



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 13162

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

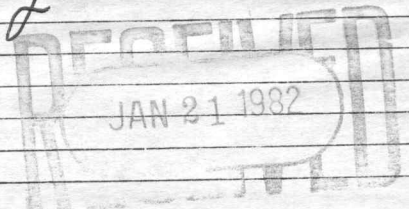
Elevation 1326 Kb Formation Barst. Eff. Pay Ft.

District Augusta Date 1-20-82 Customer Order No. _____
COMPANY NAME Heodesca Eng. Corporation Denver Natl Bank Plaza
ADDRESS 1125-17th St Suite 2200 Denver Colo 80202
LEASE AND WELL NO. Smith #1 Miller A-1 COUNTY Cowley STATE Kan. Sec. 12 Twp 32 Rge 5
Mail Invoice To Same No. Copies Requested 1
Co. Name _____ Address _____
Mail Charts To Same No. Copies Requested 5
Address _____

Formation Test No. 1 Interval Tested from 2993 ft. to 3021 ft. Total Depth 3021 ft.
Packer Depth 2993 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 2988 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number 2605 Cap. 4150
Bottom Recorder Depth (Outside) _____ ft. Recorder Number 10979 Cap. 4100
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____
Drilling Contractor Reynolds #1 Drill Collar Length 180 I. D. _____ in.
Mud Type Chem Viscosity 41 Weight Pipe Length _____ I. D. _____ in.
Weight 9.2 Water Loss 11.2 cc. Drill Pipe Length _____ I. D. _____ in.
Chlorides 2000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.
Jars: Make NO Serial Number _____ Anchor Length 23 28 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 x H in.

Blow: good flow throughout test
Recovered 300 ft. of gas in pipe
Recovered 120 ft. of Very slightly out + gas cut drilling mud
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Remarks: _____



Time On	Location	A.M. P.M.	Time Pick Up Tool	A.M. P.M.	Time Off	Location	A.M. P.M.
	<u>11:30</u>	<u>A.M.</u>					
Time Set	Packer(s) <u>5:25</u>	<u>A.M.</u>	Time Started Off Bottom	<u>A.M.</u>	Maximum Temperature		
Initial Hydrostatic Pressure			(A) <u>1483</u>	P.S.I.			
Initial Flow Period	Minutes <u>30</u>		(B) <u>52</u>	P.S.I. to (C)	<u>52</u>	P.S.I.	
Initial Closed In Period	Minutes <u>60</u>		(D) <u>715</u>	P.S.I.			
Final Flow Period	Minutes <u>60</u>		(E) <u>84</u>	P.S.I. to (F)	<u>84</u>	P.S.I.	
Final Closed In Period	Minutes <u>90</u>		(G) <u>746</u>	P.S.I.			
Final Hydrostatic Pressure			(H) <u>1483</u>	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 M.S. Davis
Signature of Customer or his authorized representative
Western Representative Kenny Kirkendall

FIELD INVOICE

Open Hole Test	\$ <u>625.00</u>
Misrun	\$ _____
Straddle Test	\$ _____
Jars	\$ _____
Selective Zone	\$ _____
Safety Joint	\$ _____
Standby	\$ _____
Evaluation	\$ _____
Extra Packer	\$ _____
Circ. Sub	\$ _____
Miscage	\$ <u>32.25</u>
Fluid Sampler	\$ _____
Extra Charts	\$ _____
Insurance	\$ <u>50.00</u>
TOTAL	\$ <u>707.25</u>

WESTERN TESTING CO., INC.
Pressure Data

Date 1-20-82
Recorder No. 2605
Clock No.

Test Ticket No. 13162
Location Ft.
Well Temperature °F

Point	Pressure	P.S.I.
A Initial Hydrostatic Mud	<u>1475</u>	P.S.I.
B First Initial Flow Pressure	<u>51</u>	P.S.I.
C First Final Flow Pressure	<u>51</u>	P.S.I.
D Initial Closed-in Pressure	<u>714</u>	P.S.I.
E Second Initial Flow Pressure	<u>83</u>	P.S.I.
F Second Final Flow Pressure	<u>83</u>	P.S.I.
G Final Closed-in Pressure	<u>754</u>	P.S.I.
H Final Hydrostatic Mud	<u>1440</u>	P.S.I.

