

PARAMOUNT RESOURCES LTD.

DATE 80-03-09

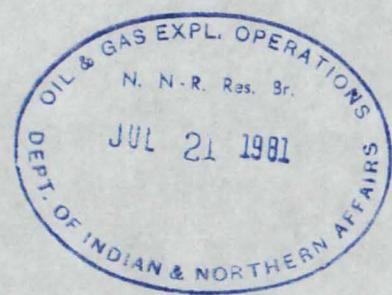
TEST NO. 4

PARAMOUNT HB ET AL CAMERON

J-62

FORMATION TWIN FALLS

## Drill Stem Test Report



QUINN TESTERS LTD.

**QUINN TESTERS LTD.**

**CALGARY, ALBERTA**

## TEST DATA

PHONE 232-1704

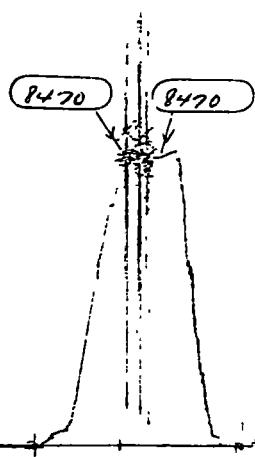
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

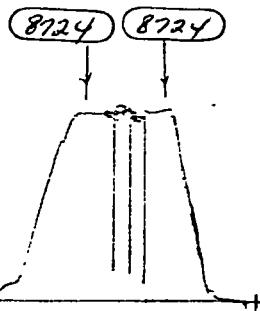
INSIDE RECORDER #14032



INITIAL HYDR 8470  
IN. PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR 8470

PARAMOUNT HB ET AL CAMERON J-62 DST# 4

OUTSIDE RECORDER #15365



INITIAL HYDR. 8724  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR 8724

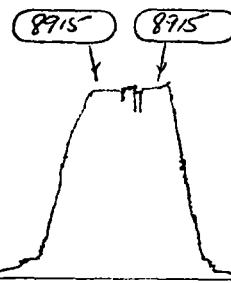
# QUINN TESTERS LTD.

## TEST CHARTS

CALGARY, ALBERTA

PHONE 232-1704

OUTSIDE RECORDER #15372



INITIAL HYDR 8915  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR 8915

PARAMOUNT HB ET AL CAMERON J-62 DST# 4

INITIAL HYDR \_\_\_\_\_  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR \_\_\_\_\_

PARAMOUNT RESOURCES LTD.

DATE 80-03-09 TEST NO. 3

PARAMOUNT HB ET AL CAMERON J-62

FORMATION SLAVE POINT

## **Drill Stem Test Report**



**QUINN TESTERS LTD.**

# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST DATA

PHONE 232-1704

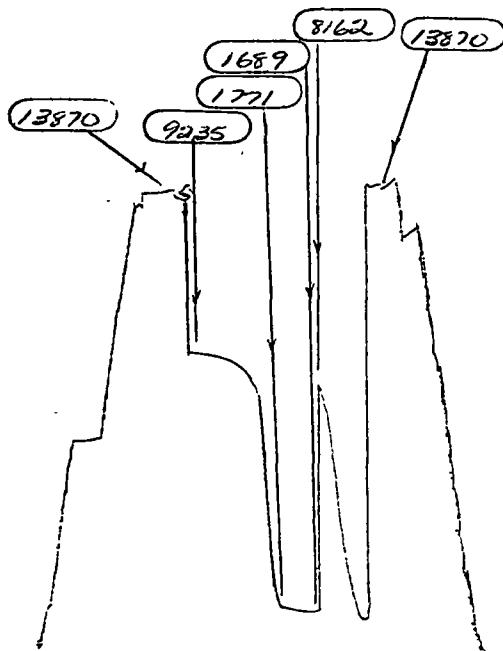
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

