

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

API NO. 15- 033-20862-0000
County Comanche
SE-SE-NW Sec. 5 Twp. 34S Rge. 20 X E

CONFIDENTIAL

Operator: License # 3882
Name: Samuel Gary, Jr. & Associates
Address 1775 Sherman Street
Suite 1925
City/State/Zip Denver, CO 80203

2310' Feet from S (circle one) Line of Section
2350' Feet from E (circle one) Line of Section
Footages Calculated from Nearest Outside Section Corner:
NE, SE, NW or SW (circle one)
Lease Name Bluff Creek Well # 5-6
Field Name _____

RELEASED

Purchaser: _____
Operator Contact Person: Steve Fredrickson
Phone (303) 623-0070

Productive Formation N/A
Elevation: Ground 1776 KB 1782
Total Depth 5400 PBTD _____

Contractor: Name: Brandt Drilling
License: _____
Wellsite Geologist: Tim McKoy

Amount of Surface Pipe Set and Cemented at 698 Feet
Multiple Stage Cementing Collar Used? Yes XX No
If yes, show depth set _____ Feet

Designate Type of Completion
 New Well Re-Entry Workover
 Oil SWD SIOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSM, Expl., Cathodic, etc)

If Alternate II completion, cement circulated from _____
feet depth to _____ w/ _____ ex cat.
Drilling Fluid Management Plan 1-11-93 AD
(Data must be collected from the Reserve Pit)

If Workover/Re-Entry: old well info as follows:
Operator: _____
Well Name: _____
Comp. Date _____ Old Total Depth _____
Deepening _____ Re-perf. _____ Conv. to Inj/SWD
Plug Back _____ PBTD _____
Commingled _____ Docket No. _____
Dual Completion _____ Docket No. _____
Other (SWD or Inj?) _____ Docket No. _____
10/16/92 10/26/92 10/27/92
Spud Date Date Reached TD Completion Date

Chloride content 9200 ppm Fluid volume 2000 bbls
Dewatering method used Hauled offsite
Location of fluid disposal if hauled offsite: _____
Operator Name KBW
Lease Name Harmon SWD #1 License No. _____
NW Quarter Sec. 11 Twp. 33 S Rng. 20 E
County Comanche Docket No. _____

ORIGINAL

CONFIDENTIAL

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature Samuel Gary, Jr., President
Title _____ Date 12/08/92

Subscribed and sworn to before me this 8th day of December, 19 92.
Notary Public Joan S. Lucero
Date Commission Expires 01/21/1996

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C Wireline Log Received
C Geologist Report Received
Distribution 12-10-92
 KCC SWD/Rep NGPA
 KGS Plug/Atty Other (Specify)
KANSAS CORPORATION COMMISSION
WICHITA, KANSAS

Operator Name Samuel Gary, Jr. & Associates Lease Name Bluff Creek Well # 5-6

Sec. 5 Twp. 34S Rge. 20 East West County Comanche

CONFIDENTIAL

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken (Attach Additional Sheets.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Stone Corral	813	+969
Electric Log Run (Submit Copy.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wabaunsee	3255	-1473
List All E.Logs Run:		Heebner	4219	-2437
		Lansing	4411	-2629
		Marmaton	4968	-3186
		Cherokee	5122	-3340
		Morrow	5231	-3449
		Mississippian	5316	-3534

DIL
BHC SONIC
CNL-PD

CONFIDENTIAL

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface Casing	12 1/2	8-5/8	24	698	Light	190	3% CaCl ₂
					Common	100	3% CaCl ₂

ADDITIONAL CEMENTING/SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
Perforate	40		10	
Protect Casing	700		50	
<input checked="" type="checkbox"/> Plug Back TD	900		40	
Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type		Acid, Fracture, Shot, Cement Squeeze Record	
	Specify Footage of Each Interval Perforated		(Amount and Kind of Material Used)	Depth

TUBING RECORD		Size	Set At	Packer At	Liner Run	<input type="checkbox"/> Yes <input type="checkbox"/> No
Date of First Resumed Production, SWD or Inj.			Producing Method <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)			
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls. Gas-Oil Ratio Gravity

Disposition of Gas: Vented Sold Used on Lease (If vented, submit ACO-18.)

