Field \_\_\_\_\_ Location 16-16-17

Date of Test 9-4-73 Slope "n" 0.649 W.H. 0.661 Abs:

Calc. W.H. Potential 2351 MCF/D Calc. Abs. Potential 2482 MCF/D



Q in MCF/Dcy

INITIAL TEST INFORMATION

NNG TESTER Don Gray

DATE OF TEST 9-4-73

TYPE TEST CONDUCTED One-point

CONDUCTED BY Gray

OPERATOR Rupe Oil Co.

WELL NAME Vondra

NO. 1-T

LOCATION: Sec. NE 1/4 16-16S-17W County Ellsworth State Kansas

(@ 21 hrs.)

FIELD PLOTTED WHOFP (@ 21hrs.) 950 MCF/D.

POT. @ 80% S.I. 440 MCF/D.

NNG LINE PRESS. 480 PSIG. APPRX. DISTANCE 6 miles. INITIAL SIP 647.0

LINE PRESS. & APPROX. DISTANCE OF OTHER COMPANIES: C.S. - 7 miles - 550#

TYPE OF CROSSINGS: County roads and possibly one hot top.

TYPE OF TERRAIN: Hilly rolling pasture and farmland

STABILIZATION CHARACTERISTICS: Excellent

LIQUIDS PRODUCED: None Bbls Oil; None Bbls Water;      Hrs. API GR.

BOTTOM HOLE PRESS. TEST CONDUCTED BY: None

TYPE OF COMPLETION: ( ) SINGLE-GAS, (X) DUAL GAS-GAS, ( ) DUAL GAS-OIL.

CASING SIZE: 4 1/2 ", O.D.      #/FT., SET @ 1828 ', TD OR PBTD      FT.

TUBING SIZE: 2 ", O.D.      #/FT., SET @ 1733 '; PACKER SET @ 1698 '.

FORMATION Tarkio SYSTEM Kanopolis FIELD     

PERFORATIONS: FROM 1752 FT. TO 1772 FT., FROM      FT. TO      FT.

FROM      FT. TO      FT., FROM      FT. TO      FT.

STIMULATION DATA:

TREATED WITH      GAL. OF      %      ACID.

     GAL. OF      %      ACID.

FRAC'D WITH 500 GAL. OF 15 % Breakdown ACID.

     GAL. OF      %      ACID.

2500 # OF 20-40 SAND,      # OF GLASS BEADS,      # OF COTTON HULLS.  
with CO<sub>2</sub> 800 standard cu. ft. per BBL.

REMARKS:

One-point data taken from test of 8-22-73 using "N" from test of 9-4-73 and new SIP. Well should produce @ 300-400 Mcf/d for some time.

**NORTHERN NATURAL GAS COMPANY**  
**OBSERVED SURFACE DATA WORKSHEET**  
 SHEET 1

ORM 983  
 REV. 4-22-65)

TYPE TEST: Four-point & One-point  INITIAL  ANNUAL  RETEST  SPECIAL TEST DATE: 9-5-73

OPERATOR: Rupe Oil Co. LEASE: Vondra #1 (TBG.) WELL NO. \_\_\_\_\_  
 SEC. 16 TWP. 16 RNG. 17 COUNTY Ellsworth STA. NO. \_\_\_\_\_ PIPELINE CONN. \_\_\_\_\_  
 DATA SYSTEM \_\_\_\_\_ FIELD \_\_\_\_\_ RESERVOIR Tarkio

CSG. \_\_\_\_\_ WT. \_\_\_\_\_ TBG. SIZE \_\_\_\_\_ WT. \_\_\_\_\_ PERFS. 1752 TO 1772  
 TYPE COMPLETION: SINGLE ( ) GAS-GAS ( ) GAS-OIL ( ) PACKER @ \_\_\_\_\_ ft. FLOW STRING @ \_\_\_\_\_

DATE ON \_\_\_\_\_ DATE \_\_\_\_\_ LENGTH \_\_\_\_\_ AVG. PREFLOW \_\_\_\_\_  
 PREFLOW \_\_\_\_\_ TIME \_\_\_\_\_ SHUT IN \_\_\_\_\_ TIME \_\_\_\_\_ OF PREFLOW \_\_\_\_\_ RATE \_\_\_\_\_

DATE SHUT IN \_\_\_\_\_ LENGTH OF \_\_\_\_\_ SHUT IN \_\_\_\_\_ SHUT IN \_\_\_\_\_  
 PRESS. TAKEN \_\_\_\_\_ TIME \_\_\_\_\_ SHUT IN \_\_\_\_\_ CSG. PRESS. \_\_\_\_\_ psig TBG. PRESS. 647.0 psig

GAS GRAVITY (Gm) \_\_\_\_\_ API GRAVITY \_\_\_\_\_ PROVER \_\_\_\_\_ METER \_\_\_\_\_ ORIFICE 5/16; 1/8 TYPE \_\_\_\_\_  
 Assumed (Gg) 650 OF LIQUID @ 60°F \_\_\_\_\_ SIZE 2" RUN SIZE \_\_\_\_\_ SIZE 3/16; 7/32 TAPS \_\_\_\_\_

