HALLIBURTON SERVICES

JOB LOG

FORM 2013 R-2

WELL NO. 1 LEASE Stoltman OWWO TICKET NO. 008879

CUSTOMER Charter Production Co PAGE NO. 1

JOB TYPE DST #2 DATE 12-20-90

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
12-20-90	1150							on location
	1230							start clocks
	1325							tool at table
	1340							tool through table
	1555							tool on bottom
	1600							tool open ½" blow
	1700							close tool with 1½" blow
	1800							open tool 2" blow
	1900							close tool with 1½" blow
	2001							pull tool off bottom
	2315							tool hit down
								recovery: 305 ft gas cut mud
								pressures:
								Initial Hydrostatic 3033 psi
								1st Flow 78-147 psi
								1st Closed in 653 psi
								2nd Flow 176-215 psi
								2nd closed in (371) 371 psi
								Final Hydrostatic 2907 psi
								intervals 60-60-60-61
								job complete
								Thank You.

CUSTOMER

HALLIBURTON SERVICES
Duncan, Oklahoma 73533
A Division of Halliburton Company

FORM 1908 R-7

WORK ORDER CONTRACT AND PRE-TREATMENT DATA

ATTACH TO INVOICE & TICKET NO. 008879

DISTRICT Pratt, Kansas

DATE 12-20-90

TO: HALLIBURTON SERVICES

YOU ARE HEREBY REQUESTED TO FURNISH EQUIPMENT AND SERVICEMEN TO DELIVER AND OPERATE THE SAME AS AN INDEPENDENT CONTRACTOR TO: Charter Production Co (CUSTOMER) AND DELIVER AND SELL PRODUCTS, SUPPLIES, AND MATERIALS FOR THE PURPOSE OF SERVICING

WELL NO. 1 LEASE Straatmann Owwo SEC. 21 TWP. 31S RANGE 21W

FIELD Wildcat COUNTY Clark STATE Kansas OWNED BY Same

THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT

FORMATION NAME Arbuckle TYPE

FORMATION THICKNESS 19' FROM TO

PACKER: TYPE SET AT 6119

TOTAL DEPTH 6241 MUD WEIGHT 9.1

BORE HOLE 7 7/8"

INITIAL PROD: OIL BPD, H_2O BPD, GAS MCF

PRESENT PROD: OIL BPD, H_2O BPD, GAS MCF

	NEW USED	WEIGHT	SIZE	FROM	TO	MAX. ALLOW. P.S.I.
CASING						
LINER						
TUBING						
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

PREVIOUS TREATMENT: DATE TYPE MATERIALS

TREATMENT INSTRUCTIONS: TREAT THRU TUBING ☐ ANNULUS ☐ CASING ☐ TUBING/ANNULUS ☐ HYDRAULIC HORSEPOWER ORDERED

DST #2 122 ft anchor, 2 packers, jars, safety joint

CUSTOMER OR HIS AGENT WARRANTS THE WELL IS IN PROPER CONDITION TO RECEIVE THE PRODUCTS, SUPPLIES, MATERIALS, AND SERVICES

As consideration, the above-named Customer agrees: THIS CONTRACT MUST BE SIGNED BEFORE WORK IS COMMENCED

a) To pay Halliburton in accord with the rates and terms stated in Halliburton's current price list. Invoices are payable NET by the 20th of the following month after date of invoice. Upon Customer's default in payment of Customer's account by the last day of the month following the month in which the invoice is dated, Customer agrees to pay interest thereon after default at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event it becomes necessary to employ attorneys to enforce collection of said account, Customer agrees to pay all collection costs and attorney fees in the amount of 20% of the amount of the unpaid account.

b) To defend, indemnify, release and hold harmless Halliburton, its divisions, subsidiaries, parent and affiliated companies and the officers, directors, employees, agents and servants of all of them from and against any claims, liability, expenses, attorneys fees, and costs of defense to the extent permitted by law for:

1. Damage to property owned by, in the possession of, or leased by Customer, and/or the well owner (if different from Customer), including, but not limited to, surface and subsurface damage. The term "well owner" shall include working and royalty interest owners.
2. Reservoir, formation, or well loss or damage, subsurface trespass or any action in the nature thereof.
3. Personal injury or death or property damage (including, but not limited to, damage to the reservoir, formation or well), or any damages whatsoever, growing out of or in any way connected with or resulting from pollution, subsurface pressure, losing control of the well and/or a well blowout or the use of radioactive material.

