

15-087-20453-00-00
STATE OF KANSAS - CORPORATION COMMISSION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM O-3
 8-7-58

12
 9-10-90

TYPE TEST: Deliverability Open Flow TEST DATE: 8-17-90

COMPANY: Columbian Services Corporation LEASE: Domann A WELL NO.: 1-89

COUNTY: Jefferson LOCATION: 30N06E SW NE SW SECTION: 24 TWP: 8S RNO: 19E ACRES: 20

FIELD: Unknown RESERVOIR: McLouth PIPELINE CONNECTION: Vanguard

COMPLETION DATE: 6-26-90 PLUG BACK TOTAL DEPTH: 1,724' PACKER SET AT: N/A

CASING SIZE: 4 1/2" WT.: 9.5 L.D.: SET AT: 1,721' PERF.: 1,665'-69' TO:

TUBING SIZE: 2 3/8" WT.: 4.7 L.D.: SET AT: 1,708' PERF.: N/A TO:

TYPE COMPLETION (Describe): Perforated TYPE FLUID PRODUCTION: Water

PRODUCING THRU: Tubing RESERVOIR TEMPERATURE: 90° BAR. PRESS - P_a: 14.4 Psia

GAS GRAVITY - G_g: 0.654 % CARBON DIOXIDE: Unknown % NITROGEN: Unknown API GRAVITY OF LIQUID: 1.005

VERTICAL DEPTH (H): 1,722' TYPE METER CONN.: (METER RUN)(PROVER) SIZE:

SHUT-IN PRESSURE: SHUT IN 7-18-90 19 AT (AM)(PM) TAKEN 7-18 19 90 AT (AM)(PM)

FLOW TEST: STARTED 8-18-90 19 AT (AM)(PM) TAKEN 8-19 19 90 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 WELLHEAD PRESS		TUBING WELLHEAD PRESS		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _i)(P _c) psia	psig	(P _w)(P _i)(P _c) psia		
SHUT-IN						410	424.4	370	384.4	24	
FLOW	0.75	75	12	90		100	114.4	45	59.4	24	23

RATE OF FLOW CALCULATIONS

COEFFICIENT (P _d)(P _w) Mcfd	(METER) (PROVER) PRESSURE psia	EX.ENSION $\sqrt{P_{mshw}}$	GRAVITY FACTOR P _g	FLOWING TEMP. FACTOR P _L	DEVIATION FACTOR P _{pv}	RATE OF FLOW R Mcfd	GOR	G _m
2.779	89.4	32.753	1.237	0.9723	1.00585	110		

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_c)² = 180.115 (P_w)² = 13.087 P_d = 21 % (P_c - 14.4) + 14.4 = 14.4 (P_d)² = 0.207 (P_d)² =

$\frac{(P_d)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$	$\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}$	LOG []	"n"	n x LOG []	ANTILOG	OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd
179.908	167.028	1.0771	0.03226	0.85	0.0274	1.065

OPEN FLOW 117 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 5th day of Sept, 1990.

Stan Brady
 For Company

Witness (if any)

Checked by

VANGUARD PIPELINE CORPORATION

Well File

MEASURING STATION REPORT

MEASURING GAS TO FROM Field to Pipeline STATION NUMBER 151

LOCATION DOMANN COUNTY Jefferson STATE KS

ORIFICE METER AMERICAN BARTON OTHER: TX GAGE
 TYPE: 412-3 SERIAL NUMBER: 5236
 3 PEN 2 PEN RANGE 100" BY 250
 CHART ROTATION: 24 HR. 7 DAY OTHER: _____

INITIAL DELIVERY DATE ON: _____
 FLOW RATE PER DAY: _____ MCF
 IS GAS DEHYDRATED: YES NO
 WAS GAS SAMPLE PULLED: YES NO

DIFFERENTIAL: FOUND _____ " LEFT _____ " LEAK TEST (1MINUTE) _____ # _____ "