DATE TIME OF READING	ELAP TIME HRS.	W.H. PRESSURE DATA				WELL HEAD TEMP	METER OR PROVER DATA			LIQUID HYDRO-CARBONS BBLs.	WATER PRODUCED BBLs.	REMARKS PERTINENT TO TEST DATA QUALITY
		CASING psig	Δ P CSG.	TUBING psig	Δ P TBG.		PRESS psig	DIFF.	TEMP.			
Tuesday		9-4-73										
1100		Pkr		647.0								
1115		Well on 1st rate with 1/8" plate on 1 joint pipe out of wellhead										
1130				639.0	8.0	639.0		71				
1145				638.0	1.0	638.0		70				
1200				637.0	1.0	637.0		70				
1215	1.0	Pkr		636.0	1.0	636.0		70	0	0		
1215		On 2nd rate with 3/16" plate										
1230				625.0	11.0	625.0		67				
1245				621.0	4.0	621.0		67				
1300				619.0	2.0	619.0		67				
1315	2.0	Pkr		617.0	2.0	617.0		67	0	0		
1315		On 3rd rate with 7/32" plate										
1330				606.0	11.0	606.0		65				
1345				602.0	4.0	602.0		66				
1400				600.0	2.0	600.0		66				
1415	3.0	Pkr		598.0	2.0	598.0		66	0	0		
1415		On 4th rate with 5/16" plate										
1430				556.0	42.0	556.0		68				
1445				548.0	8.0	548.0		68				
1500				544.0	4.0	544.0		68				
1515	4.0	Pkr		540.0	4.0	540.0		68	0	0		
1530				536.0	4.0	536.0		68				
1600				528.0	8.0	528.0		68				Shut Well Down
1605				592.0								
1610				601.0								
Wednesday		9-5-73										
0900				641.0								

TESTED BY: Welch & Hoskinson - NNG WITNESSED BY: \_\_\_\_\_  
 PAGE 1 OF 2

NORTHERN NATURAL GAS COMPANY  
OBSERVED SURFACE DATA WORKSHEET  
SHEET 1

TYPE TEST: One-point  INITIAL  ANNUAL  RETEST  SPECIAL TEST DATE: 8-22-73

OPERATOR: Rupe Oil Co. LEASE: Vondra #1 (TBG.) WELL NO. \_\_\_\_\_  
 SEC. 16 TWP. 16 RNG. 17 COUNTY: Ellsworth STA. NO. \_\_\_\_\_ PIPELINE CONN. \_\_\_\_\_  
 SA SYSTEM \_\_\_\_\_ FIELD \_\_\_\_\_ RESERVOIR: Tarkio

CSG. \_\_\_\_\_ WT. \_\_\_\_\_ TBG. SIZE \_\_\_\_\_ WT. \_\_\_\_\_ PERFS. \_\_\_\_\_ TO \_\_\_\_\_  
 TYPE COMPLETION: SINGLE ( ) GAS-GAS ( ) GAS-OIL ( ) PACKER @ \_\_\_\_\_ ft. FLOW STRING @ \_\_\_\_\_ ft.

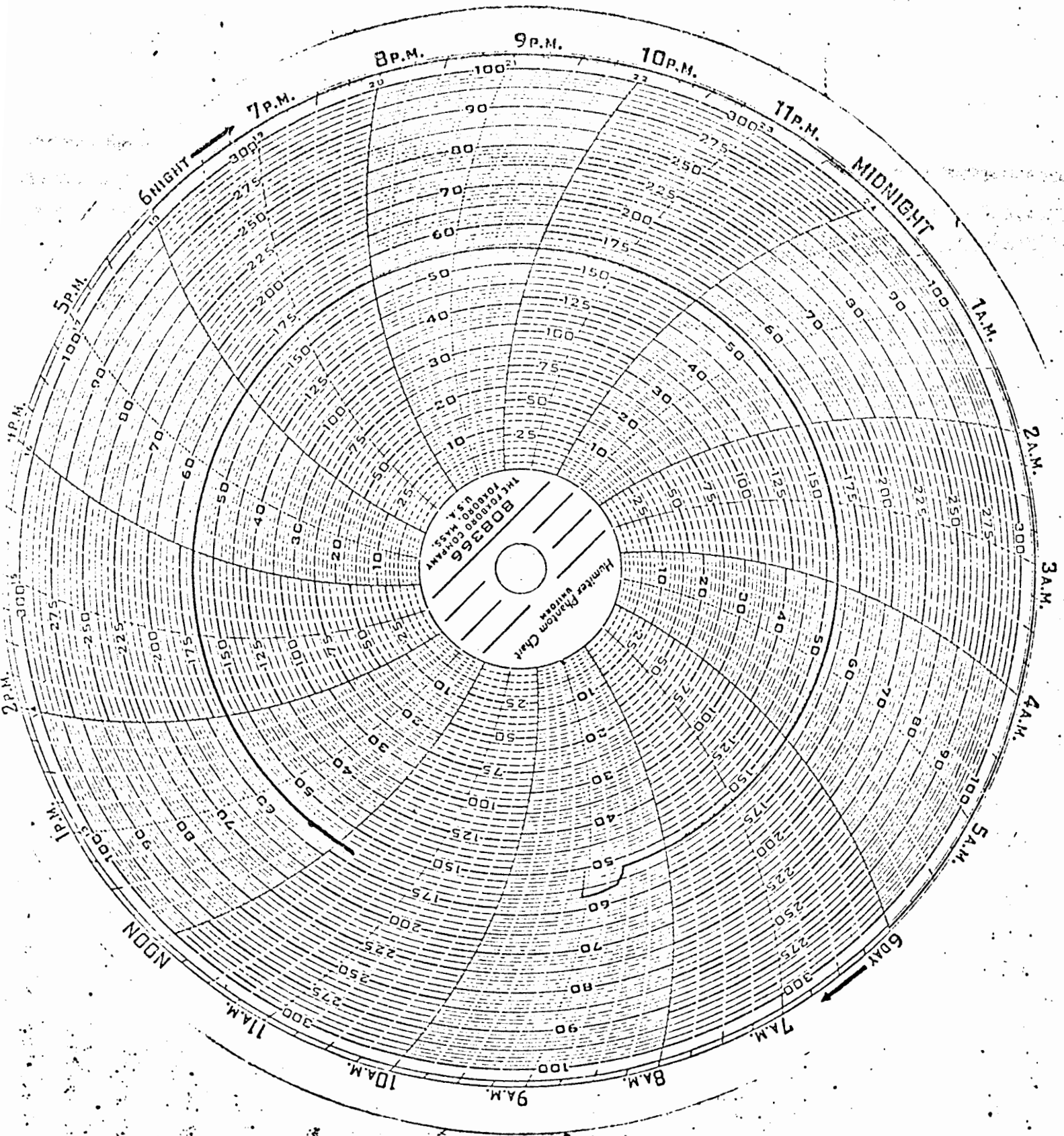
DATE ON PREFLOW \_\_\_\_\_ DATE SHUT IN \_\_\_\_\_ LENGTH OF PREFLOW \_\_\_\_\_ AVG. PREFLOW RATE \_\_\_\_\_  
 TIME \_\_\_\_\_ TIME \_\_\_\_\_ OF PREFLOW \_\_\_\_\_