METHOD OF COMPLETION: Open Hole Perf. Dually Comp. Commingled Other (Specify) _____

Production Interval _____

BJ SERVICES COMPANY

ORIGINAL

ORIGINAL

INVOICE DATE

10/27/92

DIRECT BILLING INQUIRIES TO: 713-895-5021	TERMS NET AMOUNT DUE 30 DAYS FROM DATE OF INVOICE	REMIT TO: BJ SERVICES CO. USA P.O. BOX 297476 HOUSTON, TX 77297
--	--	--

PAGE 1	INVOICE NO. 71774
---------------	--------------------------

AUTHORIZED BY 071774

PURCH. ORDER REF. NO.

SAM GARY, JR.

BOX 1816
LIBERAL KS 67905-1816

DEC 8
CONFIDENTIAL

WELL NUMBER : 5-6 CUSTOMER NUMBER : 15296 - 0

LEASE NAME AND NUMBER BLUFF CREEK	STATE 14	COUNTY/PARISH 1407	CITY	DISTRICT NAME Medicine Lodge	DISTR. NO. 584
JOB LOCATION/FIELD NA	MTA DISTRICT	DATE OF JOB 10/27/92	TYPE OF SERVICE LAND-PLUG AND ABANDON		

PRODUCT NUMBER	QUANTITY	DESCRIPTION	UNIT PRICE	UM	EXTENDED PRICE
10102106	1.00	CEMENTING THRU YUEING 501 TO 1,000	895.00		895.00
10109005	50.00	MILEAGE CHRG. FROM NEAREST BASE OF	2.47		123.50
10410504	75.00	CLASS "A" CEMENT	5.79	CF	434.25
10415018	50.00	FLY ASH	2.96	CFT	153.00
10420145	645.00	BJ GEL, BENTONITE, PER POUND	14.54	LB	96.75
10800001	136.00	MIXING SERVICE CHARGE DRY MATERIAL	1.16		157.76
10940101	285.00	DRAYAGE, PER TON MILE	0.79		225.15
SUBTOTAL					2,085.41
DISCOUNT					521.35

CROWN CONSULTING, INC.

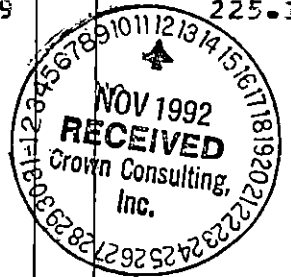
DRLG. X PROD. _____

COMP. _____

LEASE Bluff Creek # 5-6

DESCRIPTIONS Plug well

[Signature]



ACCOUNT	1.0000% BARBER	513.00	5.14
	4.9000% KS-NEW WELL	513.00	25.14
TAX EXEMPTION STATUS		PAY THIS AMOUNT	
		1,594.34	

1102093

RECEIVED
STATE CORPORATION COMMISSION
NOV 17 1992
SAMUEL GARY, JR. & ASSOCIATES, INC.

Wichita Kansas

ORIGINAL

RELEASED

FEB 4 1994

SAMUEL GARY, JR. & ASSOCIATES, INC FROM CONFIDENTIAL

CONFIDENTIAL

BLUFF CREEK #5-6

SE NW SEC 5 T34S R20W

COMANCHE COUNTY, KANSAS

WELLSITE GEOLOGIST'S REPORT

DEC 8

CONFIDENTIAL

T. M. McCOY & CO., INC.
CONSULTING GEOLOGISTS

SKYLINE RANCH • P.O. BOX 608 • WILSON, WYOMING 83014 • 307 733-4332

RECEIVED
STATE COMMISSION

DEC 10 1992

CONSERVATION DIVISION
Wichita, Kansas

Samuel Gary, Jr. & Associates, Inc.
Bluff Creek #5-6

RELEASED

FEB 4 1994

WELL DATA

FROM CONFIDENTIAL

OPERATOR: Samuel Gary, Jr. & Associates, Inc.

WELL NAME: Bluff Creek #5-6

LOCATION: 2310' fnl 2350' fw1
SE NW Sec. 5, T34S, R20W
Comanche County, Kansas

ELEVATIONS: 1776' GL 1782' KB

FIELD: Wildcat

ROAD DIRECTIONS: From Protection, S 5 miles on main county road; W 0.5
mile at Mennonite Cemetery; S 1.0 mile; W 1.2 mile; NW
0.8 mile on lease road.

SURFACE CASING: 16 joints 8 5/8" 24# set at 698' KB.

