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NUMBER 7186/2

PEL 5 AND PEL 6, PATCHAWARRA CENTRAL BLOCK
EROMANGA AND COOPER BASINS

LAKE MACMILLAN 2
TEST REPORTS

Submitted by

Santos Ltd
1989

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MINES AND ENERGY
SOUTH AUSTRALIA



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ENVELOPE 7186/2

TENEMENT: PEL 5 and PEL 6, Patchawarra Central Block; Eromanga and Cooper Basins

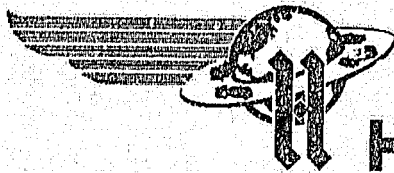
TENEMENT HOLDER: Santos Ltd (operator), Bridge Oil Developments Pty Ltd, Delhi Petroleum Pty Ltd, Basin Oil NL, Reef Oil NL, Vamgas Ltd, Sagasco Resources Ltd and Bridge Oil Ltd

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000003



HALLIBURTON SERVICES

TICKET NO. 32778700

06-APR-89

MOOMBAA

RMCD
7/86/2

FORMATION TESTING SERVICE REPORT

LEASE NAME		2		1		9513.7 - 9523.4		SANTOS LTD.	
LEASE NO.		2		1		TESTED INTERVAL		LEASE OWNER/COMPANY NAME	
LEGAL LOCATION		SEE REMARKS SECTION		FIELD AREA		COOPER BASIN		COUNTY SOUTH AUSTRALIA	
SEC. - TWP. - RANG.								STATE AUSTRALIA SM	

902

000004

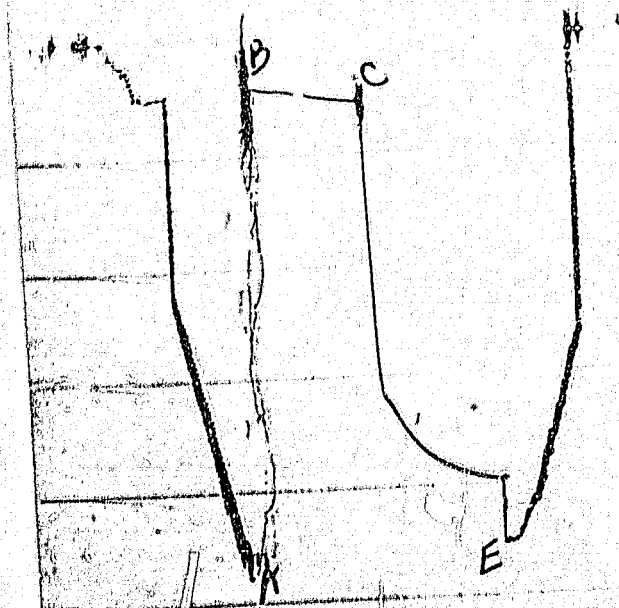
327787.5093

GAUGE NO: 5093 DEPTH: 9470.9 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		441.0			
C	FINAL FIRST FLOW		553.1	140.0	139.5	F
C	INITIAL FIRST CLOSED-IN		553.1			
D	FINAL FIRST CLOSED-IN	483	508.8	220.0	220.5	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					

257

000005



327787-3288

GAUGE NO: 3288 DEPTH: 9491.9 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4584	4574.4			
B	INITIAL FIRST FLOW	429	464.1	140.0	139.5	F
C	FINAL FIRST FLOW	559	564.7			
C	INITIAL FIRST CLOSED-IN	559	564.7	220.0		C
D	FINAL FIRST CLOSED-IN	3945				
E	FINAL HYDROSTATIC	4540	4550.2			
F	HYDROSTATIC RELEASE					

