

Company Commonwealth Petroleum, Inc. Lease & Well No. Heinze #1

Elevation - Formation Lansing Effective Pay. - Ft. Ticket No. 15467

Date 2/25/82 Sec. 25 Twp. 28S Range 19W County Kiowa State Kansas

Test Approved by Jim Stelting Western Representative Ray Schwager

Formation Test No. 1 Interval Tested from 4673 ft. to 4703 ft. Total Depth 4703 ft.

Packer Depth 4668 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4673 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4690 ft. Recorder Number 13269 Cap. 4375

Bottom Recorder Depth (Outside) 4693 ft. Recorder Number 13270 Cap. 4375

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Leben Drilling Rig #7 Drill Collar Length 30 I. D. 2.2 in.

Mud Type - Viscosity 40 Weight Pipe Length - I. D. - in.

Weight 9.4 Water Loss 13.2 cc. Drill Pipe Length 4614 I. D. 3.8 in.

Chlorides 11,000 P.P.M. Test Tool Length 29 ft. Tool Size 4 1/2 in.

Jars: Make WTC Serial Number 418 Anchor Length 30 ft. Size 5 1/2 in.

Did Well Flow? No Reversed Out No Surface Choke Size 5/8 in. Bottom Choke Size 5/8 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4FH in.

Blow: Initial flow period weak blow throughout. Final flow period very weak blow died in 3 minutes - flushed tool got weak blow.

Recovered 15 ft. of mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 6:00 A.M. Time Started Off Bottom 8:45 A.M. Maximum Temperature 118

Initial Hydrostatic Pressure (A) 2280 P.S.I.

Initial Flow Period Minutes 35 (B) 52 P.S.I. to (C) 57 P.S.I.

Initial Closed In Period Minutes 30 (D) 1327 P.S.I.

Final Flow Period Minutes 50 (E) 61 P.S.I. to (F) 69 P.S.I.

Final Closed In Period Minutes 60 (G) 1450 P.S.I.

Final Hydrostatic Pressure (H) 2264 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 2/25/82 Recorder No. 13269 Capacity 4375 Test Ticket No. 15467 Location 4690 Ft.
 Clock No. - Elevation - Well Temperature 118 °F

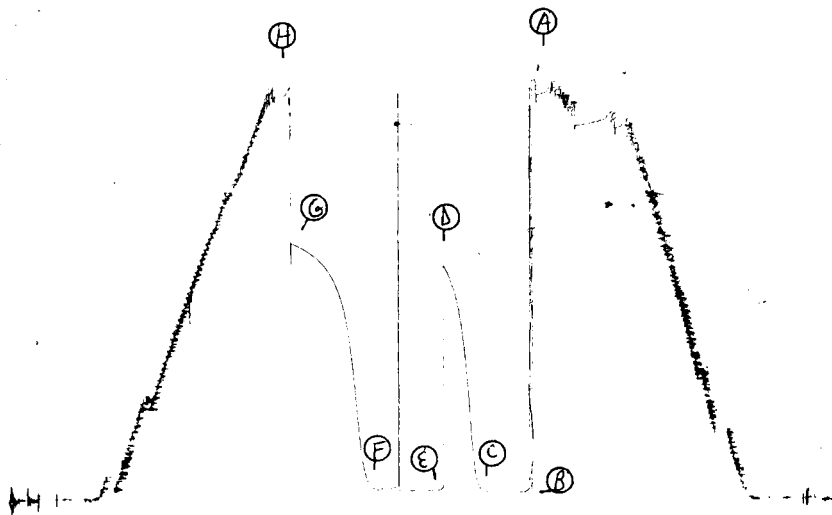
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2280 P.S.I.	6:00P	M
B First Initial Flow Pressure	52 P.S.I.	30 Mins	35 Mins.
C First Final Flow Pressure	57 P.S.I.	30 Mins	30 Mins.
D Initial Closed-in Pressure	1327 P.S.I.	45 Mins	50 Mins.
E Second Initial Flow Pressure	61 P.S.I.	60 Mins	60 Mins.
F Second Final Flow Pressure	69 P.S.I.		
G Final Closed-in Pressure	1450 P.S.I.		
H Final Hydrostatic Mud	2264 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>7</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>10</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>52</u>	<u>0</u>	<u>57</u>	<u>0</u>	<u>61</u>	<u>0</u>	<u>69</u>
P 2 <u>5</u>	<u>52</u>	<u>3</u>	<u>81</u>	<u>5</u>	<u>61</u>	<u>3</u>	<u>79</u>
P 3 <u>10</u>	<u>52</u>	<u>6</u>	<u>181</u>	<u>10</u>	<u>61</u>	<u>6</u>	<u>121</u>
P 4 <u>15</u>	<u>53</u>	<u>9</u>	<u>423</u>	<u>15</u>	<u>61</u>	<u>9</u>	<u>233</u>
P 5 <u>20</u>	<u>54</u>	<u>12</u>	<u>687</u>	<u>20</u>	<u>61</u>	<u>12</u>	<u>414</u>
P 6 <u>25</u>	<u>55</u>	<u>15</u>	<u>900</u>	<u>25</u>	<u>61</u>	<u>15</u>	<u>611</u>
P 7 <u>30</u>	<u>56</u>	<u>18</u>	<u>1064</u>	<u>30</u>	<u>61</u>	<u>18</u>	<u>809</u>
P 8 <u>35</u>	<u>57</u>	<u>21</u>	<u>1175</u>	<u>35</u>	<u>82</u>	<u>21</u>	<u>972</u>
P 9		<u>24</u>	<u>1246</u>	<u>40</u>	<u>70</u>	<u>24</u>	<u>1090</u>
P10		<u>27</u>	<u>1302</u>	<u>45</u>	<u>75</u>	<u>27</u>	<u>1175</u>
P11		<u>30</u>	<u>1327</u>	<u>50</u>	<u>69</u>	<u>30</u>	<u>1232</u>
P12						<u>33</u>	<u>1276</u>
P13						<u>36</u>	<u>1311</u>
P14						<u>39</u>	<u>1335</u>
P15						<u>42</u>	<u>1363</u>
P16						<u>45</u>	<u>1381</u>
P17						<u>48</u>	<u>1399</u>
P18						<u>51</u>	<u>1412</u>
P19						<u>54</u>	<u>1427</u>
P20						<u>57</u>	<u>1440</u>
						<u>60</u>	<u>1450</u>