DATE SHUT IN \_\_\_\_\_ LENGTH OF SHUT IN \_\_\_\_\_ SHUT IN CSG. PRESS. \_\_\_\_\_ psig SHUT IN TBG. PRESS. \_\_\_\_\_ psig  
 PRESS TAKEN \_\_\_\_\_ TIME \_\_\_\_\_

GAS GRAVITY (Gm) \_\_\_\_\_ API GRAVITY \_\_\_\_\_ PROVER SIZE \_\_\_\_\_ METER RUN SIZE \_\_\_\_\_ ORIFICE SIZE \_\_\_\_\_ TYPE TAPS \_\_\_\_\_  
 (Gg) \_\_\_\_\_ OF LIQUID @ 60°F \_\_\_\_\_

DATE TIME OF READING	ELAP TIME HRS.	W.H. PRESSURE DATA				WELL HEAD TEMP	METER OR PROVER DATA			LIQUID HYDRO-CARBONS BBLs.	WATER PRODUCED BBLs.	REMARKS PERTINENT TO TEST DATA QUALITY
		CASING psig	Δ P CSG.	TUBING psig	Δ P TBG.		PRESS psig	DIFF.	TEMP.			
8-22-73												Casing is another zone Testing thru tubing
1055		221.5		585.0								Tubing S.I.P. 16 hrs.
1145		Well on one-point test with 3/16" plate										
1330				552.0		552.0		87				No liquids
1430				550.0		550.0		87				" "
1930				545.0		545.0		85				" "
8-23-73												
0630				529.0		529.0		66				No liquids
0745				525.0		525.0		70				
0800		228.7		524.5		524.5		70				Took gas sample
0830		228.7		524.0		524.0		70				
		Terminate one-point										
0835				563.0								
0840				567.0								
0845		229.0		569.0								
0900		229.0		573.7								
1525		209.0		604.0								7 hr. S.I.P.
8-24-73												
0720		232.0		615.0								

TESTED BY: Don Gray - NNG WITNESSED BY: \_\_\_\_\_  
 PAGE 2 OF 2



Hunter Phantom Chart  
THE 100000 CLASS  
U.S.A.

11 P.M. 10 P.M. 9 P.M. 8 P.M. 7 P.M. 6 NIGHT  
MIDNIGHT 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M. 6 DAY  
11 A.M. 10 A.M. 9 A.M. 8 A.M. 7 A.M.

MULTI-POINT BACK PRESSURE TEST

TEST DATE- 3/23/73  
STA. NO 800008

OPERATOR- RUPE OIL CO

LEASE & WELL- VONDRA # 1-T

LOCATION- 16 16S 7W COUNTY- ELLSWORTH STATE- KANSAS

CASING- ID= 0.000 IN. DEPTH= 0 FT. ID= 0.000 IN. DEPTH= 0 FT.  
PERFORATION INTERVALS- START 1756 FT. END 1772 FT. BHT= 64.F.  
TUBING- ID= 1.995 IN. OD= 0.000 IN. DEPTH= 1762 FT. PROD. THRU- TUBING  
TYPE COMPETION-GAS GAS PACKER DEPTH- 1698 AVERAGE DEPTH- 1762

FIELD-UNKNOWN RESERVOIR-TARKID 0000 GATH. SYST-KANOPOLIS  
STIMULATION-500 GAL 15% ACID 2500# 20/40 SAND WITH CO2 800 SCF/BBL

GAS GRAVITY- 0.743 N2- 0.0000 CO2- 0.0000 H2S- 0.0000  
API GRAVITY- 0 WATER RESISTIVITY- 0.0000

METERING DEVICE-CR FLW SIZE- 2 TYPE TAPS- 00000 BAROMETRIC PRESSURE- 14.40

72.0 HOUR SHUT IN PRESSURE SURFACE 661.4 PSIA B HOLE 698.9 PSIA

RATE NO.	ORIFICE SIZE	DIFFERENTIAL			TEMP F ***	BT HOLE			DURATION HOURS
		PSIA	PSIA	PSIA		PSIA	PSIA	PSIA	
1	0.125	650.4	0.0	70	687.4	650.0	650.4	1	
2	0.188	631.4	0.0	67	668.2	632.7	631.4	1	
3	0.219	612.4	0.0	66	649.1	614.7	612.4	1	
4	0.313	542.4	0.0	68	580.7	550.5	542.4	1	
5	0.188	538.4	0.0	70	569.0	539.5	538.4	21	

	H2O PROD. BBLS	LIQUID PETR BBLS	GOR MCF/BBL	PC2-PH2 MCF/D	Q MCF/D	PC2-PT2	PF2-PS2
1	0.0	0.0	0	14.1	220	14.4	15.9
2	0.0	0.0	0	37.2	491	38.8	41.9
3	0.0	0.0	0	59.6	656	62.4	67.1
4	0.0	0.0	0	134.4	1143	143.3	151.3
5	0.0	0.0	0	146.4	411	147.6	0.0

NORTHERN NATURAL GAS COMPANY

SHEET NO-2

MULTI-POINT BACK PRESSURE TEST

TEST DATE 9-4-73  
STATION NO 8000008

72.0 HOUR SHUT IN PRESSURE SURFACE 661.4 PSIA B HOLE 698.9 PSIA

	WELLHEAD	ABSOLUTE
EXPONENT N OF BACKPRESSURE CURVE <sup>1</sup>	0.649	0.661
1.0 HOUR 4-POINT POTENTIAL	2351. MCF/D	2482. MCF/D
20.7 HOUR 1-POINT POTENTIAL	833. MCF/D	848. MCF/D
72 HOUR POTENTIAL	708. MCF/D	
STABILIZED POTENTIAL	567. MCF/D	
72 HOUR DELIVERABILITY <sup>2</sup> @ 0.8 PC	365. MCF/D	
STABILIZED DELIVERABILITY @ 494. PSIA	333. MCF/D	

