



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET

No 19091

OK

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

Elevation 1259 KB

Formation Miss

Eff. Pay Ft.

District Augusta

Date 8-1-83

Customer Order No.

COMPANY NAME Zenith Drilling Corp

ADDRESS Suite 505 South Financial Center Wichita, Ks 67202

LEASE AND WELL NO. Waugh #4

COUNTY Sumner

STATE Ks

Sec. 30 Twp. 31 Rge. 1W

Mail Invoice To Same

#4 WAUGH

No. Copies Requested 1

Co. Name

Address

Mail Charts To Same

No. Copies Requested 5

Address

Formation Test No. 1 Interval Tested From 3665 ft. to 3698 ft. Total Depth 3698 ft.

Packer Depth 3665 ft. Size 6 3/4 in.

Packer Depth ft. Size in.

Packer Depth 3660 ft. Size 6 3/4 in.

Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3690 ft.

Recorder Number 13266 Cap. 4200

Bottom Recorder Depth (Outside) 3693 ft.

Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth

Recorder Number Cap.

Drilling Contractor Zenith Drilling Corp #7

Drill Collar Length 420 I. D. 2 1/4 in.

Mud Type Chem Viscosity 50

Weight Pipe Length I. D. in.

Weight 9.7 Water Loss 9.6 cc.

Drill Pipe Length 3225 I. D. 3.8 in.

Chlorides 3000 P.P.M.

Test Tool Length 20 ft. Tool Size 5 2/8 in.

Jars: Make Serial Number

Anchor Length 33 ft. Size 5 2/8 in.

Did Well Flow? Gas Reversed Out No

Surface Choke Size in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 x H in.

Blow: Strong diminishing slightly at end of test Gas to surface 10 minutes see sheet attached

Recovered 240 ft. of Gassy oil 40 Gravity Corrected

Recovered 690 ft. of Muddy gassy oil 1.75% oil 2.5% mud

Recovered 90 ft. of Slightly muddy salt water 1.75% oil 2.5% mud

Recovered ft. of Chlorides 75,000 PPM Chlorides

Recovered ft. of .01 Resistivity @ 90 F

Remarks: 3 sample jars

Gas gauged 72,400 CFPD @ 3:20 & 34,700 CFPD @ 5:00 PM

Time On Location 12:05 8-1 P.M. Time Pick Up Tool 1:15 P.M. Time Off Location 2:15 P.M.

Time Set Packer(s) 3:00 P.M. Time Started Off Bottom 6:30 P.M. Maximum Temperature 120

Initial Hydrostatic Pressure (A) 1880 P.S.I.

Initial Flow Period Minutes 30 (B) 180 P.S.I. to (C) 215 P.S.I.

Initial Closed In Period Minutes 60 (D) 1485 P.S.I.

Final Flow Period Minutes 30 (E) 265 P.S.I. to (F) 345 P.S.I.

Final Closed In Period Minutes 90 (G) 1485 P.S.I.

Final Hydrostatic Pressure (H) 1850 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 Sherie Compton Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Table with 2 columns: Item and Amount. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, and TOTAL. Amounts are listed in dollars, with some handwritten values like 550.00 and 600.00.



**GAS FLOW REPORT**

**Nº 1249**

Date 8-1-83 Ticket 19091 Company Zenith Drly Corp  
 Well Name and No. 21augh #1 Dst No. 1 Interval Tested 3665-3698  
 County Sumner State Ks. Sec. 30 Twp. 31 Rg. 1W

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
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Well closed on bottom @ opened @ 3:00 PM **PRE FLOW**

<u>Gas to surface 10 minutes</u>					
<u>20</u>	<u>26" water</u>	<u>3/4" choke</u>			<u>72,400 CFPD Gas</u>
<u>30</u>	<u>24" "</u>	<u>" "</u>			<u>69,500 " "</u>

Well closed in 3:30 - 4:30 PM **SECOND FLOW**

<u>40</u>	<u>22" water</u>	<u>3/4" choke</u>			<u>66,600 CFPD Gas</u>
<u>50</u>	<u>12" "</u>	<u>" "</u>			<u>49,300 " "</u>
<u>60</u>	<u>6" "</u>	<u>" "</u>			<u>34,700 " "</u>

Well closed in 5:00 to 6:30 PM

**GAS BOTTLE**

Serial No. \_\_\_\_\_ Date Bottle Filled \_\_\_\_\_ Date to be Invoiced \_\_\_\_\_

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 Zenith Drly Corp  
 Authorized by Shirley Compton

WESTERN TESTING CO., INC.