The defense, indemnity, release and hold harmless obligations of Customer provided for in this Section b) and Section c) below shall apply to claims or liability even if caused or contributed to by Halliburton's negligence, strict liability, or the unseaworthiness of any vessel owned, operated, or furnished by Halliburton or any defect in the data, products, supplies, materials, or equipment of Halliburton whether in the preparation, design, manufacture, distribution, or marketing thereof, or from a failure to warn any person of such defect. Such defense, indemnity, release and hold harmless obligations of Customer shall not apply where the claims or liability are caused by the gross negligence or willful misconduct of Halliburton. The term "Halliburton" as used in said Sections b) and c) shall mean Halliburton, its divisions, subsidiaries, parent and affiliated companies, and the officers, directors, employees, agents and servants of all of them.

c) That because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, Halliburton is unable to guarantee the effectiveness of the products, supplies or materials, nor the results of any treatment or service, nor the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton shall not be liable for and Customer shall indemnify Halliburton against any damages arising from the use of such information.

d) That Halliburton warrants only title to the products, supplies and materials and that the same are free from defects in workmanship and materials. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials on their return to Halliburton or, at Halliburton's option, to the allowance to the Customer of credit for the cost of such items. In no event shall Halliburton be liable for special, incidental, indirect, punitive or consequential damages.

e) That Customer shall, at its risk and expense, attempt to recover any Halliburton equipment, tools or instruments which are lost in the well and if such equipment, tools or instruments are not recovered, Customer shall pay Halliburton its replacement cost unless such loss is due to the sole negligence of Halliburton. If Halliburton equipment, tools or instruments are damaged in the well, Customer shall pay Halliburton the lesser of its replacement cost or the cost of repairs unless such damage is caused by the sole negligence of Halliburton. In the case of equipment, tools or instruments for marine operations, Customer shall, in addition to the foregoing, be fully responsible for loss of or damage to any of Halliburton's equipment, tools or instruments which occurs at any time after delivery to Customer at the landing until returned to the landing, unless such loss or damage is caused by the sole negligence of Halliburton.

f) To waive the provisions of the Deceptive Trade Practices - Consumer Protection Act, to the extent permitted by law.

g) That this contract shall be governed by the law of the state where services are performed or materials are furnished.

h) That Halliburton shall not be bound by any changes or modifications in this contract, except where such change or modification is made in writing by a duly authorized executive officer of Halliburton.

I HAVE READ AND UNDERSTAND THIS CONTRACT AND REPRESENT THAT I AM AUTHORIZED TO SIGN THE SAME AS CUSTOMER'S AGENT.

SIGNED [signature] CUSTOMER

DATE 12-20-90

TIME 1230 A.M. P.M.

We certify that the Fair Labor Standards Act of 1938, as amended, has been complied with in the production of goods and/or with respect to services furnished under this contract.