STABILIZATION FACTORS <sup>3</sup>	20.7 HOUR TO 72 HOURS	0.850
	72 HOURS TO STABILIZATION	0.800

EVALUATIVE COMMENTS

(1) WELLHEAD CURVE: FIRST POINT OUT OF ALIGNMENT  
ABSOLUTE CURVE: FIRST POINT OUT OF ALIGNMENT

(2) ASSUMED QUALIFICATION PROVISIONS OF GAS PURCHASE CONTRACT

(3) ESTIMATED

TESTED BY TH&BW

INPUT BY RLN

APPROVED BY \_\_\_\_\_

GAS SUPPLY EVALUATION DEPARTMENT  
GAS SUPPLY DIVISION

437.45

INITIAL WELL TEST EVALUATION

Date SEPT. 26, 1973

TO: Contract Operations  
Gas Purchases  
Liberal  
Midland

REC'D OCT 26 1973

WELL DESCRIPTION

Operator RUPE OIL CO. Station No. \_\_\_\_\_  
Well Name & No. VONDRA #1 - Commg System ELLSWORTH COUNTY  
Location 16-16-7 County ELLSWORTH State KANSAS  
Reservoir TOWANDA Field \_\_\_\_\_  
Perfs: 1083 to 1092 ; \_\_\_\_\_ to \_\_\_\_\_ : \_\_\_\_\_ to \_\_\_\_\_  
to \_\_\_\_\_ ; \_\_\_\_\_ to \_\_\_\_\_ ; \_\_\_\_\_ to \_\_\_\_\_

TEST RESULTS

Shut-in Pressure 263.4 psia; Duration 72.0 hours; Date 9-4-73

Wellhead "n" 0.700 Absolute "n" 0.700

Calculated Deliverability: 28 MCF/d after 72.0 hours at 80% PC

Stabilized Deliverability: 23 MCF/d against 150 psia Line Pressure.

1.0 Hour 4 Point Wellhead Potential 335 MCF/d

1.0 Hour 4 Point Absolute Potential 335 MCF/d

22.0 Hr. Wellhead Potential 93 MCF/d; 22.0 Hr. Absolute Potential 93 MCF/d

72.0 Hr. Wellhead Potential 58 MCF/d; \_\_\_\_\_ Hr. Absolute Potential \_\_\_\_\_ MCF/d

Stabilized Wellhead Potential 30 MCF/d; Stabilization Time 1,000 hours.

Stabilization Factors: ESTIMATED

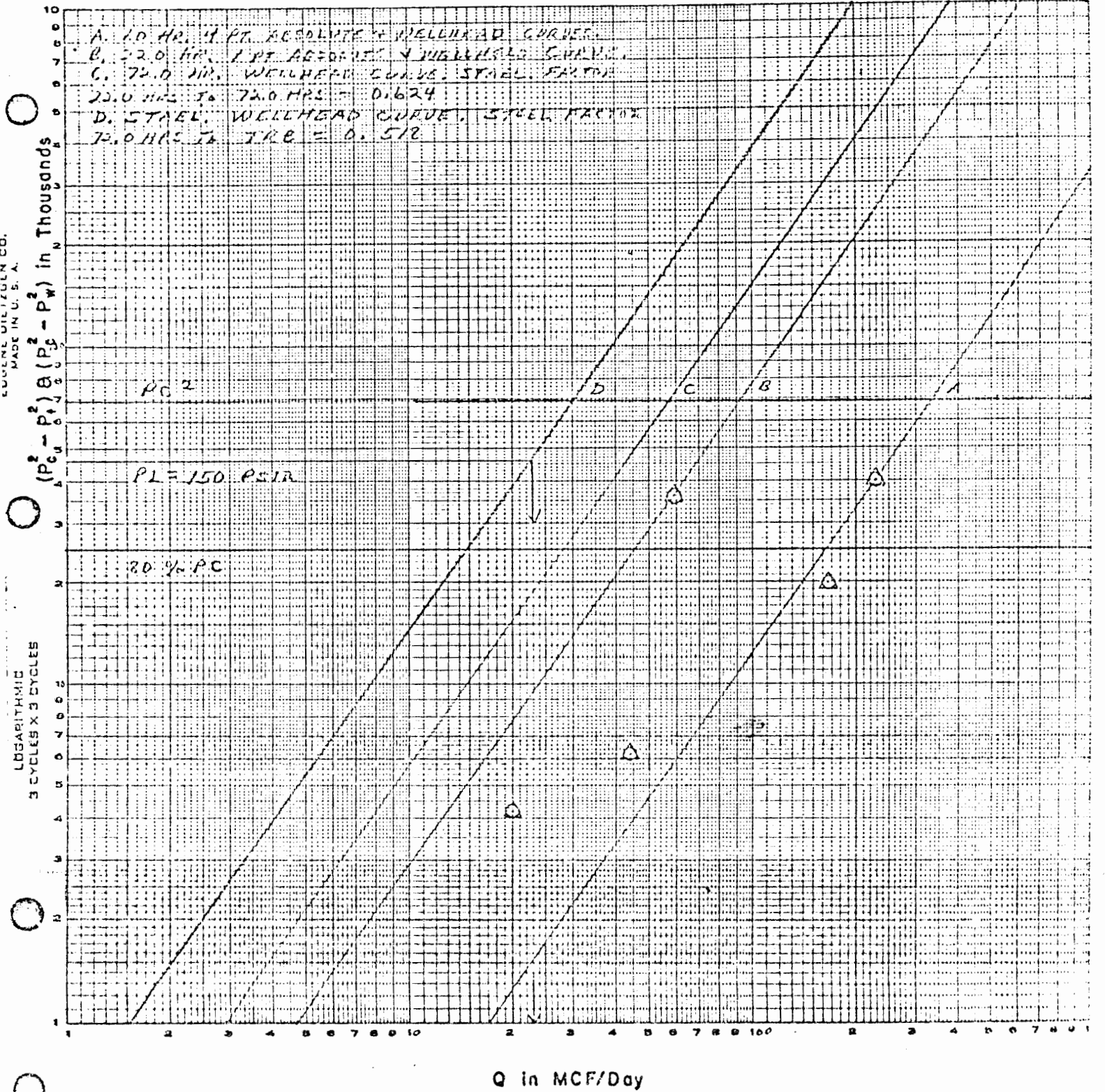
22.0 hours to 72 hours: 0.624

72 hours to Trb: 0.518

By: S. Smith  
Gas Supply Evaluation Dept.

