

Company J. Mark Richardson Lease & Well No. Harper #2
Elevation 2087 Kelly Bushing Marmaton Effective Pay - Ft. Ticket No. 9563
Date 3/1/81 Sec. 27 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by J. Mark Richardson Western Representative Les Holtz
Formation Test No. 1 Interval Tested from 4475 ft. to 4510 ft. Total Depth 4510 ft.
Packer Depth 4470 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Packer Depth 4475 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 4506 ft. Recorder Number 1051 Cap. 4250
Bottom Recorder Depth (Outside) 4510 ft. Recorder Number 13267 Cap. 4050
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Gabbert-Jones Drilling Drill Collar Length 420 I. D. 2.26 in.
Mud Type starch Viscosity 45 Weight Pipe Length - I. D. - in.
Weight 9.5 Water Loss 9.6 cc. Drill Pipe Length - I. D. - in.
Chlorides 20,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 3660 Anchor Length 35 ft. Size 5 1/2 in.
Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Very strong blow immediately on initial flow period.

Recovered 1370 ft. of mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

PACKER FAILURE

MISRUN

Remarks:

READ OUTSIDE CHART

Time Set Packer(s) 5:00 A.M. Time Started Off Bottom 5:30 P.M. Maximum Temperature ?
Initial Hydrostatic Pressure 2392 (A) P.S.I.
Initial Flow Period Minutes (B) P.S.I. to (C) P.S.I.
Initial Closed In Period Minutes (D) P.S.I.
Final Flow Period Minutes (E) P.S.I. to (F) P.S.I.
Final Closed In Period Minutes (G) P.S.I.
Final Hydrostatic Pressure 2266 (H) P.S.I.

TKT # 9563

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Company J. Mark Richardson Lease & Well No. Harper #2
 Elevation 2087 Kelly Bushing Simpson Effective Pay - Ft. Ticket No. 9564
 Date 3/2/81 Sec. 27 Twp. 27S Range 16W County Kiowa State Kansas
 Test Approved by J. Mark Richardson Western Representative Les Holtz
 Formation Test No. 2 Interval Tested from 4562 ft. to 4575 ft. Total Depth 4575 ft.
 Packer Depth 4557 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Packer Depth 4562 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4570 ft. Recorder Number 1051 Cap. 4250
 Bottom Recorder Depth (Outside) 4574 ft. Recorder Number 13267 Cap. 4050
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Gabbert-Jones Drilling Drill Collar Length 420 I. D. 2.26 in.
 Mud Type starch Viscosity 44 Weight Pipe Length - I. D. - in.
 Weight 9.3 Water Loss 10.5 cc. Drill Pipe Length 4115 I. D. 3.8 in.
 Chlorides 24,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.
 Jars: Make WTC Serial Number 3660 Anchor Length 13 ft. Size 5 1/2 in.
 Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Very weak throughout initial flow period. No blow final flow period.

