



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 19896

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

Elevation 2199 GR Formation Sand Eff. Pay _____ Ft.

District Calby Date Nov 9 1993 Customer Order No. _____

COMPANY NAME N-B Company - Challenger Exploration

ADDRESS Box 506 Russell KS 67165

LEASE AND WELL NO. Krows #9 COUNTY Ellis STATE KS Sec. 21 Twp. 14 Rge. 19

Mail Invoice To _____ Co. Name _____ Address _____ No. Copies Requested _____

Mail Charts To _____ Address _____ No. Copies Requested _____

Formation Test No. 1 Interval Tested From 3782 ft. to 3827 ft. Total Depth 3827 ft.

Packer Depth 3777 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 3782 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3785 ft. Recorder Number 13760 Cap. 3950

Bottom Recorder Depth (Outside) 3788 ft. Recorder Number 13400 Cap. 3950

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

Drilling Contractor Emp Ry #5 Drill Collar Length _____ I. D. _____ in.

Mud Type Chemical Viscosity 48 Weight Pipe Length 349 I. D. 3.2 in.

Weight 9.4 Water Loss 3.2 cc. Drill Pipe Length 3413 I. D. 3.8 in.

Chlorides 6000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 CD in.

Jars: Make 16 Serial Number _____ Anchor Length 45 ft. Size 5 1/2 CD in.

Did Well Flow? no Reversed Out no Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

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

Blow: FFD - Weak blow - 2" in water - decreasing

FFD - Weak blow

Recovered 180 ft. of mud w/ fine oil specks - oil less than 1%
Recovered 120 ft. of watery mud 20% water 80% mud
Recovered 180 ft. of water
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Chlorides 24000 P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 12:00 A.M. Time Pick Up Tool 1:30 P.M. Time Off Location 2:30 P.M.

Time Set Packer(s) 3:40 A.M. Time Started Off Bottom 5:40 P.M. Maximum Temperature 118

Initial Hydrostatic Pressure _____ (A) 1927 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 78 P.S.I. to (C) 156 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 1171 P.S.I.

Final Flow Period _____ Minutes 30 (E) 224 P.S.I. to (F) 253 P.S.I.

Final Closed In Period _____ Minutes 30 (G) 1171 P.S.I.

Final Hydrostatic Pressure _____ (H) 1927 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 Michael Schubert
Signature of Customer or his authorized representative

Western Representative Mike Schubert

Thanks!

FIELD INVOICE

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

WESTERN TESTING CO., INC.

Pressure Data

Date 11-9-52
 Recorder No. 13760

Test Ticket No. 19896
 Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1975</u> P.S.I.	_____ M	_____ Mins.	_____ Mins.
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	<u>1914</u> P.S.I.			

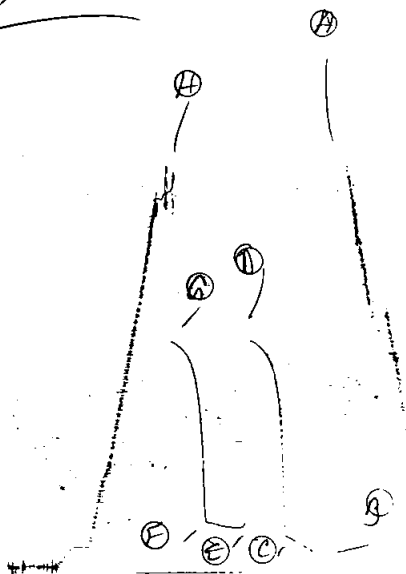
PRESSURE BREAKDOWN

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 0	<u>816</u>	0	<u>1216</u>	0	<u>210</u>	0	<u>245</u>
P 2 5	<u>816</u>	3	<u>543</u>	5	<u>210</u>	3	<u>496</u>
P 3 10	<u>98</u>	6	<u>695</u>	10	<u>210</u>	6	<u>251</u>
P 4 15	<u>119</u>	9	<u>880</u>	15	<u>215</u>	9	<u>912</u>
P 5 20	<u>138</u>	12	<u>990</u>	20	<u>232</u>	12	<u>1010</u>
P 6 25	<u>157</u>	15	<u>1059</u>	25	<u>238</u>	15	<u>1066</u>
P 7 30	<u>176</u>	18	<u>1091</u>	30	<u>245</u>	18	<u>1100</u>
P 8 35		21	<u>1122</u>	35		21	<u>1122</u>
P 9 40		24	<u>1139</u>	40		24	<u>1142</u>
P10 45		27	<u>1158</u>	45		27	<u>1152</u>
P11 50		30	<u>1170</u>	50		30	<u>1157</u>
P12 55		33		55		33	
P13 60		36		60		36	
P14 65		39		65		39	
P15 70		42		70		42	
P16 75		45		75		45	
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

137nd

JKY 19896

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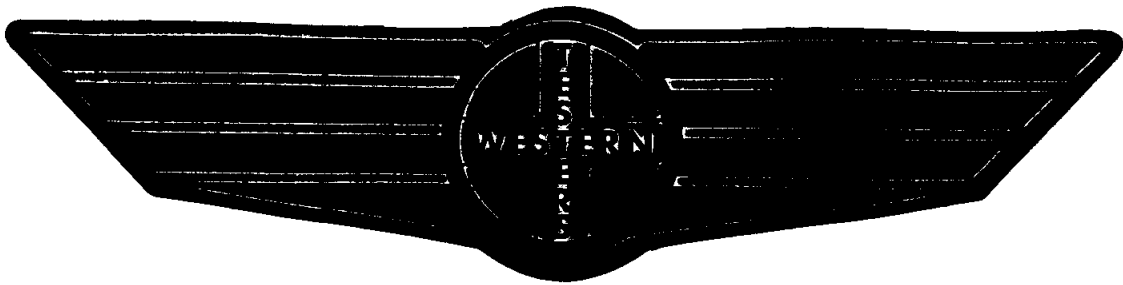
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JK 19896