BACK PRESSURE CURVE

Operator RUPE OIL CO Lease VONDRA Well No. 1-C  
 County ELLSWORTH Field \_\_\_\_\_ Location 16-16-7  
 Date of Test 9-4-73 Slope "n" 0.700 W.H. 0.700 Abs.  
 Calc. W.H. Potential 335 MCF/D Calc. Abs. Potential 335 MCF/D



EUGENE DILLIQUEN CO. MADE IN U. S. A.

Rupe Oil Co. Vondra #1-c sec. 16-16-17 - Ellsworth Co. Kas.

$$SF \text{ 2.2 Hrs to 72 Hrs} = \frac{83}{133} = 0.624$$

$$SF \text{ 72 Hrs to 1000 Hrs} = \frac{133}{257} = 0.518$$

30

70

30 ppsi

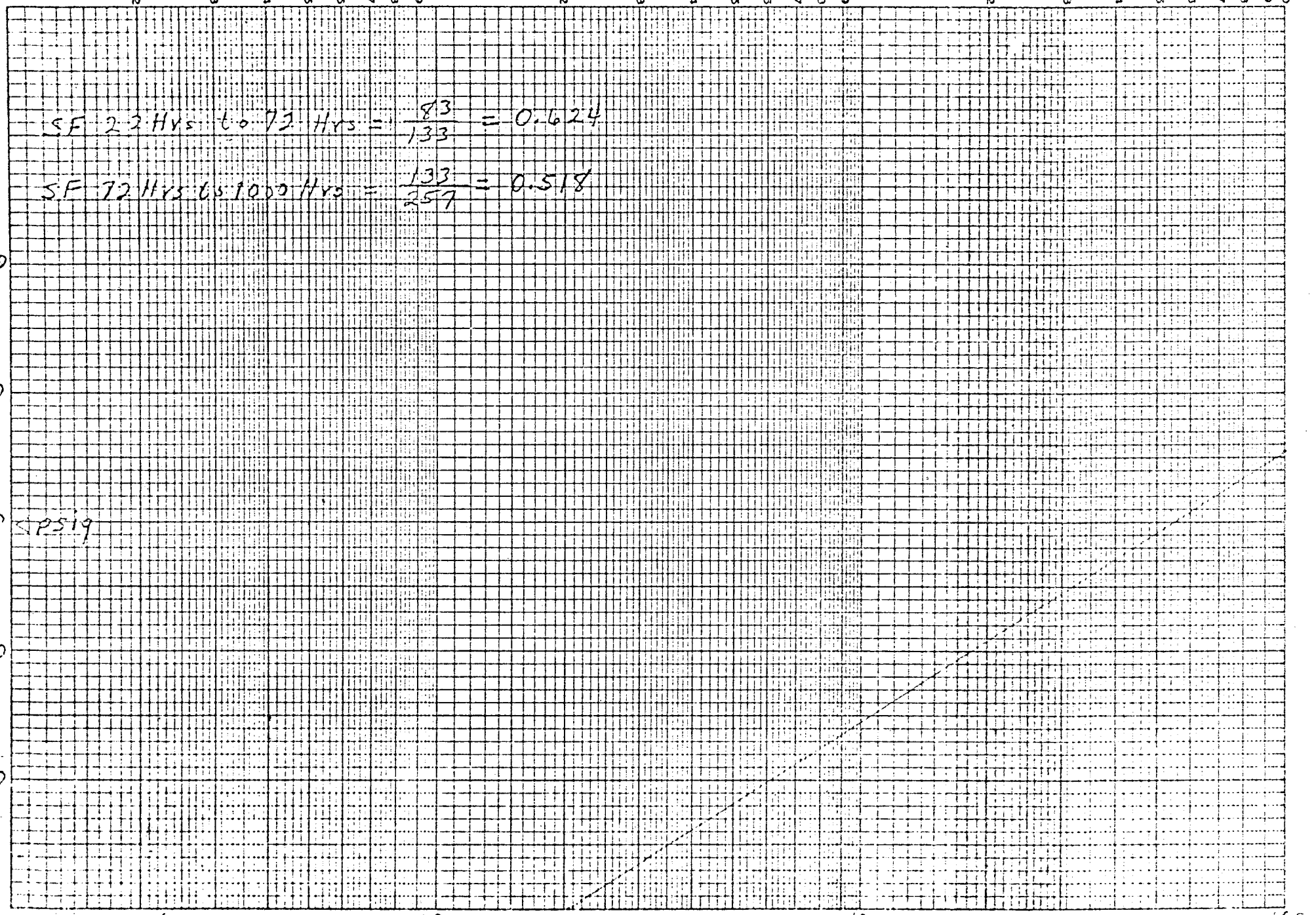
80

30

10

100

1000



INITIAL TEST INFORMATION

NNG TESTER Welch & Hoskinson DATE OF TEST 9-5-73  
TYPE TEST CONDUCTED Four-point & One-point CONDUCTED BY Welch & Hoskinson  
OPERATOR Rupe Oil Co. WELL NAME Vondra #1 (Csg.) NO. \_\_\_\_\_  
LOCATION: Sec. NE<sup>4</sup> 16-16S-17W County Ellsworth State Kansas  
(@ 22 hrs.)  
FIELD PLOTTED WHOFP (@ 22hrs) 88 MCF/D. POT. @ 80% S.I. 42 MCF/D.  
NNG LINE PRESS. 480 PSIG. APPRX. DISTANCE 6 miles INITIAL SIP 249.0 psig  
LINE PRESS. & APPROX. DISTANCE OF OTHER COMPANIES: C.S. - 7 miles - 550#.