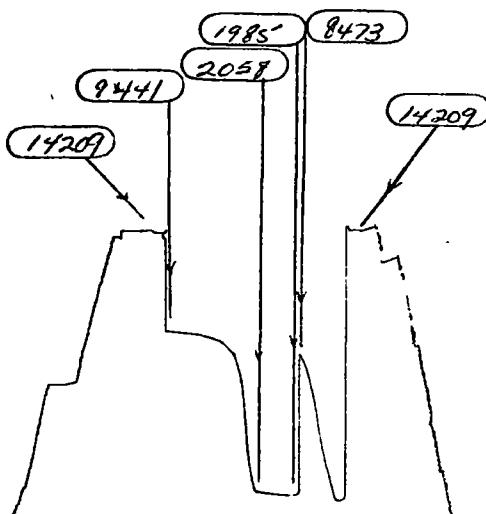
INSIDE RECORDER #14032



INTIAL HYDR 13870  
 IN PREFLOW 1477  
 F PREFLOW 1407  
 1st SHUT-IN 8162  
 1st IN FLOW 1689  
 1st F FLOW 1771  
 2nd SHUT-IN 9235  
 2nd IN. FLOW \_\_\_\_\_  
 2nd F FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR. 13870

PARAMOUNT HB ET AL CAMERON J-62 DST# 3

OUTSIDE RECORDER #15365



INTIAL HYDR. 14209  
 IN PREFLOW 1805  
 F PREFLOW 1715  
 1st SHUT-IN 8473  
 1st IN FLOW 1985  
 1st F FLOW 2058  
 2nd SHUT-IN 9441  
 2nd IN FLOW \_\_\_\_\_  
 2nd F. FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F. FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR. 14209

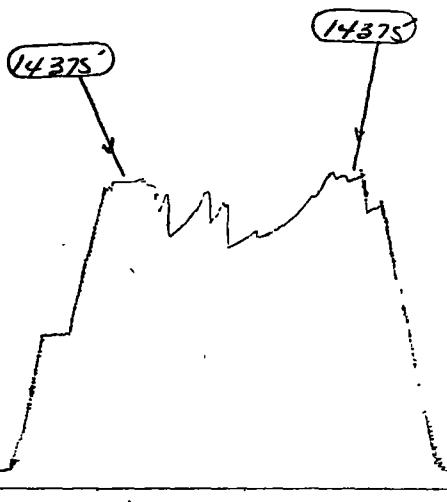
# QUINN TESTERS LTD.

## TEST CHARTS

CALGARY, ALBERTA

PHONE 232-1704

OUTSIDE RECORDER #15372



INTIAL HYDR. 14375  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR. 14375

PARAMOUNT HB ET AL CAMERON J-62 DST# 3

INTIAL HYDR. \_\_\_\_\_  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F. FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR. \_\_\_\_\_

PARAMOUNT RESOURCES LTD.

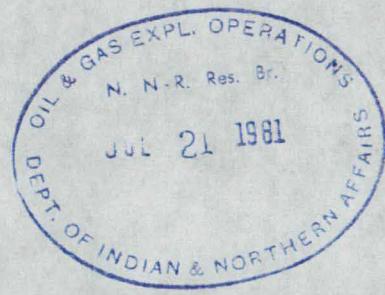
DATE 80-03-07

TEST NO. 2

PARAMOUNT HB ET AL CAMERON J-62

FORMATION SULPHUR POINT

## Drill Stem Test Report



QUINN TESTERS LTD.

# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST DATA

PHONE 232-1704

CUSTOMER	PARAMOUNT RESOURCES LTD.			DATE	80-03-07	TEST NO.	2			
LOCATION	PARAMOUNT HB ET AL CAMERON J-62			FORMATION	SULPHUR POINT					
TEST INTERVAL	1383	TO	1395	T.D.	1605	TEST TYPE	DSBP			
CUSTOMER REP.	KARY WILSON			TESTER	WITTMACK & HOPPUS					
IN OR OUT & NO.	IN	Rec./No	14032	OUT	Rec./No	15365	OUT	Rec./No	15372	Rec./No.
TIME & RANGE	24	Hr.	24132	24	Hr.	35853	24	Hr.	36887	Hr.
RECORDER DEPTH	1377.421	Metres	1392.754	Metres	1404.456	Metres				Metres
Bottom Hole Temperature °C	52		K.B.	755		Gr.	751.9		No. of Reports Required	6
PERCENTAGE OF POROSITY										
D.P. Size, mm	88.9	Wght. kg/m	21.58	D.C.I.D. mm	73	D.C. Above Tool, m	58.88		P.O. Sub	.305
Main Hole, mm	222	Rat Hole, mm		Rat Hole Depth, m					DP/Blank	.305
Mud Wght. kg/m <sup>3</sup>	1090	Viscosity, s/L		Water Loss cm <sup>3</sup>	50	13.40			Recorder	
Bottom Choke, mm	12.7	Rubber Size, mm	196.80	Anchor Size, mm	127				Shut-In	1.600
Amount and Type of Cushion									Sampler	
Preflow	10	Mins.	1st Shut-In	60	Mins.	Recorder No.	14032	Field Readings	Sampler	
1st Flow	300	Mins.	2nd Shut-In	600	Mins.	I H	14659	FF	Hydraulic	1.661
2nd Flow			3rd Shut-In		Mins.	I P F	1993	kPa	Jars	1.417
3rd Flow			4th Shut-In		Mins.	F P F		kPa	Recorder	1.524
4th Flow			5th Shut-In		Mins.	1st S I	9531	kPa	Temp Rec.	
Started in @	1500		Out of Hole @	2200		I F	3341	kPa	By-Pass	.305
						F H	14488	kPa	Safety Jt	.610
									Packer	2.000
									Packer	1.445
										1383
									Packer	.305
									Perfs	9.144
									By-Pass	.305
									Recorder	1.219
									Recorder	
									X Over	
									D P./D.C	
									X Over	
									Packer	1.000
									Packer	1.000
									Packer	1.750
									Perfs	6.401
									Recorder	1.524
									X Over	.305
									D.P.A.S.C.	197.980
									X Over	.305
									Perfs	
									Bullnose	.610
										1605
TOTAL FLUID RECOVERY	40	Metres	Sampler #		#				Total Interval	11.973
Sampled @	.305		18						Total Tail Pipe	209.875
12	Metres of	AMMONIA WATER							Tool Makeup Time	1.500
28	Metres of	SULPHUROUS SALT WATER SALINTY (26 800 ppm)								
	Metres of									
	Metres of									
REMARKS. Misrun		Ok	X	Tool Opened @	1855	Hrs.				
STRONG AIR BLOW ON PREFLOW WITH GAS TO SURFACE IN 2.5 MINUTES. GAS TO SURFACE IMMEDIATELY										
ON VALVE OPEN WITH STRONG FLUID SPRAY AFTER 2 MINUTES. FINE SPRAY AFTER 4 HOURS CAUGHT										
ONE FLOW PROVER READING BUT GAS SOUR AND WOULD NOT BURN ABOVE RISER. PULLED LOOSE AND										
WAIT ON SAFETY HAND.										

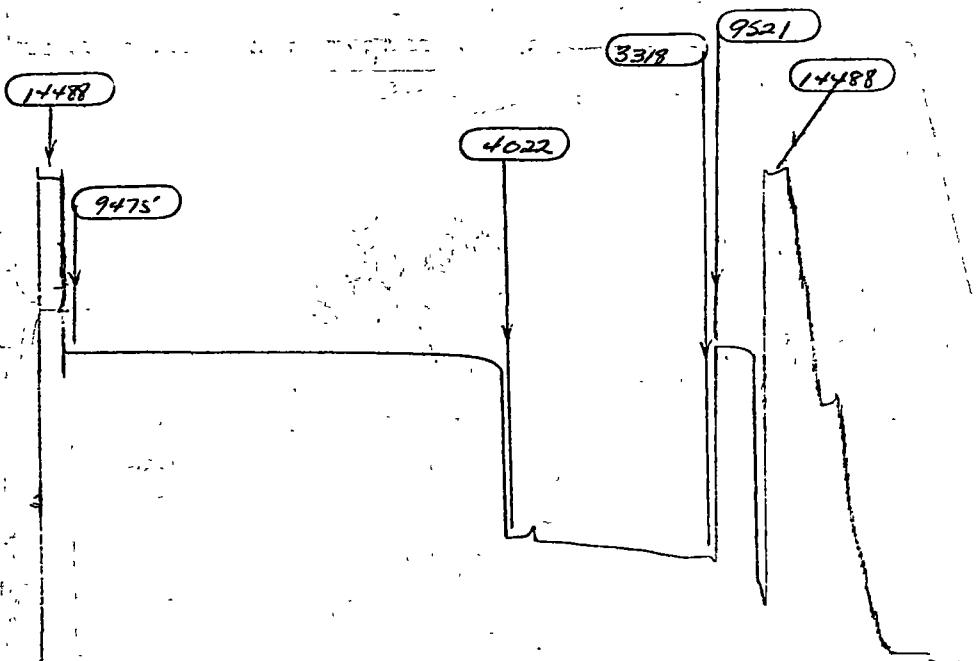
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