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-637-021

COMPANY N B COMPANY & CHALLENGER EXPLORATION
TEST NO. #9 KRAUS
SEC. 21 TWP. 14S RGE. 19W
TEST NO. 1 DATE 11/9/93

DST REPORT

GENERAL INFORMATION

DATE : 11/9/93
CUSTOMER : N B COMPANY & CHALLENGER
WELL : #9 TEST: 1
ELEVATION: 2199 GR
SECTION : 21
RANGE : 19W COUNTY: ELLIS
GAUGE SN#: 13760 RANGE : 3950
TICKET : 19896
LEASE : KRAUS
GEOLOGIST: WERTH
FORMATION: SAND
TOWNSHIP : 14S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3782.00 ft TO: 3827.00 ft TVD: 3827.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 3785.0 ft 3788.0 ft
TEMPERATURE: 0.0
DRILL COLLAR LENGTH: 0.0 ft I.D.: 0.000 in
WEIGHT PIPE LENGTH : 349.0 ft I.D.: 3.200 in
DRILL PIPE LENGTH : 3413.0 ft I.D.: 3.800 in
TEST TOOL LENGTH : 20.0 ft TOOL SIZE : 5.500 in
ANCHOR LENGTH : 45.0 ft ANCHOR SIZE: 5.500 in
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH
PACKER DEPTH: 3777.0 ft SIZE: 6.750 in
PACKER DEPTH: 3782.0 ft SIZE: 6.750 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : EMPHASIS RIG 5
MUD TYPE : CHEMICAL VISCOSITY : 48.00 cp
WEIGHT : 9.400 ppg WATER LOSS: 8.200 cc
CHLORIDES : 6000 ppm
JARS-MAKE :
DID WELL FLOW?: NO SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW - 2 INCHES IN WATER
DECREASING. FINAL FLOW PERIOD WEAK BLOW.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
180.0	0.0	0.0	0.0	100.0	MUD W/FEW OIL SPOTS
0.0	0.0	0.0	0.0	0.0	OIL LESS THAN 1%
120.0	0.0	0.0	20.0	80.0	WATERY MUD
180.0	0.0	0.0	100.0	0.0	WATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 24000 PPM

RATE INFORMATION

OIL VOLUME:	0.0000 STB	TOTAL FLOW TIME:	60.0000 min.
GAS VOLUME:	0.0000 SCF	AVERAGE OIL RATE:	0.0000 STB/D
MUD VOLUME:	3.2797 STB	AVERAGE WATER RATE:	71.6160 STB/D
WATER VOLUME:	2.0291 STB		
TOTAL FLUID :	5.3088 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1927.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	78.00	156.00
INITIAL SHUT-IN	30.00		1171.00
FINAL FLOW	30.00	224.00	253.00
FINAL SHUT-IN	30.00		1171.00

FINAL HYDROSTATIC PRESSURE: 1927.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1975.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	86.00	176.00
INITIAL SHUT-IN	30.00		1170.00
FINAL FLOW	30.00	220.00	245.00
FINAL SHUT-IN	30.00		1157.00

FINAL HYDROSTATIC PRESSURE: 1914.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/9/93	TICKET : 19896
CUSTOMER : N B COMPANY & CHALLENGER	LEASE : KRAUS
WELL : #9 TEST: 1	GEOLOGIST: WERTH
ELEVATION: 2199 GR	FORMATION: SAND
SECTION : 21	TOWNSHIP : 14S
RANGE : 19W COUNTY: ELLIS	STATE : KS
GAUGE SN#: 13760 RANGE : 3950	CLOCK : 12

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	86.00	86.00
5.00	86.00	0.00
10.00	98.00	12.00
15.00	119.00	21.00
20.00	138.00	19.00
25.00	157.00	19.00
30.00	176.00	19.00

INITIAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	343.00	343.00	0.00
6.00	695.00	352.00	0.00
9.00	880.00	185.00	0.00
12.00	990.00	110.00	0.00
15.00	1057.00	67.00	0.00
18.00	1091.00	34.00	0.00
21.00	1122.00	31.00	0.00
24.00	1139.00	17.00	0.00
27.00	1158.00	19.00	0.00
30.00	1170.00	12.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	220.00	220.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
5.00	220.00	0.00
10.00	220.00	0.00
15.00	225.00	5.00
20.00	233.00	8.00
25.00	238.00	5.00
30.00	245.00	7.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	496.00	496.00	0.00
6.00	751.00	255.00	0.00
9.00	913.00	162.00	0.00
12.00	1010.00	97.00	0.00
15.00	1066.00	56.00	0.00
18.00	1100.00	34.00	0.00
21.00	1122.00	22.00	0.00
24.00	1142.00	20.00	0.00
27.00	1152.00	10.00	0.00
30.00	1157.00	5.00	0.00



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET NO 19897

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

Elevation 2199 BR Formation ARB Top - Sand Eff. Pay _____ Ft.

District Galley Date Nov 10 1993 Customer Order No. _____

COMPANY NAME N-B Company - Challenger Exploration

ADDRESS Po Box 506 Russell KS 67265

LEASE AND WELL NO. Kraus #9 COUNTY Ellis STATE KS Sec. 2 Twp. 14 Rge. 19

Mail Invoice To _____ Co. Name Same Address _____ No. Copies Requested Reg

Mail Charts To _____ Co. Name Same Address _____ No. Copies Requested Reg

Formation Test No. 2 Interval Tested From 3823 ft. to 3841 ft. Total Depth 3841 ft.

Packer Depth 3818 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 3823 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3826 ft. Recorder Number 13760 Cap. 3950

Bottom Recorder Depth (Outside) 3829 ft. Recorder Number 13400 Cap. 3950

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

Drilling Contractor Chemical Emphasis Drill Collar Length _____ I. D. _____ in.

Mud Type Chemical Viscosity 51 Weight Pipe Length 349 I. D. 3.2 in.

Weight 9.6 Water Loss 9.5 cc. Drill Pipe Length 3454 I. D. 3.8 in.

Chlorides 5000 P.P.M. Test Tool Length 20 ft. Tool Size 5/2 CD in.

Jars: Make AG Serial Number _____ Anchor Length 18 ft. Size 5/2 CD in.

Did Well Flow? no Reversed Out no Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 1/2 in. Tool Joint Size 4 1/2 XH in.

Blow: FFP - opened vent - increased to 6" in water

FFP - vent blow 2" in water

Recovered 1 ft. of oil

Recovered 120 ft. of wet mud on fine c. spts 50% water 50% mud - less than 1400

Recovered 427 ft. of water

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides 26,000 P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 2:00 A.M. Time Pick Up Tool 2:45 P.M. Time Off Location 9:22 A.M.

