

GARVEY DRILLING COMPANY

TESTING DIVISION

29-95-22W
C NE-NW

Company Pet. Inc. Lease & Well No. Manauh E-1
Elevation _____ Ticket Number 2611
Date 2-24-65 Sec. _____ Twp. _____ Range _____ County Graham State Kansas
Test Approved by Ray Dombaugh Garvey Representative Doyle Folkerts

Formation Test No. 1 O.K. _____ Misrun X Interval Tested From 3634 to 3700 Total Depth 3700
Size Main Hole 7 7/8 Rat Hole _____ Conv. X B.T. _____ Damaged Yes X No _____ Conv. X B.T. _____ Damaged Yes X No _____
Packer Depth 3628 Ft. Size 6 3/4 Packer Depth 3634 Ft. Size 6 3/4
Straddle Yes _____ No X Conv. _____ B.T. _____ Damaged Yes _____ No _____
Packer Depth _____ Ft. Size _____
Tool Size 5" Tool Jt. Size 5 1/2" Anchor Length 66 Ft. Size 4 1/2 F H

RECORDERS Depth 3695 Ft. Clock No. 51 Depth 3697 Ft. Clock No. 52
Top Make western Cap. 4000 No. 51 Inside Outside Bottom Make western Cap. 4000 No. 52 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside Outside Depth _____ Ft. Clock No. _____ Inside Outside
Top Make _____ Cap. _____ No. _____ Inside Outside Bottom Make _____ Cap. _____ No. _____ Inside Outside

Time Set Packer 7:44 A M
Tool Open I.F.P. From 7:46 M to 8:16 M Hr. 30 Min. From (B) 130 P.S.I. To (C) 170 P.S.I.
Tool Closed I.C.I.P. From 8:16 M. to 8:46 M. Hr. 30 Min. (D) 860 P.S.I.
Tool Open F.F.P. From 8:46 M. to 9:46 M. 1 Hr. - Min. From (E) 290 P.S.I. To (F) 320 P.S.I.
Tool Closed F.C.I.P. From 9:46 M. to 11:02 M. 1 Hr. 16 Min. (G) 400 P.S.I.
Initial Hydrostatic Pressure (A) 1980 P.S.I. Final Hydrostatic Pressure (H) 1980 P.S.I.

SURFACE Size Choke 7/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Fair Bottom Choke Size 1/2 In.
Did Well Flow Yes X No _____ Recovery Total Ft. 560' Oil cut mud

Reversed Out Yes X No _____ Mud Type Chem. Viscosity 43 Weight 10.5 Maximum Temp. 82 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Jars: Size _____ Make _____ Ser. No. _____
Type Circ. Sub. Halliburton Did Tool Plug? no Where? _____ Did Packer Hold? yes
Length Drill Pipe 3611 ft. I.D. Drill Pipe 2 3/4 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars _____ ft.
I. D. Drill Collars _____ in. Length D. S. T. Tool 89 ft.

Remarks Pressures Incorrect

2611

DRILLING CO.

Garvey

GARVEY DRILLING COMPANY

TESTING DIVISION

29-95-22W
C NE-NW

Company Petroleum Inc. Lease & Well No. Manaugh E-1
 Elevation _____ Ticket Number 2612
 Date 2-24-65 Sec. _____ Twp. _____ Range _____ County Graham State Kansas
 Test Approved by Ray Dombaugh Garvey Representative Doyle Folkerts

Formation Test No. 2 O.K. ☒ Misrun _____ Interval Tested From 3634 to 3700 Total Depth 3700
 Size Main Hole 7 7/8 Rat Hole _____ Conv. ☒ B.T. _____ Damaged Yes ☒ No _____ Conv. ☒ B.T. _____ Damaged Yes ☒ No _____
 Packer Depth 3628 Ft. Size 6 3/4 Packer Depth 3634 Ft. Size 6 3/4
 Straddle _____ Yes _____ No ☒ Conv. _____ B.T. _____ Damaged Yes _____ No _____
 Packer Depth _____ Ft. Size _____
 Tool Size 5" Tool Jt. Size 5 1/2" Anchor Length 66 Ft. Size 4 1/2 F H