887

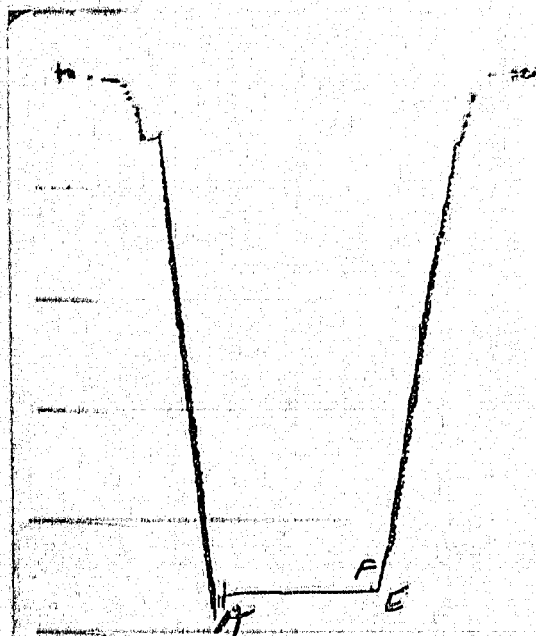
000006

327787-3289

GAUGE NO: 3289 DEPTH: 9534.6 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4640	4657.8			
B	INITIAL FIRST FLOW	409	514.6			
C	FINAL FIRST FLOW	575	581.9	140.0	139.5	F
C	INITIAL FIRST CLOSED-IN	575	581.9			
D	FINAL FIRST CLOSED-IN	4107	4107.7	220.0	220.5	C
E	FINAL HYDROSTATIC	4618	4633.0			
F	HYDROSTATIC RELEASE					

000007



327787-7900

GAUGE NO: 7900 DEPTH: 9657.0 BLANKED OFF: YES HOUR OF CLOCK: 48

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4690	4700.4			
B	INITIAL FIRST FLOW			140.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			220.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	4646	4649.9			
F	HYDROSTATIC RELEASE		4655.6			

000008

EQUIPMENT & HOLE DATA

FORMATION TESTED: TOOLACHEE

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 25.7ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): _____HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 140.0 KELLY BUSHINGTOTAL DEPTH (ft): 9660.0PACKER DEPTH(S) (ft): 9506, 9514, 9539, 9547FINAL SURFACE CHOKE (in): C.25000BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.40MUD VISCOSITY (sec): 39

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 254 @ 9656.0 ftTICKET NUMBER: 32778700DATE: 10-28-88 TEST NO: 1TYPE DST: ON BTM STRADDLEHALLIBURTON CAMP:
MODMBATESTER: D. HARRISONWITNESS: SPEECHLY

DRILLING CONTRACTOR:

ATCO RID #1-AFLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE

RESISTIVITY

CHLORIDES

_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: _____

cu.ft. OF GAS: _____

cc OF OIL: _____

cc OF WATER: _____

cc OF MUD: _____

TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F

GAS/OIL RATIO (cu.ft. per bbl): _____

GAS GRAVITY: _____

CUSHION DATA

TYPE

AMOUNT

WEIGHT

WATER (FT)1060.08.40

RECOVERED:

180 FEET OF WATERY MUD WITH TRACE OF CONDENSATE
1060 FEET OF WATER CUSHIONMEASURED FROM
TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 27 DEG, 28', 17.9" S,
LONG. 140 DEG, 13', 31.4"E.

112
000009

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC SURFACE CHOKE					TICKET NO: 32778700
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
10-28-88					
0330					MADE UP TOOLS
0530					RAN IN HOLE WITH DST #1 TO
					1000', MADE UP TEST HEAD AND
					FILLED WATER CUSHION
0700					CONTINUED RUNNING IN HOLE
0803					PICKED UP TEST HEAD
0905					MADE UP SURFACE EQUIPMENT
0819					TAGGED BOTTOM
0920					SET 30,000+ ON TOOL
0924	.5	0			TOOL OPENED WITH WEAK BLOW
0929					WEAK BLOW
0934					WEAK BLOW
0939					WEAK TO MODERATE BLOW
0944					MODERATE BLOW
0949		1			STRONG BLOW
0954		1			STRONG BLOW
0959		1			STRONG BLOW
1000		2			GAS TO THE SURFACE
1004		3			FLARING
1005	.25				CHANGED CHOKES
1009		8			FLARING
1014		17			FLARING
1019		22			FLARING
1024		28			FLARING
1034		37			FLARING
1044		45			FLARING
1054		51			FLARING
1104		57			FLARING
1105		57			DIVERTED FLOW THROUGH SEPARATOR
1114		60			FLOWING THROUGH SEPARATOR
1124		63			FLOWING
1134		67			FLOWING
1143		71			FLOWING
1144					SHUT IN TOOL FOR CIP PERIOD
1524					PULLED FREE, OPENED BYPASS
1525					ALLOWED PACKERS TO CONTRACT

