

WELL NAME: Kohl # 5
COMPANY: KenMark Corp
LOCATION: 14-12S-21W
Trego County Kansas
DATE: 05/02/97

TRILOBITE TESTING L.L.C.

OPERATOR : KenMark Corp

DATE 4/30/97

WELL NAME: Kohl #5

KB 2373.00 ft

TICKET NO: 10125 DST #1

LOCATION : 14-12-21 Trego KS

GR 2365.00 ft

FORMATION: Marmation

INTERVAL : 3970.00 To 3995.00 ft

TD 3995.00 ft

TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13754	13754	13249			PF Fr. 2235 to 2305 hr
SI 30 Range(Psi)	4000.0	4000.0	4500.0	0.0	0.0	IS Fr. 2305 to 2335 hr
SF 30 Clock(hrs)	12 hr	12 hr	12 hr			SF Fr. 2335 to 0005 hr
FS 30 Depth(ft)	3975.0	3975.0	3992.0	0.0	0.0	FS Fr. 0005 to 0035 hr

	Field	1	2	3	4	
A. Init Hydro	2056.0	2054.0	0.0	0.0	0.0	T STARTED 2120 hr
B. First Flow	19.0	30.0	0.0	0.0	0.0	T ON BOTM 2225 hr
B1. Final Flow	29.0	47.0	0.0	0.0	0.0	T OPEN 2235 hr
C. In Shut-in	986.0	1000.0	0.0	0.0	0.0	T PULLED 0035 hr
D. Init Flow	49.0	70.0	0.0	0.0	0.0	T OUT 0200 hr
E. Final Flow	59.0	67.0	0.0	0.0	0.0	
F. Fl Shut-in	946.0	969.0	0.0	0.0	0.0	
G. Final Hydro	1986.0	2031.0	0.0	0.0	0.0	TOOL DATA-----
Inside/Outside	I	I	O			Tool Wt. 1000.00 lbs
						Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 50000.00 lbs
						Initial Str Wt 39000.00 lbs
						Unseated Str Wt 39000.00 lbs
						Bot Choke 0.75 in
						Hole Size 2.25 in
						D Col. ID 7.88 in
						D. Pipe ID 3.80 in
						D.C. Length 30.00 ft
						D.P. Length 3938.00 ft

RECOVERY

Tot Fluid 90.00 ft of 30.00 ft in DC and 60.00 ft in DP
 30.00 ft of Clean Oil
 0.00 ft of
 60.00 ft of Oil Cut Mud
 0.00 ft of 20%oil 80%mud
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initital Flow:
 Weak blow building to 2"

Initial Shut In:

Final Flow:
 Weak 1/4" steady blow

Final Shut In:

SAMPLES:

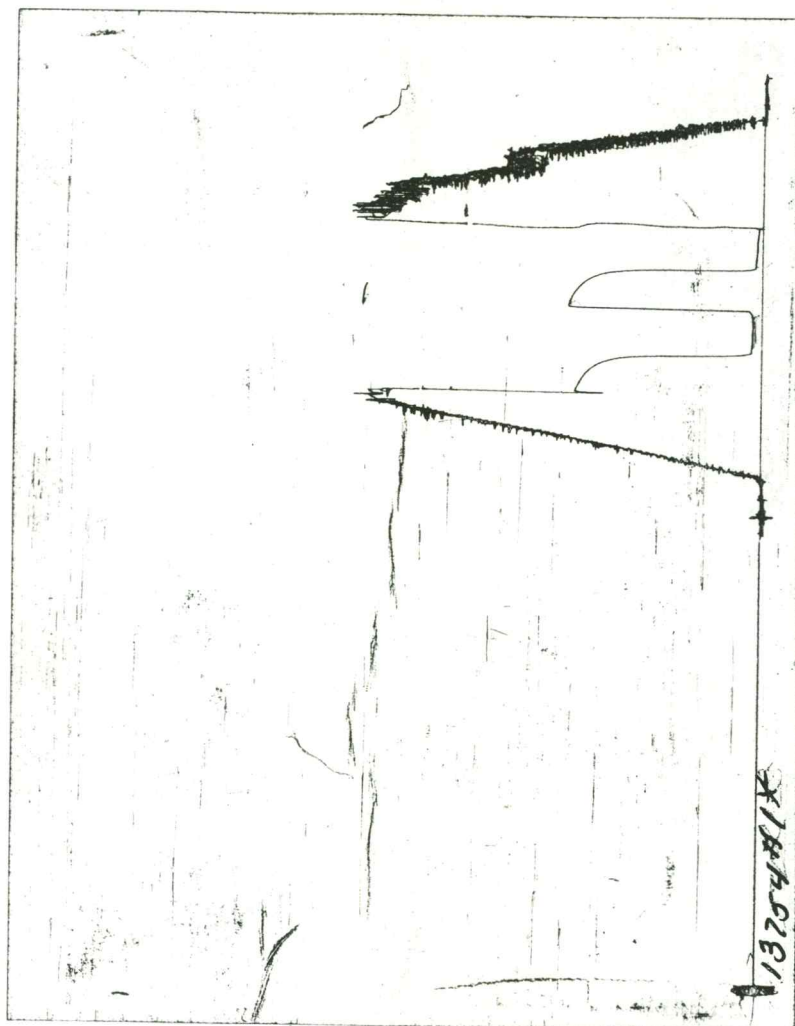
SENT TO:

MUD DATA-----
 Mud Type Chemical
 Weight 9.40 lb/cf
 Vis. 48.00 S/L
 W.L. 8.80 in3
 F.C. 0.00 in
 Mud Drop

Amt. of fill 0.00 ft
 Btm. H. Temp. 111.00 F
 Hole Condition
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out
 Tool Chased
 Tester Dan Bangle
 Co. Rep. Mark Kilian
 Contr. Discovery
 Rig # 1
 Unit #
 Pump T.

Test Successful: Y

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Nº 10125

Well Name & No. <u>Kohl #5</u>	Test No. <u>1</u>	Date <u>4-30-97</u>
Company <u>KenMark Corp.</u>	Zone Tested <u>Marmaton</u>	
Address <u>P.O. Box 572, Hays, Ks. 67601</u>	Elevation <u>2373</u>	KB <u>2365</u> GL
Co. Rep / Geo. <u>Mark Kilian</u>	Cont. <u>Discovery #1</u>	Est. Ft. of Pay <u> </u> Por. <u> </u> %
Location: Sec. <u>14</u> Twp. <u>12</u> Rge. <u>21</u>	Co. <u>Trego</u>	State <u>Ks</u>
No. of Copies <u> </u>	Distribution Sheet (Y, N) <u> </u>	Turnkey (Y, N) <u> </u> Evaluation (Y, N) <u> </u>

Interval Tested 3970 - 3995 Initial Str Wt./Lbs. 39,000 Unseated Str Wt./Lbs. 39,000
Anchor Length 25 Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 20,000
Top Packer Depth 3965 Tool Weight 1000
Bottom Packer Depth 3970 Hole Size — 7 7/8" Rubber Size — 6 3/4"
Total Depth 3995 Wt. Pipe Run Drill Collar Run 30
Mud Wt. 9.4 LCM Vis. 48 WL 8.8 Drill Pipe Size 4.5 x 14 Ft. Run 3938
Blow Description I.F. Weak - building to 2"

F.F. Weak 4" Steady blow

Recovery — Total Feet <u>90</u>	GIP <u> </u>	Ft. in DC <u>30</u>	Ft. in DP <u>60</u>
Rec. <u>30</u> Feet Of <u>CD</u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u>60</u> Feet Of <u>OCM</u>	%gas <u>20</u> %oil <u> </u> %water <u>80</u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
BHT <u>111</u> °F Gravity <u> </u>	°API D@ <u> </u>	°F Corrected Gravity <u> </u>	°API <u> </u>
RW <u> </u> @ <u> </u> °F Chlorides <u> </u>	ppm Recovery <u> </u>	Chlorides <u>3,000</u>	ppm System <u> </u>
(A) Initial Hydrostatic Mud <u>2056</u>	PSI Recorder No. <u>13754</u>	T-Started <u>21:20</u>	
(B) First Initial Flow Pressure <u>19</u>	PSI (depth) <u>3975</u>	T-Open <u>22:35</u>	
(C) First Final Flow Pressure <u>29</u>	PSI Recorder No. <u>13249</u>	T-Pulled <u>00:35</u>	
(D) Initial Shut-in Pressure <u>986</u>	PSI (depth) <u>3992</u>	T-Out <u>02:00</u>	
(E) Second Initial Flow Pressure <u>49</u>	PSI Recorder No. <u> </u>		
(F) Second Final Flow Pressure <u>59</u>	PSI (depth) <u> </u>		
(G) Final Shut-in Pressure <u>946</u>	PSI Initial Opening <u>30</u>	Test <u>600</u>	
(H) Final Hydrostatic Mud <u>1986</u>	PSI Initial Shut-in <u>30</u>	Jars <u> </u>	
	Final Flow <u>30</u>	Safety Joint <u> </u>	
	Final Shut-in <u>30</u>	Straddle <u> </u>	
		Circ. Sub <u> </u>	
		Sampler <u> </u>	
		Extra Packer <u> </u>	
		Elect. Rec. <u> </u>	
		Other <u> </u>	
		TOTAL PRICE \$ <u>600</u>	

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF 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, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By

Our Representative Dan Bangle

TRILOBITE TESTING L.L.C.