RECORDERS Depth 3695 Ft. Clock No. 51 Depth 3697 Ft. Clock No. 52
 Top Make western Cap. 4000 No. 51 Inside _____ Outside _____ Bottom Make western Cap. 4000 No. 52 Inside _____ Outside _____
 Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____ Depth _____ Ft. Clock No. _____ Inside _____ Outside _____
 Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____ Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 5:29 P M
 Tool Open I.F.P. From 5:34 M to 6:04 M Hr. 30 Min. From (B) 130 P.S.I. To (C) 140 P.S.I.
 Tool Closed I.C.I.P. From 6:04 M. to 6:34 M. Hr. 30 Min. (D) 930 P.S.I.
 Tool Open F.F.P. From 6:34 M. to 7:34 M. 1 Hr. - Min. From (E) 180 P.S.I. To (F) 220 P.S.I.
 Tool Closed F.C.I.P. From 7:34 M. to 8:34 M. 1 Hr. - Min. (G) 930 P.S.I.
 Initial Hydrostatic Pressure (A) 2170 P.S.I. Final Hydrostatic Pressure (H) 2170 P.S.I.

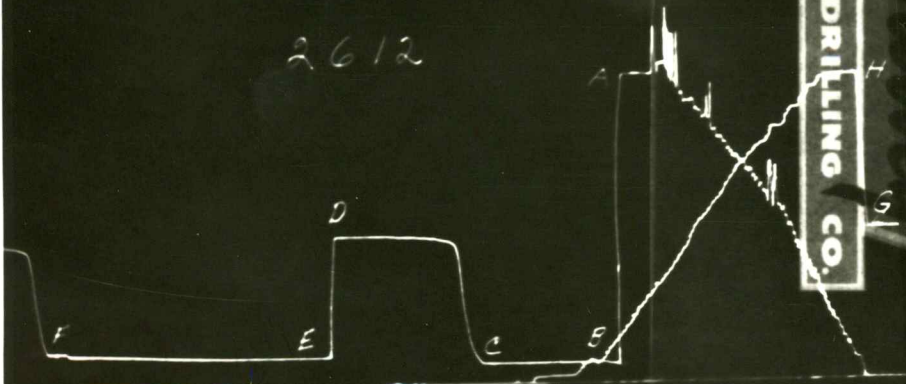
SURFACE Size Choke 1/2 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
 INFORMATION _____ M. _____
 _____ M. _____
 _____ M. _____

BLOW Fair Bottom Choke Size 1/2 In.
 Did Well Flow Yes ☒ No _____ Recovery Total Ft. 300' Oil cut mud _____

Reversed Out Yes ☒ No _____ Mud Type Chem. Viscosity 43 Weight 10.5 Maximum Temp. 82 °F
 EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Jars: Size _____ Make _____ Ser. No. _____
 Type Circ. Sub. Halliburton Did Tool Plug? no Where? _____ Did Packer Hold? yes
 Length Drill Pipe 3611 ft. I.D. Drill Pipe 2 3/4 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars _____ ft.
 I. D. Drill Collars _____ in. Length D. S. T. Tool 89 ft.

Remarks _____

2612



DRILLING CO.



GARVEY DRILLING COMPANY

TESTING DIVISION

29-95-22W
C NE-NW

Company Pet. Inc. Lease & Well No. Manaugh E-1
Elevation _____ Ticket Number 2613
Date 2-25-65 Sec. _____ Twp. _____ Range _____ County Graham State Kansas
Test Approved by Ray Dombaugh Garvey Representative Doyle Folkerts

Formation Test No. 3 O.K. _____ Misrun ☒ Interval Tested From 3735 to 3754 Total Depth 3754
Size Main Hole 7 7/8 Rat Hole _____ Conv. ☒ B.T. _____ Damaged _____ Yes ☒ No _____ Conv. _____ B.T. _____ Damaged _____ Yes _____ No _____
Packer Depth 3735 Ft. Size 6 3/4 Packer Depth _____ Ft. Size _____
Straddle _____ Yes _____ No ☒ Conv. _____ B.T. _____ Damaged _____ Yes _____ No _____
Packer Depth _____ Ft. Size _____
Tool Size 5" Tool Jt. Size 5 1/2" Anchor Length 19 Ft. Size 4 1/2 F H

RECORDERS Depth 3749 Ft. Clock No. 51 Depth 3751 Ft. Clock No. 52
Top Make western Cap. 4000 No. 51 Inside xxxxx Bottom Make western Cap. 4000 No. 52 Inside xxxxx
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer _____ M
Tool Open I.F.P. From _____ M to _____ M Hr. _____ Min. From (B) _____ P.S.I. To (C) _____ P.S.I.
Tool Closed I.C.I.P. From _____ M. to _____ M. Hr. _____ Min. (D) _____ P.S.I.
Tool Open F.F.P. From _____ M. to _____ M. Hr. _____ Min. From (E) _____ P.S.I. To (F) _____ P.S.I.
Tool Closed F.C.I.P. From _____ M. to _____ M. Hr. _____ Min. (G) _____ P.S.I.
Initial Hydrostatic Pressure (A) _____ P.S.I. Final Hydrostatic Pressure (H) _____ P.S.I.