Time Set Packer(s) 4:20 P.M. Time Started Off Bottom 6:20 P.M. Maximum Temperature MR

Initial Hydrostatic Pressure _____ (A) 1956 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 19 P.S.I. to (C) 146 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 1171 P.S.I.

Final Flow Period _____ Minutes 30 (E) 175 P.S.I. to (F) 234 P.S.I.

Final Closed In Period _____ Minutes 30 (G) 1141 P.S.I.

Final Hydrostatic Pressure _____ (H) 1927 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 Rich Blake
Signature of Customer or his authorized representative

Western Representative Mike Shurtcut

FIELD INVOICE

Open Hole Test	\$
Misrun	\$
Straddle Test	\$
Jars	\$
Selective Zone	\$
Safety Joint	\$
Standby	\$
Evaluation	\$
Extra Packer	\$
Circ. Sub.	\$
Mileage	\$
Fluid Sampler	\$
Extra Charts	\$
Insurance	\$
Telecopier	\$
TOTAL	\$

WESTERN TESTING CO., INC.

Pressure Data

Date 11-10-92

Test Ticket No. 19897

Recorder No. 12760

Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2001</u> P.S.I.			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	<u>1949</u> P.S.I.			

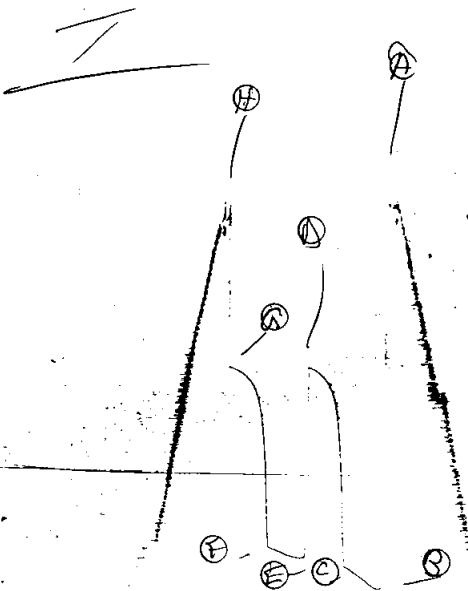
PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
P 1 0	<u>80</u>	0	<u>188</u>	0	<u>231</u>	0	<u>252</u>	0
P 2 5	<u>80</u>	3	<u>465</u>	3	<u>246</u>	5	<u>568</u>	3
P 3 10	<u>101</u>	6	<u>729</u>	6	<u>238</u>	10	<u>824</u>	6
P 4 15	<u>138</u>	9	<u>950</u>	9	<u>249</u>	15	<u>975</u>	9
P 5 20	<u>149</u>	12	<u>1057</u>	12	<u>262</u>	20	<u>1060</u>	12
P 6 25	<u>174</u>	15	<u>1107</u>	15	<u>277</u>	25	<u>1108</u>	15
P 7 30	<u>188</u>	18	<u>1197</u>	18	<u>282</u>	30	<u>1158</u>	18
P 8 35		21	<u>1160</u>	21		35	<u>1157</u>	21
P 9 40		24	<u>1174</u>	24		40	<u>1176</u>	24
P10 45		27	<u>1185</u>	27		45	<u>1181</u>	27
P11 50		30	<u>1194</u>	30		50	<u>1194</u>	30
P12 55		33		33		55		33
P13 60		36		36		60		36
P14 65		39		39		65		39
P15 70		42		42		70		42
P16 75		45		45		75		45
P17 80		48		48		80		48
P18 85		51		51		85		51
P19 90		54		54		90		54
P20 95		57		57		95		57
100		60		60		100		60

13760

DST#2

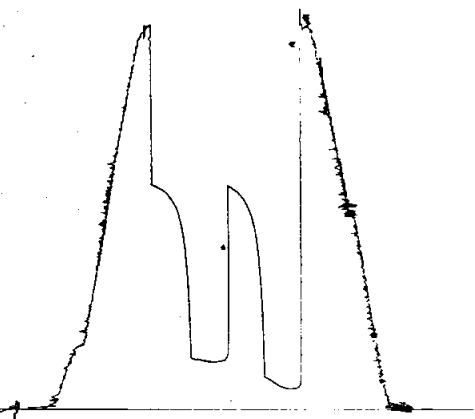
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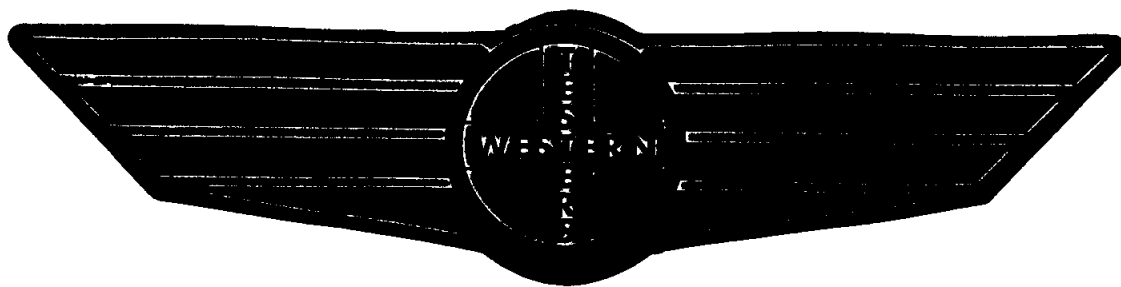
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DKT 19897

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-637-021

COMPANY N B COMPANY & CHALLENGER EXPLORATION I.F.A.S.F. & W.F.T.L. NO. #9 KRAUS SEC. 21 TWP. 14S RGF. 19W TWP. NO. 2 DATE 11/10/93

