

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

Operator: License # 32119
 Name: Northern Natural Gas
 Address P.O. Box 178
 City/State/Zip Cunningham, KS 67035
 Purchaser: N/A
 Operator Contact Person: Dan Dobbins
 Phone (316) 298-5111
 Contractor: Name: Pratt Well Service
 License: 5893
 Wellsite Geologist: None

Designate Type of Completion
 New Well Re-Entry Workover
 Oil SWD SLOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl., Cathodic, etc)
See Memo, 12/16/97

If Workover: Gas Storage Observation
 Operator: Northern Natural Gas
 Well Name: Cannon 20-24

XXX RAN LINER IN WELL
 Deepening **XXX** Re-perf. Conv. to Inj/SWD
 Plug Back PBT
 Commingled Docket No.
 Dual Completion Docket No.
 Other (SWD or Inj?) Docket No.

9-11-97 9-18-97 10-1-97
 Date of START Date Reached TD Completion Date of
 OF WORKOVER WORKOVER

API NO. 15- 095 20722 0001
 County Kingman
 N/2 - SW - NE - Sec. 20 Twp. 27S Rge. 10 X W
1600 Feet from S (circle one) Line of Section
2000 Feet from E (circle one) Line of Section
 Footages Calculated from Nearest Outside Section Corner:
 NE, SE, NW or SW (circle one)
 Lease Name Cannon Well # 20-24
 Field Name Cunningham
STORAGE
 Producing Formation Simpson/Viola
 Elevation: Ground 1760 KB 1769
 Total Depth 4600 PBT 4555
 Amount of Surface Pipe Set and Cemented at 1544 Feet
 Multiple Stage Cementing Collar Used? Yes No
 If yes, show depth set _____ Feet
 If Alternate II completion, cement circulated from Surface
 feet depth to 1544 w/ 700 sx cmt.

Drilling Fluid Management Plan REWORK 2-12-98
 (Data must be collected from the Reserve Pt)

Chloride content 14,000 ppm Fluid volume 220 bbls
 Dewatering method used N/A

Location of fluid disposal if hauled offsite:

Operator Name Geary Mud Disposal

Lease Name Gray License No. 284168

Quarter 15 Sec. 15 Twp. 14N Rng. 7W

County Garfield Docket No. 284168

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, 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 Dan Dobbins
 Title Sr. Reservoir Analyst Date 12-16-97
 Subscribed and sworn to before me this 16th day of December
 19 97.
 Notary Public Karen Elliott
 Date Commission Expires January 25, 1999

K.C.C. OFFICE USE ONLY		
F	<input checked="" type="checkbox"/>	Letter of Confidentiality Attached
C	<input checked="" type="checkbox"/>	Wireline Log Received
C	<input type="checkbox"/>	Geologist Report Received
Distribution		
<input type="checkbox"/>	KCC	<input type="checkbox"/> SWD/Rep <input type="checkbox"/> NGPA
<input type="checkbox"/>	KGS	<input type="checkbox"/> Plug <input type="checkbox"/> Other
(Specify)		

RECEIVED
 KAREN ELLIOT
 Notary Public - State of Kansas
 My Comm. Expires 1-23-99
ACD 12-19-97

SIDE TWO

Operator Name Northern Natural Gas Lease Name Cannon Well # 20-24

Sec. 20 Twp. 27S Rge. 10 East West
 County Kingman

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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Attach Additional Sheets.) Samples Sent to Geological Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Submit Copy.) List All E.Logs Run: Cement Bond Log Dual Induction Laterolog Compensated Density Dual Spaced Neutron	<table border="1" style="width:100%"> <tr> <td><input checked="" type="checkbox"/> Log</td> <td>Formation (Top), Depth and Dates</td> <td><input type="checkbox"/> Sample</td> </tr> <tr> <td>Name</td> <td>Top</td> <td>Datum</td> </tr> <tr> <td>Viola</td> <td>4168</td> <td>-2399</td> </tr> <tr> <td>Simpson</td> <td>4268</td> <td>-2499</td> </tr> <tr> <td>Arbuckle</td> <td>4351</td> <td>-2582</td> </tr> </table>	<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Dates	<input type="checkbox"/> Sample	Name	Top	Datum	Viola	4168	-2399	Simpson	4268	-2499	Arbuckle	4351	-2582
<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Dates	<input type="checkbox"/> Sample														
Name	Top	Datum														
Viola	4168	-2399														
Simpson	4268	-2499														
Arbuckle	4351	-2582														