CUSTOMER

PAGE 1 OF 1 PAGES

HALLIBURTON RESERVOIR SERVICES

A Division of Halliburton Company

P.O. BOX 721110 • HOUSTON, TX • 713-561-1450

TICKET NO. 008879 - 2

FORM 3500

WELL NO. — FARM OR LEASE NAME	COUNTY	STATE	CITY / OFFSHORE LOCATION	DATE
#1 Stuhlman owwo	Clark	Kansas		12-20-10

CHARGE TO	OWNER	TICKET TYPE (CHECK ONE)	
Chester Production Company	Same	SERVICE X SALES	
ADDRESS	CONTRACTOR	1 LOCATION	CODE
224 E Douglas, Suite 400	Eagle Drilling Co	1 Pratt Ks	1
CITY, STATE, ZIP	SHIPPED VIA / FREIGHT CHARGES	2 LOCATION	CODE
Wichita Kansas 67202	Truck ☐ PPD ☐ COLLECT	2	
WELL TYPE / WELL CATEGORY / WELL PERMIT NO.	DELIVERED TO	3 LOCATION	CODE
01 01 / 03 Workover	Location	3	
TYPE AND PURPOSE OF JOB	ORDER NO.	REFERRAL LOCATION	
6SK DST #2			

As consideration, the above-named Customer agrees to pay Halliburton Reservoir Services (hereinafter called Halliburton) in accord with the rates and terms stated in Halliburton's current price lists. Invoices payable NET by the 20th of the following month after date of invoice. Upon Customer's default in payment of Customer's account by the last day of the month following the month in which the invoice is dated, Customer agrees to pay interest thereon after default at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event it becomes necessary to employ an attorney to enforce collection of said account, Customer agrees to pay all collection costs and attorney fees in the amount of 20% of the amount of the unpaid account. These terms and conditions shall be governed by the law of the state where services are performed or equipment or materials are furnished.

Halliburton warrants only title to the products, supplies and materials and that the same are free from defects in workmanship and materials. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's liability and customer's exclusive remedy in any cause of action (whether in contract, tort, product liability, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials on their return to Halliburton or, at Halliburton's option, to the allowance to the customer of credit for the cost of such items. In no event shall Halliburton be liable for special, incidental, indirect, punitive or consequential damages.

PRICE REFERENCE	SECONDARY REF OR PART NO.	LOC	ACCOUNT	DESCRIPTION	UNITS 1 QTY	UNITS 1 MEAS	UNITS 2 QTY	UNITS 2 MEAS	UNIT PRICE	AMOUNT
130-013		1		MILEAGE	77	mi			1.20	92.40
131-003		1		Test String	6241	ft	8	hrs	1170.00	1170.00
131-060		1		Additional Packer	1	ea			410.00	410.00
132-407		1		Big John Jars	1	job	24	hrs	420.00	420.00

WAS JOB SATISFACTORILY COMPLETED? _____

WAS OPERATION OF EQUIPMENT SATISFACTORY? _____

WAS PERFORMANCE OF PERSONNEL SATISFACTORY? _____

X _____
CUSTOMER OR HIS AGENT (PLEASE PRINT)

X _____
CUSTOMER OR HIS AGENT (SIGNATURE)

WE CERTIFY THAT THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED HAS BEEN COMPLIED WITH IN THE PRODUCTION OF GOODS AND OR WITH RESPECT TO SERVICES FURNISHED UNDER THIS CONTRACT.

Frankm Taylor
HALLIBURTON RESERVOIR SERVICES OPERATOR

HRS APPROVAL _____

CUSTOMER

SUB TOTAL 2092.40

APPLICABLE TAXES WILL BE ADDED ON INVOICE.

HALLIBURTON SERVICES

JOB SUMMARY

DIVISION Oklahoma City, Oklahoma

HALLIBURTON LOCATION Pratt Kansas

BILLED ON TICKET NO. 208879

WELL DATA

FIELD _____ SEC. 21 TWP. 33 RNG. 21W COUNTY Clark STATE Ks

FORMATION NAME Arbuckle TYPE _____

FORMATION THICKNESS _____ FROM _____ TO _____

INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____

PACKER TYPE _____ SET AT 6114

BOTTOM HOLE TEMP. _____ PRESSURE _____

MISC. DATA _____ TOTAL DEPTH 6241

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING						
LINER						
TUBING						
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE 12-20-90	DATE 12-20-90	DATE 12-20-90	DATE 12-20-90
TIME 1000	TIME 1130	TIME 1320	TIME 2315