OPERATOR : Kenmark Corp

DATE 5/1/97

WELL NAME: Kohl #5

KB 23730.00 ft

TICKET NO: 10151

DST #2

LOCATION : 14-12-21 Trego KS

GR 2365.00 ft

FORMATION: Arbuckle

INTERVAL : 4031.00 To 4065.00 ft

TD 4065.00 ft

TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 45 Rec.	13754	13754	13249			PF Fr. 1245 to 1330 hr
SI 45 Range(Psi)	4000.0	4000.0	4500.0	0.0	0.0	IS Fr. 1330 to 1415 hr
SF 30 Clock(hrs)	12 hr	12 hr	12 hr			SF Fr. 1415 to 1445 hr
FS 45 Depth(ft)	4036.0	4036.0	4062.0	0.0	0.0	FS Fr. 1445 to 1530 hr

	Field	1	2	3	4	
A. Init Hydro	2087.0	2102.0	0.0	0.0	0.0	T STARTED 1140 hr
B. First Flow	49.0	64.0	0.0	0.0	0.0	T ON BOTM 1240 hr
B1. Final Flow	98.0	113.0	0.0	0.0	0.0	T OPEN 1245 hr
C. In Shut-in	946.0	961.0	0.0	0.0	0.0	T PULLED 1530 hr
D. Init Flow	127.0	142.0	0.0	0.0	0.0	T OUT 1745 hr
E. Final Flow	137.0	155.0	0.0	0.0	0.0	
F. Fl Shut-in	917.0	925.0	0.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2056.0	2083.0	0.0	0.0	0.0	Tool Wt. 1000.00 lbs
Inside/Outside	I	I	O			Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 58000.00 lbs
						Initial Str Wt 40000.00 lbs
						Unseated Str Wt 42000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 30.00 ft
						D.P. Length 4001.00 ft

RECOVERY

Tot Fluid 465.00 ft of 30.00 ft in DC and 435.00 ft in DP
 179.00 ft of Clean Gassy Oil
 0.00 ft of 10%gas 90%oil
 286.00 ft of Gassy Mud Cut Oil
 0.00 ft of 10%gas 40%mud 50%oil
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 0.00 P.P.M. A.P.I. Gravity 36.00

BLOW DESCRIPTION

Initial Flow:

Weak building to strong blow, bottom
 of bucket in 25 minutes

Initial Shut In:

Final Flow:

Weak blow building to 14" strong blow

Final Shut In:

SAMPLES:

SENT TO:

MUD DATA-----

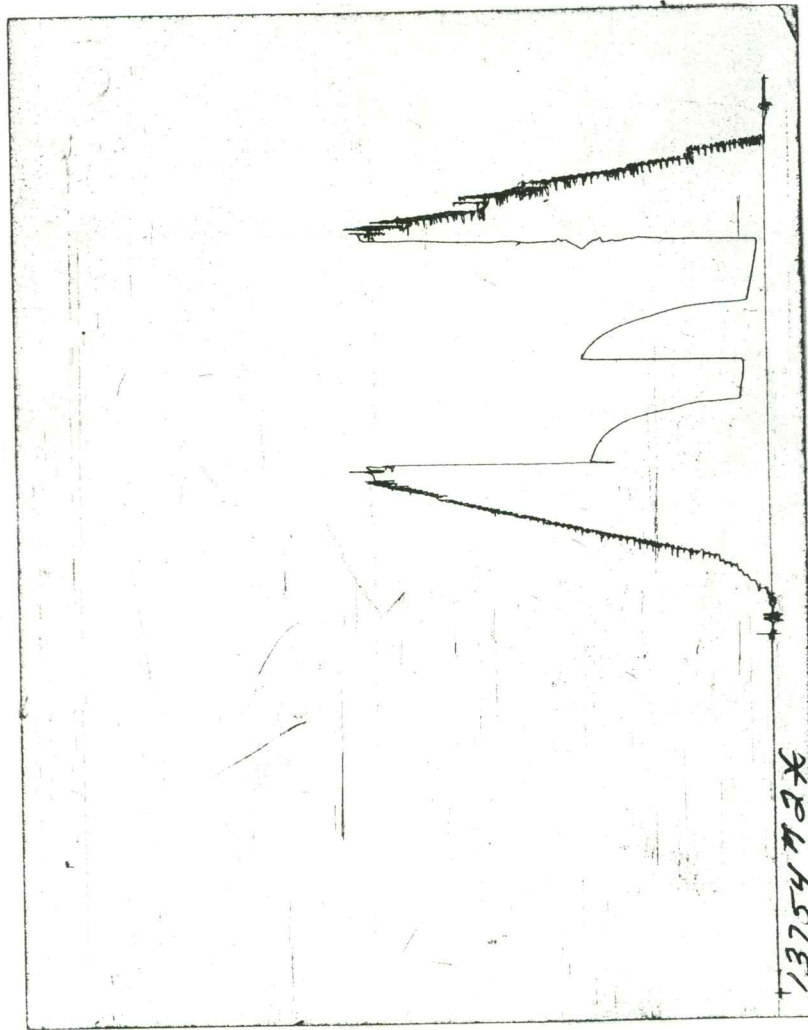
Mud Type	Chemical
Weight	9.50 lb/cf
Vis.	55.00 S/L
W.L.	9.60 in3
F.C.	0.00 in
Mud Drop	

Amt. of fill	0.00 ft
Btm. H. Temp.	120.00 F
Hole Condition	
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	

Tester	Dan Bangle
Co. Rep.	Mark Kilian
Contr.	Discovery
Rig #	1
Unit #	
Pump T.	

Test Successful: Y

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

N^o 10151

Well Name & No. <u>Kohl #5</u>	Test No. <u>2</u>	Date <u>5-1-97</u>
Company <u>KenMark Corp.</u>	Zone Tested <u>Archville</u>	
Address _____	Elevation <u>2373</u> KB <u>2365</u> GL	
Co. Rep / Geo. <u>Mark Kilian</u>	Cont. <u>Discovery #1</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. <u>14</u> Twp. <u>12</u> Rge. <u>21</u> Co. <u>Trego</u> State <u>Ks</u>		
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested 4031 - 4065 Initial Str Wt./Lbs. 40000 Unseated Str Wt./Lbs. 42000
 Anchor Length 34 Wt. Set Lbs. 20000 Wt. Pulled Loose/Lbs. 58000
 Top Packer Depth 4026 Tool Weight 1000
 Bottom Packer Depth 4031 Hole Size — 7 7/8" Rubber Size — 6 3/4"
 Total Depth 4065 Wt. Pipe Run _____ Drill Collar Run 30
 Mud Wt. 9.5 LCM _____ Vis. 55 WL 9.6 Drill Pipe Size 4.5 X H Ft. Run 4001
 Blow Description I.F. Weak - building to strong - B.O.B. in 25 min.

E.F. Weak - building to 14" strong blow

Recovery — Total Feet 465 GIP 258 Ft. in DC 30 Ft. in DP 435
 Rec. 179 Feet Of CGSYO 10 %gas 90 %oil %water %mud
 Rec. 286 Feet Of mcgsyo 10 %gas 50 %oil %water 40 %mud
 Rec. _____ Feet Of _____ %gas %oil %water %mud
 Rec. _____ Feet Of _____ %gas %oil %water %mud
 Rec. _____ Feet Of _____ %gas %oil %water %mud
 BHT 120 °F Gravity _____ °API D@ _____ °F Corrected Gravity 36 °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 3000 ppm System
 (A) Initial Hydrostatic Mud 2087 PSI Recorder No. 13754 T-Started 11:40
 (B) First Initial Flow Pressure 49 PSI (depth) 4036 T-Open 12:45
 (C) First Final Flow Pressure 98 PSI Recorder No. 13249 T-Pulled 15:45
 (D) Initial Shut-in Pressure 946 PSI (depth) 4062 T-Out 17:45
 (E) Second Initial Flow Pressure 127 PSI Recorder No. _____
 (F) Second Final Flow Pressure 137 PSI (depth) _____
 (G) Final Shut-in Pressure 917 PSI Initial Opening 45 Test 1700
 (H) Final Hydrostatic Mud 2056 PSI Initial Shut-in 45 Jars _____

Final Flow 4530 Safety Joint _____
 Final Shut-in 45 Straddle _____

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Circ. Sub _____
 Sampler _____
 Extra Packer _____
 Elect. Rec. _____
 Other _____
 TOTAL PRICE \$ 700

Approved By _____

Our Representative Dan Bangle

TRILOBITE TESTING L.L.C.

