DEC 30 1977 State Geological Survey WICHITA BRANCH

IMPORTANT
Kans. Geo. Survey request samples on this well.

15-071-20145

3 Copies

KANSAS DRILLERS LOG

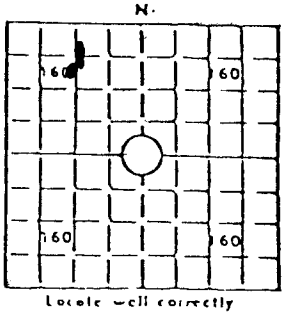
S. 11 T. 17S R. 40W E/W

API # 15 — 071 — 20,145
County Number

Loc. NW NW

County Greely

640 Acres
N.



Locate well correctly

Elev.: Gr. 3608

DF 3617 KB 3618

Operator
Wayman W. Buchanan

Address
444 Petroleum Commerce Bldg., San Antonio, Texas 78205

Well No.	Lease Name
#1	Hoppe

Footage Location
990 FNL & 1320 FWL
feet from (N) (S) line feet from (E) (W) line

Principal Contractor	Geologist
Snyder Drilling Co.	None

Spud Date	Total Depth	P.B.T.D.
10-21-77	3032	2982

Date Completed	Oil Purchaser
10-27-77	NA

CASING RECORD

Report of all strings set — surface, intermediate, production, etc.

Purpose of string	Size hole drilled	Size casing set (in O.D.)	Weight lbs/ft.	Setting depth	Type cement	Sacks	Type and percent additives
Surface	12-1/4	8-5/8	20#	251	Class H	250	3% Cacl. Circ.
Prod. Csg.	7-7/8	4-1/2	10.5#	3032	50-50 Poz Class H	150	
					50-50 Poz"A" Class H	200	12-1/2#gilsonite/sk 10% salt/sk

LINER RECORD

Top, ft.	Bottom, ft.	Sacks cement
None		

TUBING RECORD

Size	Setting depth	Packer set at
2-3/8"	2913	None

PERFORATION RECORD

Shots per ft.	Size & type	Depth interval
1	3/8" Welex	2943-2971

ACID, FRACTURE, SHOT, CEMENT SQUEEZE RECORD

Amount and kind of material used	Depth interval treated
Acidized w/ 1000 gals. 15% NE acid, 12-7/8" RCN Balls,	2943-2971
Frac w/20,000 gals. gelled KCL wtr., 15000# 20/40 sd.	

INITIAL PRODUCTION

Date of first production	Producing method (flowing, pumping, gas lift, etc.)
12-[illegible]-77	Flow

RATE OF PRODUCTION PER 24 HOURS	Oil	Gas	Water	Gas-oil ratio
	None bbls.	4332 MCF P/D-AOF 1 point test= 2727 MCF P/D	Trace bbls.	NA CFPB

Disposition of gas (vented, used on lease or sold)	Producing interval(s)
vented	2943-2971

INSTRUCTIONS: As provided in KCC Rule 82-2-125, within 90 days after completion of a well, one completed copy of this Drillers Log shall be transmitted to the State Geological Survey of Kansas, 4150 Monroe Street, Wichita, Kansas 67209. Copies of this form are available from the Conservation Division, State Corporation Commission, 3830 So. Meridian (P.O. Box 17027), Wichita, Kansas 67217. Phone AC 316-522-2206. If confidential custody is desired, please note Rule 82-2-125. Drillers Logs will be on open file in the Oil and Gas Division, State Geological Survey of Kansas, Lawrence, Kansas

Operator		DESIGNATE TYPE OF COMP.: OIL, GAS, DRY HOLE, SWDW, ETC.:
Wayman W. Buchanan		
Well No. 1	Lease Name Hoppe	Gas
S 11 T 17 R 40 E/W		

WELL LOG

Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

SHOW GEOLOGICAL MARKERS, LOGS RUN, OR OTHER DESCRIPTIVE INFORMATION.