Recovered 120 ft. of drilling mud

Recovered ft. of

Recovered ft. of

MISRUN

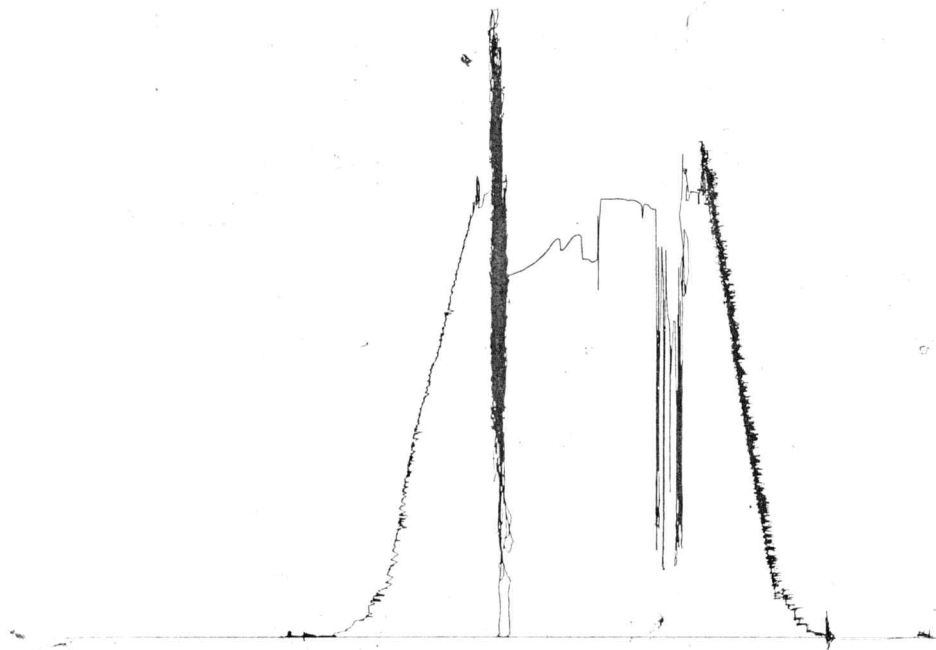
Recovered ft. of

Recovered ft. of

Remarks: Slid four feet to bottom.

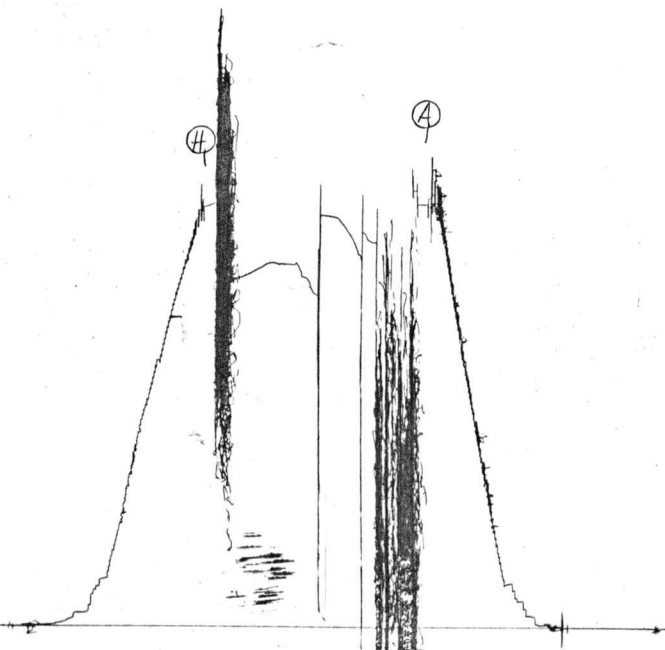
Time Set Packer(s) 12:30 ~~PM~~ ^{AM} Time Started Off Bottom 2:30 ~~PM~~ ^{AM} Maximum Temperature 126°
 Initial Hydrostatic Pressure 2374 (A) P.S.I.
 Initial Flow Period Minutes (B) P.S.I. to (C) P.S.I.
 Initial Closed In Period Minutes (D) P.S.I.
 Final Flow Period Minutes (E) P.S.I. to (F) P.S.I.
 Final Closed In Period Minutes (G) P.S.I.
 Final Hydrostatic Pressure 2310 (H) P.S.I.

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TKT # 9564
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1057



Company J. Mark Richardson Lease & Well No. Harper #2
Elevation 2087 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 9565
Date 3/2/81 Sec. 27 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by J. Mark Richardson Western Representative Les Holtz
Formation Test No. 3 Interval Tested from 4600 ft. to 4620 ft. Total Depth 4620 ft.
Packer Depth 4595 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Packer Depth 4600 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 4614 ft. Recorder Number 1051 Cap. 4250
Bottom Recorder Depth (Outside) 4619 ft. Recorder Number 13267 Cap. 4050
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Gabbert-Jones Drilling Drill Collar Length 420 I. D. 2.26 in.
Mud Type starch Viscosity 48 Weight Pipe Length - I. D. - in.
Weight 9.2 Water Loss 11.4 cc. Drill Pipe Length 4133 I. D. 3.8 in.
Chlorides 4,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 3660 Anchor Length 20 ft. Size 5 1/2 in.
Did Well Flow? - Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Very strong blow throughout test.