TKT # 15467

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137.60



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET

No. 15467

P. O. BOX 1599
WICHITA, KANSAS 67201

PHONE (316) 262-5861

Elevation

Formation

LANSING

Eff. Pay Ft.

District

G.T. Bend

Date 2-25-82

Customer Order No.

COMPANY NAME

Commonwealth Petroleum Inc.

ADDRESS Commonwealth Petroleum Bldg. 9235 EAST HARRY WICHITA, KS. 67201

LEASE AND WELL NO. Heinze #1 COUNTY Kiowa STATE KS. Sec. 25 Twp. 28S Rge. 19W

Mail Invoice To

Same

No. Copies Requested 5

Co. Name

Address

Mail Charts To

Same

No. Copies Requested 5

Address

Formation Test No. 1 Interval Tested From 4673 ft. to 4703 ft. Total Depth 4703 ft.

Packer Depth 4668 ft. Size 6 5/8 in.

Packer Depth ft. Size in.

Packer Depth 4673 ft. Size 6 5/8 in.

Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4690 ft.

Recorder Number 13269 Cap. 4375

Bottom Recorder Depth (Outside) 4693 ft.

Recorder Number 13270 Cap. 4375

Below Straddle Recorder Depth ft.

Recorder Number Cap.

Drilling Contractor Leber drlg rig #7

Drill Collar Length 30 I. D. 2.2 in.

Mud Type Viscosity 40

Weight Pipe Length I. D. in.

Weight 9.4 Water Loss 13.2 cc.

Drill Pipe Length 4614 I. D. 3.8 in.

Chlorides 11,000 P.P.M.

Test Tool Length 29 ft. Tool Size 4 1/2 in.

Jars: Make Bowen Serial Number 418

Anchor Length 30 ft. Size 5 1/2 in.

Did Well Flow? No Reversed Out No

Surface Choke Size 3/8 in. Bottom Choke Size 5/8 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 FA in.

Blow: FFP WEAK Blow Throughout
FFP Very Weak Blow died in 3 min Flushed Tool got weak Blow

Recovered 15 ft. of Mud

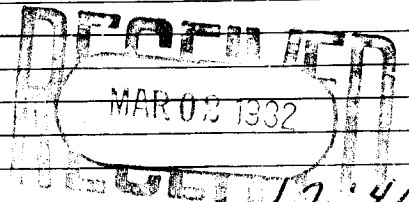
Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:



Time On Location 1:45 AM Time Pick Up Tool 2:50 AM Time Off Location 12:41 AM

Time Set Packer(s) 6:00 AM Time Started Off Bottom 8:45 AM Maximum Temperature 118°

Initial Hydrostatic Pressure (A) 2345 P.S.I.

Initial Flow Period Minutes 30 (B) 55 P.S.I. to (C) 55 P.S.I.

Initial Closed In Period Minutes 30 (D) 1324 P.S.I.

Final Flow Period Minutes 45 (E) 55 P.S.I. to (F) 55 P.S.I.

Final Closed In Period Minutes 60 (G) 1456 P.S.I.