CASING RECORD <input checked="" 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
Conductor	20"	13 3/7"	48	157	Common	150	-----
Surface	12 1/4"	8 5/8"	24	1544	Reg Poz	700	3% CC 1/4# Flocele
Production	7 7/8"	5 1/2"	15 1/2	4259	Reg Poz	200	18% Salt 1/4# Flocele

ADDITIONAL CEMENTING/SQUEEZE RECORD				
Purpose: Set Line	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	4220-4596	Standard	25	5# Gil, 18% Slat, 1/4# Flocele, Galseal

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
4	4170-4210	
4	4356-4376	
4	4379-4399	

TUBING RECORD	Size <u>2 3/8"</u>	Set At <u>4312</u>	Packer At <u>4312</u>	Liner Run <input checked="" 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)		
Storage Well - Observation				
Estimated Production Per 24 Hours <u>N/A</u>	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio
				Gravity

Disposition of Gas: **METHOD OF COMPLETION** **Production Interval**

Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled
 (If vented, submit ACO-18.) Other (Specify) _____



Natural gas. Electricity.
Endless possibilities.™

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December 17, 1997

Kansas Corporation Commission
130 South Market #2078
Wichita, KS 67202-3802

RE: Form AC0-1

Please find enclosed the completion reports for the Cannon 20-24, Conley 20-41, Sitton 26-41, and Fitzsimmons 35-11 in our storage field. The cementing tickets and electrical logs are also included. There will not be any geologist well report filed as we did not have a geologist on site for the well deepening.

If you need more information please call me at 316-298-5111.

Thanks,

A handwritten signature in cursive script that reads "Rebecca Mosshart".

Rebecca Mosshart
Sr. O & M Tech

ORIGINAL
INVOICE



HALLIBURTON ENERGY SERVICES, INC.

REMIT TO:
P.O. BOX 951046
DALLAS, TX 75395-1046
Corporate FIN 73-0271280

INVOICE NO.	DATE
308003	09/25/1997

WELL LEASE NO/PROJECT		WELL/PROJECT LOCATION		STATE	OWNER
ANNON 20-24		KINGMAN		KS	SAME
SERVICE LOCATION		CONTRACTOR	JOB PURPOSE		TICKET DATE
PRATT		PRATT WELL SERVICE	SHOWN BELOW		09/25/1997
ACCT NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER PO NUMBER	SHIPPED VIA	FILE NO.
34280	W A MERRICK		L 4420 7 008	COMPANY TRUCK	30696