BELLOWS CONDITION PEN ARC: OK RESET LAG: OK RESET

ZERO, W.P. _____ FRICTION W.P. _____ ZERO, A.P. _____
 METER FOUND IN CALIBRATION: YES NO
 METER LEFT IN CALIBRATION: YES NO

DIFFERENTIAL TEST

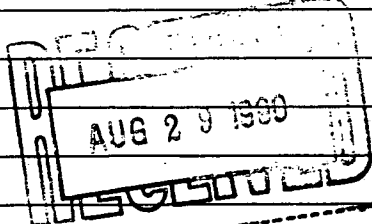
FOUND				LEFT			
UP		DOWN		UP		DOWN	
MANO	DIFF	MANO	DIFF	MANO	DIFF	MANO	DIFF

ORIFICE PLATE CHANGE AND INSPECTION SIZE .750 TUBE I.D. 3.000
 EDGES SHARP: YES NO PLATE DAMAGED: YES NO
 PLATE CLEAN: YES NO SEAL RING CONDITION: BAD GOOD
 SIZE REMOVED: .750 SIZE INSTALLED: .500
 ORIFICE TAPS: Flange Pipe US DS PLATE INSPECTION YES NO
 REASON FOR CHANGE Diff. Covering Press. Line

DEW POINT TEST TYPE INSTRUMENT MANUAL ELECTRIC ATMOS. TEMP. _____ °F GAS TEMP. _____ °F
 TYPE DEHYDRATOR DRY BED ABSORB. INJECTION
 FLOW RATE _____ MCF/D FLOWING PRESS. _____ PSIG WATER CONTENT _____ LBS/MMCF

WITNESS _____ DATE 8-22-90
 FOR _____ TIME 8:39A
 TEST BY J. Johnson
 FOR J.C. GGS

REMARKS _____



SEP 14 1990

COLUMBIAN SERVICES CORPORATION

EIGHT DAY GAUGE AND PRODUCTION REPORT

COUNTY Jefferson
 STATE Kansas

LEASE DoMann
 FIELD

PERIOD COVERED
 FROM Aug 1-90
 TO Aug 8-90

AM
 PM
 AM
 PM

TANK NUMBER	TANK SIZE	DATE			DATE			DATE			DATE			DATE			DATE			DATE		
		A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE		
		FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS

DAILY PRODUCTION

B.S. & W DRAWN OFF			Stock _____ A.M. Today			TOTAL	
DATE	TANK	BBLs	Plus: Pipe Line Runs Yesterday				
			Less: Stock _____ A.M. Yesterday				
			Production				
			Budgeted Production				
			Over (+) Short (-)				

RECEIVED
 AUG 16 1990
 [Signature/Stamp]

PIPE LINE RUNS								WELL DATA								GAS METER								
DATE	TICKET NO.	TANK NO.	OPENING		CLOSING		GROSS BARRELS	NET BARRELS	DATE	WELL NO.	PRODUCTION		HOURS RUN	PUMPING WELLS			FLOWING WELLS		DATE	LINE PRESSURE	DIFFNT'L	PLATE SIZE	ORIFICE COEFFICIENT	VOLUME MCF/DAY
			FT.	IN.	FT.	IN.					OIL	WATER		SPM	STROKE LENGTH	PUMP SIZE	TUBING CHOKE	PRESSURE						

REMARKS AND ALL REASONS FOR DOW TIME:
Aug 2 Doe roads a pump in well set pumping unit & started well. Couldn't keep engine running

TOTAL MCF THIS REPORT 246

TOTAL MCF FOR MONTH 246

BUDGETED _____

OVER (+) UNDER(-) _____

NO. DAYS DOWN THIS REPORT _____

TOTAL DAYS DOWN THIS MONTH _____

1	Stock at end of this report	
2	Add: Pipe Line Runs this report	
3	Add: Pipe Line Runs this month (line 2 plus line 3 of last previous report.)	
4	TOTAL	
5	Less: Stock beginning of month	
6	Production this month to date (line 4 less line 5)	
7	Budgeted this month (days @ _____ bbls)	
8	Over (+) Short (-) this month to date (line 7 less line 6)	

