

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

API NO. 15- 151 20470-0001

ORIGINAL

County Pratt

Operator: License # 32119

NE - NE - NE - NE Sec. 25 Twp. 27S Rge. 11 X W

Name: Northern Natural Gas

110 Feet from S (circle one) Line of Section

Address P.O. Box 178

174 Feet from W (circle one) Line of Section

City/State/Zip Cunningham, KS 67035

Footages Calculated from Nearest Outside Section Corner:
(NE) SE, NW or SW (circle one)

Purchaser: Storage Well

Lease Name McClellan Well # 25-22

Operator Contact Person: Dan Dobbins

Field Name Cunningham

Phone (316) 257-5146

Producing Formation Viola/Simpson

Contractor: Name: Pratt Well Service

Elevation: Ground 1725 KB 1734

License: 5893

Commission Total Depth 4170 PBTD 4157

Wellsite Geologist: None

Amount of Surface Pipe Set and Cemented at 1422 Feet

Designate Type of Completion
 New Well Re-Entry X Workover

Multiple Stage Cementing Collar Used? X Yes No

Yes, show depth set 2678 Feet

 Oil SWD SLOW Temp. Abd.
 Gas ENHR SIGW
 Dry X Other (Core, WSW, Expl., Cathodic, etc)

If Alternate II completion, cement circulated from

feet depth to w/ sx cmt.

If Workover:

INJECTION - SIMPSON
INJECTION - VIOLA

Drilling Fluid Management Plan REWORK JH 9-30-97
(Data must be collected from the Reserve Pit)

Operator: Northern Natural Gas

Chloride content 14,000 ppm Fluid volume 220 bbls

Well Name: McClellan 25-22

Dewatering method used N/A

Comp. Date 4-4-78 Old Total Depth 4058

Location of fluid disposal if hauled offsite:

XXX RAN SHORT LENGTH OF LINER

X Deepening X Re-perf. Conv. to Inj/SWD

 Plug Back PBTD

 Commingled Docket No.

XXX Dual Completion Docket No.

 Other (SWD or Inj?) Docket No.

Operator Name Geary Mud Disposal

Lease Name Gray License No. 2284168

6-27-97 7-2-97 7-11-97

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

 Date of START Date Reached TD Completion Date of WORKOVER

County Garfield, OK 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

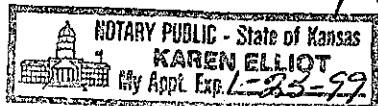
Title Sr. Reservoir Analyst Date 9/16/97

Subscribed and sworn to before me this 12th day of September 19 97.

Notary Public Karen Elliot

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 checked="" type="checkbox"/>	KCC	<input type="checkbox"/> SWD/Rep
<input type="checkbox"/>	KGS	<input type="checkbox"/> Plug
		<input type="checkbox"/> NGPA
		<input type="checkbox"/> Other (Specify)



SIDE TWO

Operator Name Northern Natural Gas Lease Name McClellan Well # 25-22

Sec. 25 Twp. 27S Rge. 11 East West County Pratt

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 Yes No
 (Attach Additional Sheets.)
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No
 Electric Log Run Yes No
 (Submit Copy.)

Log Formation (Top), Depth and Datum Sample
 Name Top Datum
 Viola 3998 -2264
 Simpson 4106 -2372

List All E.Logs Run: Cement Bond Log
 Dual Induction Short Normal Log
 Spectral Density Dual Spaced Neutron II Log

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 3/8	48	133.7	Common		
Surface	12 1/4"	8 5/8	23	1423	Reg Poz	650	18% NaCl
Production	7 7/8"	5 1/2	15.5	4,058	Reg Poz	770	4% Gel, 5# G11

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose: Set Liner	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	4044-4170	Standard	25	5# G11, 18% NaCl, Flocele, Calseal

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated		Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used) Depth	
	4	4002 - 4034	1,000 Gal. 15% HCL	4002
4	4106 - 4126			

TUBING RECORD		Size	Set At	Packer At	Liner Run
		2 3/8	4075	4035	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Date of First, Resumed Production, SWD or Inj. Storage Well			Producing Method <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input checked="" 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.) Open Hole Perf. Dually Comp. Commingled Other (Specify) _____

METHOD OF COMPLETION: _____

Production Interval: 4002 - 4034
4106 - 4126

ORIGINAL



Natural gas. Electricity.
Endless possibilities.™

September 26, 1997

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

RECEIVED
KANSAS CORP COM
1997 SEP 29 1:52

RE: Schematic for Liners at Cunningham

Please find enclosed a schematic for a typical completion in the Cunningham Storage field on our deepening project. If you need more information please call me at 316-257-5146 or 316-298-5111.