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD		
PACKER		
OTHER		

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
Frank Snyder P6615	5307 Test Tk	Pratt Ks

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB/GAL.-API °

DISPL. FLUID _____ DENISTY _____ LB/GAL.-API °

PROP. TYPE _____ SIZE _____ LB. _____

PROP. TYPE _____ SIZE _____ LB. _____

ACID TYPE _____ GAL. _____ % _____

ACID TYPE _____ GAL. _____ % _____

ACID TYPE _____ GAL. _____ % _____

SURFACTANT TYPE _____ GAL. _____ IN _____

NE AGENT TYPE _____ GAL. _____ IN _____

FLUID LOSS ADD. TYPE _____ GAL.-LB. _____ IN _____

GELLING AGENT TYPE _____ GAL.-LB. _____ IN _____

FRIC. RED. AGENT TYPE _____ GAL.-LB. _____ IN _____

BREAKER TYPE _____ GAL.-LB. _____ IN _____

BLOCKING AGENT TYPE _____ GAL.-LB. _____

PERFPAC BALLS TYPE _____ QTY. _____

OTHER _____

OTHER _____

DEPARTMENT Testing

DESCRIPTION OF JOB DST #1 1321' Arbuckle

JOB DONE THRU: TUBING ☐ CASING ☐ ANNULUS ☐ TBG./ANN. ☐

CUSTOMER REPRESENTATIVE X _____

HALLIBURTON OPERATOR Frank Snyder COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____

BREAKDOWN _____ MAXIMUM _____

AVERAGE _____ FRACTURE GRADIENT _____

SHUT-IN: INSTANT _____ 5-MIN. _____ 15-MIN. _____

HYDRAULIC HORSEPOWER

ORDERED _____ AVAILABLE _____ USED _____

AVERAGE RATES IN BPM

TREATING _____ DISPL. _____ OVERALL _____

CEMENT LEFT IN PIPE

FEET _____ REASON _____

SUMMARY

VOLUMES

PRESLUSH: BBL.-GAL. _____ TYPE _____

LOAD & BKDN: BBL.-GAL. _____ PAD: BBL.-GAL. _____

TREATMENT: BBL.-GAL. _____ DISPL: BBL.-GAL. _____

CEMENT SLURRY: BBL.-GAL. _____

TOTAL VOLUME: BBL.-GAL. _____

REMARKS

CUSTOMER Chesapeake Production Co. LEASE Stull WELL NO. 1 JOB TYPE DST #2 DATE 12-20-90

FORM 2025-R2

CUSTOMER

TICKET NO. 00887? DATE 12-20-90 HALLIBURTON CAMP Pratt

(HRS written above HALLIBURTON)

LEASE OWNER Charter Production Company

LEASE NAME Strodtman OWWO WELL NO. 1 TEST NO. 2

LEGAL LOCATION 21, 31S, 21W FORMATION TESTED [illegible]

FIELD AREA Wildcat COUNTY Clark STATE Kansas

TYPE OF D.S.T. Open Hole

TESTER(S) Frank Snyder

WITNESS Doug Davis DRILLING CONTRACTOR Eagle Drilling Co

DEPTHS MEASURED FROM K.B. CASING PERFS (FT.)

TYPE AND SIZE OF GAS MEASURING DEVICE

CUSHION DATA

TYPE AMOUNT WEIGHT (lb./gal.)

TYPE AMOUNT WEIGHT (lb./gal.)

RECOVERY (ft. or bbl.): [illegible]

FLUID PROPERTIES

SOURCE	RESISTIVITY	CHLORIDES (PPM)	SOURCE	RESISTIVITY	CHLORIDES (PPM)
Pit	@ °F	[illegible]		@ °F	
	@ °F			@ °F	
	@ °F			@ °F	

REMARKS:

FORMATION TEST DATA (SHEET 2) INSTRUCTIONS

ELEVATION—Elevation of reference point from which depths are measured.