Pressure Data

Date 8-1 Test Ticket No. 19091  
 Recorder No. 13266 Capacity 4200 Location 3690 Ft.  
 Clock No. --- Elevation 1259 KB Well Temperature 120 °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1885</u> P.S.I.		<u>3:00 P</u> M	
B First Initial Flow Pressure	<u>161</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>199</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
D Initial Closed-in Pressure	<u>1490</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>265</u> P.S.I.	Final Closed-in Pressure	<u>90</u> Mins.	<u>87</u> Mins.
F Second Final Flow Pressure	<u>343</u> P.S.I.			
G Final Closed-in Pressure	<u>1485</u> P.S.I.			
H Final Hydrostatic Mud	<u>1842</u> 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>21</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>7</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>30</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>0</u>	<u>161</u>	<u>0</u>	<u>199</u>	<u>0</u>	<u>343</u>
P 2	<u>5</u>	<u>3</u>	<u>161</u>	<u>3</u>	<u>1016</u>	<u>3</u>	<u>1094</u>
P 3	<u>10</u>	<u>6</u>	<u>161</u>	<u>6</u>	<u>1240</u>	<u>6</u>	<u>1226</u>
P 4	<u>15</u>	<u>9</u>	<u>166</u>	<u>9</u>	<u>1306</u>	<u>9</u>	<u>1285</u>
P 5	<u>20</u>	<u>12</u>	<u>174</u>	<u>12</u>	<u>1343</u>	<u>12</u>	<u>1320</u>
P 6	<u>25</u>	<u>15</u>	<u>187</u>	<u>15</u>	<u>1373</u>	<u>15</u>	<u>1343</u>
P 7	<u>30</u>	<u>18</u>	<u>199</u>	<u>18</u>	<u>1392</u>	<u>18</u>	<u>1362</u>
P 8	<u>35</u>	<u>21</u>		<u>21</u>	<u>1408</u>	<u>21</u>	<u>1376</u>
P 9	<u>40</u>	<u>24</u>		<u>24</u>	<u>1422</u>	<u>24</u>	<u>1390</u>
P 10	<u>45</u>	<u>27</u>		<u>27</u>	<u>1433</u>	<u>27</u>	<u>1401</u>
P 11	<u>50</u>	<u>30</u>		<u>30</u>	<u>1442</u>	<u>30</u>	<u>1412</u>
P 12	<u>55</u>	<u>33</u>		<u>33</u>	<u>1450</u>	<u>33</u>	<u>1419</u>
P 13	<u>60</u>	<u>36</u>		<u>36</u>	<u>1457</u>	<u>36</u>	<u>1426</u>
P 14		<u>39</u>		<u>39</u>	<u>1464</u>	<u>39</u>	<u>1433</u>
P 15		<u>42</u>		<u>42</u>	<u>1469</u>	<u>42</u>	<u>1438</u>
P 16		<u>45</u>		<u>45</u>	<u>1473</u>	<u>45</u>	<u>1443</u>
P 17		<u>48</u>		<u>48</u>	<u>1477</u>	<u>48</u>	<u>1448</u>
P 18		<u>51</u>		<u>51</u>	<u>1481</u>	<u>51</u>	<u>1452</u>
P 19		<u>54</u>		<u>54</u>	<u>1484</u>	<u>54</u>	<u>1456</u>
P 20		<u>57</u>		<u>57</u>	<u>1487</u>	<u>57</u>	<u>1460</u>
		<u>60</u>		<u>60</u>	<u>1490</u>	<u>60</u>	<u>1464</u>

cont

WESTERN TESTING CO., INC.

Pressure Data

Test Ticket No. 19091

Date \_\_\_\_\_

Recorder No. \_\_\_\_\_ Capacity \_\_\_\_\_ Location \_\_\_\_\_ Ft.

Clock No. \_\_\_\_\_ Elevation \_\_\_\_\_ Well Temperature \_\_\_\_\_ °F

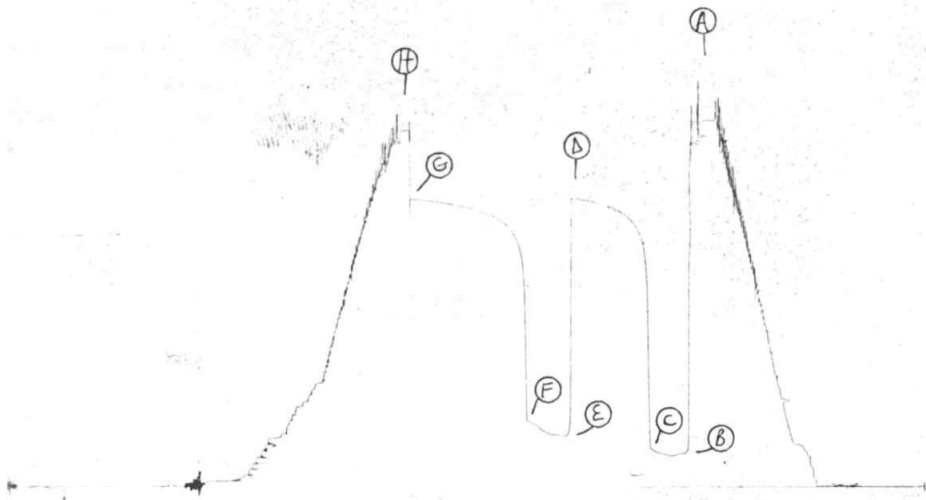
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____	P.S.I.	Open Tool	_____ M	_____
B First Initial Flow Pressure _____	P.S.I.	First Flow Pressure	_____ Mins.	_____ Mins.
C First Final Flow Pressure _____	P.S.I.	Initial Closed-in Pressure	_____ Mins.	_____ Mins.
D Initial Closed-in 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		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	1467
P 2		66				66	1470
P 3		69				69	1473
P 4		72				72	1476
P 5		75				75	1478
P 6		78				78	1480
P 7		81				81	1482
P 8		84				84	1484
P 9		87				87	1485
P10		90				90	
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	