SURFACE Size Choke 1 1/4 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW _____ Bottom Choke Size 1 1/2 In.
Did Well Flow _____ Yes _____ No _____ Recovery Total Ft. _____

Reversed Out _____ Yes _____ No Mud Type Chem. Viscosity 42 Weight 10.4 Maximum Temp. _____ °F
EXTRA EQUIPMENT: Dual Packers no Safety Joint no Jars: Size _____ Make _____ Ser. No. _____
Type Circ. Sub. Halliburton Did Tool Plug? no Where? _____ Did Packer Hold? _____
Length Drill Pipe 3718 ft. I.D. Drill Pipe 2 3/4 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars _____ ft.
I. D. Drill Collars _____ in. Length D. S. T. Tool 36 ft.

Remarks Tool wouldn't open

2613

DRILLING CO.

Garney

Date 2-25-65

Ticket No. 4219

Company Petroleum Inc. Contractor Garvey Drlg Co.

Well No. E-1 Lease Manaugh County Graham Sec. 29 Rg. 9 Tw. 22

Test No. 3 Size Hole 7 7/8 Tool Joint 4 1/2

Anchor Length 19' Depth Well 3754'

Interval Tested From 3735' To 3754'

Size Choke 5/8 Tool Open 60 min.

IBHP Shut in time 30 min. FBHP Shut in time 30 min.

Blow Weak 7 min.

Recovery 10' Drlg fluid

Remarks _____

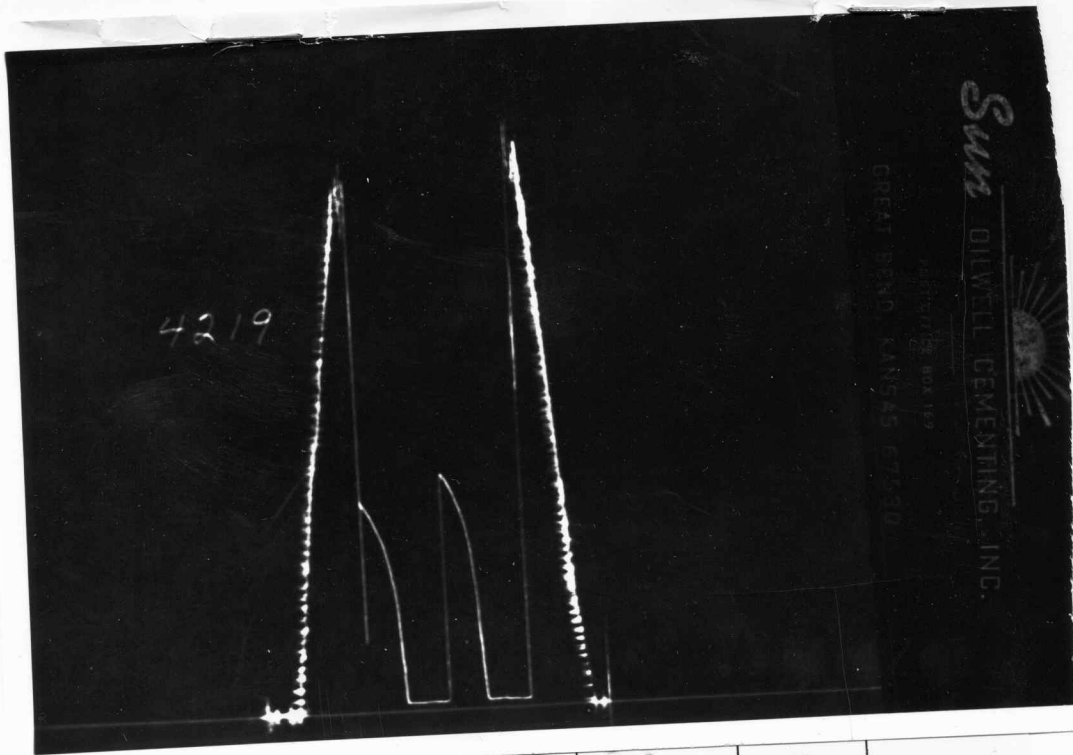
Approved Dombaugh Tester Taylor



CHART ANALYSIS ⁴²¹⁹

Pressure Readings in 3 Minute Intervals
Corrected with Micrometer Chart Scanner

TIME IN MIN.	ISIP	FSIP	FP	TIME IN MIN.	FP
3	119#	224#	28#	63	
6	315#	411#	29#	66	
9	485#	512#	30#	69	
12	632#	586#	30#	72	
15	711#	643#	30#	75	
18	761#	681#	30#	78	
21	800#	721#	30#	81	
24	838#	752#	30#	84	
27	871#	774#	30#	87	
30	900#	795#	30#	90	
33			30#	93	
36			30#	96	
39			30#	99	
42			30#	102	
45			30#	105	
48			30#	108	
51			30#	111	
54			30#	114	
57			30#	117	
60			30#	120	