DST REPORT

GENERAL INFORMATION

DATE : 11/10/93
CUSTOMER : N B COMPANY & CHALLENGER
WELL : #9 TEST: 2
ELEVATION: 2199 GR
SECTION : 21
RANGE : 19W COUNTY: ELLIS
GAUGE SN#: 13760 RANGE : 3950
TICKET : 19897
LEASE : KRAUS
GEOLOGIST: BLAKE
FORMATION: ARBUCKLE TOP SAND
TOWNSHIP : 14S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3823.00 ft TO: 3841.00 ft TVD: 3841.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 3826.0 ft 3829.0 ft
TEMPERATURE: 0.0
DRILL COLLAR LENGTH: 0.0 ft I.D.: 0.000 in
WEIGHT PIPE LENGTH : 349.0 ft I.D.: 3.200 in
DRILL PIPE LENGTH : 3454.0 ft I.D.: 3.800 in
TEST TOOL LENGTH : 20.0 ft TOOL SIZE : 5.500 in
ANCHOR LENGTH : 18.0 ft ANCHOR SIZE: 5.500 in
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH
PACKER DEPTH: 3818.0 ft SIZE: 6.750 in
PACKER DEPTH: 3823.0 ft SIZE: 6.750 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : EMPHASIS RIG 5
MUD TYPE : CHEMICAL
WEIGHT : 9.600 ppg
CHLORIDES : 5000 ppm
JARS-MAKE :
DID WELL FLOW?: NO
VISCOSITY : 51.00 cp
WATER LOSS: 9.500 cc
SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD OPENED WEAK - INCREASED TO 6
INCHES IN WATER. FINAL FLOW PERIOD WEAK BLOW - 2
INCHES IN WATER.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
1.0	100.0	0.0	0.0	0.0	OIL
120.0	0.0	0.0	50.0	50.0	WATERY MUD W/FEW OIL
0.0	0.0	0.0	0.0	0.0	SPOTS <1%
427.0	0.0	0.0	100.0	0.0	WATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 26000 PPM

RATE INFORMATION

OIL VOLUME:	0.0140 STB	TOTAL FLOW TIME:	60.0000 min.
GAS VOLUME:	0.0000 SCF	AVERAGE OIL RATE:	0.3366 STB/D
MUD VOLUME:	0.8416 STB	AVERAGE WATER RATE:	149.9665 STB/D
WATER VOLUME:	5.4070 STB		
TOTAL FLUID :	6.2626 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1956.00

Description	Duration	pl	p End
INITIAL FLOW	30.00	19.00	146.00
INITIAL SHUT-IN	30.00		1171.00
FINAL FLOW	30.00	175.00	234.00
FINAL SHUT-IN	30.00		1141.00

FINAL HYDROSTATIC PRESSURE: 1927.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2001.00

Description	Duration	pl	p End
INITIAL FLOW	30.00	80.00	188.00
INITIAL SHUT-IN	30.00		1194.00
FINAL FLOW	30.00	231.00	283.00
FINAL SHUT-IN	30.00		1194.00

FINAL HYDROSTATIC PRESSURE: 1949.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/10/93	TICKET : 19897
CUSTOMER : N B COMPANY & CHALLENGER	LEASE : KRAUS
WELL : #9	TEST: 2
ELEVATION: 2199 GR	GEOLOGIST: BLAKE
SECTION : 21	FORMATION: ARBUCKLE TOP SAND
RANGE : 19W	TOWNSHIP : 14S
COUNTY: ELLIS	STATE : KS
RANGE : 3950	CLOCK : 12
GAUGE SN#: 13760	

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	80.00	80.00
5.00	80.00	0.00
10.00	101.00	21.00
15.00	128.00	27.00
20.00	149.00	21.00
25.00	174.00	25.00
30.00	188.00	14.00

INITIAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	462.00	462.00	0.00
6.00	773.00	311.00	0.00
9.00	950.00	177.00	0.00
12.00	1057.00	107.00	0.00
15.00	1107.00	50.00	0.00
18.00	1137.00	30.00	0.00
21.00	1160.00	23.00	0.00
24.00	1174.00	14.00	0.00
27.00	1185.00	11.00	0.00
30.00	1194.00	9.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	231.00	231.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
5.00	231.00	0.00
10.00	238.00	7.00
15.00	249.00	11.00
20.00	263.00	14.00
25.00	277.00	14.00
30.00	283.00	6.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	568.00	568.00	0.00
6.00	834.00	266.00	0.00
9.00	975.00	141.00	0.00
12.00	1060.00	85.00	0.00
15.00	1108.00	48.00	0.00
18.00	1138.00	30.00	0.00
21.00	1157.00	19.00	0.00
24.00	1171.00	14.00	0.00
27.00	1181.00	10.00	0.00
30.00	1194.00	13.00	0.00



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET NO 19898

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

Elevation 2199 GR Formation KC Eff. Pay Ft.

District Colby Date Dec 11 1993 Customer Order No.

COMPANY NAME N-B Company - Challenger Exploration

ADDRESS PO Box 508 Russell KS 67269

LEASE AND WELL NO. Kraus #9 COUNTY Ellis STATE KS Sec. 21 Twp. 14 Rge. 19

Mail Invoice To Co. Name Same Address No. Copies Requested Reg

Mail Charts To Same Address No. Copies Requested Reg

Formation Test No. 3 Interval Tested From 3630 ft. to 3702 ft. Total Depth 3849 ft.

Packer Depth 3630 ft. Size 6 3/4 in. Packer Depth 3702 ft. Size 6 3/4 in.

Packer Depth ft. Size in. Packer Depth 3707 ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3633 ft. Recorder Number 13760 Cap. 3950

Bottom Recorder Depth (Outside) 3636 ft. Recorder Number 13400 Cap. 3950

Below Straddle Recorder Depth 3846 ft. Recorder Number 13547 Cap. 4000

Drilling Contractor Emphasic #5 Drill Collar Length I. D.

Mud Type Chemical Viscosity 51 Weight Pipe Length 349 I. D. 3.2

Weight 9.6 Water Loss 9.5 cc. Drill Pipe Length 3266 I. D. 3.8

Chlorides 5000 P.P.M. Test Tool Length 15 ft. Tool Size 5 1/2 OD in.

Jars: Make No Serial Number Anchor Length 72 ft. Size 5 1/2 OD in.

Did Well Flow? No Reversed Out No Surface Choke Size 3 1/4 in. Bottom Choke Size 3 1/4 in.

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

Blow: IFP- Weak blow 3/4" - decreasing

FFP-

Recovered 5 ft. of oil

Recovered 125 ft. of oil cut mud 10% oil 90% mud

Recovered 240 ft. of gas odor above fluid

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used Remarks:

Time On Location 5:00 AM P.M. Time Pick Up Tool 6:00 AM P.M. Time Off Location AM P.M.

Time Set Packer(s) 7:20 AM P.M. Time Started Off Bottom 9:20 AM P.M. Maximum Temperature

Initial Hydrostatic Pressure (A) 1956 P.S.I.