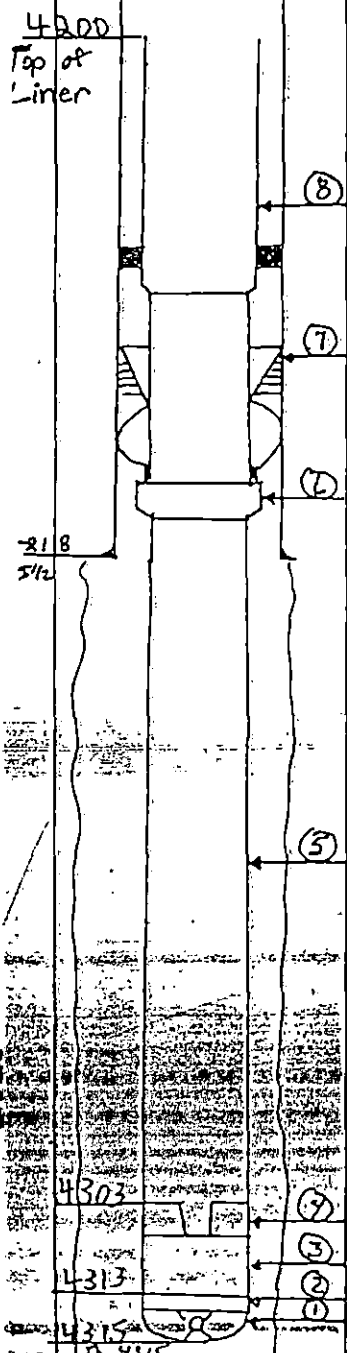
Thanks,

A handwritten signature in cursive script that reads "Dan Dobbins".

Dan Dobbins
Sr. Reservoir Analyst

COMPANY Northern Natural Gas Co.	NG	LINER	UPPER TUBING	LOWER TUBING
WELL NAME & NUMBER STEFFAN 24-32	SIZE 5 1/2	3 1/2		
FIELD Cunningham Gas Storage	WEIGHT 15.50	9.3"		
COUNTY PRATT	GRADE	J-55		
STATE KANSAS	THREAD	(S Hyd.)		
DATE 07-12-97	<input type="checkbox"/> NEW <input checked="" type="checkbox"/> W.O.	DEPTH 4218	4	

ITEM	DESCRIPTION	MAX. O.D. INCHES	MIN. I.D. INCHES	LENGTH FEET	DEPTH FEET
1	3 1/2 Halliburton Float Shoe	4.465	3.375	1.16	4315
2	X-over sub	4.250	3"	.37	4213.84
3	3 1/2 9.3# Tubing Sub	3.870	2.925	9.90	4313.47
4	Baker 3 1/2 CS Hydriil Landing Collar	3 15/16	2 15/16	.74	4303.57
5	(3) Jts 3 1/2 9.3# CS Hydriil Tubing	3.870	2.925	89.54	4252.83
6	X-over sub w/ 3 1/2 CS Hydriil Pin	4 1/2	2 15/16	.78	4213.28
7	Baker 3 1/2 by 5 1/2 Hyflo TH Hanger	4 11/16	3.50	3.77	4212.51
8	Baker Hyflo TH Liner Top Parker w/ 4" 6" setting sleeve	4 11/16 PKR10	4" 3.50	8.72	4208.74 4200.02
ORIGINAL					



1997 SEP 29 P 1:52
 KANSAS RECEIVED
 KANSAS OIL TOOLS COMPANY

PREPARED FOR: Mr. Art. Markler

PREPARED BY: John Drumm
 OFFICE: OKLA. CITY, OK
 PHONE: (405) 672-5557



6023 NAVIGATION BOULEVARD HOUSTON TEXAS 77011-1131
 P.O. BOX 3048 HOUSTON, TEXAS 77253-3048
 Telephone (713) 923-9351 Telex 76-2833

ORIGINAL

INVOICE



HALLIBURTON ENERGY SERVICES, INC.