21	800#	721#	30#	81	
24	838#	752#	30#	84	
27	871#	774#	30#	87	
30	900#	795#	30#	90	
33			30#	93	
36			30#	96	
39			30#	99	
42			30#	102	
45			30#	105	
48			30#	108	
51			30#	111	
54			30#	114	
57			30#	117	
60			30#	120	

GARVEY DRILLING COMPANY

29-95-22W

C NE-NW

TESTING DIVISION

Company Pet Inc. Lease & Well No Manaugh E-1
 Elevation _____ Ticket Number 2614
 Date 2-26-65 Sec. _____ Twp. _____ Range _____ County Graham State Kansas
 Test Approved by Ray Dombaugh Garvey Representative Doyle Folkerts

Formation Test No. 5 O.K. _____ Misrun X Interval Tested From 3759 to 3880 Total Depth 3880
 Size Main Hole 7 7/8 Rat Hole _____ Conv. X B.T. _____ Damaged _____ Yes X No _____ Conv. X B.T. _____ Damaged _____ Yes X No _____
 Packer Depth 3753 Ft. Size 6 3/4 Packer Depth 3759 Ft. Size 6 3/4
 Straddle _____ Yes _____ No X Conv. _____ B.T. _____ Damaged _____ Yes _____ No _____
 Packer Depth _____ Ft. Size _____
 Tool Size 5" Tool Jt. Size 5 1/2" Anchor Length 121 Ft. Size 4 1/2 F H

RECORDERS Depth 3875 Ft. Clock No. 51 Depth 3877 Ft. Clock No. 52
 Top Make western Cap. 4000 No. 51 Inside _____ Outside _____ Bottom Make western Cap. 4000 No. 52 Inside _____ Outside _____
 Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____ Depth _____ Ft. Clock No. _____ Inside _____ Outside _____
 Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____ Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer _____ M
 Tool Open I.F.P. From _____ M to _____ M Hr. _____ Min. From (B) _____ P.S.I. To (C) _____ P.S.I.
 Tool Closed I.C.I.P. From _____ M. to _____ M. Hr. _____ Min. (D) _____ P.S.I.
 Tool Open F.F.P. From _____ M. to _____ M. Hr. _____ Min. From (E) _____ P.S.I. To (F) _____ P.S.I.
 Tool Closed F.C.I.P. From _____ M. to _____ M. Hr. _____ Min. (G) _____ P.S.I.
 Initial Hydrostatic Pressure (A) _____ P.S.I. Final Hydrostatic Pressure (H) _____ P.S.I.

SURFACE Size Choke 1/4 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
 INFORMATION _____ M. _____
 _____ M. _____
 _____ M. _____

BLOW _____ Bottom Choke Size _____ In.
 Did Well Flow _____ Yes _____ No _____ Recovery Total Ft. _____

Reversed Out _____ Yes _____ No Mud Type Chem Viscosity 43 Weight 10.5 Maximum Temp. _____ °F
 EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Jars: Size _____ Make _____ Ser. No. _____
 Type Circ. Sub. Halliburton Did Tool Plug? no Where? _____ Did Packer Hold? no
 Length Drill Pipe 3736 ft. I.D. Drill Pipe 2 3/4 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars _____ ft.
 I. D. Drill Collars _____ in. Length D. S. T. Tool 144 ft.

Remarks

DRILLING CO.

Garvey

2614

4190

GARVEY DRILLING COMPANY,

29-95-22W
C NE-NW

TESTING DIVISION

Company Pet. Inc. Lease & Well No. Manauh E-1
Elevation _____ Ticket Number 2615
Date 2-26-65 Sec. _____ Twp. _____ Range _____ County Graham State Kansas
Test Approved by Ray Dombaugh Garvey Representative Doyle Folkerts