Recovered 65 ft. of Gas in pipe two stands above tool
Recovered 65 ft. of slightly gas cut mud
Recovered ft. of
Recovered ft. of
Recovered ft. of
Remarks:

Time Set Packer(s) 7:00 ~~A.M.~~ P.M. Time Started Off Bottom 10:00 ~~A.M.~~ P.M. Maximum Temperature 130°
Initial Hydrostatic Pressure 2417 P.S.I.
Initial Flow Period 30 Minutes (B) 77 P.S.I. to (C) 60 P.S.I.
Initial Closed In Period 27 Minutes (D) 83 P.S.I.
Final Flow Period 85 Minutes (E) 75 P.S.I. to (F) 68 P.S.I.
Final Closed In Period 27 Minutes (G) 678 P.S.I.
Final Hydrostatic Pressure 2327 P.S.I. (H)

WESTERN TESTING CO., INC.

Pressure Data

Date 3/2/81 Recorder No. 1051 Capacity 4250 Test Ticket No. 9565
 Clock No. -- Elevation 2087 Kelly Bushing Location 4614 Ft. 130
 Well Temperature 130 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2417 P.S.I.	7:00P	M
B First Initial Flow Pressure	77 P.S.I.	30 Mins.	30 Mins.
C First Final Flow Pressure	60 P.S.I.	30 Mins.	27 Mins.
D Initial Closed-in Pressure	83 P.S.I.	90 Mins.	85 Mins.
E Second Initial Flow Pressure	75 P.S.I.	30 Mins.	27 Mins.
F Second Final Flow Pressure	68 P.S.I.		
G Final Closed-in Pressure	678 P.S.I.		
H Final Hydrostatic Mud	2327 P.S.I.		

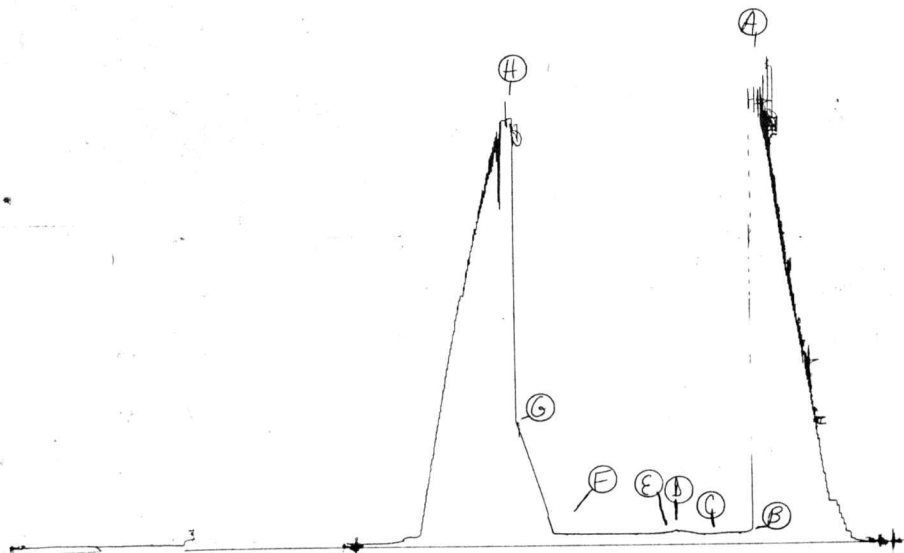
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>9</u> Inc.		Breakdown: <u>17</u> Inc.		Breakdown: <u>9</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>77</u>	<u>0</u>	<u>60</u>	<u>0</u>	<u>75</u>	<u>0</u>	<u>68</u>
P 2 <u>5</u>	<u>69</u>	<u>3</u>	<u>60</u>	<u>5</u>	<u>71</u>	<u>3</u>	<u>118</u>
P 3 <u>10</u>	<u>67</u>	<u>6</u>	<u>60</u>	<u>10</u>	<u>67</u>	<u>6</u>	<u>211</u>
P 4 <u>15</u>	<u>67</u>	<u>9</u>	<u>60</u>	<u>15</u>	<u>66</u>	<u>9</u>	<u>290</u>
P 5 <u>20</u>	<u>65</u>	<u>12</u>	<u>65</u>	<u>20</u>	<u>66</u>	<u>12</u>	<u>355</u>
P 6 <u>25</u>	<u>62</u>	<u>15</u>	<u>69</u>	<u>25</u>	<u>66</u>	<u>15</u>	<u>420</u>
P 7 <u>30</u>	<u>60</u>	<u>18</u>	<u>72</u>	<u>30</u>	<u>66</u>	<u>18</u>	<u>483</u>
P 8		<u>21</u>	<u>75</u>	<u>35</u>	<u>66</u>	<u>21</u>	<u>553</u>
P 9		<u>24</u>	<u>77</u>	<u>40</u>	<u>66</u>	<u>24</u>	<u>612</u>
P10		<u>27</u>	<u>83</u>	<u>45</u>	<u>66</u>	<u>27</u>	<u>678</u>
P11				<u>50</u>	<u>66</u>		
P12				<u>55</u>	<u>67</u>		
P13				<u>60</u>	<u>66</u>		
P14				<u>65</u>	<u>66</u>		
P15				<u>70</u>	<u>67</u>		
P16				<u>75</u>	<u>68</u>		
P17				<u>80</u>	<u>68</u>		
P18				<u>85</u>	<u>68</u>		
P19							
P20							