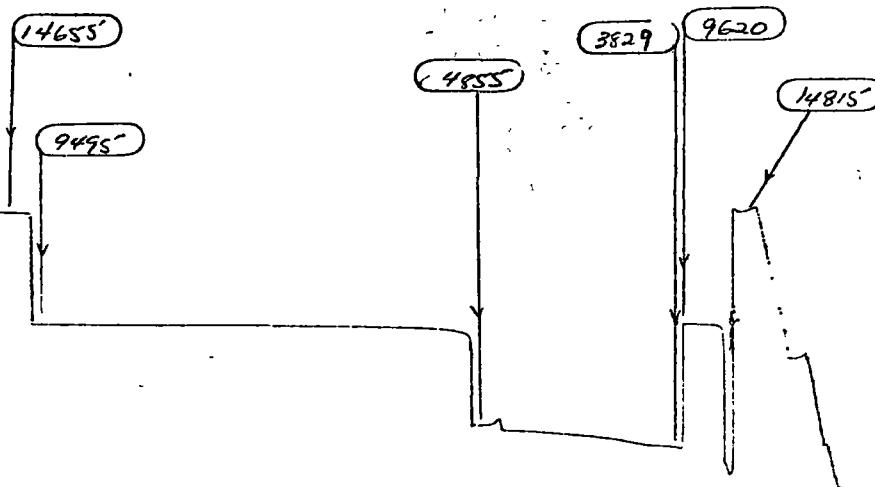
INSIDE RECORDER #14032



INITIAL HYDR. 14488  
 IN. PREFLOW 2005'  
 F. PREFLOW 2697  
 1st SHUT-IN 9521  
 1st IN. FLOW 3318  
 1st F. FLOW 4022  
 2nd SHUT-IN 9475'  
 2nd IN FLOW \_\_\_\_\_  
 2nd F. FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F. FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR 14488

PARAMOUNT HB ET AL CAMERON J-62 DST# 2

OUTSIDE RECORDER #15365



INITIAL HYDR 14815'  
 IN PREFLOW 2689  
 F PREFLOW 3195'  
 1st SHUT-IN 9620  
 1st IN FLOW 3829  
 1st F. FLOW 4855'  
 2nd SHUT-IN 9495'  
 2nd IN FLOW \_\_\_\_\_  
 2nd F. FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F. FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR 14655'

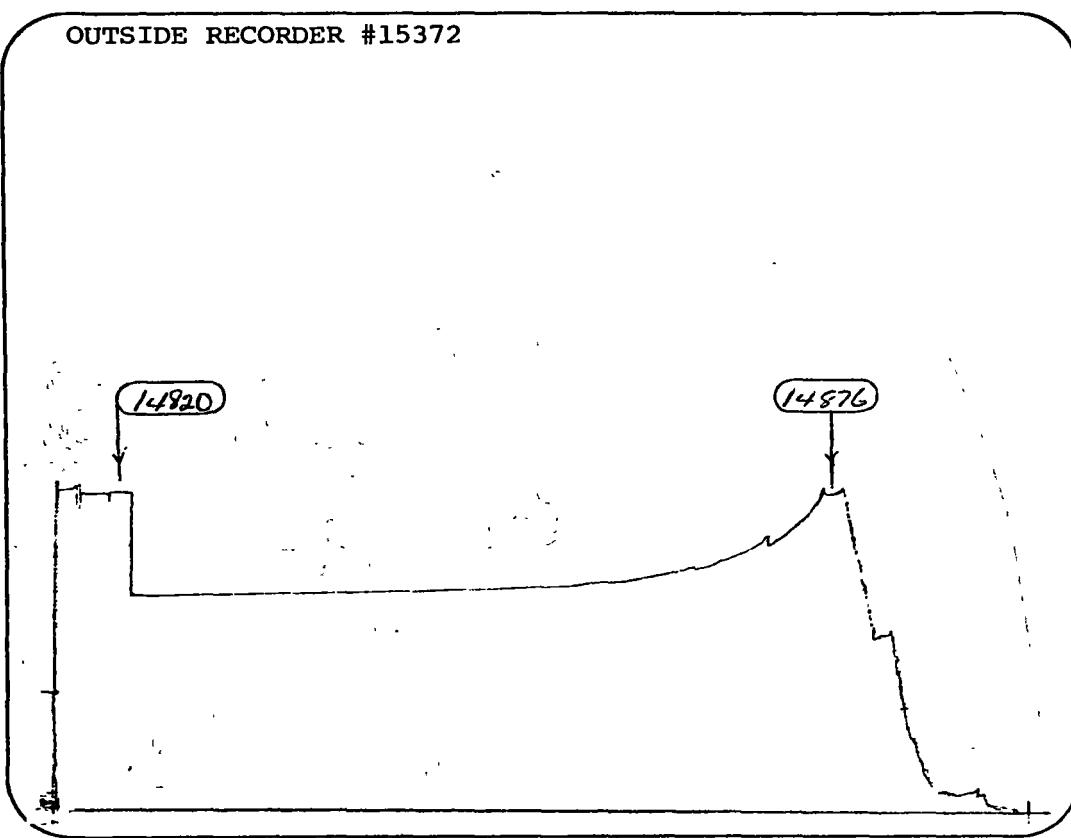
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

