## FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

| | | RESISTIVITY | | | CHLORIDE CONTENT | |
|---|---|---|---|---|---|---|
| Recovery Water | TOP | 0.100 | @ 70 | °F. | 38,760 | ppm |
| Recovery Mud | | | @ | °F. | | ppm |
| Recovery Mud Filtrate | | | @ | °F. | | ppm |
| Mud Pit Sample | | | @ | °F. | | ppm |
| Mud Pit Sample Filtrate | | | @ | °F. | | ppm |

Mud Weight 9.2 vis 52

Date 8-29-79 Ticket Number 433240
Kind of Job OPEN HOLE Halliburton District LIBERAL
Tester ABLA Witness -
Drilling Contractor G & J DRILLING COMPANY NM

### EQUIPMENT & HOLE DATA

Formation Tested Marmaton
Elevation - Ft.
Net Productive Interval - Ft.
All Depths Measured From Kelly Bushing
Total Depth 4934' Ft.
Main Hole/Casing Size 7 7/8" - 8 5/8"
Drill Collar Length 311' I.D. 2.25"
Drill Pipe Length - I.D. -
Packer Depth(s) 4888' - 4894' Ft.
Depth Tester Valve 4871' Ft.

Cushion TYPE NONE AMOUNT Ft. Depth Back Pres. Valve NONE Surface Choke 1/4" Bottom Choke 3/4"

Recovered 15' Feet of drilling mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Remarks SEE PRODUCTION TEST DATA SHEET...

| TEMPERATURE | Gauge No. 6274 Depth: 4873' Ft. | Gauge No. 6273 Depth: 4931' Ft. | Gauge No. Depth: Ft. | TIME |
|---|---|---|---|---|
| | 12 Hour Clock | 12 Hour Clock | Hour Clock | Tool A.M. |
| Est. °F. | Blanked Off NO | Blanked Off YES | Blanked Off | Opened 0700 P.M. |
| 4929' @ Actual 120 °F. | Pressures | Pressures | Pressures | Opened A.M. Bypass 1100 P.M. |

| | | Field | Office | Field | Office | Field | Office | Reported Minutes | Computed Minutes |
|---|---|---|---|---|---|---|---|---|---|
| Initial Hydrostatic | | - | 2600.2 | 2552 | 2702.9 | | | | |
| First Period | Flow Initial | - | 23.7 | 53 | 53.8 | | | ——— | ——— |
| | Flow Final | - | 18.4 | 53 | 58.9 | | | 60 | |
| | Closed in | - | 36.9 | 66 | 76.1 | | | 60 | |
| Second Period | Flow Initial | - | 31.6 | 53 | 72.1 | | | ——— | ——— |
| | Flow Final | - | 27.7 | 53 | 65.6 | | | 60 | |
| | Closed in | - | 38.2 | 66 | 78.7 | | | 60 | |
| Third Period | Flow Initial | | | | | | | ——— | ——— |
| | Flow Final | | | | | | | | |
| | Closed in | | | | | | | | |
| Final Hydrostatic | | - | 2550.1 | 2552 | 2583.5 | | | ——— | ——— |

Legal Location Sec. - Twp. - Rng. 23 - 30 - 18
Lease Name CURTIS UNRUH
Well No. 2
Test No. 1
Tested Interval 4894' - 4934'
Field Area -
County KIOWA
State KANSAS
Lease Owner/Company Name THE MAURICE L. BROWN COMPANY
Meas. From Tester Valve

FORM 181-R1—PRINTED IN U.S.A.

# FORMATION TEST DATA

LITTLE'S 96671 10M 8/74

5

Casing perfs. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 433240

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

| Date Time a.m. p.m. | Choke Size | Surface Pressure psi | Gas Rate MCF | Liquid Rate BPD | Remarks |
|---|---|---|---|---|---|
| 1815 | | | | | Called for the job. |
| 2215 | | | | | On location - rig going in the hole and |
| | | | | | circulating - TIGHT HOLE. |
| 0345 | | | | | Making up the tool. |
| 0445 | | | | | Going in the hole with the tool. |
| 0655 | | | | | On bottom. |
| 0700 | | | | | Tool opened with a very weak blow. |
| 0730 | | | | | No blow. |
| 0800 | | | | | Closed tool. |
| 0900 | | | | | Reopened tool - no blow. |
| 1000 | | | | | Closed tool. |
| 1100 | | | | | Pulled tool off bottom. |
| | | | | | |
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FORM 182-RI—PRINTED IN U.S.A.

# PRODUCTION TEST DATA

LITTLE'S 96672 5M 8/74

TICKET NO. 433240

| | O. D. | I. D. | LENGTH | DEPTH |
|---|---|---|---|---|
| Drill Pipe or Tubing | | | | |
| Reversing Sub | 6" | | 1' | |
| Water Cushion Valve | | | | |
| Drill Pipe | | | | |
| Drill Collars | 6" | 2.25" | 311' | |
| ~~Handling Sub & Choke Assembly~~ DRILL PIN | 6" | | 1' | |
| ~~Dual CIP Valve~~ HANDLING SUB | 4½" | 3.826" | 5' | |
| Dual CIP ~~Sampler~~ VALVE | 5" | .87" | 5' | 4866' |
| Hydro-Spring Tester | 5" | .75" | 5' | 4871' |
| Multiple CIP Sampler | | | | |
| Extension Joint | | | | |
| AP Running Case | 5" | 3.06" | 4' | ~~4873'~~ |
| Hydraulic Jar | 5" | 1.75" | 5' | |
| VR Safety Joint | 5" | 1.00" | 3' | |
| Pressure Equalizing Crossover | | | | |
| Packer Assembly | 6 3/4" | 1.53" | 6' | 4888' |
| Distributor | | | | |
| Packer Assembly | 6 3/4" | 1.53" | 6' | 4894' |
| Flush Joint Anchor | 5" | 2.37" | 33' | |
| Pressure Equalizing Tube | | | | |
| Blanked-Off B.T. Running Case | | | | |
| Drill Collars | | | | |
| Anchor Pipe Safety Joint | | | | |
| Packer Assembly | | | | |
| Distributor | | | | |
| Packer Assembly | | | | |
| Anchor Pipe Safety Joint | | | | |
| Side Wall Anchor | | | | |
| Drill Collars | | | | |
| Flush Joint Anchor HT-500 | 5" | | 1' | |
| Blanked-Off B.T. Running Case | 5" | 2.44" | 4' | 4931' |
| Total Depth | | | | 4934' |

FORM 187-R1—PRINTED IN U.S.A.