000010

[illegible]

811
000011

TICKET NO: 32778700
CLOCK NO: 30347 HOUR: 24



GAUGE NO: 5093
DEPTH: 9470.9

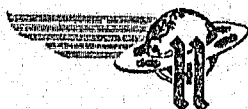
REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	441.0								
	2	20.0	438.3	-2.7							
	3	40.0	445.4	8.0							
	4	60.0	471.5	25.2							
	5	80.0	499.5	27.9							
	6	100.0	521.4	22.0							
	7	120.0	538.6	17.2							
C	8	139.5	553.1	14.5							
FIRST CLOSED-IN											
C	1	0.0	553.1								
D	2	220.5	508.8	-44.2	85.4	0.213					

REMARKS:

000012

TICKET NO: 32778700

CLOCK NO: 30343 HOUR: 24



GAUGE NO: 3288

DEPTH: 9491.9

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	454.1			
2	20.0	447.5	-16.6		
3	40.0	454.4	6.9		
4	50.0	480.0	25.6		
5	80.0	508.4	28.4		
6	100.0	531.0	22.6		
7	120.0	549.2	18.3		
C 8	139.5	554.7	15.5		

FIRST CLOSED-IN					
C 1	0.0	554.7			
2	10.0	5002.8	2438.1	9.3	1.175
3	20.0	3251.9	2691.2	17.5	0.901
4	30.0	3381.7	2820.0	24.7	0.752
5	40.0	3508.8	2942.0	31.1	0.652
6	50.0	3502.0	3037.2	36.8	0.579
7	50.0	3681.4	3116.7	42.0	0.522
8	70.0	3748.0	3183.3	46.6	0.476
9	80.0	3798.9	3234.2	50.8	0.438
10	90.0	3841.7	3277.0	54.7	0.407
11	100.0	3874.0	3308.3	58.2	0.379
12	110.0	3905.2	3340.5	61.5	0.355
13	120.0	3926.4	3361.7	64.5	0.338
14	130.0	3948.9	3384.2	67.3	0.317
15	140.0	3965.3	3400.6	69.9	0.300
16	150.0	3978.6	3413.9	72.3	0.286
17	155.9	3987.3	3422.6	73.6	0.277
D 18	NO DATA FOR THIS POINT				

LEGEND:
☒ CLOCK STOPPED

REMARKS:

522

000013

TICKET NO: 32778700

CLOCK NO: 12462 HOUR: 24



GAUGE NO: 3289

DEPTH: 9534.6

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	514.6								
	2	20.0	463.3	-51.3							
	3	40.0	469.0	5.8							
	4	60.0	489.8	20.8							
	5	80.0	522.1	32.3							
	6	100.0	549.3	27.2							
	7	120.0	566.6	17.3							
C	8	139.5	581.9	15.3							
FIRST CLOSED-IN											
C	1	0.0	581.9								
	2	10.0	2565.4	1983.6	9.4	1.173					
	3	20.0	3277.4	2695.6	17.5	0.802					
	4	30.0	3389.4	2807.5	24.7	0.752					
	5	40.0	3521.5	2939.6	31.1	0.652					
	6	50.0	3631.7	3049.8	36.8	0.578					
	7	60.0	3718.9	3137.0	41.9	0.522					
	8	70.0	3790.7	3208.8	46.6	0.476					
	9	80.0	3847.5	3265.6	50.8	0.438					
	10	90.0	3893.9	3312.1	54.7	0.407					
	11	100.0	3929.7	3347.9	58.2	0.379					
	12	110.0	3959.4	3377.6	61.5	0.356					
	13	120.0	3984.8	3403.0	64.5	0.335					
	14	130.0	4009.4	3427.5	67.3	0.317					
	15	140.0	4030.7	3448.8	69.9	0.300					
	16	150.0	4045.2	3463.3	72.3	0.285					
	17	160.0	4055.9	3475.1	74.5	0.272					
	18	170.0	4069.1	3487.2	76.6	0.260					
	19	180.0	4078.9	3497.0	77	0.249					
	20	190.0	4087.4	3505.6		0.239					
	21	200.0	4093.8	3512.0		0.230					
	22	210.0	4101.5	3519.6		0.221					
D	23	220.5	4107.7	3525.8		0.215					

REMARKS:

911

000014

TICKET NO. 32778700

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.825	8924.7	
4		FLEX WEIGHT.....	5.000	2.875	182.9	
3		DRILL COLLARS.....	5.250	2.875	178.5	
51		PUMP OUT REVERSING SUB.....	5.000	3.000	1.0	9285.5
3		DRILL COLLARS.....	5.250	2.875	69.1	
50		IMPACT REVERSING SUB.....	5.000	3.000	1.0	9376.7
3		DRILL COLLARS.....	5.250	2.875	83.7	
258		BAR CATCHER SUB.....	5.750	1.180	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.1	9470.8
5		CROSSOVER.....	5.000	2.200	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	4.8	
202		SAMPLE CHAMBER.....	5.000	2.250	4.9	
33		DRAIN VALVE.....	5.000	2.200	0.9	
60		HYDROSPRING TESTER.....	5.000	0.750	5.3	9488.4
80		AP RUNNING CASE.....	5.000	2.250	4.1	9491.8
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	2.780	2.8	
17		PRESSURE EQUALIZING CROSSOVER...	4.870	1.000	1.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9505.8
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9513.7
20		FLUSH JOINT ANCHOR.....	5.000	2.370	7.0	
17		PRESSURE EQUALIZING CROSSOVER...	4.820	2.750	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.1	9534.6
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9539.4
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9547.3

CONTINUED

EQUIPMENT DATA

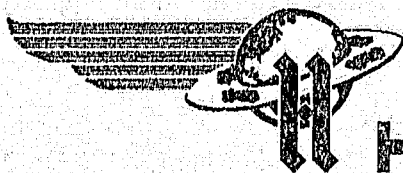
CONTINUED

EQUIPMENT DATA

			O.D.	I.D.	LENGTH	DEPTH
5		CROSSOVER.....	5.000	2.250	1.0	
19		ANCHOR PIPE SAFETY JOINT..	5.000	1.500	4.3	
5		CROSSOVER.....	5.750	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.875	90.4	
5		CROSSOVER.....	5.750	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	7.0	
81		BLANKED-OFF RUNNING CASE..	5.000		4.1	9657.0
TOTAL DEPTH						9660.0

EQUIPMENT DATA

269
000016



HALLIBURTON SERVICES

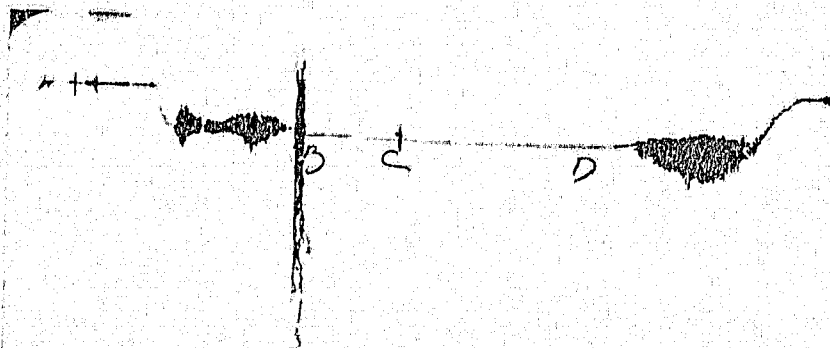
TICKET NO. 32778800
06-APR-89
MOOMBA

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FORMATION TESTING SERVICE REPORT