SPUD DATE: 16 October 1992 3:30 PM

DRILLING COMPLETED: 26 October 1992 8:30 AM

TOTAL DEPTH: 5400' Driller 5395' Logger

LAST FORMATION
PENETRATED: Mississippian

WELL STATUS: Plugged and abandoned.

OPERATOR
REPRESENTATIVES: Tom Fertal - Geologist
Hugh Harvey & Steve Fredrickson - Engineers

ORIGINAL

Samuel Gary, Jr. & Associates, Inc.
Bluff Creek #5-6

ORIGINAL

RELEASED

FEB 4 1994

FORMATION TOPS

FROM CONFIDENTIAL

	Log Top	1782 KB Datum
PERMIAN		
Stone Corral	813	+969
Hutchinson Salt	1606	+176
Chase	2318	-536
PENNSYLVANIAN		
Wabaunsee	3255	-1473
Base Lecompton Ls	4058	-2276
Elgin Ss	4106	-2324
Heebner	4219	-2437
Toronto	4230	-2448
Douglas	4272	-2490
Lansing	4411	-2629
Stark	4832	-3050
Swope	4854	-3072
Marmaton	4968	-3186
Pawnee	5060	-3278
Cherokee	5122	-3340
Morrow	5231	-3449
MISSISSIPPIAN	5316	-3534
TD Logger	5395	
TD Driller	5400	

ORIGINAL FEB 4 1994

SUMMARY OF SHOWS AND LITHOLOGY FROM CONFIDENTIAL

The following descriptions are interpretive and are tied to the wireline logs. Rig personnel collected unlagged 10-ft samples from 4000' to 5400' rig TD. Sample quality was fair.

Grain size was determined by use of the American Stratigraphic Company comparator. Rock colors were determined from the Rock-Color Chart distributed by the Geological Society of America. 10% HCl was used in acid reaction tests.

Significant shows are marked in the left margin; lesser indications of hydrocarbons are contained in sample descriptions or are noted as "No show". Cut tests were performed with 1,1,1-trichloroethane. Samples were examined for fluorescence with a Corvascope.

4000' - 4058' Thin Limestones; pinkish gray (buff)--likely caving--to some light brownish and brownish gray; crypto- to micro- to some fine crystalline; firm, moderately hard; clean to argillaceous; mostly no visible porosity. Also Shale; medium to dark gray; trace brownish black. Few cylindrical fossil fragments. Total gas 30-52-30 units from dark shales. No show.

BASE LECOMPTON LS. BASE: 4058' DATUM: -2276'

4058' - 4106' Shale; medium light to dark gray, much tinted brownish gray; silty; firm; non- to moderately calcareous; part micromicaceous; some carbonaceous downhole; platy, subblocky. Grades to some Siltstone; light gray and light brownish to brownish gray; argillaceous; moderately soft; slightly to moderately calcareous; part micromicaceous; some carbonaceous; sandy toward base; subblocky. Few cylindrical fossil fragments. No show.

ELGIN SS. TOP: 4106' DATUM: -2324'

4106' - 4182' Interbedded. Some Sandstone; light gray; very fine to little lower fine grained; moderately well sorted; slightly

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

calcareous; slightly peppered; rare glauconite; part silty; some muscovite; carbonaceous inclusions in part; tight, no porosity visible, no drilling break. Siltstone; light to medium gray; much argillaceous; some very fine grained sandy; firm to moderately hard; very slightly to some moderately calcareous; micaceous; part carbonaceous; subblocky; some thin dark gray laminae. Shale; medium light to medium dark gray; mostly silty; firm; non- to slightly calcareous; platy, subblocky. No show.

4182' - 4219'

Thin beds. Limestone; light brownish to brownish gray and some pale to dark yellowish brown--part mottled gray; crypto- and micro- to little fine crystalline; firm to moderately hard; clean to argillaceous; no porosity visible. Siltstone; medium light to medium gray; slightly to moderately calcareous; subblocky. Shale; medium to dark gray, some grayish black; silty to moderately smooth; firm; moderately to noncalcareous; platy, subblocky. No sample show. Total gas 40-70-40 units from black shale.

HEEBNER

TOP: 4219' DATUM: -2437'

4219' - 4230'

Shale; grayish to brownish black; slightly silty; firm; slightly calcareous; platy, subblocky. No fluorescence. No cut attempted. Total gas 45 units; virtually no increase. Thin Limestone; light brownish or brownish gray; tight. No show.