TYPE OF CROSSINGS: County roads & possibly one hot top.

TYPE OF TERRAIN: Hilly, rolling pasture and farmland

STABILIZATION CHARACTERISTICS: Poor

LIQUIDS PRODUCED: None Bbls Oil; 0 Bbls Water; 22 Hrs. API GR.

BOTTOM HOLE PRESS. TEST CONDUCTED BY: None

TYPE OF COMPLETION: ( ) SINGLE-GAS, (x) DUAL GAS-GAS, ( ) DUAL GAS-OIL.

CASING SIZE: 4 1/2 ", O.D. \_\_\_\_\_ #/FT., SET @ 1828 ', TD OR PBSD \_\_\_\_\_ FT.

TUBING SIZE: 2 ", O.D. \_\_\_\_\_ #/FT., SET @ 1733 '; PACKER SET @ 1698 '.

FORMATION Towanda SYSTEM Kanopolis FIELD \_\_\_\_\_

PERFORATIONS: FROM 1083 FT. TO 1092 FT., FROM \_\_\_\_\_ FT. TO \_\_\_\_\_ FT.

FROM \_\_\_\_\_ FT. TO \_\_\_\_\_ FT., FROM \_\_\_\_\_ FT. TO \_\_\_\_\_ FT.

STIMULATION DATA:

TREATED WITH 500 GAL. OF \_\_\_\_\_ % Gas Well Acid ACID.

\_\_\_\_\_ GAL. OF \_\_\_\_\_ % \_\_\_\_\_ ACID.

FRAC'D WITH \_\_\_\_\_ GAL. OF \_\_\_\_\_ % \_\_\_\_\_ ACID.

3000 GAL. OF \_\_\_\_\_ % Gas Well Acid w/2100 SCF CO<sub>2</sub> 1 B ACID.

\_\_\_\_\_ # OF \_\_\_\_\_ SAND, \_\_\_\_\_ # OF GLASS BEADS, \_\_\_\_\_ # OF COTTON HULLS.

REMARKS:

Made no water, but strong indication water present. Very evident last 15 minutes of four-  
point. Unable to get line-up on four-point due to water.

NORTHERN NATURAL GAS COMPANY  
OBSERVED SURFACE DATA WORKSHEET  
SHEET 1

TYPE TEST: Four-point &  INITIAL  ANNUAL  RETEST  SPECIAL TEST DATE: 9-5-73  
One-point

OPERATOR: Rupe Oil Co. LEASE: Vondra #1 (Casing) WELL NO. \_\_\_\_\_  
EC. 16 TWP. 16S RNG. 17W COUNTY: Ellsworth STA. NO. \_\_\_\_\_ PIPELINE CONN. \_\_\_\_\_  
A SYSTEM: Kanopolis FIELD: \_\_\_\_\_ RESERVOIR: \_\_\_\_\_

CSG. \_\_\_\_\_ WT. \_\_\_\_\_ TBG. SIZE \_\_\_\_\_ WT. \_\_\_\_\_ PERFS. \_\_\_\_\_ TO \_\_\_\_\_  
TYPE COMPLETION: SINGLE ( ) GAS-GAS ( ) GAS-OIL ( ) PACKER @ \_\_\_\_\_ ft. FLOW STRING @ \_\_\_\_\_ ft.

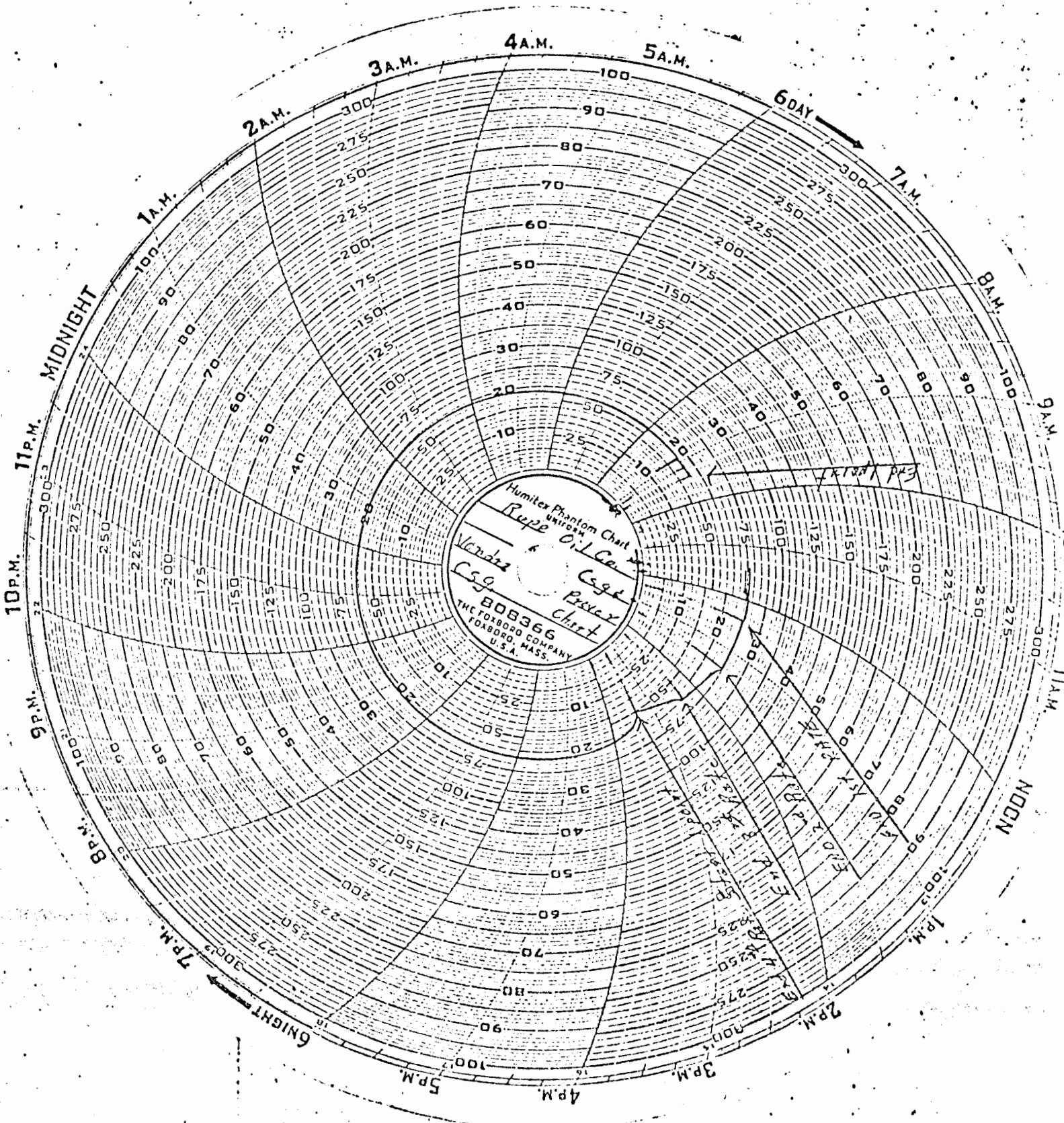
DATE ON \_\_\_\_\_ DATE \_\_\_\_\_ LENGTH \_\_\_\_\_ AVG. PREFLOW \_\_\_\_\_  
PREFLOW \_\_\_\_\_ TIME \_\_\_\_\_ SHUT IN \_\_\_\_\_ TIME \_\_\_\_\_ OF PREFLOW \_\_\_\_\_ RATE \_\_\_\_\_