LEGAL LOCATION	SEE REMARKS	FIELD AREA	COPPER BASIN	COUNTY	SOUTH AUSTRALIA	STATE	AUSTRALIA	DR
LEASE NAME	2	TEST NO.	2	9547.4 - 9650.0	STED INTERVAL	LEASE OWNER/COMPANY NAME	SANTOS LTD.	
SEC - TRP - RING								

000017

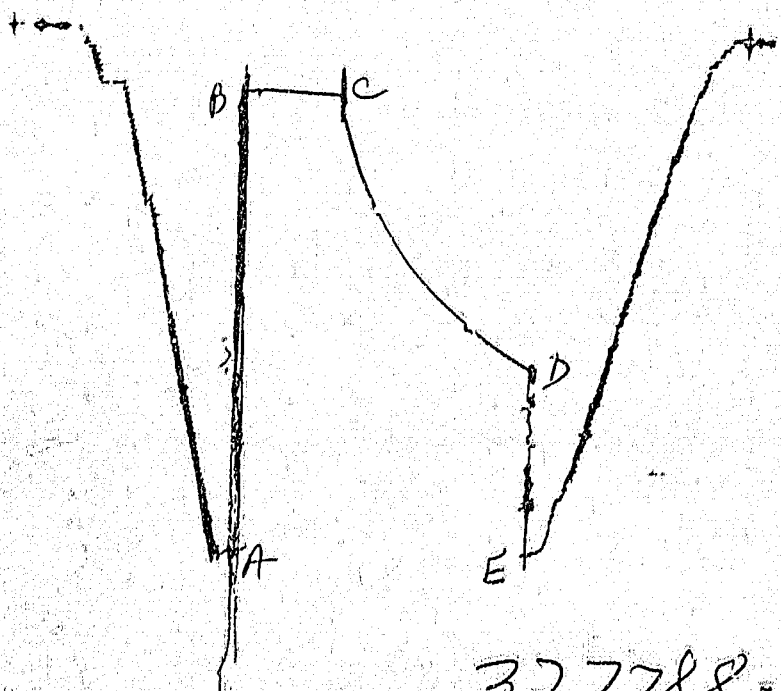


327788-5093

GAUGE NO: 5093 DEPTH: 9505.7 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		488.5			
C	FINAL FIRST FLOW		519.8	120.0	119.2	F
C	INITIAL FIRST CLOSED-IN		519.8			
D	FINAL FIRST CLOSED-IN	536	546.9	240.0	240.8	C
E	FINAL HYDROSTATIC					

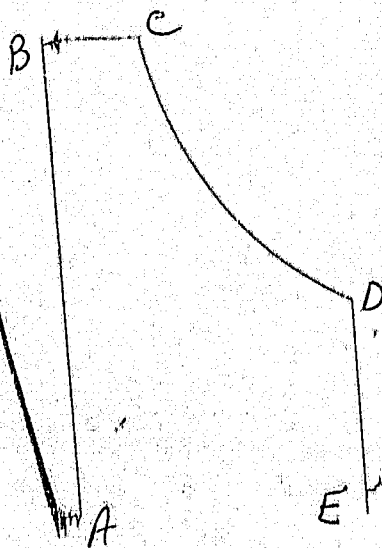
000018



GAUGE NO: 3288 DEPTH: 9526.7 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4628	4672.0			
B	INITIAL FIRST FLOW	516	533.5			
C	FINAL FIRST FLOW	538	533.5	120.0	119.2	F
C	INITIAL FIRST CLOSED-IN	538	533.5			
D	FINAL FIRST CLOSED-IN	2918	2960.4	240.0	240.8	C
E	FINAL HYDROSTATIC	4606	4620.3			