TOP OF TESTED INTERVAL—Depth of packer determining top of interval. If testing open hole with packer set in casing, also show depth of casing shoe in remarks section.

BOTTOM OF TESTED INTERVAL—Total depth, plug back depth, or packer depth (if straddle) that determines bottom of interval.

NET PAY—Footage of tested interval that is formation thickness or perforated.

TOTAL DEPTH—Lesser of bottom hole depth or plug back depth at time of testing.

HOLE OR CASING SIZE—For open hole packer tests, show size of hole at packer. For casing packer tests, show size at perforations.

SURFACE CHOKE—Size of last choke used during final flow period. List **all** choke sizes and choke changes on production Test Data sheet as used.

BOTTOM CHOKE—Minimum I.D. in tools string.

OIL GRAVITY (A.P.I.)—Always report when oil recovered.

OIL TEMPERATURE—Temperature of oil at time of checking gravity. If gravity reported has been corrected to 60°F, enter 60°.

GAS GRAVITY—If reporting actual known gravity, enter in "actual" space. If estimating gravity, enter in "estimate" space.

TEMPERATURE—If obtained from recorder used on test, enter actual. Show depth at which temperature obtained.

GAS/OIL RATIO—Calculated from gas and oil volumes recovered in sampler. If separator was used, obtain GOR from separator data and enter in "other" space.

CHARTS READ BY—Name of person who field read the charts.

DATA APPROVED BY—Name of field supervisor that checked **all** reported data.

GAUGE NUMBER—Serial number of recorder.

GAUGE TYPE—Enter appropriate number from list below:

1 = non blanked off B.T. pressure recorder;

2 = blanked off B.T. pressure recorder;

3 = non blanked off R.P.G.-3 pressure recorder;

4 = blanked off R.P.G.-3 pressure recorder;

5 = B.T. (T.E.) temperature recorder;

6 = R.P.G.-3 (R.T.-7) temperature recorder.

GAUGE DEPTH—Depth at pressure inlet port for all pressure recorders. Depth at bottom of gauge case for temperature recorders.

CLOCK NUMBER—Serial number of clock.

CLOCK RANGE (HOUR)—Maximum time clock can run.

TOOL OPENED—Time and date tester valve opened or test otherwise started.

BYPASS OPENED—Time and date test ended.

MINUTES—Time allowed for each period.

PRESSURES—Report pressures at beginning and end of each period and hydrostatic pressures.

TICKET NO. 008879 DATE 12-20-90 ELEVATION (ft.) 2131

TOP OF TESTED INTERVAL (ft.) 6119 BOTTOM OF TESTED INTERVAL (ft.) 6241

NET PAY (ft.) [illegible] TOTAL DEPTH (ft.) 6241

HOLE OR CASING SIZE (in.) 7 7/8" MUD WEIGHT (lb./gal.) [illegible] VISCOSITY (sec.) [illegible]

SURFACE CHOKE (in.) BOTTOM CHOKE (in.) .75

OIL GRAVITY @ °F GAS GRAVITY—ESTIMATED ACTUAL

SAMPLER DATA

PRESSURE (P.S.I.)

C.C.'s OF OIL

C.C.'s OF MUD

CUBIC FT. OF GAS

C.C.'s OF WATER

TOTAL LIQUID C.C.'s

GAS/OIL RATIO (cu. ft. per bbl.)

FROM SAMPLER

OTHER

TEMPERATURE (°F)

ESTIMATE

ACTUAL

DEPTH (ft.)

H.T.-500 ☐; THERMOMETER ☐;
T.E. OR R.T.-7 ☐; OTHER ☐

SERIAL NO.