DATE SHUT IN \_\_\_\_\_ LENGTH OF \_\_\_\_\_ SHUT IN \_\_\_\_\_ SHUT IN \_\_\_\_\_  
PRESS. TAKEN \_\_\_\_\_ TIME \_\_\_\_\_ SHUT IN \_\_\_\_\_ CSG. PRESS. 249.0 psig TBG. PRESS. Pkr. \_\_\_\_\_ psig

GAS GRAVITY (Gm) \_\_\_\_\_ API GRAVITY \_\_\_\_\_ PROVER \_\_\_\_\_ METER \_\_\_\_\_ ORIFICE 1/16; 3/32 TYPE \_\_\_\_\_  
(Gg) 0.7151 OF LIQUID @ 60°F \_\_\_\_\_ SIZE 2" RUN SIZE \_\_\_\_\_ SIZE 3/16; 1/8 TAPS \_\_\_\_\_

DATE TIME OF READING	ELAP TIME HRS.	W.H. PRESSURE DATA				WELL HEAD TEMP	METER OR PROVER DATA			LIQUID HYDRO-CARBONS BBL.	WATER PRODUCED BBL.	REMARKS PERTINENT TO TEST DATA QUALITY
		CASING psig	Δ P CSG.	TUBING psig	Δ P TBG.		PRESS psig	DIFF.	TEMP.			
Tuesday		9-4-73										
1130		249.0		Pkr								
1130		Well on test with 1/16" plate and 2" prover installed on wellhead.										
1145		243.0	6.0			243.0		64				
1200		243.0	1.0			243.0		64				
1215		242.0	1.0			242.0		64				
1230	1.0	241.0	1.0			241.0		64	0	0		
1230		On 2nd Rate with 3/32" plate										
1245		238.0	3.0			238.0		64				
1300		238.0	0			238.0		64				
1315		238.0	0			238.0		64				
1330	2.0	237.0	1.0			237.0		65	0	0		
1330		On 3rd rate with 3/16" plate										
1345		224.0	13.0			224.0		69				
1400		217.0	7.0			217.0		69				
1415		213.0	4.0			213.0		70				
1430	3.0	208.0	5.0			208.0		70	0	0		
1430		On 4th rate with 1/4" plate										
1445		185.0	23.0			185.0		70				No H <sub>2</sub> S w/sniffer
1500		175.0	10.0			175.0		70				
1515		170.0	5.0			170.0		70				
1530	4.0	157.0	13.0			157.0		70	0	0		Well loading up
1530		On one-point with 1/8" plate										
1600		196.0				196.0		74				
1615		198.0				198.0		74				
Wednesday		9-5-73										
0800	20.5	169.0				169.0						
0830	21.0	168.0				168.0		70				
0900		167.0				167.0		63				
0930		166.0				166.0		63				
0930		Shut well down										
0945		193.0										15 min. build-up.

TESTED BY: Welch & Hoskinson - NNG WITNESSED BY: \_\_\_\_\_



MULTI-POINT PACK PRESSURE TEST

TEST DATE= 9/ 5/73  
STAINO 8000007

OPERATOR= RUPE OIL CO.

LEASE & WELL= VONDRA # 1-C

LOCATION= 16

16S

7W COUNTY= ELLSWORTH

STATE= KANSAS

CASING- ID= 4.000 IN. DEPTH= 1088 FT. ID= 0.000 IN. DEPTH= 0 FT.

PERFORATION INTERVALS= START 1083 FT. END 1092 FT. BHT= 53.F.