000019



327788-3289

GAUGE NO: 3289		DEPTH: 9657.0		BLANKED OFF: YES		HOUR OF CLOCK: 24	
ID	DESCRIPTION	PRESSURE		TIME		TYPE	
		REPORTED	CALCULATED	REPORTED	CALCULATED		
A	INITIAL HYDROSTATIC	4768	4784.9				
B	INITIAL FIRST FLOW	575	606.6	120.0	119.2	F	
C	FINAL FIRST FLOW	597	593.6				
C	INITIAL FIRST CLOSED-IN	597	593.6	240.0	240.8	C	
D	FINAL FIRST CLOSED-IN	3067	3073.1				
E	FINAL HYDROSTATIC	4746	4760.1				

000020

EQUIPMENT & HOLE DATA

FORMATION TESTED: EPSILON

NET PAY (ft):

GROSS TESTED FOOTAGE: 112.6

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft):

HOLE OR CASING SIZE (in): 8.500

ELEVATION (ft): 140.0 KELLY BUSHING

TOTAL DEPTH (ft): 9660.0

PACKER DEPTH(S) (ft): 9540, 9547

FINAL SURFACE CHOKE (in): 0.25000

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.40

MUD VISCOSITY (sec): 39

ESTIMATED HOLE TEMP. (°F): 250

ACTUAL HOLE TEMP. (°F): 246 @ 9656.0 ft

TICKET NUMBER: 32778800

DATE: 10-29-88 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:
MOOMBA

TESTER: D. HARRISON

WITNESS: B. SPEEDLEY

DRILLING CONTRACTOR:
ATCO #1-AFLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE

RESISTIVITY

CHLORIDES

	0 °F	ppm
	0 °F	ppm
	0 °F	ppm
	0 °F	ppm
	0 °F	ppm
	0 °F	ppm

SAMPLER DATA

Paig AT SURFACE:

cu.ft. OF GAS:

cc OF OIL:

cc OF WATER:

cc OF MUD:

TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F

GAS/OIL RATIO (cu.ft. per bbl):

GAS GRAVITY:

CUSHION DATA

TYPE AMOUNT WEIGHT

WATER (FT.) 1060.0 0.40

RECOVERED:

45' OF RAT HOLE MUD

1060' OF WATER CUSHION

MEASURED FROM
TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 27 DEG. 28' 17.9" S., LONG. 140 DEG. 13' 31.4" E.

202
000021

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC SURFACE CHOKE					TICKET NO: 32778800
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
10-29-88					
0600					MADE UP TOOLS
0700					WENT IN HOLE TO 1060' AND FILL
					WITH WATER CUSHION
0830					CONTINUED IN HOLE
1009					PICKED UP TEST HEAD
1011					MADE UP SURFACE EQUIPMENT
1022					TAGGED BOTTOM
1023					SET 30,000# ON TOOL
1027	.5				OPENED TOOL WITH A VERY WEAK
					BLOW
1032					NO BLOW
1037					NO BLOW
1044					SHUT IN CHOKE MANIFOLD TO
					ACHIEVE BUBBLE
1047					VERY WEAK BLOW-BUILDING
1052	.25				OPENED ON .25" CHOKE WITH A
					MODERATE BLOW
1057					MODERATE-STRONG BLOW
1059					STRONG BLOW UNTIL 1139
1112		1			
1117		1			
1122		2			
1127		4			
1137		6			
1139		7			GAS TO SURFACE-FLARING
1147		9			FLARING THROUGHOUT REST OF FLOW
					PERIOD
1157		11			
1207		13			
1217		15			
1226		17			
1227					CLOSED TOOL
1327					PULLED FREE--OPENED BYPASS
1528					ALLOWED PACKERS TO CONTACT
1532					BROKE DOWN SURFACE GEAR
1543					PULLED OUT OF HOLE