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

INVOICE NO.	DATE
219332	07/03/199

WELL LEASE NO./PROJECT	WELL/PROJECT LOCATION	STATE	OWNER		
MCLELLAN 25-22	PRATT	KS	SAME		
SERVICE LOCATION	CONTRACTOR	JOB PURPOSE	TICKET DATE		
PRATT	PRATT WELL SERVICE	SHOWN BELOW	07/03/199		
ACCT. NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER P.O. NUMBER	SHIPPED VIA	FILE NO.
634280	W A MERRICK		14420 7 008 DF60158	COMPANY TRUCK	2670

ORIGINAL

RECEIVED

NORTHERN NATURAL GAS COKANSAS CORPORATION COMMISSION
BOX 178
CUNNINGHAM, KS 67035

DIRECT CORRESPONDENCE TO:

1102 E. 8TH
HAYS KS 67601
913-625-3431

SEP 22 1997

REFERENCE NO.	DESCRIPTION	CONSERVATION DIVISION WICHITA, KS	QUANTITY	UM	UNIT PRICE	AMOUNT
PRICING 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		4170 FT		2,019.00	2,019.00
009-019			1 UNT			
009-407	CEMENTING LINERS/SHORT CASING		2 HR		291.00	582.00
009-027			1 UNT			
009-407	CEMENTING LINERS/SHORT CASING		3 HR		291.00	N/C
009-027			1 UNT			
504-308	CEMENT - STANDARD		50 SK		10.83	541.50
508-291	GILSONITE BULK		125 LB		.50	62.50
509-968	SALT		300 LB		.17	51.00
507-775	HALAD-322		14 LB		7.70	107.80
507-970	D-AIR 1, POWDER		6 LB		3.65	21.90
509-406	ANHYDROUS CALCIUM CHLORIDE		1 SK		46.90	46.90
507-210	FLOCELE		6 LB		1.90	11.40
508-127	CAL SEAL 60		1 SK		28.00	28.00
500-207	BULK SERVICE CHARGE		61 CFT		1.55	94.55
500-306	MILEAGE CMTG MAT DEL OR RETURN		18 TMI		1.18	110.00MT
JOB PURPOSE SUBTOTAL						3,861.95
INVOICE SUBTOTAL						3,861.95
DISCOUNT-(BID)						772.39-
INVOICE BID AMOUNT						3,089.56

Simpson Project 543828 LF

***** CONTINUED ON NEXT PAGE *****

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.

ORIGINAL

INVOICE



HALLIBURTON®

HALLIBURTON ENERGY SERVICES, INC.

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

INVOICE NO.	DATE
219932	07/03/199

WELL/LEASE NO./PROJECT	WELL/PROJECT LOCATION	STATE	OWNER		
NCLELLAN 25-22	PRATT	KS	SAME		
SERVICE LOCATION	CONTRACTOR	JOB PURPOSE	TICKET DATE		
PRATT	PRATT WELL SERVICE	SHOWN BELOW	07/03/199		
ACCT. NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER P.O. NUMBER	SHIPPED VIA	FILE NO.
634280	W A MERRICK		4420 7 008 EF60158	COMPANY TRUCK	2670

ORIGINAL

NORTHERN NATURAL GAS CO
BOX 178
CUNNINGHAM, KS 67035

DIRECT CORRESPONDENCE TO:
1102 E. 8TH
HAYS KS 67601
913-625-3431

REFERENCE NO.	DESCRIPTION	QUANTITY	UM	UNIT PRICE	AMOUNT
	*- KANSAS STATE SALES TAX				148.65
	*- PRATT COUNTY SALES TAX				30.34

RECEIVED
KANSAS CORPORATION COMMISSION

SEP 22 1997

CONSERVATION DIVISION
WICHITA, KS

INVOICE TOTAL - PLEASE PAY THIS AMOUNT =====> \$3,268.55

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.

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

CUSTOMER COPY

TICKET

No.

219332 - 3

PAGE 1 OF 2

1. SERVICE LOCATIONS PRATT, KS 25555	WELL/PROJECT NO. 25-22	LEASE MCLELLAN	COUNTY/PARISH PRATT	STATE KS.	CITY/OFFSHORE LOCATION	DATE 7-3-97	OWNER SHANE
2. TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR PRATT WELL SERV.	RIG NAME/NO	SHIPPED VIA P.T.	DELIVERED TO WELL SITE	ORDER NO	
3. WELL TYPE 05	WELL CATEGORY 02	JOB PURPOSE 055	WELL PERMIT NO	WELL LOCATION LHWD 25-275-11W			