# EQUIPMENT DATA

LITTLE'S 96676 75C 8/74

TEMPERATURE

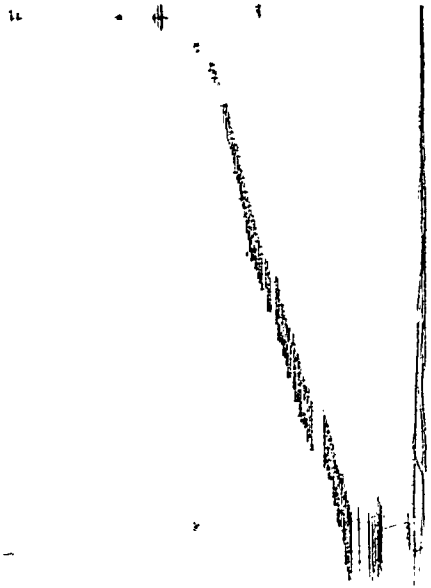
- RECORDER

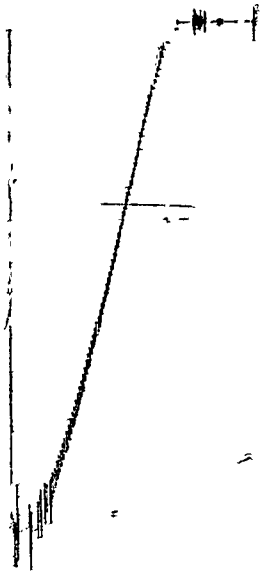
- CHART

433240

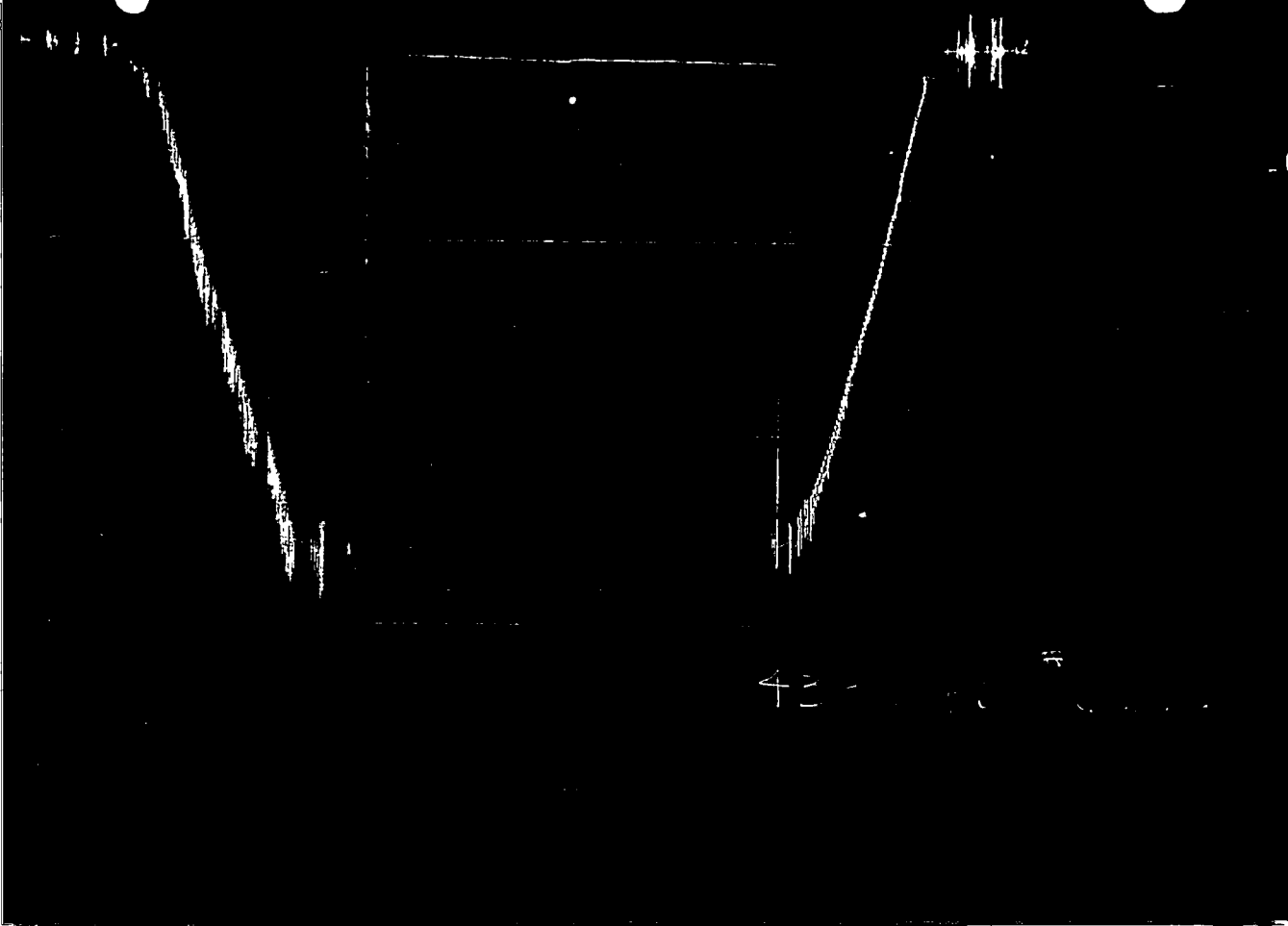
120

10° each circle





433240 - 6274



## FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

| | | RESISTIVITY | | CHLORIDE CONTENT |
|---|---|---|---|---|
| Recovery Water | @ | °F. | | ppm |
| Recovery Mud | @ | °F. | | ppm |
| Recovery Mud Filtrate | @ | °F. | | ppm |
| Mud Pit Sample | @ | °F. | | ppm |
| Mud Pit Sample Filtrate | @ | °F. | | ppm |

Mud Weight 9.9 vis 45 cp

Date 8-30-79 Ticket Number 545960
Kind of Job OPEN HOLE Halliburton District PRATT
Tester PUMPHREY Witness SHEARLING
Drilling Contractor GABBERT AND JONES, INC. NM S

### EQUIPMENT & HOLE DATA

Formation Tested Mississippi Chert
Elevation - Ft.
Net Productive Interval 8' Ft.
All Depths Measured From Kelly Bushing
Total Depth 5068' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 240' I.D. 2.25"
Drill Pipe Length 4759' I.D. 3.826"
Packer Depth(s) 5029' Ft.
Depth Tester Valve 5012' Ft.