OUTSIDE RECORDER #15372



INITIAL HYDR. 14876  
IN PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN. FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN. FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR. 14820

PARAMOUNT HB ET AL CAMERON J-62 DST# 2

INITIAL HYDR. \_\_\_\_\_  
IN. PREFLOW \_\_\_\_\_  
F PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN. FLOW \_\_\_\_\_  
1st F. FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN. FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR. \_\_\_\_\_

PARAMOUNT RESOURCES LTD.

DATE 80-03-06

TEST NO. 1

PARAMOUNT HB ET AL CAMERON J-62

FORMATION KEG RIVER

## Drill Stem Test Report



QUINN TESTERS LTD.

**QUINN TESTERS LTD.**

CALGARY, ALBERTA

## TEST DATA

PHONE 232-1704

CUSTOMER	PARAMOUNT RESOURCES LTD.				DATE	80-03-06	TEST NO.	1				
LOCATION	PARAMOUNT HB ET AL CAMERON J-62				FORMATION	KEG RIVER						
TEST INTERVAL	1515	TO	1529	T.D.	1605	TEST TYPE	DSBP					
CUSTOMER REP.	MR. KARY WILSON				TESTER	DON WITTMACK & CLINT HOPPUS						
IN OR OUT & NO.	IN	Rec /No.	14032	OUT	Rec /No.	15365	OUT	Rec /No.				
TIME & RANGE	24	Hr.	24132	24	Hr.	35853	24	Hr.				
RECORDER DEPTH	1509.421	Metres		1523.840	Metres	1537.237	Metres					
Bottom Hole Temperature °C	53	K.B.	755	;	Gr.	751.94	No of Reports Required	6				
PERCENTAGE OF POROSITY					METRES OF NET PAY							
D.P. Size, mm	88.9	Wght. kg/m	21.58	D.C.I D. mm	73	D.C. Above Tool, m	58.88	P.O. Sub	.305			
Main Hole, mm	222	Rat Hole, mm		Rat Hole Depth, m				D.P./Blank	.305			
Mud Wght. kg/m <sup>3</sup>	1090	Viscosity, s/L	50	Water Loss cm <sup>3</sup>	13.40			Recorder				
Bottom Choke, mm	12.7	Rubber Size, mm	196.8	Anchor Size, mm	127			Shut-In	1.600			
Amount and Type of Cushion									Sampler			
Preflow	10	Mins	1st Shut-In	30	Mins.	Field Readings				Sampler		
1st Flow	60	Mins.	2nd Shut-In	120	Mins	Recorder No.	14032	FF	10330	kPa	Hydraulic	1.661
2nd Flow		Mins.	3rd Shut-In		Mins	I H	16148	kPa	10330	kPa	Jars	1.417
3rd Flow		Mins	4th Shut-In		Mins.	I P F	1817	kPa	I F	kPa	Recorder	1.524
4th Flow		Mins.	5th Shut-In		Mins.	F P F		kPa	F F	kPa	Recorder	
Started in @	1930	Out of Hole @	1200			1st S I	10330	kPa	3rd S I		Temp Rec	
						I F	5642	kPa	F H	15748	By-Pass	.305
										Safety Jt.	.610	
										Packer	2.000	
										Packer	1.445	
											1515	
GAS RECOVERY: Measured with									Packer	.305		
Gas Samples, # ; # To C & G LABS, EDMONTON									Perfs	8.230		
Mins	kPa	Temp	Orifice	m <sup>3</sup> /day	Mins	kPa	Temp	Orifice	m <sup>3</sup> /day	By-Pass	.305	
										Recorder	1.219	
										Recorder		
										BLANK	3.048	
										D.P./D C.		
										X Over	1.000	
										Packer	1.000	
										Packer	1.750	
										Perfs	5.182	
										Recorder	1.524	
										X Over	.305	
										D P./D C.	65.340	
										X Over	.305	
										Perfs	.610	
										Bullnose		
											1605	
TOTAL FLUID RECOVERY 1090 Metres Sampler # . #									Total Interval	14.107		
Sampled @	1090	;	500	;	.305	;	Above Tool			Total Tail Pipe	76.016	
50	Metres of	DRILLING MUD.							Tool Makeup Time	2.000		
115	Metres of	MUDDY SULPHUROUS WATER										
925	Metres of	GAS CUT SULPHUROUS WATER SALINTY (30 400 ppm)										
	Metres of											
REMARKS Misrun Ok X Tool Opened @ 0000 Hrs.												
WEAK AIR BLOW BUILDING TO FAIR ON PREFLOW. GOOD AIR BLOW DECREASING TO WEAK, DEAD IN 35 MINUTES. SOUR GAS IN FLUID ON TRIP OUT. ATTEMPTED TO REVERSE CIRCULATE FLAILED DUE TO PLUGGED PUMP OUT PORT.												