Capacity 4150
1326 KB

	Time Given	Time Computed
Open Tool	<u>5:25 A_M</u>	
First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
Final Closed-in Pressure	<u>90</u> Mins.	<u>90</u> Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In
Breakdown: 30 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>51</u>	0	<u>51</u>	0	<u>83</u>	0	<u>83</u>
P 2 5		3	<u>53</u>	5		3	<u>118</u>
P 3 10		6	<u>62</u>	10		6	<u>165</u>
P 4 15		9	<u>79</u>	15		9	<u>205</u>
P 5 20		12	<u>105</u>	20		12	<u>242</u>
P 6 25		15	<u>147</u>	25		15	<u>297</u>
P 7 30	<u>51</u>	18	<u>213</u>	30		18	<u>346</u>
P 8 35		21	<u>290</u>	35		21	<u>402</u>
P 9 40		24	<u>383</u>	40		24	<u>455</u>
P10 45		27	<u>460</u>	45		27	<u>506</u>
P11 50		30	<u>519</u>	50		30	<u>541</u>
P12 55		33	<u>562</u>	55		33	<u>578</u>
P13 60		36	<u>593</u>	60	<u>83</u>	36	<u>604</u>
P14		39	<u>623</u>	65		39	<u>632</u>
P15		42	<u>651</u>	70		42	<u>656</u>
P16		45	<u>668</u>	75		45	<u>676</u>
P17		48	<u>682</u>	80		48	<u>694</u>
P18		51	<u>694</u>	85		51	<u>709</u>
P19		54	<u>705</u>	90		54	<u>717</u>
P20		57	<u>713</u>			57	<u>726</u>
		60	<u>716</u>			60	<u>732</u>

WESTERN TESTING CO., INC.
Pressure Data

Test Ticket No. 13162

Date _____ 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.			

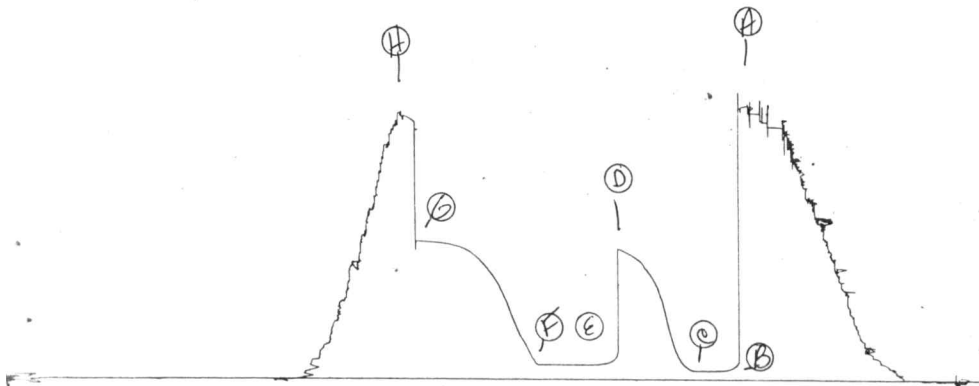
PRESSURE BREAKDOWN

First Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: _____ Inc. of <u>3</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		63				63	738
P 2		66				66	742
P 3		69				69	745
P 4		72				72	747
P 5		75				75	749
P 6		78				78	750
P 7		81				81	751
P 8		84				84	752
P 9		87				87	753
P10		90				90	754
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	

2605

JK # 13162
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Company Geodessa Corporation Lease & Well No. Miller A-1
 Elevation 1326 Kelly Bushing Bartlesville Effective Pay - Ft. Ticket No. 13162
 Date 1/20/82 Sec. 12 Twp. 32S Range 5W County Cowley State Kansas
 Test Approved by M G Davis Western Representative Kenny Kirkendall

Formation Test No. 1 Interval Tested from 2993 ft. to 3021 ft. Total Depth 3021 ft.
 Packer Depth 2993 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 2988 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) - ft. Recorder Number 2605 Cap. 4100
 Bottom Recorder Depth (Outside) - ft. Recorder Number 10979 Cap. 4100
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Reynolds Rig #1 Drill Collar Length 180 I. D. - in.
 Mud Type Chemical Viscosity 41 Weight Pipe Length - I. D. - in.
 Weight 9.2 Water Loss 11.2 cc. Drill Pipe Length - I. D. - in.
 Chlorides 2000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.
 Jars: Make No Serial Number - Anchor Length 28 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 XH in.