Cushion TYPE NONE AMOUNT Ft. Depth Back Pres. Valve NONE Surface Choke 1" Bottom Choke .75"

Recovered 120' Feet of slightly gas cut mud
Recovered 4892' Feet of gas in the drill pipe
Recovered Feet of
Recovered Feet of
Recovered Feet of

Remarks SEE PRODUCTION TEST DATA SHEET...

| TEMPERATURE | Gauge No. 7501 | Gauge No. 7500 | Gauge No. | TIME |
|---|---|---|---|---|
| | Depth: 5016' Ft. | Depth: 5064' Ft. | Depth: Ft. | |
| | 12 Hour Clock | 12 Hour Clock | Hour Clock | Tool Opened 1428 A.M. P.M. |
| Est. °F. | Blanked Off NO | Blanked Off YES | Blanked Off | Opened A.M. |
| Actual 120 °F. | Pressures | Pressures | Pressures | Bypass 2028 P.M. |

| | | Field | Office | Field | Office | Field | Office | Reported Minutes | Computed Minutes |
|---|---|---|---|---|---|---|---|---|---|
| Initial Hydrostatic | | - | 2777.3 | 2789 | 2806.8 | | | | |
| First Period | Flow Initial | - | 39.6 | 137 | 102.1 | | | ——— | ——— |
| | Flow Final | - | 35.6 | 176 | 180.7 | | | 60 | 61 |
| | Closed in | - | 835.9 | 861 | 854.7 | | | 60 | 59 |
| Second Period | Flow Initial | - | 50.4 | 49 | 80.5 | | | ——— | ——— |
| | Flow Final | - | 61.3 | 78 | 76.6 | | | 120 | 121 |
| | Closed in | - | 627.6 | 627 | 641.3 | | | 120 | 119 |
| Third Period | Flow Initial | | | | | | | ——— | ——— |
| | Flow Final | | | | | | | | |
| | Closed in | | | | | | | | |
| Final Hydrostatic | | - | 2596.6 | 2653 | 2622.3 | | | ——— | ——— |

Legal Location Sec. - Twp. - Rng. 23 - 30 - 18W
Lease Name CURTIS UNRUH
Well No. 2
Test No. 2
Field Area S. GROONSBURG
Meas. From Tester Valve
Tested Interval 5029' - 5068'
County KIOWA
State KANSAS
Lease Owner/Company Name THE MAURICE L. BROWN COMPANY

FORM 181-R1—PRINTED IN U.S.A.

# FORMATION TEST DATA

LITTLE'S 96671 10M 8/74

5

Casing perfs. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 545960

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

| Date Time a.m. p.m. | Choke Size | Surface Pressure psi | Gas Rate MCF | Liquid Rate BPD | Remarks |
|---|---|---|---|---|---|
| 1000 | | | | | Called for the job. |
| 1200 | | | | | On location. |
| 1230 | | | | | Picked up the tool. |
| 1250 | | | | | Tool made up - in rotary table. |
| 1428 | | | | | Tool on bottom. |
| 1428 | | | | | Tool opened with a good blow - which |
| 1433 | | | | | was increasing to a strong blow to the |
| 1528 | | | | | bottom of the bucket... Closed tool.. No gas to the surface. |
| 1628 | | | | | Opened tool with a strong blow. |
| 1828 | | | | | Closed tool..Gas to the surface in 5 |
| 2028 | | | | | minutes after the tool was closed. Came off bottom with the tool. |
| 2208 | | | | | Broke tool down. |
| 2234 | | | | | Tool broke down - on walk. |
| | | | | | Gas not measurable.. |
| | | | | | |
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FORM 182-R1—PRINTED IN U.S.A.

# PRODUCTION TEST DATA

LITTLE'S 96672 5M 8/74

5

| Gauge No. | 7501 | Depth | 5016' | Clock No. | ???? | 12 hour | Ticket No. | 545960 | |
|---|---|---|---|---|---|---|---|---|---|

| | First Flow Period | | First Closed In Pressure | | | Second Flow Period | | Second Closed In Pressure | | | Third Flow Period | | Third Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| 0 | .000 | 39.6 | .000 | | 35.6 | .000 | 50.4 | .000 | | 61.3 | | | | | |
| 1 | .0712 | 24.7* | .0201 | | 180.1** | .1395 | 42.5*** | .0464 | | 110.8**** | | | | | |
| 2 | .1360 | 30.6 | .0470 | | 252.4 | .2724 | 46.5 | .0995 | | 162.3 | | | | | |
| 3 | .2007 | 30.6 | .0738 | | 317.8 | .4053 | 50.4 | .1525 | | 210.8 | | | | | |
| 4 | .2655 | 34.6 | .1007 | | 378.2 | .5382 | 55.4 | .2055 | | 256.4 | | | | | |
| 5 | .3302 | 34.6 | .1275 | | 435.6 | .6711 | 58.4 | .2586 | | 300.0 | | | | | |
| 6 | .3950 | 35.6 | .1544 | | 490.0 | .8040 | 61.3 | .3116 | | 342.5 | | | | | |
| 7 | | | .1812 | | 537.3 | | | .3647 | | 383.1 | | | | | |
| 8 | | | .2081 | | 587.4 | | | .4177 | | 420.7 | | | | | |
| 9 | | | .2349 | | 632.6 | | | .4707 | | 456.4 | | | | | |
| 10 | | | .2618 | | 671.9 | | | .5238 | | 488.1 | | | | | |
| 11 | | | .2886 | | 709.2 | | | .5768 | | 519.6 | | | | | |
| 12 | | | .3155 | | 744.5 | | | .6299 | | 549.1 | | | | | |
| 13 | | | .3423 | | 777.9 | | | .6829 | | 577.6 | | | | | |
| 14 | | | .3691 | | 807.4 | | | .7360 | | 604.1 | | | | | |
| 15 | | | .3960 | | 835.9 | | | .7890 | | 627.6 | | | | | |