Final Hydrostatic Pressure (H) 2308 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By

Signature of Customer or his authorized representative

Western Representative

Ray Schwager
Thank you

FIELD INVOICE

Open Hole Test	\$ 700.00
Misrun	\$
Straddle Test	\$
Jars	\$ 300.00
Selective Zone	\$
Safety Joint	\$ 65.00
Standby	\$
Evaluation	\$
Extra Packer	\$
Circ. Sub.	\$
Mileage 35 mi.	\$ 26.25
Fluid Sampler	\$
Extra Charts	\$
Insurance	\$
Telecopier	\$
TOTAL	\$ 1091.25

WESTERN TESTING CO., INC.

Pressure Data

Date 2-25 Recorder No. 13269 Capacity 4375 Test Ticket No. 15467 Location 4690 Ft
Clock No. --- Elevation --- Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2280</u> P.S.I.	Open Tool	<u>6:00</u> P	<u>M</u>
B First Initial Flow Pressure	<u>52</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>35</u> Mins.
C First Final Flow Pressure	<u>57</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1327</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>50</u> Mins.
E Second Initial Flow Pressure	<u>61</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>69</u> P.S.I.			
G Final Closed-in Pressure	<u>1450</u> P.S.I.			
H Final Hydrostatic Mud	<u>2264</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>7</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>20</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>52</u>	<u>0</u>	<u>57</u>	<u>0</u>	<u>61</u>	<u>0</u>	<u>69</u>
P 2 <u>5</u>	<u>52</u>	<u>3</u>	<u>81</u>	<u>5</u>		<u>3</u>	<u>79</u>
P 3 <u>10</u>	<u>52</u>	<u>6</u>	<u>181</u>	<u>10</u>		<u>6</u>	<u>121</u>
P 4 <u>15</u>	<u>53</u>	<u>9</u>	<u>423</u>	<u>15</u>		<u>9</u>	<u>233</u>
P 5 <u>20</u>	<u>54</u>	<u>12</u>	<u>687</u>	<u>20</u>		<u>12</u>	<u>414</u>
P 6 <u>25</u>	<u>55</u>	<u>15</u>	<u>900</u>	<u>25</u>		<u>15</u>	<u>611</u>
P 7 <u>30</u>	<u>56</u>	<u>18</u>	<u>1064</u>	<u>30</u>	<u>61</u>	<u>18</u>	<u>809</u>
P 8 <u>35</u>	<u>57</u>	<u>21</u>	<u>1175</u>	<u>35</u>	<u>Flushed 82 Tool</u>	<u>21</u>	<u>972</u>
P 9 <u>40</u>		<u>24</u>	<u>1246</u>	<u>40</u>	<u>70</u>	<u>24</u>	<u>1090</u>
P10 <u>45</u>		<u>27</u>	<u>1302</u>	<u>45</u>	<u>75</u>	<u>27</u>	<u>1175</u>
P11 <u>50</u>		<u>30</u>	<u>1327</u>	<u>50</u>	<u>69</u>	<u>30</u>	<u>1232</u>
P12 <u>55</u>		<u>33</u>		<u>55</u>		<u>33</u>	<u>1276</u>
P13 <u>60</u>		<u>36</u>		<u>60</u>		<u>36</u>	<u>1311</u>
P14		<u>39</u>		<u>65</u>		<u>39</u>	<u>1335</u>
P15		<u>42</u>		<u>70</u>		<u>42</u>	<u>1363</u>
P16		<u>45</u>		<u>75</u>		<u>45</u>	<u>1381</u>
P17		<u>48</u>		<u>80</u>		<u>48</u>	<u>1399</u>
P18		<u>51</u>		<u>85</u>		<u>51</u>	<u>1412</u>
P19		<u>54</u>		<u>90</u>		<u>54</u>	<u>1427</u>
P20		<u>57</u>				<u>57</u>	<u>1440</u>
		<u>60</u>				<u>60</u>	<u>1450</u>

Company Commonwealth Petroleum, Inc. Lease & Well No. Heinze #1
 Elevation - Formation Mississippi Effective Pay - Ft. Ticket No. 15468
 Date 2/27/82 Sec. 25 Twp. 28S Range 19W County Kiowa State Kansas
 Test Approved by L J Prickett Western Representative Ray Schwager
 Formation Test No. 2 Interval Tested from 4885 ft. to 4947 ft. Total Depth 4947 ft.
 Packer Depth 4880 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Packer Depth 4885 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4903 ft. Recorder Number 13269 Cap. 4375
 Bottom Recorder Depth (Outside) 4906 ft. Recorder Number 13270 Cap. 4375
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Leben Drilling Rig #7 Drill Collar Length 60 I. D. 2.2 in.
 Mud Type Premix Monpac Viscosity 43 Weight Pipe Length - I. D. - in.
 Weight 9.2 Water Loss 6.8 cc. Drill Pipe Length 4796 I. D. 3.8 in.
 Chlorides 12,000 P.P.M. Test Tool Length 29 ft. Tool Size 4 1/2 in.
 Jars: Make WTC Serial Number 418 Anchor Length 62 ft. Size 5 1/2 in.
 Did Well Flow? No Reversed Out No Surface Choke Size 5/8 in. Bottom Choke Size 5/8 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4FH in.