FORMATION DESCRIPTION, CONTENTS, ETC.	TOP	BOTTOM	NAME	DEPTH
			U. Winfield	2905
			L. Winfield	2920
			U. Ft. Riley	2961
			L. Ft. Riley	2998

USE ADDITIONAL SHEETS, IF NECESSARY, TO COMPLETE WELL RECORD.

Date Received

Don C Bennett
Signature

Agent
Title

Date

3113918

STATE OF KANSAS – CORPORATION COMMISSION

FORM C-2
8-9-58

ONE P[illegible] STABILIZED OPEN FLOW OR DELIVERAI[illegible]Y TEST

O.C. 9304

TYPE [illegible] ☐ Deliverability ☐ Open Flow TEST DATE: 12/2-3/77

11-17-40W

COMPANY	LEASE	WELL NO.
W.W. Buchannan	Hoppe	1

COUNTY	LOCATION	SECTION	TWP	RNG	ACRES
Greeley	990' FNL & 1320' FWL	11	17S	40W	

FIELD	RESERVOIR	PIPELINE CONNECTION
N. Tribune	U. Ft. Riley	

COMPLETION DATE	PLUG BACK TOTAL DEPTH	PACKER SET AT
12-2-77	2975	

CASING SIZE	WT.	I.D.	SET AT	PERF.	TO
4 1/2"	10.5	4.052	3032	2943	2971

TUBING SIZE	WT.	I.D.	SET AT	PERF.	TO
2 3/8"	4.7	1.995	2913		

TYPE COMPLETION (Describe)	TYPE FLUID PRODUCTION
Single Zone - Gas	Water

PRODUCING THRU	RESERVOIR TEMPERATURE F	BAR. PRESS – P_a
Tubing		14.4 Psia

GAS GRAVITY – G_g	% CARBON DIOXIDE	% NITROGEN	API GRAVITY OF LIQUID
.700 (est.)			

VERTICAL DEPTH (H)	TYPE METER CONN.	(METER RUN) (PROVER) SIZE
2967		2"

SHUT-IN PRESSURE: SHUT IN _____ 19____ AT _____ (AM)(PM) TAKEN _____ 19____ AT _____ (AM)(PM)

FLOW TEST: STARTED _____ 19____ AT _____ (AM)(PM) TAKEN _____ 19____ AT _____ (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN ____ HR.

SHUT-IN OR FLOW	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. in. $(h_w)(h_d)$	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING psig	CASING $(P_w)(P_t)(P_c)$ psia	TUBING WELLHEAD PRESS psig	TUBING WELLHEAD PRESS $(P_w)(P_t)(P_c)$ psia	DURATION HOURS	LIQUID PROD. Bbls.
SHUT-IN						523	537.4	523	537.4		
FLOW	1/4	422		60°		476	490.4	422	436.4	21	

RATE OF FLOW CALCULATIONS

COEFFICIENT $(F_b)(F_p)$ Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m x h_w}$	GRAVITY FACTOR F_g	FLOWING TEMP. FACTOR F_t	DEVIATION FACTOR F_{pv}	RATE OF FLOW R Mcfd	GOR	Q_m
1.115	436.4		1.195	1.000	1.054	613		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

$(P_a)^2$= 288.8 ; $(P_w)^2$= 240.5 ; P_d= _____ ; $(P_c - 14.4) + 14.4$ = _____ ; $(P_a)^2$=0.207 $(P_d)^2$= _____

$(P_a)^2-(P_a)^2$ or $(P_c)^2-(P_d)^2$	$(P_c)^2-(P_w)^2$	$\left[\frac{P_c^2-P_a^2}{P_c^2-P_d^2}\right]$	LOG [ ]	"n"	n x LOG [ ]	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
288.6	48.3	5.9752	.7763	.835	.6483	4.4489	2727

OPEN FLOW 2727 Mcfd @ 14.65 psia DELIVERABILITY 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 therein, and that said report is true and correct.

Executed this the 5ht day of December, 1977.