SIGNATURE Dale Foster

SEP 14 1990

SEP 14 1990

COLUMBIAN SERVICES CORPORATION

EIGHT DAY GAUGE AND PRODUCTION REPORT

COUNTY Jefferson
 STATE _____

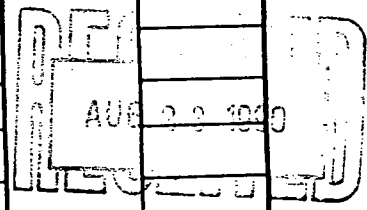
LEASE Do Mann
 FIELD _____

PERIOD COVERED
 FROM Aug 9-90 AM PM
 TO Aug 16-90 AM PM

TANK NUMBER	TANK SIZE	DATE			DATE			DATE			DATE			DATE			DATE			DATE			
		FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	

DAILY PRODUCTION

B.S. & W DRAWN OFF			Stock _____ AM Today			TOTAL	BBL	DATE	TANK
DATE	TANK	BBL	Plus: Pipe Line Runs Yesterday	Less: Stock _____ AM Yesterday	Production				



WELL DATA

DATE	TICKET NO.	TANK NO.	PIPE LINE RUNS				GROSS BARRELS	NET BARRELS	DATE	WELL NO.	PRODUCTION		HOURS RUN	PUMPING WELLS			FLOWING WELLS		DATE	LRIE PRESSURE	DIFFNT'L	PLATE SIZE	ORIFICE COEFFICIENT	VOLUME MCF/DAY	
			OPENING		CLOSING						ORL	WATER		SPM	STROKE LENGTH	PUMP SIZE	TUBING CHOKE	PRESSURE							
			FT.	IN.	FT.	IN.												CASING							TUBING
								9		0						40	30	9	30	0	3/4				
								10		13.36					45	35	10	31	3			51			
								11		16.70					50	35	11	28	3			40			
								12		26.72					105	80	12	33	14			92			
								13		26.72					75	35	13	32	9			73			
								14		11.69					45	30	14	30	2			74			
								15		26.72					100	45	15	32	13			88			
								16		26.72					100	45	16	32	14			91			

Engine is set to run 24 hrs a day.

REMARKS AND ALL REASONS FOR DOWN TIME:
 Aug 9 Replaced Engine on Well. Engine ran only a few hours. Aug 14 Engine Down.

TOTAL MCF THIS REPORT 509
 TOTAL MCF FOR MONTH 755
 BUDGETED _____
 OVER (+) UNDER(-) _____
 NO. DAYS DOWN THIS REPORT _____
 TOTAL DAYS DOWN THIS MONTH _____

- 1 Stock at end of this report
- 2 Add: Pipe Line Runs this report
- 3 Add Pipe Line Runs this month (line 2 plus line 3 of last previous report.)
- 4 TOTAL

- 5 Less: Stock beginning of month
- 6 Production this month to date (line 4 less line 5) SEP 14 1990
- 7 Budgeted this month (days @ total)
- 8 Over (+) Short (-) this month to date (line 7 less line 6)

SIGNATURE Dale Foster

COLUMBIAN SERVICES CORPORATION

EIGHT DAY GAUGE AND PRODUCTION REPORT

COUNTY Jefferson
 STATE Kansas

LEASE Donnan A
 FIELD

PERIOD COVERED
 FROM Aug 17-90 AM PM
 TO Aug 24-90 AM PM

TANK NUMBER	TANK SIZE	DATE			DATE			DATE			DATE			DATE			DATE			DATE		
		FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS

B.S. & W DRAWN OFF			DAILY PRODUCTION																					
DATE	TANK	BOLS	Stock _____ A.M. Today	A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE			A.M. GAUGE		
			Plus: Pipe Line Runs Yesterday	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS
			TOTAL																					
			Less: Stock Yesterday																					
			Production																					
			Budgeted Production																					
			Over (+) Short (-)																					