Initial Flow Period Minutes 30 (B) 39 P.S.I. to (C) 58 P.S.I.

Initial Closed In Period Minutes 30 (D) 838 P.S.I.

Final Flow Period Minutes 30 (E) 78 P.S.I. to (F) 97 P.S.I.

Final Closed In Period Minutes 30 (G) 819 P.S.I.

Final Hydrostatic Pressure (H) 1920 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 [Signature]

Thanks!

FIELD INVOICE

Open Hole Test \$
Misrun \$
Straddle Test \$
Jars \$
Selective Zone \$
Safety Joint \$
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$
Mileage \$
Fluid Sampler \$
Extra Charts \$
Insurance \$
Telecopier \$
TOTAL \$

WESTERN TESTING CO., INC.
Pressure Data

Date 11-11-92 Test Ticket No. 19898
 Recorder No. 12700 Capacity _____ Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1908</u> 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	<u>1867</u> P.S.I.			

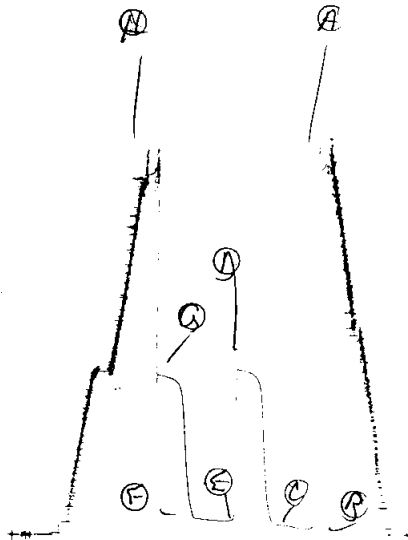
PRESSURE BREAKDOWN

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 0	<u>48</u>	0	<u>64</u>	0	<u>88</u>	0	<u>88</u>
P 2 5	<u>48</u>	3	<u>85</u>	5	<u>88</u>	3	<u>168</u>
P 3 10	<u>50</u>	6	<u>181</u>	10	<u>88</u>	6	<u>356</u>
P 4 15	<u>56</u>	9	<u>422</u>	15	<u>89</u>	9	<u>629</u>
P 5 20	<u>61</u>	12	<u>756</u>	20	<u>91</u>	12	<u>774</u>
P 6 25	<u>63</u>	15	<u>804</u>	25	<u>94</u>	15	<u>776</u>
P 7 30	<u>64</u>	18	<u>827</u>	30	<u>98</u>	18	<u>825</u>
P 8 35		21	<u>838</u>	35		21	<u>833</u>
P 9 40		24	<u>844</u>	40		24	<u>839</u>
P10 45		27	<u>846</u>	45		27	<u>838</u>
P11 50		30	<u>850</u>	50		30	<u>835</u>
P12 55		33		55		33	
P13 60		36		60		36	
P14 65		39		65		39	
P15 70		42		70		42	
P16 75		45		75		45	
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

13760
#3

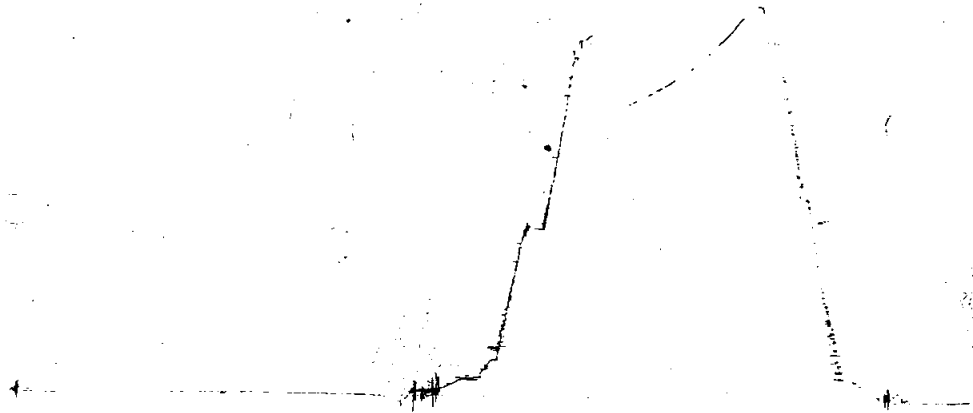
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Saddle
D5H3.

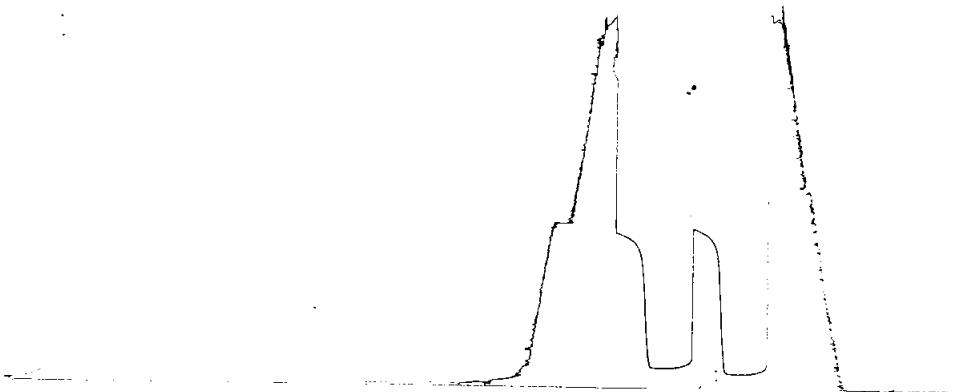
JK4 19898
Below Saddle



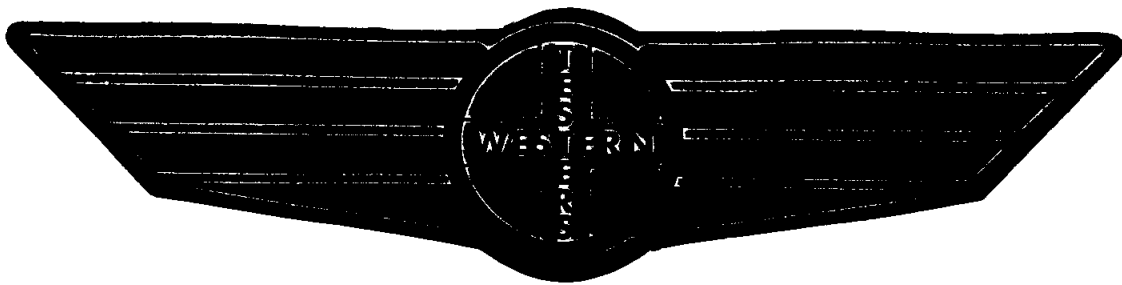
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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-637-021