Blow: Good blow throughout test.

Recovered 300 ft. of gas in pipe
 Recovered 120 ft. of very slightly oil & gas cut drilling mud
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s) 5:25 ~~P.M.~~ ^{A.M.} Time Started Off Bottom - ^{A.M.} ~~P.M.~~ Maximum Temperature -
 Initial Hydrostatic Pressure 1475 P.S.I. (A)
 Initial Flow Period 30 Minutes (B) 51 P.S.I. to (C) 51 P.S.I.
 Initial Closed In Period 60 Minutes (D) 716 P.S.I.
 Final Flow Period 60 Minutes (E) 83 P.S.I. to (F) 83 P.S.I.
 Final Closed In Period 90 Minutes (G) 754 P.S.I.
 Final Hydrostatic Pressure 1440 P.S.I. (H)

WESTERN TESTING CO., INC.

Pressure Data

Date 1/20/82 Recorder No. 2605 Capacity 4150 Test Ticket No. 13162
 Location - Ft. Elevation 1326 Kelly Bushing Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1475	P.S.I.	5:25A	M
B First Initial Flow Pressure	51	P.S.I.	30	Mins. 30 Mins.
C First Final Flow Pressure	51	P.S.I.	60	Mins. 60 Mins.
D Initial Closed-in Pressure	716	P.S.I.	60	Mins. 60 Mins.
E Second Initial Flow Pressure	83	P.S.I.	90	Mins. 90 Mins.
F Second Final Flow Pressure	83	P.S.I.		
G Final Closed-in Pressure	754	P.S.I.		
H Final Hydrostatic Mud	1440	P.S.I.		

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.
	of		of		of		of	
	5 mins.		3 mins.		5 mins.		3 mins.	
	and a		and a		and a		and a	
	final inc. of	0 Min.	final inc. of	0 Min.	final inc. of	0 Min.	final inc. of	0 Min.
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	
P 1 0	51	0	51	0	83	0	83	
P 2 5	51	3	53	5	83	3	118	
P 3 10	51	6	62	10	83	6	165	
P 4 15	51	9	79	15	83	9	205	
P 5 20	51	12	105	20	83	12	242	
P 6 25	51	15	147	25	83	15	297	
P 7 30	51	18	213	30	83	18	346	
P 8		21	290	35	83	21	402	
P 9		24	383	40	83	24	455	
P10		27	460	45	83	27	506	
P11		30	519	50	83	30	541	
P12		33	562	55	83	33	578	
P13		36	593	60	83	36	604	
P14		39	623			39	632	
P15		42	651			42	656	
P16		45	668			45	676	
P17		48	682			48	694	
P18		51	694			51	709	
P19		54	705			54	717	
P20		57	713			57	726	
WTC - 4		60	716			60	732	

WESTERN TESTING CO., INC.

Pressure Data

Date 1/20/82 Test Ticket No. 13162
 Recorder No. 2605 Capacity 4150 Location - Ft.
 Clock No. - Elevation 1326 Kelly Bushing Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1475</u> P.S.I.	Open Tool	<u>5:25A</u> M	
B First Initial Flow Pressure	<u>51</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>51</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
D Initial Closed-in Pressure	<u>716</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>83</u> P.S.I.	Final Closed-in Pressure	<u>90</u> Mins.	<u>90</u> Mins.
F Second Final Flow Pressure	<u>83</u> P.S.I.			
G Final Closed-in Pressure	<u>754</u> P.S.I.			
H Final Hydrostatic Mud	<u>1440</u> P.S.I.			

PRESSURE BREAKDOWN

<p>First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Initial Shut-In Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Final Shut-In Breakdown: <u>30</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.</p>
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	738
P 2						66	742
P 3						69	745
P 4						72	747
P 5						75	749
P 6						78	750
P 7						81	751
P 8						84	752
P 9						87	753
P10						90	754
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							