Witness (If any)

For Commission

Harold R. Hayes
For Company
RAINBO SERVICE CO.
Checked by

STATE OF KANSAS – CORPORATION COMMISSION

FORM G-1
8-7-58

MULTIPOINT BACK PRESSURE TEST

O.C. 9304

TYPE TEST: [X] Initial [ ] Annual [ ] Special TEST DATE: 12-2-77

COMPANY	LEASE	WELL NO.
W.W. Buchannan	Hoppe	1

11-19-40W

COUNTY	LOCATION	SECTION	TWP	RNG	ACRES
Greeley	990' FNL & 1320 FWL	11	17S	40W	

FIELD	RESERVOIR	PIPELINE CONNECTION
N. Tribune	U. Ft. Riley	

COMPLETION DATE	PLUG BACK TOTAL DEPTH	PACKER SET AT
12-2-77	2975	

CASING SIZE	WT.	ID	SET AT	PERF.	TO
4 1/2"	10.5	4.052	3032	2943	2971

TUBING SIZE	WT.	ID.	SET AT	PERF.	TO
2 3/8"	4.7	1.995	2913		

TYPE COMPLETION (Describe)	TYPE FLUID PRODUCTION	
Single Zone - Gas	Water	

PRODUCING THRU	RESERVOIR TEMPERATURE F		BAR PRESS – P_a
Tubing			14.4 Psia

GAS GRAVITY – G_g	% CARBON DIOXIDE	% NITROGEN	API GRAVITY OF LIQUID
.700 (est.)			

VERTICAL DEPTH (H)	TYPE METER CONN.	(METER RUN) (PROVER) SIZE
2967		2"

REMARKS

OBSERVED DATA

DURATION OF SHUT-IN ____ HR.

RATE No.	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. (h_w) (h_d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS. psig	CASING WELLHEAD PRESS. $(P_w)(P_t)(P_a)$ psia	TUBING WELLHEAD PRESS. psig	TUBING WELLHEAD PRESS. $(P_w)(P_t)(P_c)$ psia	DURATION HOURS	LIQUID PROD. Bbls.
SHUT IN						523	537.4	523	537.4		
1	3/32	520		60°		520	534.4	520	534.4		
2	1/8	516		60°		516	530.4	516	530.4		
3	3/16	507		60°		507	521.4	507	521.4		
4	1/4	471		60°		497	511.4	490	504.4		
5	5/16	471		60°		471	485.4	461	475.4		

RATE OF FLOW CALCULATIONS

RATE NO.	COEFFICIENT $(F_b)(F_p)$ Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m x h_w}$	GRAVITY FACTOR F_g	FLOWING TEMP FACTOR F_t	DEVIATION FACTOR F_{pv}	RATE OF FLOW Q Mcfd	GOR	Q_m
1	.1446	534.4		1.195	1.000	1.067	99		
2	.2716	530.4		1.195	1.000	1.067	184		
3	.6237	521.4		1.195	1.000	1.065	414		
4	1.115	511.4		1.195	1.000	1.065	726		
5	1.714	485.4		1.195	1.000	1.061	1055		

PRESSURE CALCULATIONS

RATE NO.	P_t psia	P_c psia	P_w psia	$(P_c)^2$ THOUSANDS	$(P_w)^2$ THOUSANDS	PLOTTING POINTS $(P_c)^2-(P_w)^2$ THOUSANDS	PLOTTING POINTS Q Mcfd	% SHUT-IN $100\left[\frac{P_w-P_a}{P_c-P_a}\right]$
1		537.4	534.4	288.8	285.6	3.2	99	99%
2		537.4	530.4	288.8	281.3	7.5	184	99%
3		537.4	521.4	288.8	271.9	16.9	414	97%
4		537.4	511.4	288.8	261.5	27.3	726	95%
5		537.4	485.4	288.8	235.6	53.2	1055	90%

INDICATED WELLHEAD OPEN FLOW 4,332 CAOF Mcfd @ 14.65 psia "n" = .835

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.