Blow: Initial flow period strong blow throughout. Gas to surface in 1 minute.
Final flow period gas to surface. See attached sheet for gas measurements.

Recovered 150 ft. of gas cut mud
 Recovered 120 ft. of gas cut muddy water
 Recovered 240 ft. of salt water
 Recovered - ft. of -
 Recovered - ft. of -

Remarks: _____

Time Set Packer(s)	<u>10:30</u>	<u>A.M.</u> <u>P.M.</u>	Time Started Off Bottom	<u>2:05</u>	<u>A.M.</u> <u>P.M.</u>	Maximum Temperature	<u>118</u>
Initial Hydrostatic Pressure			(A)	<u>2429</u>	P.S.I.		
Initial Flow Period		Minutes	<u>30</u>	(B)	<u>119</u>	P.S.I. to (C)	<u>154</u> P.S.I.
Initial Closed In Period		Minutes	<u>36</u>	(D)	<u>1524</u>	P.S.I.	
Final Flow Period		Minutes	<u>60</u>	(E)	<u>176</u>	P.S.I. to (F)	<u>242</u> P.S.I.
Final Closed In Period		Minutes	<u>93</u>	(G)	<u>1528</u>	P.S.I.	
Final Hydrostatic Pressure			(H)	<u>2429</u>	P.S.I.		

GAS FLOW REPORT

Date 2/27/82 Ticket 15468 Company Commonwealth Petroleum, Inc.
 Well Name and No. Heinze #1 Dst No. 2 Interval Tested 4885-4947
 County Kiowa State Kansas Sec. 25 Twp. 28S Rg. 19W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
	10 Min	30" water	1" Orifice			141,000 C.F.P.D.
	20 Min	30" water	1" Orifice			141,000 C.F.P.D.
	30 Min	34" water	1" Orifice			151,000 C.F.P.D.

SECOND FLOW						
	5 Min	30" water	1½" Orifice			241,000 C.F.P.D.
	15 Min	22" water	1½" Orifice			206,000 C.F.P.D.
	25 Min	20" water	1½" Orifice			196,000 C.F.P.D.
	35 Min	20" water	1½" Orifice			196,000 C.F.P.D.
	45 Min	22" water	1½" Orifice			206,000 C.F.P.D.
	55 Min	22" water	1½" Orifice			206,000 C.F.P.D.

GAS BOTTLE

Serial No. 15301 Date Bottle Filled 2/27/82 Date to be Invoiced 2/27/82

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Commonwealth Petroleum, Inc.

Authorized by A. Jones

WESTERN TESTING CO., INC.

Pressure Data

Date 2/27/82 Test Ticket No. 15468
 Recorder No. 13269 Capacity 4375 Location 4903 Ft. 118
 Clock No. - Elevation - Well Temperature - °F
Point **Pressure** **Time Given** **Time Computed**
 A Initial Hydrostatic Mud 2429 P.S.I. Open Tool 10:30A M
 B First Initial Flow Pressure 119 P.S.I. First Flow Pressure 30 Mins. 30 Mins.
 C First Final Flow Pressure 154 P.S.I. Initial Closed-in Pressure 45 Mins. 36 Mins.
 D Initial Closed-in Pressure 1524 P.S.I. Second Flow Pressure 60 Mins. 60 Mins.
 E Second Initial Flow Pressure 176 P.S.I. Final Closed-in Pressure 90 Mins. 93 Mins.
 F Second Final Flow Pressure 242 P.S.I.
 G Final Closed-in Pressure 1528 P.S.I.
 H Final Hydrostatic Mud 2429 P.S.I.

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>12</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>31</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	
P 1	0	119	0	154	0	176	0	242
P 2	5	119	3	813	5	176	3	1099
P 3	10	120	6	1292	10	176	6	1360
P 4	15	128	9	1401	15	181	9	1425
P 5	20	138	12	1447	20	187	12	1458
P 6	25	148	15	1474	25	193	15	1478
P 7	30	154	18	1489	30	202	18	1489
P 8			21	1501	35	208	21	1500
P 9			24	1510	40	217	24	1507
P10			27	1515	45	224	27	1510
P11			30	1517	50	229	30	1513
P12			33	1522	55	237	33	1515
P13			36	1524	60	242	36	1517
P14							39	1519
P15							42	1521
P16							45	1523
P17							48	1524
P18							51	1525
P19							54	1526
P20							57	1526
							60	1526

WESTERN TESTING CO., INC.