TORONTO

TOP: 4230' DATUM: -2448'

4230' - 4272'

Limestone; pinkish gray (buff) to light brownish and brownish gray, some yellowish brown--sample quality is questionable; microcrystalline; firm to moderately hard; clean to argillaceous; no porosity visible. Also Shale; medium to dark gray, minor grayish black. No show.

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

DOUGLAS

TOP: 4272' DATUM: -2490'

4272' - 4334'

Minor Dolomite; light brownish gray to pale yellowish brown; microcrystalline; moderately hard, some firm; part calcitic; slightly argillaceous; no to rare small vug porosity visible. No show.

Remark:

Dolomite is not clearly shown by PE curve.

Also Limestone; pinkish gray (buff) to light brownish gray, little mottled medium gray; crypto- and micro- to minor very fine crystalline; firm to moderately hard; clean to slight insoluble residue; no porosity to trace intercrystalline and small vug porosity. Minor Shale; medium to dark gray. No show.

4334' - 4411'

Shale; medium to medium dark gray; smooth to some slightly silty; firm; noncalcareous; micromicaceous; platy, some subblocky, trace splintery; overall fast drill break. No show.

LANSING

TOP: 4411' DATUM: -2629'

4411' - 4446'

Limestone; pinkish gray (buff) to light brownish gray; microcrystalline to little very fine and fine crystalline; minor fine to medium gray grains; staining shows trace sparry dolomite; firm to moderately hard; clean, some slightly argillaceous; no to slight intercrystalline porosity visible. Few chips Chert; white, very light gray. Some interbedded Shale; gray. No show.

4446' - 4471'

Limestone; pinkish gray (buff), less light brownish gray; microcrystalline to some very fine crystalline; part chalky; firm, some moderately hard; clean; no to trace fair intercrystalline and small vug porosity visible. Few chips Chert; white, very light gray. No show.

4471' - 4499'

Limestone; pinkish gray (buff) to light brownish gray; micro- to some very fine crystalline, little sucrosic; some tight medium grained gray-mottled chips at top or caving; staining shows dolomite spar is common; firm, moderately hard; clean; no to some fair vug and minor intercrystalline porosity visible; good fast drilling break; yellow mineral fluorescence. No show.

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

- 4499' - 4646' Limestone; pinkish gray (buff) to light brownish gray, lesser brownish gray and pale to dark yellowish brown; microcrystalline and partly chalky to some very fine and fine crystalline; some is faintly fine to medium grained; firm, some moderately hard; clean, some moderately argillaceous; minor dolomite spar; mostly no to some slight to fair intercrystalline and vug porosity. Trace Chert; white to light gray, brownish gray, and yellowish brown; free and as patches in limestone. Minor Shale; medium dark to dark gray, little grayish black. No show.
- 4646' - 4659' Shale; dark gray to grayish black at base; part silty; firm; slightly calcareous; subblocky, platy. Total gas 30-73-40 units from black shale at base. Also Limestone; pinkish gray (buff) to light brownish gray. No show.
- 4659' - 4682' Limestone; pinkish gray (buff) to pale yellowish brown, some light brownish gray; at top, medium to lower coarse grained, oolitic; very fine crystalline matrix; clean; trace sparry calcite; trace HCl-insoluble grains and matrix; good moldic porosity and trace vug porosity from excellent 4-ft fast drilling break 4667' - 4671'; downhole, tight and microcrystalline. No show.
- Remark: Circulated samples at 4678' rig depth.
- 4682' - 4694' Shale; medium dark gray to dark gray and grayish black; part silty; firm; non- to moderately calcareous; subblocky. Total gas 30-42-30 units from black shale.
- 4694' - 4755' Limestone; pinkish gray (buff) to light brownish and brownish gray, minor pale to dark yellowish brown, trace medium gray; some cryptocrystalline, mostly microcrystalline and partly chalky, little very fine to fine crystalline; some is faintly fine to medium grained; trace sparry calcite; firm to moderately hard; mostly clean; no to minor slight intercrystalline porosity visible--trace good oomoldic porosity is likely caving. Trace Chert; white, light gray; free and replacing limestone. Few fossil fragments, including crinoid columnals. No show.
- 4755' - 4792' Limestone; increased light to medium gray; microcrystalline; firm to moderately hard; argillaceous, grades to calcareous shale. No show.
- 4792' - 4832' Shale; medium dark to dark gray, grayish to brownish black downhole; silty; firm; calcareous; appears slightly micromicaceous; minute black flecks evident when chips are

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

immersed in water; subblocky. No show.