| Gauge No. | 7500 | Depth | 5064' | Clock No. | ???? | hour | 12 | | |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | .000 | 102.1 | .000 | | 180.7 | .000 | 80.5 | .000 | | 76.6 | | | | | |
| 1 | .0736 | 167.9* | .0199 | | 227.8** | .1408 | 58.9*** | .0468 | | 125.7**** | | | | | |
| 2 | .1405 | 164.0 | .0465 | | 296.6 | .2748 | 63.8 | .1003 | | 178.7 | | | | | |
| 3 | .2073 | 165.0 | .0731 | | 355.5 | .4089 | 66.7 | .1538 | | 226.9 | | | | | |
| 4 | .2742 | 166.0 | .0997 | | 411.5 | .5429 | 70.7 | .2074 | | 273.0 | | | | | |
| 5 | .3411 | 166.0 | .1262 | | 467.5 | .6770 | 74.6 | .2609 | | 316.3 | | | | | |
| 6 | .4080 | 180.7 | .1528 | | 517.5 | .8110 | 76.6 | .3144 | | 357.5 | | | | | |
| 7 | | | .1794 | | 566.2 | | | .3679 | | 398.8 | | | | | |
| 8 | | | .2060 | | 612.0 | | | .4214 | | 436.1 | | | | | |
| 9 | | | .2325 | | 654.0 | | | .4749 | | 470.5 | | | | | |
| 10 | | | .2591 | | 693.9 | | | .5284 | | 503.8 | | | | | |
| 11 | | | .2857 | | 731.0 | | | .5819 | | 535.0 | | | | | |
| 12 | | | .3123 | | 766.0 | | | .6355 | | 563.3 | | | | | |
| 13 | | | .3388 | | 798.2 | | | .6890 | | 591.6 | | | | | |
| 14 | | | .3654 | | 826.5 | | | .7425 | | 517.9 | | | | | |
| 15 | | | .3920 | | 854.7 | | | .7960 | | 641.3 | | | | | |
| Reading Interval | | 10 | | 4 | | | 20 | | 8 | | | | | | Minutes |

REMARKS: * INTERVAL = 11 MINUTES. ** INTERVAL = 3 MINUTES. *** INTERVAL = 21 MINUTES. **** INTERVAL = 7 MINUTES.



# SPECIAL PRESSURE DATA

TICKET NO. 545960

| | O. D. | I. D. | LENGTH | DEPTH |
|---|---|---|---|---|
| Drill Pipe or Tubing | | | | |
| Reversing Sub | 5 5/8" | 2" | 1' | |
| Water Cushion Valve | | | | |
| Drill Pipe | 4½" | 3.826" | 4759' | |
| Drill Collars | 6" | 2.25" | 240' | |
| Handling Sub & Choke Assembly | 6" | 2" | 2' | |
| Dual CIP Valve | 5 3/4" | .87" | 6' | 5006' |
| Dual CIP Sampler | | | | |
| Hydro-Spring Tester | 5" | .75" | 5' | 5012' |
| Multiple CIP Sampler | | | | |
| Extension Joint | | | | |
| AP Running Case | 5" | 3.06" | 4' | 5016' |
| Hydraulic Jar | 5" | .87" | 5' | |
| VR Safety Joint | 5" | 1.00" | 3' | |
| Pressure Equalizing Crossover | | | | |
| Packer Assembly | 6 3/4" | 1.53" | 6' | 5029' |
| Distributor | | | | |
| Packer Assembly | | | | |
| Flush Joint Anchor | 5" | 2.36" | 33' | |
| Pressure Equalizing Tube | | | | |
| Blanked-Off B.T. Running Case | 5" | 2.44" | 4' | 5064' |
| Drill Collars | | | | |
| Anchor Pipe Safety Joint | | | | |
| Packer Assembly | | | | |
| Distributor | | | | |
| Packer Assembly | | | | |
| Anchor Pipe Safety Joint | | | | |
| Side Wall Anchor | | | | |
| Drill Collars | | | | |
| Flush Joint Anchor | | | | |
| Blanked-Off B.T. Running Case | | | | |
| Total Depth | | | | 5068' |

FORM 187-R1—PRINTED IN U.S.A.