NORTHERN NATURAL GAS CO
BOX 178
CUNNINGHAM, KS 67035

DIRECT CORRESPONDENCE TO:
P O BOX 963
PRATT KS 67124
316-672-5593

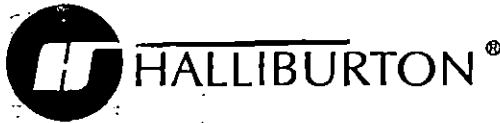
ORIGINAL

REFERENCE NO.	DESCRIPTION	QUANTITY	UM	UNIT PRICE	AMOUNT
RICING AREA - MID CONTINENT					
JOB PURPOSE - CEMENT PRODUCTION LINER					
000-117	MILEAGE CEMENTING ROUND TRIP	36 MI		3.20	115.20
		1 UNT			
000-119	MILEAGE FOR CREW	36 MI		1.95	70.20
		1 UNT			
009-407	CEMENTING LINERS/SHORT CASING	4598 FT		2,129.00	2,129.00
009-019		1 UNT			
504-308	CEMENT - STANDARD	50 SK		10.83	541.50
508-291	GILSONITE BULK	250 LB		.50	125.00
509-968	SALT	500 LB		.17	85.00
507-775	HALAD-322	28 LB		7.70	215.60
507-970	D-AIR 1, POWDER	12 LB		3.65	43.80
509-406	ANHYDROUS CALCIUM CHLORIDE	1 SK		46.90	46.90
507-210	FLOCELE	12 LB		1.90	22.80
508-127	CAL SEAL 60	2 SK		28.00	56.00
500-207	BULK SERVICE CHARGE	68 CFT		1.55	105.40
500-306	MILEAGE CMTG MAT DEL OR RETURN	52.038 TMI		1.18	110.00MN
JOB PURPOSE SUBTOTAL					3,666.40
INVOICE SUBTOTAL					3,666.40
DISCOUNT-(BID)					733.28-
INVOICE BID AMOUNT					2,933.12
*-KANSAS STATE SALES TAX					140.98
*-PRATT COUNTY SALES TAX					28.76
INVOICE TOTAL - PLEASE PAY THIS AMOUNT =====>					\$3,102.86

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1997 DEC 19 1:46

Simpson Project 543828 *Gene Fisher*

TERMS: If Customer does not have an approved open account with Halliburton, all sums due are payable in cash at the time of performance of services or delivery of equipment, products or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, Customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.



HALLIBURTON ENERGY SERVICES

1906-Q

CHARGE TO: NORTHERN NATURAL GAS CO.
 ADDRESS: _____
 CITY, STATE, ZIP CODE: _____

CUSTOMER COPY TICKET

No. **308003 - 3**

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>FRATT #</u>	WELL/PROJECT NO. <u>20-24</u>	LEASE <u>CANNON</u>	COUNTY/PARISH <u>KULMAN</u>	STATE <u>LA</u>	CITY/OFFSHORE LOCATION	DATE <u>9-25-97</u>	OWNER <u>SAME</u>
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR <u>FRATT WELL SERV.</u>	RIG NAME/NO.	SHIPPED VIA <u>P.T.</u>	DELIVERED TO <u>WELL SITE</u>	ORDER NO.	
3. WELL TYPE	WELL CATEGORY <u>RI</u>	JOB PURPOSE <u>PS5</u>	WELL PERMIT NO.	WELL LOCATION			
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

JOB PURPOSE	PRICE REFERENCE	SECONDARY REFERENCE PART NUMBER	ACCOUNTING	DESCRIPTION	QTY	UNIT	PRICE	AMOUNT
	000-117		1	MILEAGE ROUND TRIP <u>TKL # 52304</u>	30	MI	3.20	115.20
	000-119		1	MILEAGE CREW	30	MI	2.10	70.20
	009-407	009-019	1	PUMP CHARGE	4.465	FT	2129.00	2129.00

ORIGINAL

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LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

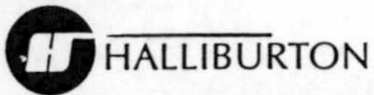
TYPE LOCK	SUB SURFACE SAFETY VALVE WAS: <input type="checkbox"/> PULLED & RETURN <input type="checkbox"/> PULLED <input checked="" type="checkbox"/> RUN		PAGE TOTAL 2314
BEAN SIZE	TYPE OF EQUALIZING SUB.	CASING PRESSURE	FROM CONTINUATION PAGE(S) 135
DEPTH	TUBING SIZE	TUBING PRESSURE	WELL DEPTH
SPACERS	TREE CONNECTION	TYPE VALVE	SUB-TOTAL APPLICABLE TAXES WILL BE ADDED ON INVOICE 3666