STARK

TOP: 4832' DATUM: -3050'

4832' - 4839'

Shale; grayish to brownish black; slightly silty; firm; slightly calcareous; subblocky. No fluorescence. Moderately slow mostly nonstreaming cut fluorescence dries to fair yellow halo. No cut under white light but slight brown oil ring. Total gas 60-210-75 units.

4839' - 4854'

Limestone; light brownish to brownish gray and pale to dark yellowish brown; micro- to minor fine crystalline; firm, some quite hard; clean to argillaceous. Also Shale; medium dark to dark gray. Trace Chert; white, light gray, light brownish gray. No show.

SWOPE

TOP: 4854' DATUM: -3072'

4854' - 4872'

Few chips Limestone; pale yellowish brown to brownish gray; micro- and very fine crystalline; moderately hard; clean; no porosity visible.

Show:

No stain. Solid bright yellow fluorescence. Fast slightly streaming cut fluorescence dries to moderate yellow halo. No cut or oil ring under white light. No show.

Hot-wire Gas:

100-140-90 units. Lack of drilling break suggests gas may be recycle from black shale.

Mostly Limestone; pinkish gray (buff) to light brownish and brownish gray, yellowish brown, some light to medium gray; crypto- and microcrystalline to little fine crystalline; firm to quite hard; clean to moderately argillaceous; no to trace intercrystalline porosity visible. No show.

4872' - 4887'

Shale; medium dark gray to dark gray; part silty and calcareous; subblocky, platy. Downhole, Shale; grayish to

SUMMARY OF SHOWS AND LITHOLOGY

some brownish black; slightly silty; firm, some moderately hard; slightly calcareous; subblocky. No fluorescence; no cut attempted. Total gas 100-165-100 units.

4887' - 4906'

Limestone; pinkish gray (buff) to light brownish gray, some yellowish brown, minor medium light to medium gray; crypto- and micro- to some very fine crystalline; firm, some moderately hard; clean; trace shell fragments and several small bivalves; mostly no porosity visible. Trace Chert; light gray, light brownish gray. Minor Shale; medium dark to dark gray. No show.

4906' - 4968'

Shale; medium to dark gray; much is silty; firm; moderately calcareous; subblocky, some platy. Some Limestone; pinkish gray (buff) to light brownish gray and some medium light to medium dark gray; microcrystalline; clean to argillaceous; no porosity visible. No show.

At 4936' and 4963', Shale; grayish to brownish black; slightly silty; firm; slightly calcareous; subblocky, platy. No fluorescence; no cut attempted. No substantial gas increases, 80 and 60 units respectively.

MARMATON

TOP: 4968' DATUM: -3186'

4968' - 5060'

Limestone; much pinkish gray (buff), some light gray, light brownish gray and pale yellowish brown; mostly crypto- and microcrystalline; trace fine to medium grained peloidal packstone uphole; firm to moderately hard; mostly clean; trace spar; trace pale green patches in limestone; no to minor slight intercrystalline porosity visible. Virtually no show.

Minor interbedded Shale; medium to dark gray, some streaked greenish gray--particularly at 5010' - 5020'; smooth to silty; firm; non- to some moderately calcareous; subblocky, platy, and splintery. 1% Chert at 5030'; very light gray. No show.

Samuel Gary, Jr. & Associates, Inc.
Bluff Creek #5-6

RELEASED

ORIGINAL

FEB 4 1994

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

PAWNEE TOP: 5060' DATUM: -3278'

5060' - 5062' Shale; grayish black. Total gas 50-100-65 units.

5062' - 5070' Shale; medium to dark gray, some greenish to olive gray; moderately smooth, part silty; firm; non- to moderately calcareous; subblocky to platy, some splintery. No show.

5070' - 5102' Limestone; pinkish gray (buff) to light brownish gray; microcrystalline and partly chalky, minor very fine crystalline; firm to moderately hard; clean; mostly no porosity visible. No show.

5102' - 5105' Shale; grayish black. Total gas 50-110-45 units.

5105' - 5122' Limestone; pinkish gray (buff) to light brownish gray; microcrystalline and partly chalky, minor very fine crystalline; firm, moderately hard; clean; no porosity visible. No show.