COMPANY N B COMPANY & CHALLENGER EXPLORATION
LEASE & WELL NO. #9 KRAUS
SEC. 21 TWP. 14S RGE. 19W
TEST NO. 3
DATE 11/11/93

DST REPORT

GENERAL INFORMATION

DATE : 11/11/93
CUSTOMER : N B COMPANY & CHALLENGER
WELL : #9 TEST: 3
ELEVATION: 2199 GR
SECTION : 21
RANGE : 19W COUNTY: ELLIS
GAUGE SN#: 13760 RANGE : 3950
TICKET : 19898
LEASE : KRAUS
GEOLOGIST: NELSON
FORMATION: KANSAS CITY
TOWNSHIP : 14S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3630.00 ft TO: 3702.00 ft TVD: 3849.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 3633.0 ft 3636.0 ft
TEMPERATURE: 0.0
DRILL COLLAR LENGTH: 0.0 ft I.D.: 0.000 in
WEIGHT PIPE LENGTH : 349.0 ft I.D.: 3.200 in
DRILL PIPE LENGTH : 3266.0 ft I.D.: 3.800 in
TEST TOOL LENGTH : 15.0 ft TOOL SIZE : 5.500 in
ANCHOR LENGTH : 72.0 ft ANCHOR SIZE: 5.500 in
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH
PACKER DEPTH: 3630.0 ft SIZE: 6.750 in
PACKER DEPTH: 3702.0 ft SIZE: 6.750 in
PACKER DEPTH: 3707.0 ft SIZE: 6.750 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : EMPHASIS RIG 5
MUD TYPE : CHEMICAL VISCOSITY : 51.00 cp
WEIGHT : 9.600 ppg WATER LOSS: 9.500 cc
CHLORIDES : 5000 ppm
JARS-MAKE :
DID WELL FLOW?: NO SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW - 3/4 INCHES -
DECREASING.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
5.0	100.0	0.0	0.0	0.0	OIL
125.0	10.0	0.0	0.0	90.0	OIL CUT MUD
0.0	0.0	0.0	0.0	0.0	240FT. GAS ODOR ABOVE
0.0	0.0	0.0	0.0	0.0	FLUID

RATE INFORMATION

OIL VOLUME:	0.1741 STB	TOTAL FLOW TIME:	60.0000 min.
GAS VOLUME:	0.0000 SCF	AVERAGE OIL RATE:	31.0336 STB/D
MUD VOLUME:	1.1190 STB	AVERAGE WATER RATE:	0.0000 STB/D
WATER VOLUME:	0.0000 STB		
TOTAL FLUID :	1.2931 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1956.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	39.00	58.00
INITIAL SHUT-IN	30.00		838.00
FINAL FLOW	30.00	78.00	97.00
FINAL SHUT-IN	30.00		819.00

FINAL HYDROSTATIC PRESSURE: 9120.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1908.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	48.00	64.00
INITIAL SHUT-IN	30.00		850.00
FINAL FLOW	30.00	88.00	98.00
FINAL SHUT-IN	30.00		825.00

FINAL HYDROSTATIC PRESSURE: 1867.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 11/11/93	TICKET	: 19898
CUSTOMER	: N B COMPANY & CHALLENGER	LEASE	: KRAUS
WELL	: #9	TEST:	3
ELEVATION:	2199 GR	GEOLOGIST:	NELSON
SECTION	: 21	FORMATION:	KANSAS CITY
RANGE	: 19W	TOWNSHIP	: 14S
GAUGE SN#:	13760	STATE	: KS
		CLOCK	: 12
		COUNTY:	ELLIS
		RANGE	: 3950

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	48.00	48.00
5.00	48.00	0.00
10.00	50.00	2.00
15.00	56.00	6.00
20.00	61.00	5.00
25.00	63.00	2.00
30.00	64.00	1.00

INITIAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	83.00	83.00	0.00
6.00	181.00	98.00	0.00
9.00	473.00	292.00	0.00
12.00	756.00	283.00	0.00
15.00	804.00	48.00	0.00
18.00	827.00	23.00	0.00
21.00	838.00	11.00	0.00
24.00	844.00	6.00	0.00
27.00	846.00	2.00	0.00
30.00	850.00	4.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	88.00	88.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
5.00	88.00	0.00
10.00	88.00	0.00
15.00	89.00	1.00
20.00	91.00	2.00
25.00	94.00	3.00
30.00	98.00	4.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	168.00	168.00	0.00
6.00	356.00	188.00	0.00
9.00	639.00	283.00	0.00
12.00	774.00	135.00	0.00
15.00	796.00	22.00	0.00
18.00	805.00	9.00	0.00
21.00	813.00	8.00	0.00
24.00	819.00	6.00	0.00
27.00	822.00	3.00	0.00
30.00	825.00	3.00	0.00



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET NO: 19899

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

Elevation 2199 BR Formation RC Eff. Pay Ft.

District Colby Date Nov 11 1993 Customer Order No.

COMPANY NAME N-B Company - Challenger Exploration

ADDRESS PO Box 5016 Russell KS 67865

LEASE AND WELL NO. Kraus #9 COUNTY Ellis STATE KS Sec. 21 Twp. 14 Rge. 19

Mail Invoice To Co. Name #9 Kraus Same Address No. Copies Requested Reg

Mail Charts To #9 Kraus Same Address No. Copies Requested Reg

Formation Test No. 4 Interval Tested From 3466 ft. to 3541 ft. Total Depth 3849 ft.

Packer Depth 3466 ft. Size 6 3/4 in. Packer Depth 3541 ft. Size 6 3/4 in.

Packer Depth - ft. Size - in. Packer Depth 3546 ft. Size 6 3/4 in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3469 ft. Recorder Number 13760 Cap. 3950

Bottom Recorder Depth (Outside) 3472 ft. Recorder Number 13400 Cap. 3950

Below Straddle Recorder Depth 3846 ft. Recorder Number 13547 Cap. 4000

Drilling Contractor Emphasis Drill Collar Length - I. D. - in.