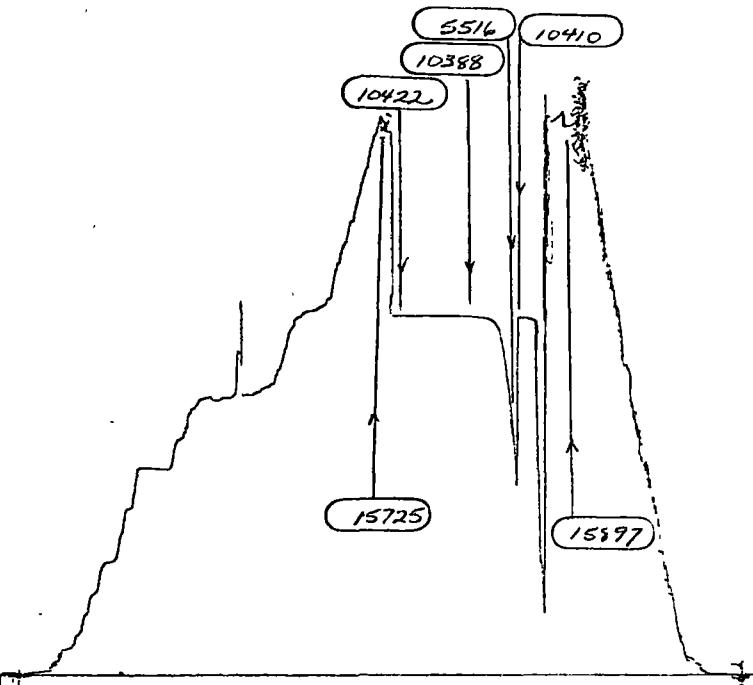
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

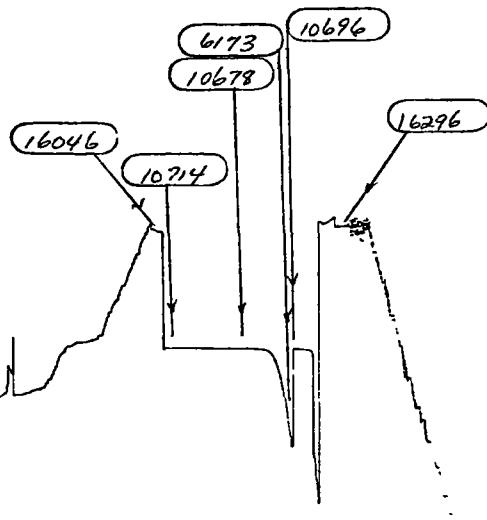
INSIDE RECORDER #14032



INITIAL HYDR. 15897  
 IN PREFLOW 1783  
 F PREFLOW 5102  
 1st SHUT-IN 10410  
 1st IN FLOW 5516  
 1st F FLOW 10388  
 2nd SHUT-IN 10422  
 2nd IN FLOW \_\_\_\_\_  
 2nd F. FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR 15725