# EQUIPMENT DATA

LITTLE'S 96676 75C 8/74

# D.S.T. Report Distribution

HALLIBURTON
SERVICES

*A Division of Halliburton Company*

FORM 1509R3 — **DUNCAN, OKLAHOMA 73533**

THE MAURICE L. BROWN CO 202 SUTTON PLACE
Company Name - - Lease Owner

**Requested Distribution of Completed D.S.T. Report Folder**

**for Ticket No.** 545960

*(This Order Must Be Filled Out and Signed By Company Representative)*

Company THE MAURICE L. BROWN CO.
Orig. Chart

5 & Reports

ATT.
P.O. BOX / STREET & NO. / BUILDING P.O. BOX 1432 ALICE
CITY / STATE KINGSVILLE, TEX.
ZIP CODE NUMBER 78363

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

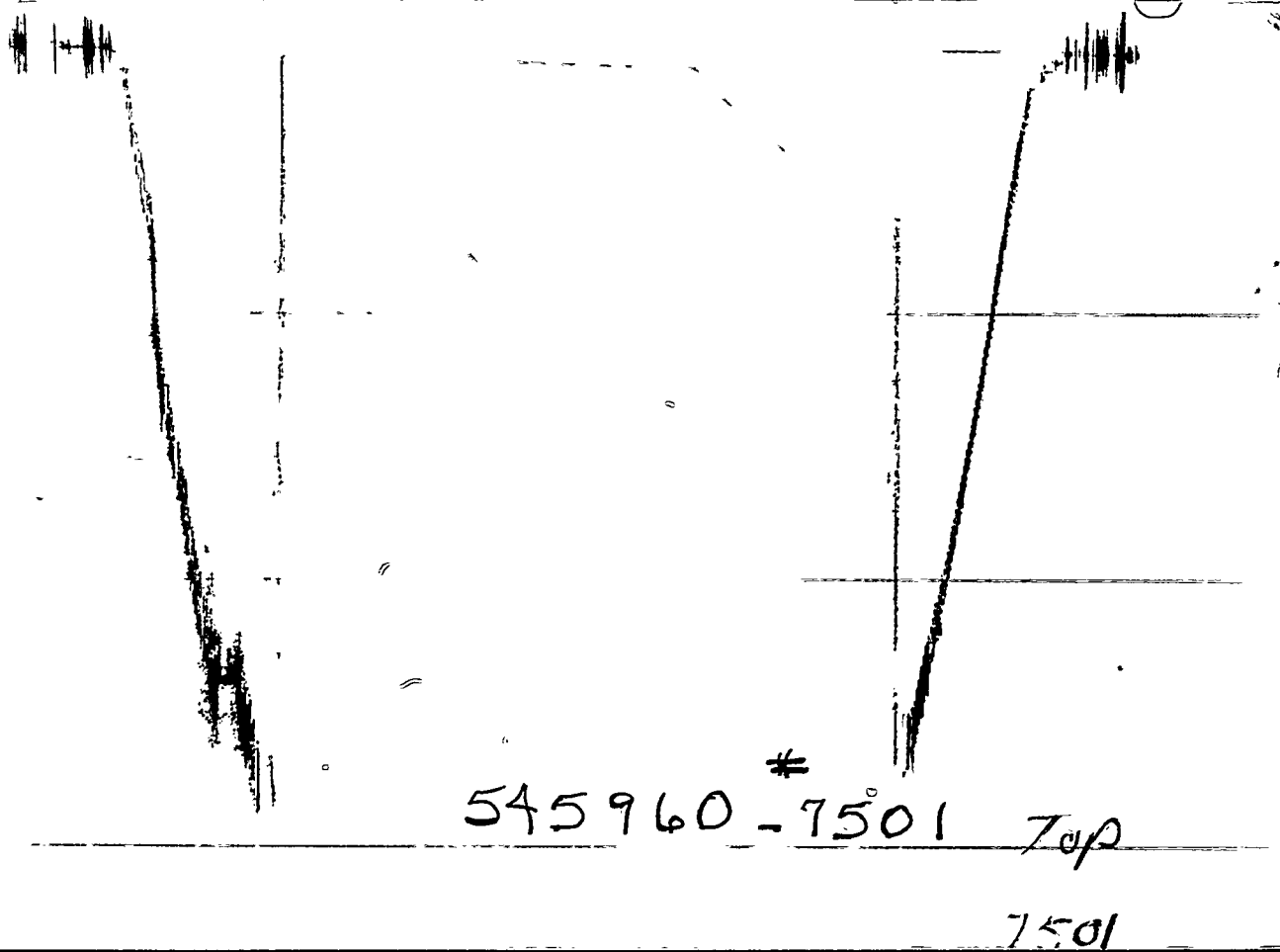
Owner - Operator - or His Agent

SIGNED Eldon J. Scherling, Agent

Send 1st, 2nd and 3rd Copy with Charts

(Use Additional Sheets When Necessary)


BOTTOM


545960 - 7501 Top
7501

## FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

| | | RESISTIVITY | | CHLORIDE CONTENT |
|---|---|---|---|---|
| Recovery Water | @ °F. | | | ppm |
| Recovery Mud | @ °F. | | | ppm |
| Recovery Mud Filtrate | @ °F. | | | ppm |
| Mud Pit Sample | @ °F. | | | ppm |
| Mud Pit Sample Filtrate | @ °F. | | | ppm |

Mud Weight 9.9 vis 58SEC. cp

Date 8-31-79 Ticket Number 546036
Kind of Job OPEN HOLE Halliburton District PRATT
Tester L. R. PARKER Witness E. SCHIERLING
Drilling Contractor GABBERT-JONES DRILLING COMPANY DR

## EQUIPMENT & HOLE DATA

Formation Tested Mississippi
Elevation 2208' Ft.
Net Productive Interval 16' Ft.
All Depths Measured From Kelly Bushing
Total Depth 5093' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 180' I.D. 2.25"
Drill Pipe Length 4866' I.D. 3.826"
Packer Depth(s) 5073' Ft.
Depth Tester Valve 5056' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke 1" Bottom Choke 3/4"

Recovered 120+ Feet of heavy gas and oily frothy mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET

Q-Questionable

No calculations available-unable to obtain a reliable extrapolation due to insufficient closure of closed in pressure buildup curves

| TEMPERATURE | Gauge No. 7501 | Gauge No. 7500 | Gauge No. |
|---|---|---|---|
| | Depth: 5058 Ft. | Depth: 5090 Ft. | Depth: Ft. |
| | 12 Hour Clock | 12 Hour Clock | Hour Clock |
| Est. 121 °F. | Blanked Off No | Blanked Off Yes | Blanked Off |
| Actual °F. | Pressures | Pressures | Pressures |

TIME
Tool Opened A.M. 12:00 P.M.
Opened Bypass A.M. 4:00 P.M.

| | Field | Office | Field | Office | Field | Office | Reported Minutes | Computed Minutes |
|---|---|---|---|---|---|---|---|---|
| Initial Hydrostatic | | 2741.1 | 2731 | 2760.2 | | | | |
| First Period Flow Initial | | 1150.0 Q | 1173 | 1942.5 Q | | | ——— | ——— |
| First Period Flow Final | | 1077.6 | 589 | 589.6 | | | 45 | 47 |
| First Period Closed in | | 1627.4 | 1631 | 1629.6 | | | 90 | 89 |
| Second Period Flow Initial | | 1282.3Q | 1076 | 1244.6 Q | | | ——— | ——— |
| Second Period Flow Final | | 1066.7 | 579 | 578.9 | | | 45 | 44 |
| Second Period Closed in | | 1550.0 | 1576 | 1555.6 | | | 60 | 59 |
| Third Period Flow Initial | | | | | | | ——— | ——— |
| Third Period Flow Final | | | | | | | | |
| Third Period Closed in | | | | | | | | |
| Final Hydrostatic | | 2664.0 | 2731 | 2679.6 | | | ——— | ——— |

Legal Location Sec. - Twp. - Rng. 23-30-18
Lease Name CURTIS UNRUH
Well No. 2
Test No. 3
Tested Interval 5073-5093'
Lease Owner/Company Name THE MAURICE L. BROWN COMPANY
Field Area
County KIOWA
State KANSAS

FORM 181-R1—PRINTED IN U.S.A.