Mud Type Chemical Viscosity 48 Weight Pipe Length 95 I. D. 3.2 in.

Weight 9.7 Water Loss 10.0 cc. Drill Pipe Length 3351 I. D. 3.8 in.

Chlorides 6000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make #9 Serial Number - Anchor Length 75 ft. Size 5 1/2 OD in.

Did Well Flow? No Reversed Out No Surface Choke Size 3 1/4 in. Bottom Choke Size 3 1/4 in.

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

Blow: 1FP Break blow 3 1/4" in water

FFP Weak blow 1/2" in water

Recovered 2 ft. of oil

Recovered 198 ft. of oil 190 oil 99 1/2 mud

Recovered 60 ft. of GIP Above fluid

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used Remarks:

Time On Location A.M. P.M. Time Pick Up Tool 12 00 A.M. P.M. Time Off Location A.M. P.M.

Time Set Packer(s) 1 35 A.M. P.M. Time Started Off Bottom 4 35 A.M. P.M. Maximum Temperature

Initial Hydrostatic Pressure (A) 1790 P.S.I.

Initial Flow Period Minutes 45 (B) 48 P.S.I. to (C) 87 P.S.I.

Initial Closed In Period Minutes 45 (D) 605 P.S.I.

Final Flow Period Minutes 45 (E) 107 P.S.I. to (F) 126 P.S.I.

Final Closed In Period Minutes 45 (G) 585 P.S.I.

Final Hydrostatic Pressure (H) 1760 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 [Signature] Mike Schubert

FIELD INVOICE

Open Hole Test \$
Misrun \$
Straddle Test \$
Jars \$
Selective Zone \$
Safety Joint \$
Standby \$
Evaluation \$
Extra Packers \$
Circ. Sub. \$
Mileage \$
Fluid Sampler \$
Extra Charts \$
Insurance \$
Telecopier \$
TOTAL \$

WESTERN TESTING CO., INC.

Pressure Data

Date 11-11-93

Test Ticket No. 19899

Recorder No. B260

Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

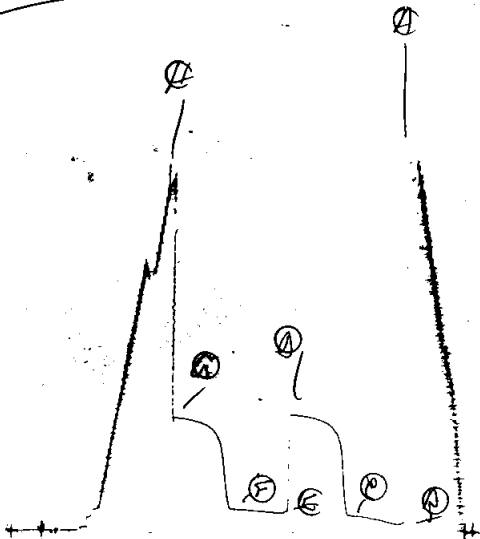
Point	Pressure	P.S.I.	Open Tool	Time Given	Time Computed
A	Initial Hydrostatic Mud	<u>1810</u>	P.S.I.	_____	_____
B	First Initial Flow Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
C	First Final Flow Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
D	Initial Closed-in Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
E	Second Initial Flow Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
F	Second Final Flow Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
G	Final Closed-in Pressure	_____	P.S.I.	_____ Mins.	_____ Mins.
H	Final Hydrostatic Mud	<u>1794</u>	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	<u>51</u>	0	<u>94</u>	0	<u>107</u>	0	<u>223</u>
P 2	<u>51</u>	3	<u>223</u>	5	<u>107</u>	3	<u>195</u>
P 3	<u>54</u>	6	<u>460</u>	10	<u>107</u>	6	<u>310</u>
P 4	<u>62</u>	9	<u>511</u>	15	<u>109</u>	9	<u>472</u>
P 5	<u>72</u>	12	<u>540</u>	20	<u>115</u>	12	<u>505</u>
P 6	<u>26</u>	15	<u>556</u>	25	<u>116</u>	15	<u>524</u>
P 7	<u>84</u>	18	<u>568</u>	30	<u>118</u>	18	<u>548</u>
P 8	<u>90</u>	21	<u>576</u>	35	<u>120</u>	21	<u>557</u>
P 9	<u>92</u>	24	<u>584</u>	40	<u>122</u>	24	<u>564</u>
P10	<u>94</u>	27	<u>587</u>	45	<u>122</u>	27	<u>571</u>
P11		30	<u>592</u>	50		30	<u>576</u>
P12		33	<u>595</u>	55		33	<u>581</u>
P13		36	<u>598</u>	60		36	<u>584</u>
P14		39	<u>600</u>	65		39	<u>587</u>
P15		42	<u>605</u>	70		42	<u>589</u>
P16		45		75		45	
P17		48		80		48	
P18		51		85		51	
P19		54		90		54	
P20		57		95		57	
		60		100		60	

HT 19899

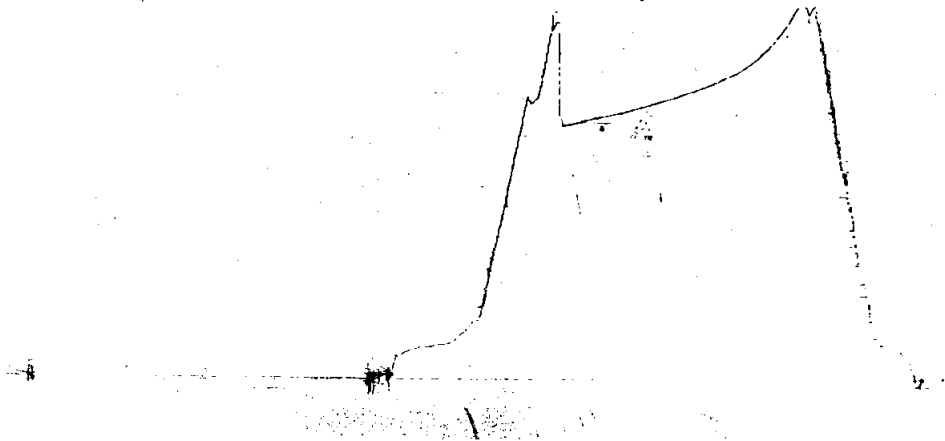
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at Straddle