TKT # 19091

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WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE: 8/1/83	TICKET #19091
CUSTOMER: ZENITH DRILLING CORP.	LEASE: WAUGH
WELL: 4 TEST: 1	GEOLOGIST: COMPTON
ELEVATION (KB): 1259	FORMATION: MISSISSIPPI
SECTION: 30	TOWNSHIP: 31S
RANGE: 1W COUNTY: SUMNER	STATE: KANSAS
GAUGE SN #13266 RANGE: 4200	CLOCK: 12

INTERVAL TEST FROM: 3665	FT TO: 3698	FT TOTAL DEPTH: 3698	FT
DEPTH OF SELECTIVE ZONE:		FT	
PACKER DEPTH: 3665	FT SIZE: 6 3/4 IN	PACKER DEPTH: 3660	FT SIZE: 6 3/4 IN
PACKER DEPTH:	FT SIZE:	PACKER DEPTH:	FT SIZE:

DRILLING CONTRACTOR: ZENITH

MUD TYPE: CHEMICAL	VISCOSITY: 50
WEIGHT: 9.7	WATER LOSS (CC): 9.6
CHLORIDES (P.P.M.): 3000	
JARS - MAKE:	SERIAL NUMBER:
DID WELL FLOW? GAS	REVERSED OUT? NO
DRILL COLLAR LENGTH: 420	FT I.D.: 2 1/4 IN
WEIGHT PIPE LENGTH:	FT I.D.: IN
DRILL PIPE LENGTH: 3225	FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20	FT TOOL SIZE: 5 1/2 OD IN
ANCHOR LENGTH: 33	FT SIZE: 5 1/2 OD IN
SURFACE CHOKE SIZE: 1	IN BOTTOM CHOKE SIZE: 3/4 IN
MAIN HOLE SIZE: 7 7/8	IN TOOL JOINT SIZE: 4 1/2 XH IN

BLOW: STRONG BLOW DIMINISHING SIGHTLY AT  
END OF TEST.  
GAS TO SURFACE IN 10 MINUTES.  
SEE ATTACHED GAS SHEET.

RECOVERED: 240	FT OF: GASSY OIL	40 GRAVITY CORRECTED
RECOVERED: 690	FT OF: MUDDY GASSY OIL-	75% OIL; 25% MUD
RECOVERED: 90	FT OF: SLIGHTLY MUDDY SALTWATER	
RECOVERED:	FT OF: CHLORIDES 75000 PPM	.1 RESISTIVITY @ 90 DEGREE
S		
RECOVERED:	FT OF:	
RECOVERED:	FT OF:	
RECOVERED:	FT OF:	
RECOVERED:	FT OF:	
RECOVERED:	FT OF:	

REMARKS:

TIME SET PACKER(S): 3:00 PM	TIME STARTED OFF BOTTOM: 6:30 PM
WELL TEMPERATURE: 120 °F	
INITIAL HYDROSTATIC PRESSURE:	(A) 1885 PSI
INITIAL FLOW PERIOD MIN: 30	(B) 161 PSI TO (C) 199 PSI
INITIAL CLOSED IN PERIOD MIN: 60	(D) 1490 PSI
FINAL FLOW PERIOD MIN: 30	(E) 265 PSI TO (F) 343 PSI
FINAL CLOSED IN PERIOD MIN: 87	(G) 1485 PSI
FINAL HYDROSTATIC PRESSURE	(H) 1842 PSI



WESTERN TESTING CO. INC.  
GAS FLOW REPORT

DATE: 8/1/83  
CUSTOMER: ZENITH DRILLING CORP.  
WELL: 4 TEST: 1  
ELEVATION (KB): 1259 FORMATION: MISSISSIPPI  
SECTION: 30 TOWNSHIP: 31S  
RANGE: 1W COUNTY: SUMNER STATE: KANSAS  
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

TIME GAUGE (MIN)	TESTER TYPE	ORIFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
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PRE FLOW

10				GAS TO SURFACE
20	MERLA	3/4	26" WTR	72400 CFPD
30		3/4	24" WTR	69500 CFPD

SECOND FLOW

40	MERLA	3/4	22" WTR	66600 CFPD
50		3/4	12" WTR	49300 CFPD
60		3/4	6" WTR	34700 CFPD

GAS BOTTLE SN #:  
DATE BOTTLE FILLED:  
DATE TO BE INVOICED: 8/1/83