RECORDER AND PRESSURE DATA

CHARTS READ BY Frank Snyder DATA APPROVED BY

RECORDERS				
GAUGE NUMBER	7501	7500		
GAUGE TYPE	1	2		
GAUGE DEPTH (ft.)	6098	6235		
CLOCK NUMBER	17485	17482		
CLOCK RANGE (HR.)	12	12		

PRESSURES					
INITIAL HYDROSTATIC		[illegible]			
1st. INITIAL FLOW		76			
1st. FINAL FLOW		143			
1st. CLOSED-IN		[illegible]			
2nd. INITIAL FLOW		[illegible]			
2nd. FINAL FLOW		215			
2nd. CLOSED-IN		271			
3rd. INITIAL FLOW					
3rd. FINAL FLOW					
3rd. CLOSED-IN					
FINAL HYDROSTATIC		[illegible]			

TIMES
(00:00-24:00 HRS.)

TOOL OPENED [illegible]

DATE [illegible]

BYPASS OPENED [illegible]

DATE [illegible]

PERIOD	MINUTES
XXX	XXX
1st. FLOW	[illegible]
1st. C.I.P.	[illegible]
XXX	XXX
2nd. FLOW	[illegible]
2nd. C.I.P.	[illegible]
XXX	XXX
3rd. FLOW	
3rd. C.I.P.	
XXX	XXX

ADDITIONAL RECORDER AND PRESSURE DATA SPACE ON BACK SHEET IF NEEDED

DO NOT WRITE IN THIS AREA—FOR REPORT SECTION USE ONLY

FORMATION TEST DATA (SHEET 2)

C. EQUIPMENT DATA SHEET

(1) Tool Name. Show all the equipment (drill pipe, tubing, weight pipe, collars, adapters, tools, etc.) from the derrick floor down that comprised the tool string. Starting at the top of the page and the derrick floor, list the equipment in the order it was located in the string.

(2) Tool Number. Most of the tools and equipment commonly used on a D.S.T. have been assigned a specific number. Enter the appropriate number that corresponds to each item listed in the tool string.

If an item was run in the string that does not have an existing number, use the number 97, 98, or 99 (shown at bottom of page). These three numbers are reserved for this purpose. Write the tool name beside the number being assigned to it. Also show the tool name and its assigned number at the proper location in the tool string list.

(3) O.D. List the outside diameter of each item in the tool string. Show these diameters in inches to three decimal places. Do not use fractions. For Example: 3.875", not 3⅞".

For tubular goods, show the actual O.D. of the pipe (not the O.D. at the pin or box).

For tools, show the maximum diameter of the tool Do not show O.D. of packer elements.

(4) I.D. List the inside diameter of each item in the tool string. Show these diameters in inches to three decimal places. Do not use fractions.

For tubular goods, show the actual I.D. of the pipe (not the I.D. at the pin). Consult CEMENTING TABLES handbook, if necessary, to insure that I.D. being shown is correct for size and weight of all pipe used. This is critical when attempting to analyze test data.

For tools, show the minimum I.D. through the tool. Consult the tools manuals.

(5) Length. List the make-up length of each item in the tools string. Show these lengths in feet to the nearest tenth of a foot. The length of all tubular goods above the tester valve is critical when attempting to analyze test data.

(6) Depth. Any item in the string that has a tool number of 50 or larger requires the depth to be shown. The depths are to be reported in feet to the nearest tenth of a foot.

For reversing subs and circulating valves show the depth at the reversing port.

When using a hydrospring, report the depth at the valve port.

When using ball valve tools, report the depth at the ball valve.

Report the depth at the pressure inlet port on all gauges. Refer to FORMATION TEST DATA PAGE instructions for gauge depths if needed.

Report open hole packer depths at the packer support and cased hole packer depths at the lower shoe. Refer to FORMATION TEST DATA PAGE instructions for "Tested Interval" if necessary.