PIPE LINE RUNS								WELL DATA										GAS METER								
DATE	TICKET NO.	TANK NO.	OPENING		CLOSING		GROSS BARRELS	NET BARRELS	DATE	WELL NO.	PRODUCTION			PUMPING WELLS			FLOWING WELLS				DATE	LINE PRESSURE	DIFFNTL	PLATE SIZE	ORIFICE COEFFICIENT	VOLUME MCF/DAY
			FT.	IN.	FT.	IN.					OIL	WATER	HOURS RUN	SPM	STROKE LENGTH	PUMP SIZE	TUBING CHOKE	PRESSURE		CASING						

REMARKS AND ALL REASONS FOR DOWN TIME:
Aug 22 Sheave Came off pumping Unit. Aug 23 Engine Down Aug 24 Engine Down.

TOTAL MCF THIS REPORT 457
 TOTAL MCF FOR MONTH 1206
 BUDGETED _____
 OVER (+) UNDER(-) _____
 NO. DAYS DOWN THIS REPORT _____
 TOTAL DAYS DOWN THIS MONTH _____

1	Stock at end of this report		5	Less: Stock beginning of month	
2	Add: Pipe Line Runs this report		6	Production this month to date (line 4 less line 5)	
3	Add: Pipe Line Runs this month (line 2 plus line 3 of last previous report.)		7	Budgeted this month (days @ _____)	
4	TOTAL		8	Over (+) Short (-) this month to date (line 7 less line 6)	

SIGNATURE Dale Foster

SEP 14 1990

COLUMBIAN SERVICES CORPORATION

EIGHT DAY GAUGE AND PRODUCTION REPORT

COUNTY <i>Jefferson</i>	LEASE <i>DeMann A</i>	PERIOD COVERED FROM <i>Aug 25-90</i>
STATE <i>Kansas</i>	FIELD	TO <i>Aug 31-90</i>

TANK NUMBER	TANK SIZE	DATE			DATE			DATE			DATE			DATE			DATE			
		FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	FT.	IN.	BARRELS	

DAILY PRODUCTION

DATE	TANK	BBLs	Stock _____ A.M. Today	Plus Pipe Line Runs Yesterday	TOTAL	Less: Stock _____ A.M. Yesterday	Production	Budgeted Production	Over (+) Short (-)

WELL DATA

DATE	TICKET NO.	TANK NO.	PIPE LINE RUNS				GROSS BARRELS	NET BARRELS	DATE	WELL NO.	PRODUCTION		HOURS RUN	PUMPING WELLS			FLOWING WELLS		DATE	LINE PRESSURE	DIFFNT'L	PLATE SIZE	ORIFICE COEFFICIENT	VOLUME MCF/DAY	
			OPENING		CLOSING						OIL	WATER		SPM	STROKE LENGTH	PUMP SIZE	TUBING CHOKE	PRESSURE							
			FT.	IN.	FT.	IN.												CASING							TUBING
								25			11.69					45	35	25	28	3	1/2		18		
								26			3.34					45	35	26	27	2			14		
								27			3.34					35	35	27	27	0			0		
								28			31.73					100	45	28	30	48			73		
								29			25.25					85	45	29	30	48			73		
								30			3.34					35	35	30	28	3			18		
								31			0					35	35	31	27	0			0		

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 SEP 07 1990
 [Stamp]

REMARKS AND ALL REASONS FOR DOWN TIME:
Aug 31 Readjusted values on Engine.

TOTAL MCF THIS REPORT *196*
 TOTAL MCF FOR MONTH *1402*
 BUDGETED _____
 OVER (+) UNDER (-) _____
 NO. DAYS DOWN THIS REPORT _____

1	Stock at end of this report	
2	Add: Pipe Line Runs this report	
3	Add: Pipe Line Runs this month (line 2 plus line 3 of last previous report.)	
4	TOTAL	

5	Less: Stock beginning of month	
6	Production this month to date (line 4 less line 5)	
7	Budgeted this month (line 2 plus line 3 of last previous report.)	
8	Over (+) Short (-) this month to date (line 7 less line 6)	

SIGNATURE *Dale Foster*

SEP 14 1990