REFERRAL LOCATION: **Simpson Project S43828 LF.**

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING	DESCRIPTION	QTY.	U/M	UNIT PRICE	AMOUNT
000-117		1	MILEAGE #53387 RD TP	36	miles	3.20	115.2
000-119		1	CREW MILEAGE #94410 RD TP	36	miles	1.95	70.2
009-407	009-019	1	PUMP CHARGE	6	HRS	4170.00	2019.00
009-407	009-027	1	ADDITIONAL HOURS	2	HRS	291.00	582.00
009-407	009-027	1	100% ADDITIONAL HOURS	3	HRS	291.00	873.00

ORIGINAL

RECEIVED
 KANSAS CORPORATION COMMISSION
 SEP 22 1997
 CONSERVATION DIVISION
 WICHITA, KS

BULK TICKET # B-338365

5.5
 1078.5
 3861.0
 3862.4

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.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED: **7-3-97** TIME SIGNED: **2130**

TYPE LOCK: _____ DEPTH: _____

BEAN SIZE: _____ SPACERS: _____

TYPE OF EQUALIZING SUB.: _____ CASING PRESSURE: _____

TUBING SIZE: _____ TUBING PRESSURE: _____ WELL DEPTH: _____

TREE CONNECTION: _____ TYPE VALVE: _____

SURVEY: _____ AGREE: _____ UN-DECIDED: _____ DIS-AGREE: _____

OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? _____

WE UNDERSTOOD AND MET YOUR NEEDS? _____

OUR SERVICE WAS PERFORMED WITHOUT DELAY? _____

WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY? _____

ARE YOU SATISFIED WITH OUR SERVICE? YES NO

CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL: 3861.0

FROM CONTINUATION PAGE(S):

SUB-TOTAL APPLICABLE TAXES WILL BE ADDED ON INVOICE

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): **WA Merrick**

CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE): *[Signature]*

HALLIBURTON OPERATOR/ENGINEER: **KEVIN P. GORDLEY** EMP # **08500**

HALLIBURTON APPROVAL: *[Signature]*



JOB LOG 4239-5

TICKET # 219332 TICKET DATE 7-3-97

REGION North America	NWA/COUNTRY USA	BDA / STATE KS.	COUNTY POTTAWATOMIE
MBU ID / EMP # 08500	EMPLOYEE NAME	PSL DEPARTMENT	CEMENT
LOCATION	COMPANY	CUSTOMER REP / PHONE	MTI WOODRICK
TICKET AMOUNT	WELL TYPE	API / UWI #	
WELL LOCATION	DEPARTMENT	JOB PURPOSE CODE	CS5
LEASE / WELL #	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
A. ...	C. ...	D. ...	

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(GAL)	PUMPS		PRESS. (psl)		JOB DESCRIPTION / REMARKS
				T	C	Tbg	Csg	
#1	0800							CALLED OUT ON LOCATION W/ TRUCKS SAFETY MEETINGS
	1000							RIG REMAINING OUT OPEN HOLE
	1330							RIG ROLL D.P.
	1600							RIG RUN LINER
	1800							RIG UP HOWCO
								LINER ON BOTTOM, BREAK CIRC. W/ MUD
								LINER SET AT 4169'
								OPEN HOLE - 4058' TO 4170'
								HOOK UP HOWCO TO 2 3/4 D.P.
	1830	3	18	✓		800		PUMP 18 BBL 12% KCL H ₂ O
		3	2			800		PUMP 2 BBL FRESH H ₂ O SPACER
		3	7			700		MIX CEMENT - 25 SKS. AT 14.7 PPG
								SHUT DOWN - SHUT IN MANIFOLD
								WASH OUT PUMP & LINE
								RELEASE 2 3/8 D.P. PLUG
		3	0			600		START DISP. WITH H ₂ O
		2	17			750		SLOW RATE
		2	18.25			750		D.P. PLUG SHEAR PINS FOR LINER PLUG
								DID NOT PSI INCREASE
								CONTINUE PUMPING
	1857	2	19			2800		LINER PLUG LANDED
								RELEASE - FLOAT HOLD
	1858					400		PSI UP ON LINER & HANG LINER
								PULL D.P. - WET
								D.P. OUT - LINER DID NOT SHEAR
								STILL ON END OF LINER TOOL
								LINER PROBABLY FULL OF CEMENT.
	2145							JOB COMPLETE
								7 AMM'S

ORIGINAL

RECEIVED
KANSAS CORPORATION COMMISSION

SEP 22 1997

CONSERVATION DIVISION
WICHITA, KS