Pressure Data

Date 2/27/82 Recorder No. 13269 Capacity 4375 Test Ticket No. 15468 Location 4903 Ft. 118
 Clock No. - Elevation - Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2429 P.S.I.	Open Tool	10:30A	M
B First Initial Flow Pressure	119 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	154 P.S.I.	Initial Closed-in Pressure	45 Mins.	36 Mins.
D Initial Closed-in Pressure	1524 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	176 P.S.I.	Final Closed-in Pressure	90 Mins.	93 Mins.
F Second Final Flow Pressure	242 P.S.I.			
G Final Closed-in Pressure	1528 P.S.I.			
H Final Hydrostatic Mud	2429 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>12</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>31</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	1526
P 2						66	1526
P 3						69	1527
P 4						72	1527
P 5						75	1528
P 6						78	1528
P 7						81	1528
P 8						84	1528
P 9						87	1528
P10						90	1528
P11						93	1528
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

Gas Production

B.T. Gauge Numbers			13269	Ticket Number	15468
Initial Hydrostatic			Pressure 2429	Elevation	2295 K.B. . ft.
Final Hydrostatic			2429	Production Initial	151,000 m cu. ft.
1st Flow	Initial	Time -----	119	Rate Final	206,000 m cu. ft.
	Final	30	154	Hole Size	7.875 in.
Initial Closed In Pressure			36	Footage Tested	62 (50) ft.
2nd Flow	Initial	-----	176	Mud Weight	92 lbs. gal.
	Final	60	242	Gas Viscosity	.018 cp
Final Closed In Pressure			93	Gas Gravity	—
Extrapolated Static Pressure	Initial		1564 - 1409	Gas Compressibility	.82 —
	Final		1562 - 1483		
Slope Psi ² /cycle	Initial		155,557		
	Final		51,109		

Remarks: _____

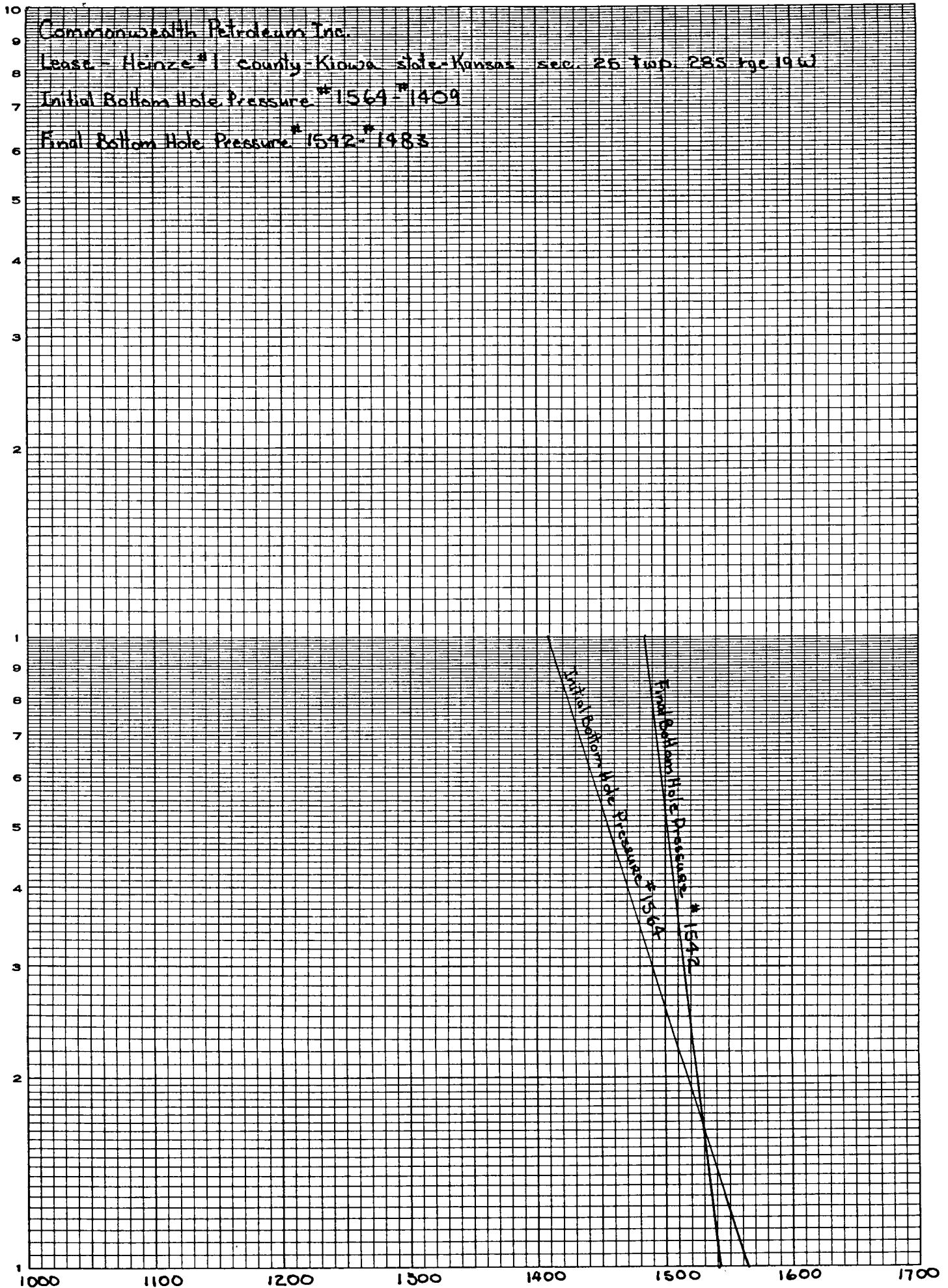
SUMMARY		BT Gauge Number Depth		
Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637 Q_r ZT}{m}$	254.238	895.530	$\frac{md. ft.}{cp}$
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	4.576	16.119	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	.091	.322	md.
	$K_1 = \frac{Kh}{h_1}$	.091	.322	md.
Indicated Flow Capacity	$(Kh)_s = \frac{3200 Q_r \mu ZT \log(0.472 b/r_w)}{P_s^2 - P_r^2}$	.655	1.983	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \frac{Kh}{(Kh)_s}$	6.982	8.127	—
Indicated Flow Rate	$OF_1 = \frac{Q_r}{P_s^2 - P_r^2} P_s^2$	152.478	211.201	MCFD
		151.737	208.584	MCFD
Theoretical Potential Rate	$OF_3 = OF_1 DR \quad \text{Max.}$	1,064.661	1,716.459	MCFD
	$OF_4 = OF_2 DR \quad \text{Min.}$	1,059.487	1,695.189	MCFD
Approx. Radius of Investigation	$b \approx \sqrt{Kt} \text{ or } \sqrt{Kt_0}$	1.65	4.39	ft.
	$b_1 \approx \sqrt{K_1 t} \text{ or } \sqrt{K_1 t_0}$	1.657	4.398	ft.
Potentiometric Surface *	$Pot. = (EI - GD) + (2.319 Ps)$	1,018.91	967.90	ft.