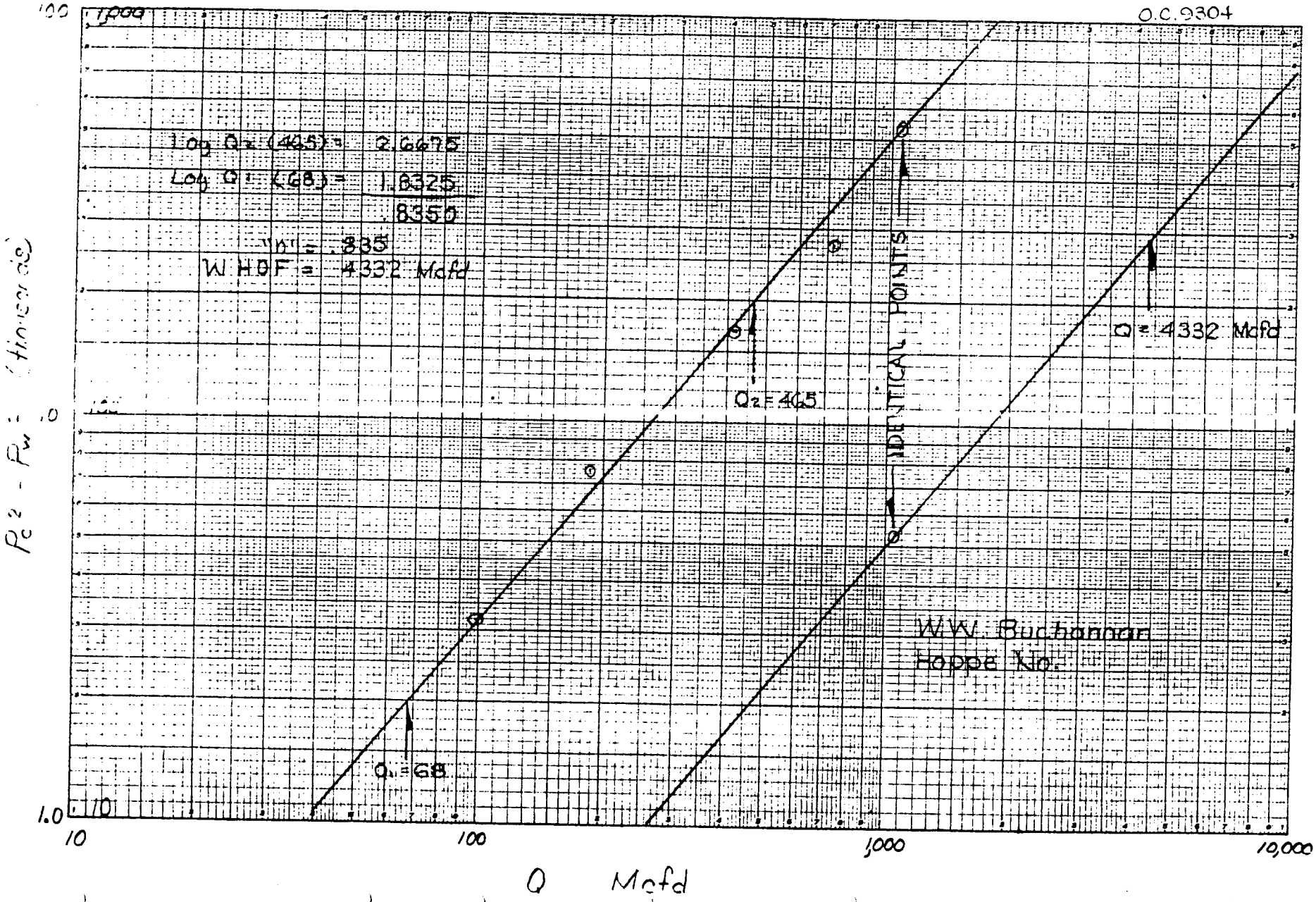
Executed this the 5th day of December, 1977.

Witness (If any)

For Commission

Harold R. Hayes
For Company
RAINBO SERVICE CO.
Checked by

11-17-40W



11-17-40