OPERATOR : KenMark Corp

DATE 5/2/97

WELL NAME: Kohl #5

KB 2373.00 ft

TICKET NO: 10152 DST #3

LOCATION : 14-12-21 Trego KS

GR 2365.00 ft

FORMATION: Arbuckle

INTERVAL : 4066.00 To 4074.00 ft

TD 4074.00 ft

TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 15 Rec.	13754	13754	13249			PF Fr. 0105 to 0120 hr
SI 15 Range(Psi)	4000.0	4000.0	4500.0	0.0	0.0	IS Fr. 0120 to 0135 hr
SF 0 Clock(hrs)	12 hr	12 hr	12 hr			SF Fr. to hr
FS 0 Depth(ft)	4067.0	4067.0	4071.0	0.0	0.0	FS Fr. to hr

	Field	1	2	3	4	
A. Init Hydro	2127.0	2139.0	0.0	0.0	0.0	T STARTED 0000 hr
B. First Flow	9.0	23.0	0.0	0.0	0.0	T ON BOTM 0100 hr
Bl. Final Flow	19.0	32.0	0.0	0.0	0.0	T OPEN 0105 hr
C. In Shut-in	1096.0	1120.0	0.0	0.0	0.0	T PULLED 0135 hr
D. Init Flow	0.0	0.0	0.0	0.0	0.0	T OUT 0245 hr
E. Final Flow	0.0	0.0	0.0	0.0	0.0	
F. Fl Shut-in	0.0	0.0	0.0	0.0	0.0	
G. Final Hydro	2046.0	2088.0	0.0	0.0	0.0	
Inside/Outside	I	I	O			

RECOVERY

Tot Fluid 10.00 ft of 10.00 ft in DC and 0.00 ft in DP
 10.00 ft of Drilling Mud
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:
 Weak blow, died in 15 mins

Initial Shut In:

Final Flow:

Final Shut In:

SAMPLES:

SENT TO:

TOOL DATA-----
 Tool Wt. 800.00 lbs
 Wt Set On Packer 20000.00 lbs
 Wt Pulled Loose 40000.00 lbs
 Initial Str Wt 40000.00 lbs
 Unseated Str Wt 40000.00 lbs
 Bot Choke 0.75 in
 Hole Size 7.88 in
 D Col. ID 2.25 in
 D. Pipe ID 3.80 in
 D.C. Length 30.00 ft
 D.P. Length 4032.00 ft

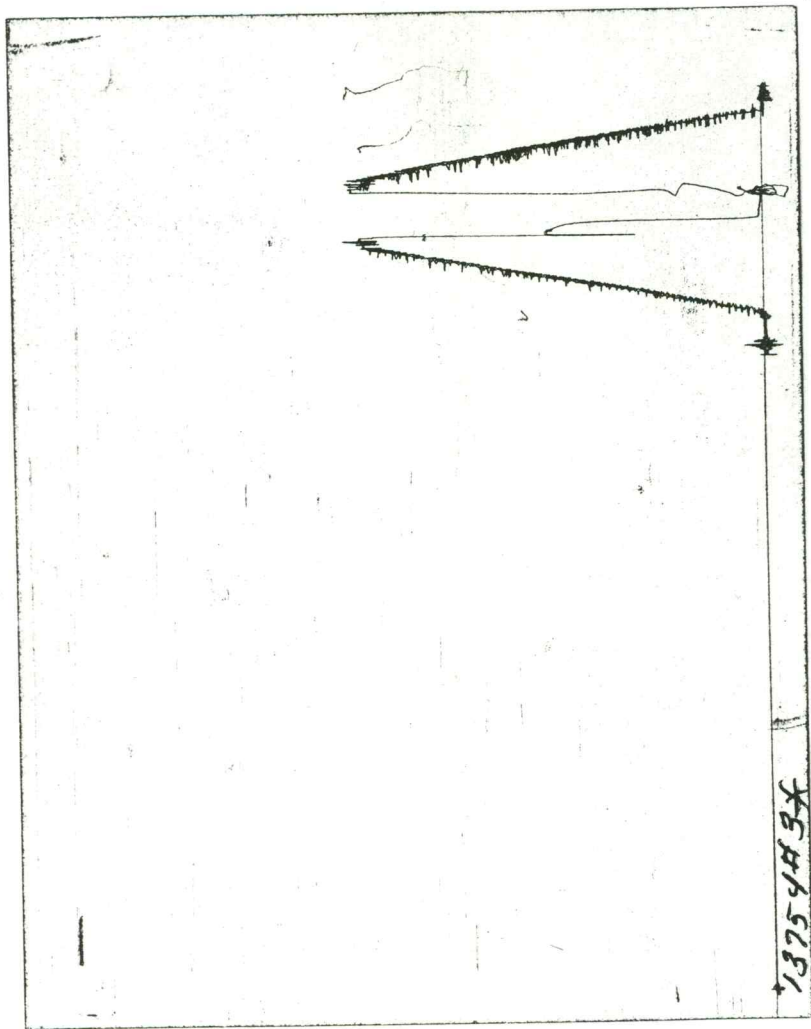
MUD DATA-----
 Mud Type Chemical
 Weight 9.50 lb/cf
 Vis. 55.00 S/L
 W.L. 9.60 in3
 F.C. 0.00 in
 Mud Drop