Formation Test No. 6 O.K. ☒ Misrun _____ Interval Tested From 3749 to 3880 Total Depth 3880
Size Main Hole 7 7/8 Rat Hole _____ Conv. ☒ B.T. _____ Damaged _____ Yes ☒ No _____ Conv. ☒ B.T. _____ Damaged ☒ Yes _____ No _____
Packer Depth 3743 Ft. Size 6 3/4 Packer Depth 3749 Ft. Size 6 3/4
Straddle _____ Yes _____ No ☒ Conv. _____ B.T. _____ Damaged _____ Yes _____ No _____
Packer Depth _____ Ft. Size _____
Tool Size 5" Tool Jt. Size 5 1/2" Anchor Length 131 Ft. Size 4 1/2 F H

RECORDERS Depth 3875 Ft. Clock No. 51 Depth 3877 Ft. Clock No. 52
Top Make western Cap. 4000 No. 51 Inside xxxx Bottom Make western Cap. 4000 No. 52 Inside xxxx
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 1:24 P M
Tool Open I.F.P. From 1:26 M to 1:56 M Hr. 30 Min. From (B) 140 P.S.I. To (C) 140 P.S.I.
Tool Closed I.C.I.P. From 1:56 M. to 2:26 M. Hr. 30 Min. (D) 1090 P.S.I.
Tool Open F.F.P. From 2:26 M. to 2:56 M. Hr. 30 Min. From (E) 180 P.S.I. To (F) 180 P.S.I.
Tool Closed F.C.I.P. From 2:56 M. to 3:26 M. Hr. 30 Min. (G) 1090 P.S.I.
Initial Hydrostatic Pressure (A) 2210 P.S.I. Final Hydrostatic Pressure (H) 2210 P.S.I.

SURFACE Size Choke 1/2 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Weak Bottom Choke Size 1/2 In.
Did Well Flow _____ Yes ☒ No _____ Recovery Total Ft. 130' Mud _____

Reversed Out _____ Yes ☒ No _____ Mud Type Chem Viscosity 43 Weight 10.5 Maximum Temp. 94 °F
EXTRA EQUIPMENT: Dual Packers Yes Safety Joint no Jars: Size _____ Make _____ Ser. No. _____
Type Circ. Sub. Halliburton Did Tool Plug? no Where? _____ Did Packer Hold? yes
Length Drill Pipe 3726 ft. I.D. Drill Pipe 2 3/4 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars _____ ft.
I. D. Drill Collars _____ in. Length D. S. T. Tool 154 ft.

Remarks

GARVEY DRILLING CO. Pressure Data

Date 2-26-65
 Recorder No. 52 Capacity 4000 Test Ticket No. 2615
 Clock No. 52 Elevation _____ Location 3877 Ft. _____
 Well Temperature 94 °F

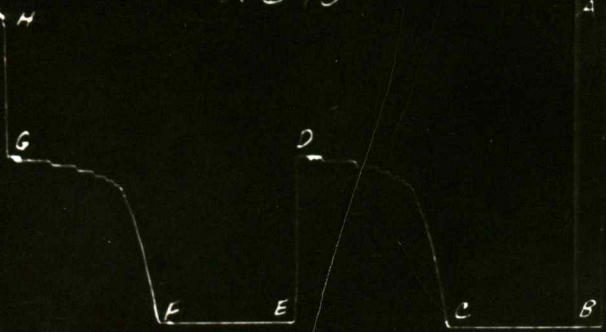
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2210</u>	P.S.I.	<u>1:24</u> P M	
B First Initial Flow Pressure	<u>140</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>140</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1160</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>160</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
F Second Final Flow Pressure	<u>160</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
G Final Closed-in Pressure	<u>1160</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2210</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Press. Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>5</u>	<u>140</u>	<u>5</u>	<u>1000</u>	<u>5</u>	<u>160</u>	<u>5</u>	<u>960</u>
P 2 <u>10</u>	<u>140</u>	<u>10</u>	<u>1100</u>	<u>10</u>	<u>160</u>	<u>10</u>	<u>1040</u>
P 3 <u>15</u>	<u>140</u>	<u>15</u>	<u>1130</u>	<u>15</u>	<u>160</u>	<u>15</u>	<u>1080</u>
P 4 <u>20</u>	<u>140</u>	<u>20</u>	<u>1135</u>	<u>20</u>	<u>160</u>	<u>20</u>	<u>1120</u>
P 5 <u>25</u>	<u>140</u>	<u>25</u>	<u>1145</u>	<u>25</u>	<u>160</u>	<u>25</u>	<u>1140</u>
P 6 <u>30</u>	<u>140</u>	<u>30</u>	<u>1160</u>	<u>30</u>	<u>160</u>	<u>30</u>	<u>1160</u>
P 7							
P 8							
P 9							
P10							
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

2615



DRILLING CO.