# FORMATION TEST DATA

LITTLE'S 96671 10M 8/74

5

Casing perfs. Bottom choke Surf. temp °F Ticket No. 546036

Gas gravity Oil gravity GOR

Spec. gravity Chlorides ppm Res. @ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED

| Date Time a.m. p.m. | Choke Size | Surface Pressure psi | Gas Rate MCF | Liquid Rate BPD | Remarks |
|---|---|---|---|---|---|
| 06:30 | | | | | Called out |
| 08:30 | | | | | On location |
| 09:35 | | | | | Picked up tool |
| 09:55 | | | | | Made up tool and in rotary table |
| | | | | | On bottom |
| 12:00 | | | | | Opened tool with a strong blow |
| 12:01 | | | | | Opened 2" line 1 1/2" choke gas to |
| | | | | | surface in 1 minute |
| 12:05 | 1 1/2" | 72 | 5065 | | |
| 12:10 | " | 61 | 4409 | | |
| 12:15 | " | 50 | 3752 | | |
| 12:20 | " | 38 | 3036 | | |
| 12:25 | " | 35 | 2858 | | |
| 12:30 | " | 32 | 2675 | | |
| 12:35 | " | 28 | 2441 | | |
| 12:36 | | | | | Oil surface in 36 minutes, unable to |
| | | | | | get any more gas reading |
| 12:45 | | | | | Closed tool |
| 14:15 | | | | | Reopened tool to 2" line 1 1/2" choke |
| 14:20 | 1 1/2" | 78 | 5424 | | |
| 14:25 | " | 70 | 4946 | | |
| 14:30 | " | 50 | 3752 | | |
| 14:35 | " | 44 | 3394 | | |
| 14:40 | " | 34 | 2798 | | Oil to surface in 15 minutes. |
| 14:45 | " | 30 | 2558 | | |
| | | | | | |

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# PRODUCTION TEST DATA

LITTLE'S 96672 5M 8/74

Casing perfs. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 546036

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

**INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED** _____

| Date Time a.m. p.m. | Choke Size | Surface Pressure psi | Gas Rate MCF | Liquid Rate BPD | Remarks |
|---|---|---|---|---|---|
| 14:50 | 1 1/2" | 28 | Tubing 2441 | | |
| 14:55 | " | 28 | 2441 | | |
| 15:00 | " | 28 | 2441 | | Closed tool |
| 16:00 | " | | | | Off bottom |
| 20:15 | " | | | | Tool in rotary table, reversed out |
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# PRODUCTION TEST DATA

LITTLE'S 96672 5M 8/74

5

| Gauge No. | 7501 | | Depth | 5058' | | Clock No. | 17485 | | 12 hour | Ticket No. | 546036 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | First Flow Period | | First Closed In Pressure | | | Second Flow Period | | Second Closed In Pressure | | | Third Flow Period | | Third Closed In Pressure | | |
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| 0 | .000 | 1150.0 | 0.000 | | 1077.6 | .000 | 1282.30 | .000 | | 1066.7 | | | | | |
| 1 | .0454* | 1360.5 | .0337** | | 1490.1 | .0272 | 1465.6 | .0202*** | | 1400.7 | | | | | |
| 2 | .0714 | 1267.1 | .0740 | | 1145.0 | .0544 | 1333.9 | .0471 | | 1017.6 | | | | | |
| 3 | .0973 | 1199.4 | .1144 | | 1260.7 | .0815 | 1237.7 | .0740 | | 1114.7 | | | | | |
| 4 | .1233 | 1154.2 | .1548 | | 1348.0 | .1087 | 1170.9 | .1010 | | 1198.0 | | | | | |
| 5 | .1493 | 1119.8 | .1952 | | 1414.7 | .1359 | 1126.7 | .1279 | | 1261.7 | | | | | |
| 6 | .1752 | 1098.2 | .2356 | | 1463.7 | .1631 | 1098.2 | .1548 | | 1318.6 | | | | | |
| 7 | .2012 | 1093.3 | .2759 | | 1501.9 | .1903 | 1081.5 | .1817 | | 1367.6 | | | | | |
| 8 | .2271 | 1078.5 | .3163 | | 1533.3 | .2174 | 1068.7 | .2086 | | 1404.9 | | | | | |
| 9 | .2531 | 1074.6 | .3567 | | 1558.8 | .2446 | 1064.8 | .2356 | | 1435.2 | | | | | |
| 10 | .2791 | 1077.6 | .3971 | | 1578.4 | .2718 | 1065.8 | .2625 | | 1463.7 | | | | | |
| 11 | .3050 | 1077.6 | .4375 | | 1594.1 | .2990 | 1066.7 | .2894 | | 1487.2 | | | | | |
| 12 | | | .4778 | | 1604.9 | | | .3163 | | 1506.8 | | | | | |
| 13 | | | .5182 | | 1613.7 | | | .3432 | | 1524.5 | | | | | |
| 14 | | | .5585 | | 1621.5 | | | .3702 | | 1539.2 | | | | | |
| 15 | | | .5990 | | 1627.4 | | | .3970 | | 1550.0 | | | | | |
| Gauge No. | 7500 | | Depth | 5090' | | Clock No. | 7046 | | hour 12 | | | | | | |
| 0 | .000 | 1942.50 | 0.000 | | 589.6 | .000 | 1244.60 | .000 | | 578.9 | | | | | |
| 1 | .0469 * | 951.2 | .0338** | | 992.2 | .0271 | 977.6 | .0204*** | | 902.5 | | | | | |
| 2 | .0737 | 8372. | .0745 | | 1148.1 | .0542 | 839.1 | .0477 | | 1026.3 | | | | | |
| 3 | .1005 | 753.4 | .1152 | | 1263.1 | .0813 | 741.7 | .0749 | | 1120.8 | | | | | |
| 4 | .1273 | 693.9 | .1558 | | 1355.7 | .1084 | 679.3 | .1022 | | 1205.6 | | | | | |
| 5 | .1542 | 655.9 | .1965 | | 1416.2 | .1355 | 637.4 | .1294 | | 1270.9 | | | | | |
| 6 | .1810 | 634.5 | .2371 | | 1466.9 | .1625 | 610.1 | .1567 | | 1322.6 | | | | | |
| 7 | .2078 | 612.0 | .2778 | | 1505.8 | .1896 | 594.5 | .1839 | | 1370.4 | | | | | |
| 8 | .2346 | 595.5 | .3184 | | 1538.0 | .2167 | 586.7 | .2112 | | 1409.3 | | | | | |
| 9 | .2614 | 589.6 | .3591 | | 1563.3 | .2438 | 577.9 | .2384 | | 1440.5 | | | | | |
| 10 | .2882 | 589.6 | .3997 | | 1580.9 | .2709 | 577.9 | .2657 | | 1466.9 | | | | | |
| 11 | .3150 | 589.6 | .4404 | | 1595.5 | .2980 | 578.9 | .2929 | | 1490.2 | | | | | |
| 12 | | | .4810 | | 1607.2 | | | .3202 | | 1511.7 | | | | | |
| 13 | | | .5217 | | 1616.0 | | | .3474 | | 1529.2 | | | | | |
| 14 | | | .5623 | | 1622.8 | | | .3747 | | 1543.9 | | | | | |
| 15 | | | .6030 | | 1629.6 | | | .4020 | | 1555.6 | | | | | |
| Reading Interval | 4 | | 6 | | | 4 | | 4 | | | | | | | Minutes |