DECIMAL EQUIVALENT TABLE

1/64"—.016	7/32"—.219	27/64"—.422	5/8"—.625	13/16"—.813
1/32"—.031	15/64"—.234	7/16"—.438	41/64"—.641	53/64"—.828
3/64"—.047	**1/4"—.250**	29/64"—.453	21/32"—.656	27/32"—.844
1/16"—.063	17/64"—.266	15/32"—.469	43/64"—.672	55/64"—.859
5/64"—.078	9/32"—.281	31/64"—.484	11/16"—.688	7/8"—.875
3/32"—.094	19/64"—.297	**1/2"—.500**	45/64"—.703	57/64"—.891
7/64"—.109	5/16"—.313	33/64"—.516	23/32"—.719	29/32"—.906
1/8"—.125	21/64"—.328	17/32"—.531	47/64"—.734	59/64"—.922
9/64"—.141	11/32"—.344	35/64"—.547	**3/4"—.750**	15/16"—.938
5/32"—.156	23/64"—.359	9/16"—.563	49/64"—.766	61/64"—.953
11/64"—.172	3/8"—.375	37/64"—.578	25/32"—.781	31/32"—.969
3/16"—.188	25/64"—.391	19/32"—.594	51/64"—.797	63/64"—.984
13/64"—.203	13/32"—.406	39/64"—.609		

TOOL NO.	DESCRIPTION
5.	Adapter
64.	APR-N Tester
54.	APR-M2 Safety Circulating Valve
55.	APR-M2 Sampler Circulating Valve
36.	APR-"S" Internal Pressure Relief Valve
58.	APR-SSA Circulating Valve
52.	APR-Type "A" Circulating Valve
53.	APR-Type "R" Circulating Valve
38.	Belly Springs
15.	Big John Jar
22.	Blank Anchor
23.	Blank Sub
91.	Bridge Plug
84.	Bundle Carrier
56.	Circulating Valve—RTTS
5.	Crossover
18.	Distributor Valve
39.	Drag Blocks
33.	Drain Valve
3.	Drill Collars
1.	Drill Pipe
30.	Drill Pipe Tester
34.	Drop and Seat
13.	Dual CIP Sampler
12.	Dual CIP Valve
14.	Extension Joint
37.	EZ Drill Stinger
4.	Flex Weight Pipe
20.	Flush Joint Anchor
57.	Ful-Flo Hydraulic Bypass
93.	Ful-Flo Safety Valve
11.	Handling Sub and Choke Ass'y.
28.	Hydroflate Packer Port Ass'y.
26.	Hydroflate Packer Pump Ass'y.
27.	Hydroflate Packer Screen Ass'y.
25.	Hydroflate Packer Torque Limiter Ass'y.
60.	Hydrospring Tester
63.	Hydrospring Tester—Ful-Flo
61.	Hydrospring Tester—Indexing
62.	Hydrospring Tester—Multiple CIP Sampler
83.	HT-500 Temperature Case
15.	Jar
41.	Junk Pusher
31.	LOC Bypass
32.	Locked Open Bypass
67.	LPR-N Tester Valve
71.	Packer—Cased Hole Retrievable
72.	Packer—EZ Drill SV
75.	Packer—Hydroflate—Lower
74.	Packer—Hydroflate—Top
70.	Packer—Open Hole
73.	Packer—Production or Permanent
21.	Perforated Tail Pipe
40.	Perforating Gun
66.	P.R. Disk Valve
17.	Pressure Equalizing Crossover
50.	Reversing Sub—Hollow Pin Impact
51.	Reversing Sub—Pump Out
80.	Running Case—A.P.
81.	Running Case—Blanked-off
85.	Running Case—Hydroflate Packer—Blanked-off
82.	Running Case—Temperature
86.	Running Case—(Non Halliburton)
19.	Safety Joint—Anchor Pipe
35.	Safety Joint—RTTS
16.	Safety Joint—V.R.
24.	Shoe
90.	Side Wall Anchor
10.	Slip Joint
5.	Sub
6.	Sub Sea Test Tree
65.	Surface Read Out Valve
2.	Tubing
92.	Water Cushion Valve
4.	Weight Pipe