NOTICE:

These calculations are based upon information furnished by you and taken from Drill Stem Tests pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Western Testing Co., Inc., is merely expressing its opinion. You agree that Western Testing Co., Inc., make no warranty express or implied as to the accuracy of such calculations or opinions, and that Western Testing Co., Inc., shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

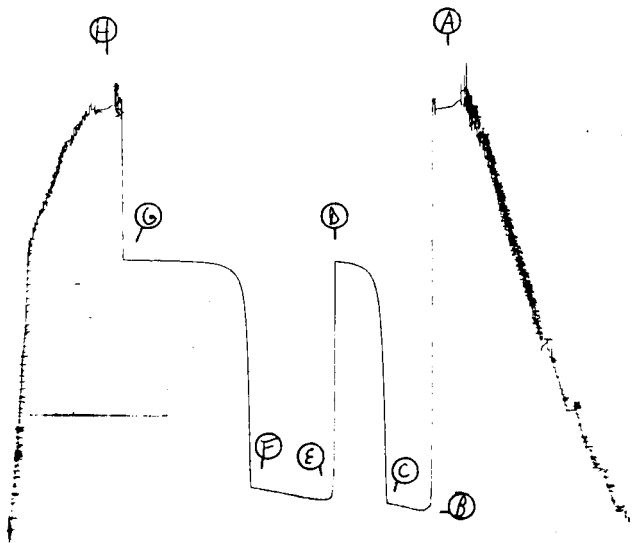
EUGENE DIETZGEN CO.
MADE IN U. S. A.

NO. 341-L210 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
2 CYCLES X 10 DIVISIONS PER INCH



TKT # 15468

I



57C21



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET

No 15468

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Elevation _____ Formation MISS Eff. Pay _____ Ft.

District GT. Bend Date 2-27-82 Customer Order No. _____

COMPANY NAME Commonwealth Petroleum Inc.

ADDRESS Commonwealth Petroleum Bldg. 9235 EAST HARRY WICHITA, KS. 67207

LEASE AND WELL NO. Heinze #1 COUNTY Kiowa STATE KS. Sec. 25 Twp. 28 Rge. 19

Mail Invoice To SAME No. Copies Requested 5

Co. Name _____ Address _____ No. Copies Requested 5

Mail Charts To SAME Address _____ No. Copies Requested 5

Formation Test No. 2 Interval Tested From 4885 ft. to 4947 ft. Total Depth 4947 ft.

Packer Depth 4880 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 4885 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4903 ft. Recorder Number 13269 Cap. 4375

Bottom Recorder Depth (Outside) 4906 ft. Recorder Number 13270 Cap. 4375

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____

Drilling Contractor Leben drlg. rig. #7 Drill Collar Length 60 I. D. 2.2 in.