TKT # 9565

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T 1031
T 25265
DST #3



Company J. Mark Richardson Lease & Well No. Harper #2
Elevation 2087 Kelly Bushing Kinderhook Effective Pay - Ft. Ticket No. 9566
Date 3/3/81 Sec. 27 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by P. V.----- Western Representative Les Holtz
Formation Test No. 4 Interval Tested from 4624 ft. to 4650 ft. Total Depth 4650 ft.
Packer Depth 4619 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Packer Depth 4624 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 4644 ft. Recorder Number 1051 Cap. 4250
Bottom Recorder Depth (Outside) 4649 ft. Recorder Number 13267 Cap. 4050
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Gabbert-Jones Drilling Drill Collar Length 420 I. D. 2.26 in.
Mud Type starch Viscosity 50 Weight Pipe Length - I. D. - in.
Weight 9.2 Water Loss 10.0 cc. Drill Pipe Length 4167 I. D. - in.
Chlorides 26,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 3660 Anchor Length 26 ft. Size 5 1/2 in.
Did Well Flow? - Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Strong blow throughout test. Gas to surface twenty minutes into final flow period. See attached sheet for gas measurements.

Recovered 60 ft. of oil cut mud

Recovered 40 ft. of mud cut oil

Recovered 500 ft. of gassy oil

Recovered - ft. of -

Recovered - ft. of -

Remarks: -

Time Set Packer(s) 11:00 A.M. Time Started Off Bottom 2:00 A.M. Maximum Temperature 128°
Initial Hydrostatic Pressure (A) 2391 P.S.I.
Initial Flow Period Minutes 30 (B) 108 P.S.I. to (C) 122 P.S.I.
Initial Closed In Period Minutes 30 (D) 1333 P.S.I.
Final Flow Period Minutes 85 (E) 172 P.S.I. to (F) 210 P.S.I.
Final Closed In Period Minutes 27 (G) 1212 P.S.I.
Final Hydrostatic Pressure (H) 2369 P.S.I.