PARAMOUNT HB ET AL CAMERON J-62 DST# 1

OUTSIDE RECORDER #15365



INITIAL HYDR. 16296  
 IN PREFLOW 3520  
 F PREFLOW 5920  
 1st SHUT-IN 10696  
 1st IN FLOW 6173  
 1st F. FLOW 10678  
 2nd SHUT-IN 10714  
 2nd IN FLOW \_\_\_\_\_  
 2nd F. FLOW \_\_\_\_\_  
 3rd SHUT-IN \_\_\_\_\_  
 3rd IN FLOW \_\_\_\_\_  
 3rd F. FLOW \_\_\_\_\_  
 4th SHUT-IN \_\_\_\_\_  
 FINAL HYDR 16046

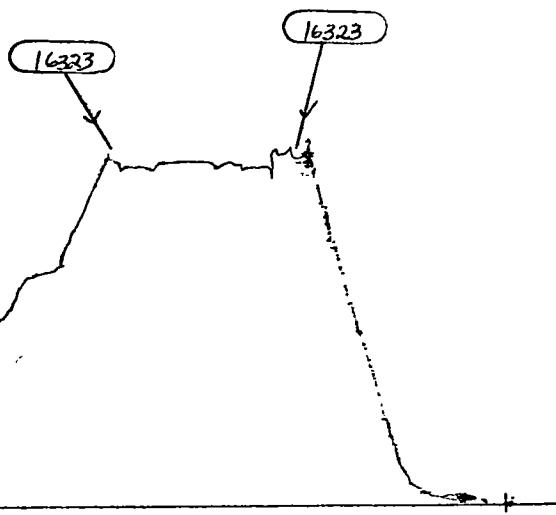
# QUINN TESTERS LTD.

CALGARY, ALBERTA

## TEST CHARTS

PHONE 232-1704

OUTSIDE RECORDER #15372



INITIAL HYDR 16323  
IN. PREFLOW \_\_\_\_\_  
F. PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR 16323

PARAMOUNT HB ET AL CAMERON J-62 DST# 1

INITIAL HYDR \_\_\_\_\_  
IN PREFLOW \_\_\_\_\_  
F. PREFLOW \_\_\_\_\_  
1st SHUT-IN \_\_\_\_\_  
1st IN FLOW \_\_\_\_\_  
1st F. FLOW \_\_\_\_\_  
2nd SHUT-IN \_\_\_\_\_  
2nd IN FLOW \_\_\_\_\_  
2nd F FLOW \_\_\_\_\_  
3rd SHUT-IN \_\_\_\_\_  
3rd IN FLOW \_\_\_\_\_  
3rd F FLOW \_\_\_\_\_  
4th SHUT-IN \_\_\_\_\_  
FINAL HYDR \_\_\_\_\_

### METRIC CONVERSION TABLE

1 TRADITIONAL UNIT	=	SI UNITS
Depths, Thickness, Elevations	(ft)	.304 8
Amount of Cushion or Recovery	(ft)	.304 8
Gauge Depth Temperature	(°F)	°C
Casing and Hole Size	(in)	25.4
Choke Size	(in)	25.4
Drill Pipe and Drill Collar Diameter	(in)	25.4
Drill Pipe and Drill Collar Weight	(lbs/ft)	1.488 164
Hook Loads	(lbs)	444 822
 Mud Weight	(ppg)	119.826
Mud Viscosity	(s/qt)	1.056 688
 Pressures	(psi)	6.894 757
Gas Volumes	(MSCF/D)	28.173 99
Oil Volumes	(BPD)	.158 987
Fluid Pressure Gradient	(psi/ft)	22.620 593
Flow Capacity	(mD·ft)	.304 8
Permeability	(mD)	1.00
Productivity Index	(bbl/day·psi)	.023 059
	(MSCF/day·psi)	4.107 012
 Radius of Investigation	(ft)	.304 8
Oil Viscosity	(cp)	1.00
		mPa.s

### STANDARD PRESSURE NOTATION

over 10,000 kPa use MPa

1-10,000 kPa use kPa

under 1 kPa use Pa

(1 kPa = .145 psi)

## QUINN TESTERS LTD.

302, 605 - 7th Street S.W.  
CALGARY, ALBERTA  
T2P 1Z3

General Office 232-1704  
Chart Analysis 232-1708

### BRANCH AND FIELD OFFICES

EDMONTON, ALBERTA . . . . .	403 - 465-9686
BROOKS, ALBERTA . . . . .	403 - 362-6543
FORT ST. JOHN, BRITISH COLUMBIA . . . . .	604 - 785-8071
MANNING, ALBERTA . . . . .	403 - 836-3221