Mud Type Premix-mudpac Viscosity 43 Weight Pipe Length _____ I. D. _____ in.

Weight 9.2 Water Loss 6.8 cc. Drill Pipe Length 4796 I. D. 3.8 in.

Chlorides 12,000 P.P.M. Test Tool Length 29 ft. Tool Size 4 1/2 in.

Jars: Make Bowen Serial Number 418 Anchor Length 6.2 ft. Size 5 1/2 in.

Did Well Flow? NO Reversed Out NO Surface Choke Size 5/8 in. Bottom Choke Size 5/8 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 FH in.

Blow: IF- Strong Blow Throughout gas to surface 1 min.

FF- gas to surface by attached shut finger run in hole

Recovered 150 ft. of GAS CUT Mud

Recovered 120 ft. of GAS CUT muddy water

Recovered 240 ft. of SALT WATER

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: would like EVALUATION OF CHARTS AS SOON AS POSSIBLE

Time On Location 3:00 A.M. Time Pick Up Tool 6:50 A.M. Time Off Location _____ P.M.

Time Set Packer(s) 10:30 A.M. Time Started Off Bottom 2:05 A.M. Maximum Temperature 118°

Initial Hydrostatic Pressure _____ (A) 2429 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 110 P.S.I. to (C) 154 P.S.I.

Initial Closed In Period _____ Minutes 35 (D) 1521 P.S.I.

Final Flow Period _____ Minutes 60 (E) 105 P.S.I. to (F) 242 P.S.I.

Final Closed In Period _____ Minutes 90 (G) 1532 P.S.I.

Final Hydrostatic Pressure _____ (H) 2429 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By [Signature]
Signature of Customer or his authorized representative

Western Representative Ray Schwager Thank you

FIELD INVOICE

Open Hole Test \$ 100.00
Misrun \$ _____
Straddle Test \$ _____
Jars \$ 300.00
Selective Zone \$ _____
Safety Joint \$ 65.00
Standby \$ _____
Evaluation \$ _____
Extra Packer \$ _____
Circ. Sub. \$ _____
Mileage M.C. \$ _____
Fluid Sampler \$ _____
Extra Charts \$ _____
Insurance \$ _____
Telecopier \$ _____
TOTAL \$ 1065.00

N^o 3085

GAS FLOW REPORT

Date 2-27-82 Ticket 15468 Company Commonwealth Petroleum
 Well Name and No. Heinze #1 Dst No. 2 Interval Tested 4885-4947
 County Kiowa State KS. Sec. 25 Twp. 28^s Rg. 19^w

Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	Size of Orifice	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	Description of Flow
PRE FLOW					
10	30 lbs. $\frac{1}{4}$ "	1"			141,000 C.F.P.D.
20	30 lbs. $\frac{1}{4}$ "	1"			141,000 C.F.P.D.
30	34 lbs. $\frac{1}{4}$ "	1"			151,000 C.F.P.D.

SECOND FLOW

5	30 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			241,000 C.F.P.D.
15	22 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			206,000 C.F.P.D.
25	20 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			196,000 C.F.P.D.
35	20 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			196,000 C.F.P.D.
45	22 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			206,000 C.F.P.D.
55	22 lbs. $\frac{1}{4}$ "	1 $\frac{1}{4}$ "			206,000 C.F.P.D.

GAS BOTTLE

Serial No. 15301 Date Bottle Filled 2-27-82 Date to be Invoiced 2-27-82

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1 1/2% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Commonwealth PetroleumAuthorized by [Signature]

WESTERN TESTING CO., INC.

Pressure Data

Date 2-27 Test Ticket No. 15468
 Recorder No. 13269 Capacity 4375 Location 4903 Ft
 Clock No. --- Elevation --- Well Temperature 118 °F
 Point Pressure Time Given Time Computed
 A Initial Hydrostatic Mud 2429 P.S.I. Open Tool 10:30 A
 B First Initial Flow Pressure 119 P.S.I. First Flow Pressure 30 Mins. 30 Mins
 C First Final Flow Pressure 154 P.S.I. Initial Closed-in Pressure 35 Mins. 36 Mins
 D Initial Closed-in Pressure 1524 P.S.I. Second Flow Pressure 60 Mins. 60 Mins
 E Second Initial Flow Pressure 176 P.S.I. Final Closed-in Pressure 90 Mins. 93 Mins
 F Second Final Flow Pressure 242 P.S.I.
 G Final Closed-in Pressure 1528 P.S.I.
 H Final Hydrostatic Mud 2429 P.S.I.