GAS FLOW REPORT

Date 3/3/81 Ticket 9566 Company J. Mark Richardson
 Well Name and No. Harper #2 Dst No. 4 Interval Tested 4624' - 4650'
 County Kiowa State Kansas Sec. 27 Twp. 27S Rg. 16W

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						

Gas to surface twenty minutes into **SECOND FLOW** final flow period.

TOOL OPEN	20 min.	.44" of water	1/4" orifice	41,600 CFPD
	30 min.	.46" of water	1/4" orifice	11,400 CFPD
	40 min.	.40" of water	1/4" orifice	10,600 CFPD
	50 min.	.50" of water	1/4" orifice	11,900 CFPD
	60 min.	.46" of water	1/4" orifice	11,400 CFPD
	70 min.	.46" of water	1/4" orifice	11,400 CFPD
	80 min.	.46" of water	1/4" orifice	11,400 CFPD
	90 min.	.46" of water	1/4" orifice	11,400 CFPD

GAS BOTTLE

Serial No. -- Date Bottle Filled --- Date to be Invoiced 3/3/81

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 J. Mark Richardson
 P. V. -----
 Authorized by _____

WESTERN TESTING CO., INC.

Pressure Data

Date 3/3/81 Test Ticket No. 9566
Recorder No. 1051 Capacity 4250 Location 4644 Ft.
Clock No. --- Elevation 2087 Kelly Bushing Well Temperature 128 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2391 P.S.I.	Open Tool	11:00A	M
B First Initial Flow Pressure	108 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	122 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	1333 P.S.I.	Second Flow Pressure	90 Mins.	85 Mins.
E Second Initial Flow Pressure	172 P.S.I.	Final Closed-in Pressure	30 Mins.	27 Mins.
F Second Final Flow Pressure	210 P.S.I.			
G Final Closed-in Pressure	1212 P.S.I.			
H Final Hydrostatic Mud	2369 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>17</u> Inc.		Breakdown: <u>9</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>108</u>	<u>0</u>	<u>122</u>	<u>0</u>	<u>172</u>	<u>0</u>	<u>210</u>
P 2 <u>5</u>	<u>102</u>	<u>3</u>	<u>247</u>	<u>5</u>	<u>166</u>	<u>3</u>	<u>409</u>
P 3 <u>10</u>	<u>96</u>	<u>6</u>	<u>474</u>	<u>10</u>	<u>166</u>	<u>6</u>	<u>604</u>
P 4 <u>15</u>	<u>97</u>	<u>9</u>	<u>887</u>	<u>15</u>	<u>167</u>	<u>9</u>	<u>791</u>
P 5 <u>20</u>	<u>103</u>	<u>12</u>	<u>1123</u>	<u>20</u>	<u>169</u>	<u>12</u>	<u>957</u>
P 6 <u>25</u>	<u>110</u>	<u>15</u>	<u>1207</u>	<u>25</u>	<u>169</u>	<u>15</u>	<u>1042</u>
P 7 <u>30</u>	<u>122</u>	<u>18</u>	<u>1252</u>	<u>30</u>	<u>170</u>	<u>18</u>	<u>1125</u>
P 8		<u>21</u>	<u>1282</u>	<u>35</u>	<u>174</u>	<u>21</u>	<u>1165</u>
P 9		<u>24</u>	<u>1305</u>	<u>40</u>	<u>178</u>	<u>24</u>	<u>1199</u>
P10		<u>27</u>	<u>1322</u>	<u>45</u>	<u>183</u>	<u>27</u>	<u>1212</u>
P11		<u>30</u>	<u>1333</u>	<u>50</u>	<u>189</u>		
P12				<u>55</u>	<u>194</u>		
P13				<u>60</u>	<u>200</u>		
P14				<u>65</u>	<u>204</u>		
P15				<u>70</u>	<u>206</u>		
P16				<u>75</u>	<u>208</u>		
P17				<u>80</u>	<u>210</u>		
P18				<u>85</u>	<u>210</u>		
P19							
P20							

TKT # 9566
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DST # 4