REMARKS: *-7 minutes **-5 minutes ***-3 minutes Q-Questionable



# SPECIAL PRESSURE DATA

TICKET NO. 546036

| | O. D. | I. D. | LENGTH | DEPTH |
|---|---|---|---|---|
| Drill Pipe or Tubing | | | | |
| Reversing Sub | 6" | 2.25" | 1' | |
| Water Cushion Valve | | | | |
| Drill Pipe | 4 1/2" | 3.826" | 4866' | |
| Drill Collars | 6" | 2.25" | 180' | |
| Handling Sub & Choke Assembly | | | | |
| Dual CIP Valve | 5" | .87" | 6' | 5051' |
| Dual CIP Sampler | | | | |
| Hydro-Spring Tester | 5" | .75" | 5' | 5056' |
| Multiple CIP Sampler | | | | |
| Extension Joint | | | | |
| AP Running Case | 5" | 3.06" | 4' | 5058' |
| Hydraulic Jar | 5" | 1.75" | 5' | |
| VR Safety Joint | 5" | 1" | 3' | |
| Pressure Equalizing Crossover | | | | |
| Packer Assembly | 6.75" | 1.53" | 6' | 5073' |
| Distributor | | | | |
| Packer Assembly | | | | |
| Flush Joint Anchor | 5" | 2.37" | 14' | |
| Pressure Equalizing Tube | | | | |
| Blanked-Off B.T. Running Case | 5" | 2.44" | 4' | 5090' |
| Drill Collars | | | | |
| Anchor Pipe Safety Joint | | | | |
| Packer Assembly | | | | |
| Distributor | | | | |
| Packer Assembly | | | | |
| Anchor Pipe Safety Joint | | | | |
| Side Wall Anchor | | | | |
| Drill Collars | | | | |
| Flush Joint Anchor | | | | |
| Blanked-Off B.T. Running Case | | | | |
| Total Depth | | | | 5093' |