TICKET NO. [illegible]

TOOL NAME	TOOL NO.	O.D. (IN.)	I.D. (IN.)	LENGTH (FT.)	DEPTH (FT.)
Drill Pipe	1	4.500	[illegible]	5630	
Drill Collars	3	6.000	2.250	335	
Reversing Sub	50	[illegible]	[illegible]	1	5965.5
Drill Collars	3	6.000	2.250	120	
Change over Sub	5	[illegible]	2.750	1	
Dual CIP	12	5.000	.870	5	
Hydrospring	60	5.000	.750	5	6096
AP Case	80	5.000	2.250	4	6098
'Big John' Jars	15	5.000	1.750	5	
Safety Joint	16	5.000	1.000	3	
Packer	70	6.750	1.530	6	6113
Packer	70	6.750	1.530	6	6119
Change over Sub	5	5.750	2.750	1	
Drill Collars	3	6.000	2.250	92	
Change over Sub	5	5.750	2.750	1	
Change over Sub	5	5.750	2.750	1	
Flush Joint Anchor	[illegible]	5.000	3.840	21	
BT Case	81	5.000		4	6238
Total Depth					6241

TOOL NUMBERS AS ASSIGNED BY TESTER

97 =
98 =
99 =

TOOL NAMES

EQUIPMENT DATA

D. PRODUCTION TEST DATA SHEET

(1) Date and Time. Show the date and the time of each reported event. All times should be reported by using a 24 hour clock standard (military time). Be sure to report the date for the first reported time and each time the date changes.

(2) Choke Size (inches). Whenever the well is flowing (gas or liquid) report the inside diameter (in inches) of the surface choke through which the well is flowing. If an orifice well tester is being used, report orifice size as if a choke. Make note in remarks column that the choke is actually an orifice. Enter the choke size for each time that the surface pressure was reported.

(3) Surface Pressure (P.S.I.). List the drill pipe or tubing pressure (lbs./sq. in.) at various times throughout the test. The time between reported surface pressure readings will be dependent upon surface reactions. Surface pressure should be monitored frequently enough to give a reliable indication as to how the well was performing throughout the test.

If the surface pressures are not being reported in P.S.I., indicate units of measure in the remarks column. Be sure to indicate whenever units of measurement are changed.

Avoid use of ditto marks as they can be mistaken for inches symbol.

Do not enter casing pressure under "Surface Pressure" column. Whenever casing pressure is being monitored, show pressures in the remarks column.

(4) Gas Rate (M.C.F.). Report the gas production rate in M.C.F. (thousand cubic feet) per day only. Do not report rate in cubic feet or million cubic feet units of measure. Always report the gas rate immediately prior to each closed-in period. A reliable gas rate is critical whenever attempting to analyze the test data.

Show the calculated rate derived by using choke, or orifice size, and corresponding surface pressure, or the gas rate as determined downstream of a separator. Avoid making a gas rate calculation through a choke without having a minimum of 15 PSI pressure upstream of the choke. For accurate measurements for pressure less than 15 PSI, an orifice well tester is recommended.

(5) Liquid Rate (B.P.D.). Whenever the well is flowing liquid to the surface, and a means of measuring the production rate is available, report the production rate as measured. The rate is to be reported in bbls./day. A reliable production rate must be reported, if a well is flowing at the surface, whenever attempting to analyze the test data.

(6) Remarks. This column is to be used for reporting casing pressures and changes in units of measure for surface pressures. However, most importantly, it is to be used to report any and all events that are transpiring during the test. Any operation or event which may cause a response on the down hole pressure recorder should be reported. It is critical that the time for each remark entered be shown in the "Date and Time" column.

Report all downhole tool operations, choke changes, and surface closures and their respective times. Also, report the surface reactions at the time of each event.