CHEROKEE TOP: 5122' DATUM: -3340'

5122' - 5127' Shale; grayish to brownish black; slightly silty; firm; non- to slightly calcareous; subblocky, platy. Total gas 45-130-60 units.

5127' - 5141' Shale; medium dark gray to dark gray, some greenish- and olive gray; smooth, some silty; firm; non- to moderately calcareous; subblocky, platy. No show.

5141' - 5152' Limestone; pinkish gray, light brownish gray, minor yellowish brown; microcrystalline, little very fine crystalline; firm, moderately hard; clean, some argillaceous; trace sparry calcite; mostly no porosity visible, minor slight intercrystalline porosity. No show.

5152' - 5155' Shale; grayish black; firm; slightly calcareous; subblocky, some platy. Total gas 70-110-75 units.

5155' - 5231' Thin beds. Shale; dark gray to grayish and some brownish black, part tinted or streaked greenish and olive gray; smooth, some silty; firm; non- to slightly calcareous; platy, some subblocky, trace splintery.

ORIGINAL

RELEASED

FEB 4 1994

SUMMARY OF SHOWS AND LITHOLOGY

FROM CONFIDENTIAL

Limestone; pinkish gray (buff) to light brownish and brownish gray, some yellowish brown; crypto- and micro- to trace fine crystalline; firm to moderately hard; clean, some argillaceous; trace sparry calcite; virtually no porosity visible. No show.

MORROW

TOP: 5231' DATUM: -3449'

5231' - 5246'

Shale; medium to dark gray; some greenish-, olive- and brownish gray; trace dusky yellow, grayish red, and grayish red purple--hues commonly mixed in streaks; smooth, some slightly waxy; firm; non- to slightly calcareous; platy to some blocky; erratic fast drill break. Also much Limestone in samples, most likely caving. No show.

5246' - 5258'

Minor Shale; medium gray, tinted greenish gray; firm, some moderately hard; non- to slightly calcareous; very fine grained sandy--grades to argillaceous sandstone. No show.

5258' - 5278'

Shale; medium dark to dark gray and greenish gray; some colors mixed in streaks. Downhole, trace to 2% Sandstone; very light to medium light gray; very fine to lower fine grained; subangular, subrounded; moderately well sorted; glassy in part; silica and some carbonate cement--possible dolomite, does not stain in Alizarin Red; slightly glauconitic and some faintly peppered; trace pyritic toward base; dark gray shale laminae common; tight, no porosity visible. Logs indicate tight Limestone at 5268' - 5272' that is not distinguished in samples. No show.

5278' - 5306'

Trace Sandstone; very light to light gray; fine to medium grained; moderately well sorted; silica and some carbonate cement; trace pyrite; tight, no porosity visible.

Show:

Trace bright spotty bluish yellow fluorescence. Moderately slow non- to faintly streaming cut fluorescence dries to very weak yellow halo. No cut or oil ring under white light.

Samuel Gary, Jr. & Associates, Inc.
Bluff Creek #5-6

ORIGINAL

RELEASED

FEB 4 1994

FROM CONFIDENTIAL

SUMMARY OF SHOWS AND LITHOLOGY

Hot-wire Gas	Total	C1	C2	C3	C4	Min/Ft	Mud Log
Before	40	63%	17%	20%	Tr	3.3	5298'
Maximum	80	58%	24%	14%	4%	2.6	5302'
After	60	59%	24%	14%	2%	2.6	5310'

Remark: Few contacts of light gray sandstone with buff to light brownish gray limestone; few contacts of buff to light brownish gray limestone with dark gray shale.

5306' - 5316' Increasing downhole, trace to 10% Chert; white to light gray, some mottled medium to medium dark gray; opaque; some is earthy, mostly hard with subconchoidal fracture; part pyritic. Trace to 3% Sandstone; very light and light gray; fine to medium to some coarse grained--coarsens downhole; subangular to subrounded; well to some moderately sorted; moderately hard; silica and some carbonate cement--calcite and possible dolomite as well; no to rare glauconite or green clay grains; slightly to moderately pyritic; few chips white and gray chert grains included in sandstone; mostly tight, no to minor slight intergranular porosity.