JKT 19899

Below Straddle

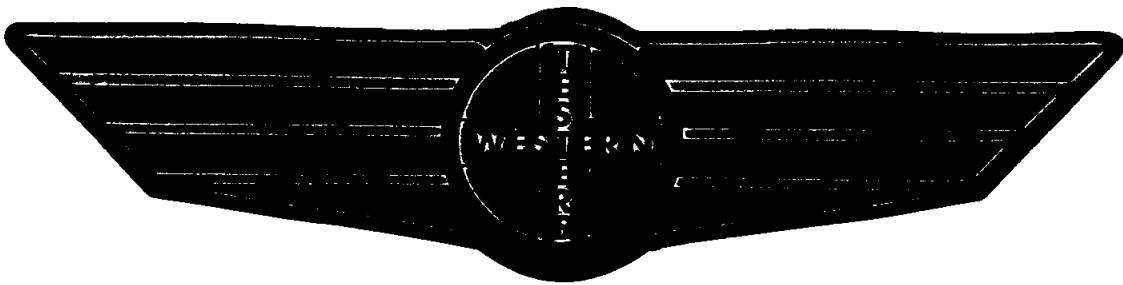


KT 1989

for
me



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-637-021

COMPANY N B COMPANY & CHALLENGER EXPLORATION LEASE & WELL NO. #9 KRAUS SFC. 21 TWP. 14S RGE. 19W TEST NO. 4 DATE 11/11/93

DST REPORT

GENERAL INFORMATION

DATE : 11/11/93
CUSTOMER : N B COMPANY & CHALLENGER
WELL : #9 TEST: 4
ELEVATION: 2199 GR
SECTION : 21
RANGE : 19W COUNTY: ELLIS
GAUGE SN#: 13760 RANGE : 3950
TICKET : 19899
LEASE : KRAUS
GEOLOGIST: NELSON
FORMATION: KANSAS CITY
TOWNSHIP : 14S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3466.00 ft TO: 3541.00 ft TVD: 3849.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 3469.0 ft 3472.0 ft
TEMPERATURE: 0.0
DRILL COLLAR LENGTH: 0.0 ft I.D.: 0.000 in
WEIGHT PIPE LENGTH : 95.0 ft I.D.: 3.200 in
DRILL PIPE LENGTH : 3351.0 ft I.D.: 3.800 in
TEST TOOL LENGTH : 20.0 ft TOOL SIZE : 5.500 in
ANCHOR LENGTH : 75.0 ft ANCHOR SIZE: 5.500 in
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH
PACKER DEPTH: 3466.0 ft SIZE: 6.750 in
PACKER DEPTH: 3541.0 ft SIZE: 6.750 in
PACKER DEPTH: 3546.0 ft SIZE: 6.750 in
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : EMPHASIS RIG 5
MUD TYPE : CHEMICAL
WEIGHT : 9.700 ppg
CHLORIDES : 6000 ppm
JARS-MAKE :
DID WELL FLOW?: NO
VISCOSITY : 48.00 cp
WATER LOSS: 10.000 cc
SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW - 3/4 INCHES IN
WATER. FINAL FLOW PERIOD WEAK BLOW - 1/4 TO 1/2
INCH IN WATER.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
2.0	100.0	0.0	0.0	0.0	OIL
198.0	1.0	0.0	0.0	99.0	OIL CUT MUD
0.0	0.0	0.0	0.0	0.0	60 FT GAS ABOVE FLUID

RATE INFORMATION

OIL VOLUME:	0.0519	STB	TOTAL FLOW TIME:	90.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	38.6832	STB/D
MUD VOLUME:	2.3658	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	2.4177	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1790.00

Description	Duration	p1	p End
INITIAL FLOW	45.00	48.00	87.00
INITIAL SHUT-IN	45.00		605.00
FINAL FLOW	45.00	107.00	126.00
FINAL SHUT-IN	45.00		585.00

FINAL HYDROSTATIC PRESSURE: 1760.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1810.00

Description	Duration	p1	p End
INITIAL FLOW	45.00	51.00	94.00
INITIAL SHUT-IN	42.00		605.00
FINAL FLOW	45.00	107.00	123.00
FINAL SHUT-IN	42.00		589.00

FINAL HYDROSTATIC PRESSURE: 1794.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/11/93	TICKET : 19899
CUSTOMER : N B COMPANY & CHALLENGER	LEASE : KRAUS
WELL : #9 TEST: 4	GEOLOGIST: NELSON
ELEVATION: 2199 GR	FORMATION: KANSAS CITY
SECTION : 21	TOWNSHIP : 14S
RANGE : 19W COUNTY: ELLIS	STATE : KS
GAUGE SN#: 13760 RANGE : 3950	CLOCK : 12

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	51.00	51.00
5.00	51.00	0.00
10.00	54.00	3.00
15.00	63.00	9.00
20.00	72.00	9.00
25.00	76.00	4.00
30.00	84.00	8.00
35.00	90.00	6.00
40.00	92.00	2.00
45.00	94.00	2.00

INITIAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	273.00	273.00	0.00
6.00	460.00	187.00	0.00
9.00	511.00	51.00	0.00
12.00	540.00	29.00	0.00
15.00	556.00	16.00	0.00
18.00	568.00	12.00	0.00
21.00	576.00	8.00	0.00
24.00	584.00	8.00	0.00
27.00	587.00	3.00	0.00
30.00	592.00	5.00	0.00
33.00	595.00	3.00	0.00
36.00	598.00	3.00	0.00
39.00	600.00	2.00	0.00
42.00	605.00	5.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	107.00	107.00
5.00	107.00	0.00
10.00	107.00	0.00
15.00	109.00	2.00
20.00	112.00	3.00
25.00	116.00	4.00
30.00	118.00	2.00
35.00	120.00	2.00
40.00	122.00	2.00
45.00	123.00	1.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	195.00	195.00	0.00
6.00	366.00	171.00	0.00
9.00	472.00	106.00	0.00
12.00	505.00	33.00	0.00
15.00	534.00	29.00	0.00
18.00	548.00	14.00	0.00
21.00	557.00	9.00	0.00
24.00	564.00	7.00	0.00
27.00	571.00	7.00	0.00
30.00	576.00	5.00	0.00
33.00	581.00	5.00	0.00
36.00	584.00	3.00	0.00
39.00	587.00	3.00	0.00
42.00	589.00	2.00	0.00