Amt. of fill 0.00 ft
 Btm. H. Temp. 120.00 F
 Hole Condition
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00

Cushion Type
 Reversed Out
 Tool Chased
 Tester Dan Bangle
 Co. Rep. Mark Kilian
 Contr. Discovery
 Rig # 1
 Unit #
 Pump T.

Test Successful: Y

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Nº 10152

Well Name & No. <u>Kohl #5</u>	Test No. <u>3</u>	Date <u>5-2-97</u>
Company <u>Ken Mark Corp.</u>	Zone Tested <u>Arbuckle</u>	
Address _____	Elevation <u>2373</u>	KB <u>2365</u> GL
Co. Rep / Geo. <u>Mark Kilian</u>	Cont. <u>Discovery #1</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. <u>14</u>	Twp. <u>12</u>	Rge. <u>21</u> Co. <u>Trego</u> State <u>Ks</u>
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>4066 - 4074</u>	Initial Str Wt./Lbs. <u>40,000</u>	Unseated Str Wt./Lbs. <u>40,000</u>
Anchor Length <u>8</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. <u>40,000</u>
Top Packer Depth <u>4061</u>	Tool Weight <u>800</u>	
Bottom Packer Depth <u>4066</u>	Hole Size — 7 7/8" _____	Rubber Size — 6 3/4" _____
Total Depth <u>4074</u>	Wt. Pipe Run _____	Drill Collar Run <u>30</u>
Mud Wt. <u>9.5</u> LCM _____ Vis. <u>55</u> WL <u>9.6</u>	Drill Pipe Size <u>4.5XH</u>	Ft. Run <u>4032</u>
Blow Description <u>I.F. Weak - Died in 15 min.</u>		

Recovery — Total Feet <u>10</u>	GIP _____	Ft. in DC <u>10</u>	Ft. in DP _____
Rec. <u>10</u> Feet Of <u>D.M.</u>	%gas _____	%oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
BHT <u>120</u> °F Gravity _____	°API D@ _____	°F Corrected Gravity _____	°API _____
RW _____ @ _____	°F Chlorides _____	ppm Recovery _____	Chlorides <u>3,000</u> ppm System _____
(A) Initial Hydrostatic Mud <u>2127</u>	PSI Recorder No. <u>13754</u>	T-Started <u>24:00</u>	
(B) First Initial Flow Pressure <u>9</u>	PSI (depth) <u>4067</u>	T-Open <u>01:05</u>	
(C) First Final Flow Pressure <u>19</u>	PSI Recorder No. <u>13249</u>	T-Pulled <u>01:35</u>	
(D) Initial Shut-in Pressure <u>1096</u>	PSI (depth) <u>4071</u>	T-Out <u>02:45</u>	
(E) Second Initial Flow Pressure _____	PSI Recorder No. _____		
(F) Second Final Flow Pressure <u>—</u>	PSI (depth) _____		
(G) Final Shut-in Pressure <u>—</u>	PSI Initial Opening <u>15</u>	Test <u>700</u>	
(H) Final Hydrostatic Mud <u>2046</u>	PSI Initial Shut-in <u>15</u>	Jars _____	

Final Flow <u>—</u>	Safety Joint _____
Final Shut-in <u>—</u>	Straddle _____
	Circ. Sub _____
	Sampler _____

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Approved By _____

Our Representative Dan Bunch

Extra Packer _____
Elect. Rec. _____
Other _____

TOTAL PRICE \$ 700