DATE SIGNED: 9-25-97 TIME SIGNED: 15:00 A.M. P.M.

do not require IPC (Instrument Protection) Not offered

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT)	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE)	HALLIBURTON OPERATOR/ENGINEER	HALLIBURTON APPROVAL
	<u>[Signature]</u>	<u>Michael T. [Signature]</u>	



TICKET CONTINUATION CUSTOMER COPY

TICKET No. _____

HALLIBURTON ENERGY SERVICES

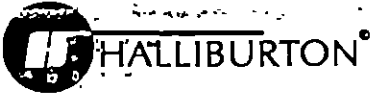
CUSTOMER: Northern Natural Gas Co WELL: Canon 20-23 DATE: 1-12-77 PAGE 2 OF 2

FORM 1911 R-10

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT	
		LOC	ACCT	DF								
504-308	516.00261	1			Standard Cement	50		SK		10 73	541 50	
508-291	516.00337	1			Gilsonite Bld 5#/SK	125		SK		50	62 50	
509-968	516.00158	1			Salt Bld 18 70	300		SK		17	51 00	
507-775	516.00144	1			Haled-322 Bld 6 70	14		SK		17 90	107 18	
507-970	70.15764	1			D-A, 1 Bld .25 70	6		SK		3 65	21 90	
509-406	890.50812	1			Calcium Chloride Bld 1 70	1		SK		46 90	46 90	
507-210	890.50071	1			Flocel Bld .25 #/SK	6		SK		1 90	11 40	
508-127	890.50131	1			Calsoal Bld 5 70	1		SK		28 00	28 00	
Loaded on TRK # 52530 - Front												
ORIGINAL												
500-207		1			SERVICE CHARGE					CUBIC FEET	61	94 50
500-306		1			MILEAGE CHARGE	TOTAL WEIGHT	LOADED MILES	TON MILES		Minimum Charge		110 00
						5270	18					

No. B 338309

CONTINUATION TOTAL



JOB LOG 4239-5

TICKET #	30,003	TICKET DATE	9-25-97
BDA / STATE	KANSAS	COUNTY	FRANKLIN
PSL DEPARTMENT	STIM.	CUSTOMER REP / PHONE	ART MCKELICK
API / UWI #		JOB PURPOSE CODE	056

REGION	North America	NWA/COUNTRY	MID CONTINENT U.S.A
MBU ID / EMP #	58848	EMPLOYEE NAME	MICHAEL R. EDWARDS
LOCATION	PLAT B.	COMPANY	NORTHERN NATURAL GAS CO.
TICKET AMOUNT		WELL TYPE	02
WELL LOCATION	Running Hams. 2N. 1/2W.	DEPARTMENT	CEMENT
LEASE / WELL #	CANNON 20-24	SEC / TWP / RNG	

HES EMP NAME/EMP#/(EXPOSURE HOURS) HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS) HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS) HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS) HRS
M. EDWARDS 50848			
T. SGBA 61622			
B. BAERL 09447			

ORIGINAL

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(@#)	PUMPS		PRESS. (psi)		JOB DESCRIPTION / REMARKS
				T	C	Tbg.	Csg	
	1000							CALLED OUT
	1345							ON LOCATION SAFETY MEETING
								SET UP EQUIP.
	1545							LINED ON DEPT.
								CIRC. WELL BEFORE SETTING LINE
	1630							HOOK UP TO TBL.
	1633	2	0			250		PUMPING 400 H ² O 12%
	1641		18					SHUT DOWN TAKE ON H ² O
	1143		20			400		PUMP SPACER (2 BBL)
	1647	2	0			300		MIXING & PUMPING CONT.
			14			0		FINISH MIX
			3					SHUT IN FLUSH LINES
	1655	2	0			0		START DISP.
	1705		19			1500		TBL PAUL (2) USE PAUL
			21.9			2000 300		SHUT DOWN
								WASH UP
								BACK UP
	1800							JOB COMP.

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