Show: No stain. Roughly 50% exhibits bright but very spotty bluish yellow fluorescence. Moderately slow non- to faintly streaming cut fluorescence dries to weak yellow fluorescent halos. Under white light, no cut or oil ring.

Hot-wire Gas	Total	C1	C2	C3	C4	Min/Ft	Mud Log
Before	60	59%	24%	14%	2%	2.6	5310'
Maximum	100	78%	9%	9%	3%	1.5	5313'
After	65	70%	12%	12%	5%	5.2	5320'

DST #1: 5232' - 5320' rig depth; 5229' - 5317' log depth. Maximum 38 MCFPD; recovered 120 slightly gas cut mud, no oil or water.

ORIGINAL

RELEASED

FEB 4 1994

FROM CONFIDENTIAL

SUMMARY OF SHOWS AND LITHOLOGY

MISSISSIPPIAN

TOP: 5316' DATUM: -3534'

5316' - 5356'

Limestone; mostly pinkish gray (buff); gray; microcrystalline and partly chalky; some medium to coarse grained oolitic packstone--outer rings of ooliths tend to be lighter than centers and lighter than matrix; firm, moderately hard; clean; some tiny fossil fragments; virtually no porosity visible. Trace Chert; light gray; semitranslucent. No show.

5356' - 5395' TD

Limestone; pinkish gray (buff) to light and medium light gray--hues often mixed; microcrystalline; very fine to fine grained sandy, some slightly argillaceous; medium to coarse grained oolitic packstone is caving or decreases; no porosity visible. 2% - 10% Chert; very light to light gray; semitranslucent to some opaque; appears fresh, lacks earthy texture of chert associated with basal Morrow sand. No show.

Samuel Gary, Jr. & Associates, Inc.
Bluff Creek #5-6

ORIGINAL

DRILL STEM TEST #1

Dean's Testers ran conventional open hole test of Morrow sandstone.

TEST INTERVAL: 5232' - 5320' rig depth; 5229' - 5317' log depth.

PACKERS:

Upper Packer: 5227'
Lower Packer: 5232'
TD at Test: 5320'

PRESSURES & TIMES:

Recorder Depth: 5244'
Initial Hydrostatic: 2655 psi
Initial Flow: 64 psi to 80 psi 15 min
Initial Shut-In: 1948 psi 45 min
Final Flow: 80 psi to 112 psi 120 min
Final Shut-In: 1964 psi 240 min
Final Hydrostatic: 2623 psi

RECOVERY: 120 ft of slightly gas cut mud

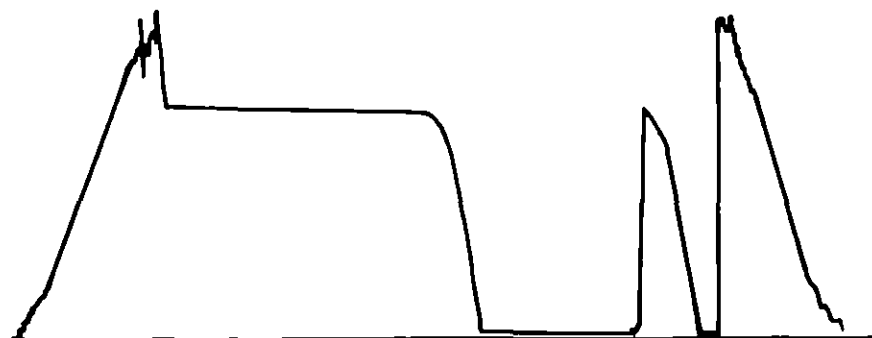
SAMPLER: 70 psi 0.18 cu. ft. of gas
1250 cc mud
0 cc oil
0 cc water

BLOW: Opened with a weak blow, increased to bottom of bucket at 8 min through 15 min. Reopened with strong blow. Gas to surface at 4 min; 13 MCFPD at 10 min; 21 MCFPD at 20 min; 26 MCFPD at 30 min; 30 MCFPD at 40 min; 32 MCFPD at 50 min; 34 MCFPD at 60 min; 36 MCFPD at 70 min; 36 MCFPD at 80 min; 38 MCFPD at 90 min; 38 MCFPD at 100 min; 36 MCFPD at 110 min; 36 MCFPD at 120 min.

TEMPERATURE: 127 deg F

APPARENT SALINITY:

Pit Mud: 6500 ppm chlorides
Sampler: 6800 ppm chlorides



TRACED 7.M.M.

DST #1