TUBING- ID= 0.000 IN. OD= 2.375 IN. DEPTH= 0 FT. PROD. THRU= ANNULU

TYPE COMPETION= GAS GAS PACKER DEPTH= 1698 AVERAGE DEPTH= 1088

FIELD= UNKNOWN

RESERVOIR= TOWANDA

0000

GATH. SYST= KANDPOLIS

STIMULATION= 500 GAL GAS WELL ACID 3000 GAL ACID WITH 2100 SCF CO2/B

GAS GRAVITY= 0.715 N2= 0.0000 CO2= 0.0000 H2S= 0.0000

API GRAVITY= 0 WATER RESISTIVITY= 0.0000

METERING DEVICE= CR FLW SIZE= 2 TYPE TAPS= 00000 BAROMETRIC PRESSURE= 14.40

72.0 HOUR SHUT IN PRESSURE SURFACE 263.4 PSIA B HOLE 271.3 PSIA

RATF NO.	ORIFICE SIZE	DIFFERENTIAL			TEMP F ***	BT HOLE			STATIC FLOWING			DURATION HOURS
		PSIA	ENTIAL			PSIA	PSIA	PSIA	PSIA	PSIA	PSIA	
1	0.063	255.4	0.0		64	263.0	255.4	255.4	255.4	255.4	1	
2	0.094	251.4	0.0		65	258.9	251.4	251.4	251.4	251.4	1	
3	0.188	222.4	0.0		70	229.1	222.5	222.4	222.4	222.4	1	
4	0.250	171.4	0.0		70	176.6	171.5	171.4	171.4	171.4	1	
5	0.125	182.4	0.0		70	187.8	182.4	182.4	182.4	182.4	22	

	H2O	LIQUID	GOR	PC2-PW2	0	PC2-PT2	PF2-PS2
	PROD. RRLS	PETR BRLS	MCF/RRL		MCF/O		
1	0.0	0.0	0	4.2	20	4.2	4.2
2	0.0	0.0	0	6.2	44	6.2	6.6
3	0.0	0.0	0	19.9	166	19.9	21.1
4	0.0	0.0	0	40.0	228	40.0	42.4
5	0.0	0.0	0	36.1	59	36.1	0.0

## MULTI-POINT BACK PRESSURE TEST

TEST DATE 9- 4-73  
STATION NO 8000007

72.0 HOUR SHUT IN PRESSURE SURFACE 263.4 PSIA B HOLE 271.3 PSIA

	WELLHEAD	ABSOLUTE
EXPONENT N OF BACKPRESSURE CURVE <sup>1</sup>	0.700	0.700
1.0 HOUR 4-POINT POTENTIAL	335. MCF/D	335. MCF/D
22.0 HOUR 1-POINT POTENTIAL	93. MCF/D	93. MCF/D
72 HOUR POTENTIAL	58. MCF/D	
STABILIZED POTENTIAL	30. MCF/D	

72 HOUR DELIVERABILITY <sup>2</sup> @ 0.8PC		28. MCF/D
STABILIZED DELIVERABILITY @ 150. PSIA		23. MCF/D

STABILIZATION FACTORS <sup>3</sup>	22.0 HOUR TO 72 HOURS	0.624
	72 HOURS TO STABILIZATION	0.518

EVALUATIVE COMMENTS

(1) WFLHEAD CURVE: POOR ALIGNMENT OF POINTS: N ASSUMED  
ARSOLUTE CURVE: POOR ALIGNMENT OF POINTS: N ASSUMED

(2) ASSUMED QUALIFICATION PROVISIONS OF GAS PURCHASE CONTRACT

(3) ESTIMATED

TESTED BY RW&TH

INPUT BY RLN

APPROVED BY

NORTHERN NATURAL GAS CO.  
NATURAL GAS ANALYSIS REPORT FORM

REC'D OCT 4 1973  
SAMPLE NO 1847

DATE RECEIVED \_\_\_\_\_ SECURED BY Gray TANK NUMBER 264 DATE ANALYZED AUG 27 1973

ANALYST MES OPERATOR NAME Rupe Oil Co OUTSIDE LAB \_\_\_\_\_

WELL NAME OR SOURCE Vondra #1-T Sec. 16 Twp 16 Rge. 17 COUNTY Ellsworth STATE Kans.

RECORD IDENTIFIER	SERIAL NO.	DATE SAMPLE TAKEN			LAB	GAS ANALYSIS DATA - MOLE FRACTION														
		MO.	DAY	YR.		HE	O <sub>2</sub>	CO <sub>2</sub>	N <sub>2</sub>	H <sub>2</sub>	H <sub>2</sub> S	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	I-C <sub>4</sub>	N-C <sub>4</sub>	I-C <sub>5</sub>	N-C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>
	510	08	23	73	1	0139		00213940			5556	0208	0080	00014	0024	0005	0005	0008		

RECORD IDENTIFIER	SERIAL NO.	DATE OF GRAVITY			MEASURED SPECIFIC GRAVITY	DATE SAMPLE TAKEN		CALORIMETER BTU (SAT'D)	SULFUR TEST		H <sub>2</sub> S	PSH	PSHT
		MO.	DAY	YR.		MO.	DAY		YR.	TEST DATE	TYPE	GRS/100 CF	GRS/100 CF
	511					08	23	73	631				

RECORD IDENTIFIER	SERIAL NO.	DATE SAMPLE TAKEN			LAB	LIQUID ANALYSIS DATA - MOLE FRACTION											
		MO.	DAY	YR.		C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	I-C <sub>4</sub>	N-C <sub>4</sub>	I-C <sub>5</sub>	N-C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	
	62																

\* MUST TOTAL 1.0000  
+ INCLUDES OTHER SULFUR (SEE ITEM DESCRIPTION)

CODES: CARD 60 & 62  
COL. 18 (LAB) LAB CODE  
H = HOBBS  
L = LIBERAL  
B = B. OF MINES  
I = INDEPENDENT

CODES: CARD 61  
COL. 52-53 (TYPE)  
01 = SNIFFER TEST  
02 = ELECTROLYTIC TITRATION  
03 = ABSORPTION (TUTWILER OR CADMIUM SALT)

GPM BY CHROMATOGRAPH \_\_\_\_\_

CALC. BTU (SAT'D) 631

CALC. BTU (DRY) \_\_\_\_\_

CALC. SP. GR. 0.7432

DISTRIBUTION LIST:

Gas Supply, Liberal  
W.C. Pearson

REMARKS: NEW WELL: UNCONNECTED