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>12</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>31</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	119	0	154	0	176	0	242
P 2 5	119	3	813	5	176	3	1099
P 3 10	120	6	1292	10	176	6	1360
P 4 15	128	9	1401	15	181	9	1425
P 5 20	138	12	1447	20	187	12	1458
P 6 25	148	15	1474	25	193	15	1478
P 7 30	154	18	1489	30	202	18	1489
P 8 35		21	1501	35	208	21	1500
P 9 40		24	1510	40	217	24	1507
P10 45		27	1515	45	224	27	1510
P11 50		30	1517	50	229	30	1513
P12 55		33	1522	55	237	33	1515
P13 60		36	1524	60	242	36	1517
P14		39		65		39	1519
P15		42		70		42	1521
P16		45		75		45	1523
P17		48		80		48	1524
P18		51		85		51	1525
P19		54		90		54	1526
P20		57				57	1526
		60				60	1526

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 15468

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____ M _____			
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____ Mins. _____ Mins.			
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____ Mins. _____ Mins.			
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure _____ Mins. _____ Mins.			
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure _____ Mins. _____ Mins.			
F Second Final Flow Pressure _____ P.S.I.				
G Final Closed-in Pressure _____ P.S.I.				
H Final Hydrostatic Mud _____ P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 _____	_____	63 _____	_____	_____	_____	63 _____	1526
P 2 _____	_____	66 _____	_____	_____	_____	66 _____	1526
P 3 _____	_____	69 _____	_____	_____	_____	69 _____	1527
P 4 _____	_____	72 _____	_____	_____	_____	72 _____	1527
P 5 _____	_____	75 _____	_____	_____	_____	75 _____	1528
P 6 _____	_____	78 _____	_____	_____	_____	78 _____	/
P 7 _____	_____	81 _____	_____	_____	_____	81 _____	
P 8 _____	_____	84 _____	_____	_____	_____	84 _____	
P 9 _____	_____	87 _____	_____	_____	_____	87 _____	
P10 _____	_____	90 _____	_____	_____	_____	90 _____	1528
P11 _____	_____	93 _____	_____	_____	_____	93 _____	
P12 _____	_____	96 _____	_____	_____	_____	96 _____	/
P13 _____	_____	99 _____	_____	_____	_____	99 _____	
P14 _____	_____	102 _____	_____	_____	_____	102 _____	
P15 _____	_____	105 _____	_____	_____	_____	105 _____	
P16 _____	_____	108 _____	_____	_____	_____	108 _____	
P17 _____	_____	111 _____	_____	_____	_____	111 _____	
P18 _____	_____	114 _____	_____	_____	_____	114 _____	
P19 _____	_____	117 _____	_____	_____	_____	117 _____	
P20 _____	_____	120 _____	_____	_____	_____	120 _____	

Gas Production

B.T. Gauge Numbers		13269	Ticket Number	15468
Initial Hydrostatic		Pressure 2429	Elevation	2295 K.B. stone ft.
Final Hydrostatic		2429	Production Rate	Initial 151,000 m cu. ft.
1st Flow	Initial	Time ----- 159	Final	206,000 m cu. ft.
	Final	30	Hole Size	7.875 in.
Initial Closed In Pressure		36	Footage Tested	1524
2nd Flow		176	Mud Weight	92 lbs. gal.
2nd Flow	Initial	-----	Gas Viscosity	.018 cp
	Final	60	Gas Gravity	---
Final Closed In Pressure		93	Gas Compressibility	.82
Extrapolated Static Pressure	Initial	1564 - 1409		
	Final	1542 - 1483		
Slope Psi ² /cycle	Initial	156,557		
	Final	59,109		

Remarks: _____

SUMMARY		BT Gauge Number Depth		
Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637 Q_r ZT}{m}$	254.238	895.530	md. ft. cp
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	4.576	16.119	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	.091	.322	md.
	$K_1 = \frac{Kh}{h_1}$	.091	.322	md.
Indicated Flow Capacity	$(Kh)_s = \frac{3200 Q_r \mu ZT \log(0.472 b/r_w)}{P_b^2 - P_r^2}$	.655	1.983	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \frac{Kh}{(Kh)_s}$	6.982	8.127	---
Indicated Flow Rate	$OF_1 = \frac{Q_r}{P_b^2 - P_r^2} P_b^2$	152.478	211.201	MCFD
		151.737	208.584	MCFD
Theoretical Potential Rate	$OF_3 = OF_1 DR \quad \text{Max.}$	1,064.661	1,716.459	MCFD
	$OF_4 = OF_2 DR \quad \text{Min.}$	1,059.487	1,695.189	MCFD
Approx. Radius of Investigation	$b \approx \sqrt{Kt} \text{ or } \sqrt{Kt_0}$	1.65	4.39	ft.
	$b_1 \approx \sqrt{K_1 t} \text{ or } \sqrt{K_1 t_0}$	1.657	4.398	ft.
Potentiometric Surface *	$\text{Pot.} = (EI - GD) + (2.319 P_s)$	1018.91	967.90	ft.

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