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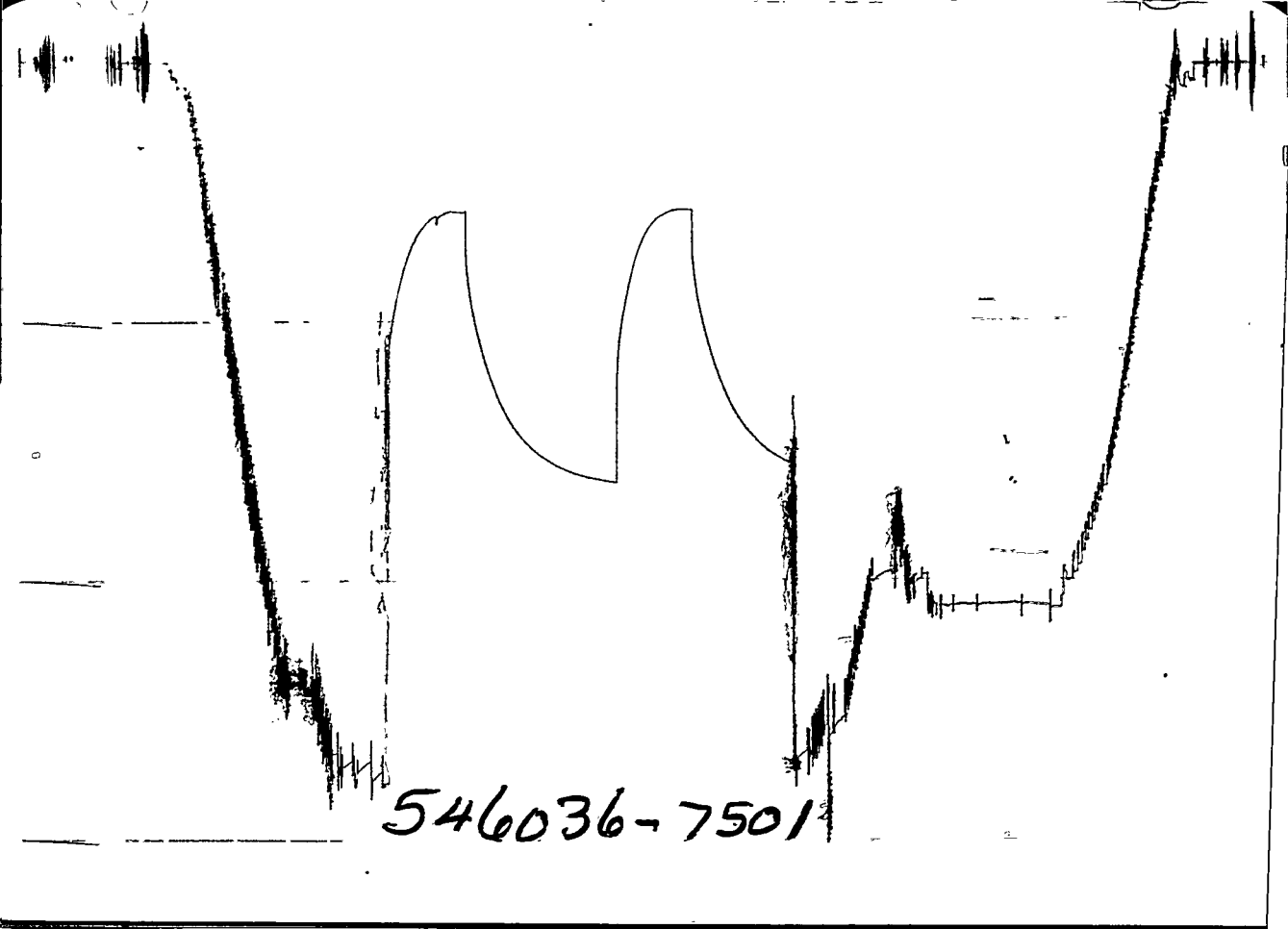
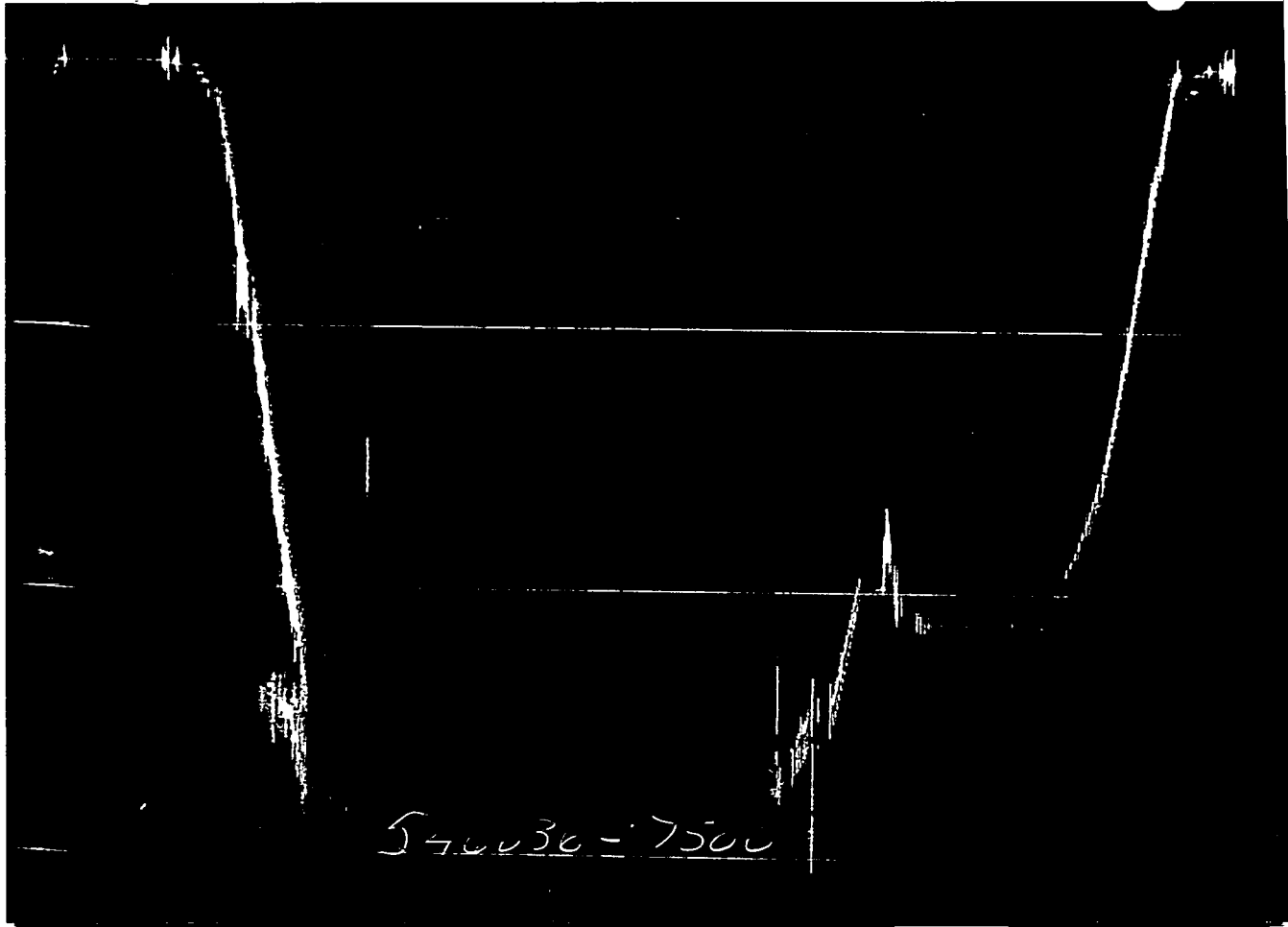
# EQUIPMENT DATA

LITTLE'S 96676 75C 8/74


546036-7501


5+6036=7506

# D.S.T. Report Distribution

HALLIBURTON
SERVICES

*A Division of Halliburton Company*

FORM 1509R3 — **DUNCAN, OKLAHOMA 73533**

THE MAURICE L BROWN CO

Company Name - - Lease Owner

**Requested Distribution of Completed D.S.T. Report Folder**

**for Ticket No.** 546036

*(This Order Must Be Filled Out and Signed By Company Representative)*

Company THE MAURICE L BROWN CO
Orig. Chart

5 & Reports

ATT.
P.O. BOX / STREET & NO. / BUILDING 220 SUTTON PLACE
CITY / STATE WICHITA KANSAS
ZIP CODE NUMBER 67202

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
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Company
( ) Reports
ATT.
P.O. BOX / STREET & NO. / BUILDING
CITY / STATE
ZIP CODE NUMBER

Owner - Operator - or His Agent

SIGNED E. Glenn L. Brown, Agent

**Send 1st, 2nd and 3rd Copy with Charts**

**(Use Additional Sheets When Necessary)**