000022

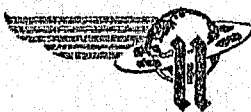
[illegible]

402

000023

TICKET NO: 32778800

CLOCK NO: 30347 HOUR: 24



GAUGE NO: 5097

DEPTH: 9505.7

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	488.5								
	2	20.0	489.5	1.1							
	3	40.0	489.5	0.0							
	4	60.0	488.4	8.8							
	5	80.0	506.7	8.3							
	6	100.1	515.0	8.3							
C	7	119.2	519.8	4.8							
FIRST CLOSED-IN											
C	1	0.0	519.8								
D	2	240.8	546.9	27.1	79.7	0.175					

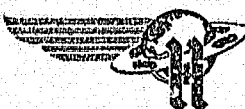
REMARKS:

502

000024

TICKET NO: 32778800

CLOCK NO: 12462 HOUR: 24



GAUGE NO: 3288

DEPTH: 9526.7

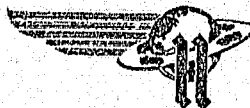
REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	533.5								
	2	20.0	501.5	-32.0							
	3	40.0	501.7	0.2							
	4	60.0	514.0	12.3							
	5	80.0	525.8	11.8							
	6	100.0	533.5	7.7							
C	7	119.2	533.5	0.0							
FIRST CLOSED-IN											
C	1	0.0	533.5								
	2	15.0	1045.7	513.2	13.3	0.952					
	3	30.0	1337.0	803.4	23.9	0.697					
	4	45.0	1571.7	1038.2	32.7	0.562					
	5	60.0	1761.1	1227.5	39.9	0.475					
	6	75.0	1927.6	1394.1	46.0	0.413					
	7	90.0	2084.3	1550.7	51.3	0.367					
	8	105.0	2202.7	1669.1	55.8	0.330					
	9	120.0	2315.7	1782.2	59.3	0.300					
	10	135.0	2418.4	1884.8	63.3	0.275					
	11	150.0	2509.3	1975.7	66.4	0.254					
	12	165.0	2616.4	2082.8	69.7	0.236					
	13	180.0	2679.6	2146.1	71.7	0.221					
	14	195.0	2760.0	2226.4	74.0	0.207					
	15	210.0	2833.2	2299.6	76.1	0.195					
	16	225.0	2895.4	2361.8	77.9	0.185					
D	17	240.8	2960.4	2426.8	79.7	0.178					

REMARKS:

902
000025

TICKET NO: 32778800

CLOCK NO: 30343 HUUR: 24



GAUGE NO: 3289

DEPTH: 9657.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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FIRST FLOW

B	1	0.0	505.6		
	2	20.0	554.6	-42.0	
	3	40.0	554.6	0.0	
	4	60.0	569.9	5.3	
	5	80.0	581.2	11.3	
	6	100.0	585.5	5.3	
C	7	119.2	593.6	7.1	

FIRST CLOSED-IN

C	1	0.0	593.6		
	2	15.0	1084.8	491.2	13.3 0.952
	3	30.0	1380.7	787.1	24.0 0.597
	4	45.0	1618.9	1025.3	32.7 0.562
	5	60.0	1822.2	1228.6	39.9 0.475
	6	75.0	1996.3	1402.7	46.0 0.413
	7	90.0	2156.7	1563.1	51.3 0.366
	8	105.0	2295.7	1703.1	55.8 0.330
	9	120.0	2417.9	1824.4	59.8 0.300
	10	135.0	2523.2	1929.6	63.3 0.275
	11	150.0	2624.7	2031.1	66.4 0.254
	12	165.0	2715.8	2122.2	69.2 0.236
	13	180.0	2795.5	2202.9	71.7 0.221
	14	195.0	2874.2	2280.6	74.0 0.207
	15	210.0	2948.6	2355.0	76.1 0.195
	16	225.0	5.2	2421.6	77.9 0.185
D	17	240.0	273.1	2479.5	79.7 0.175

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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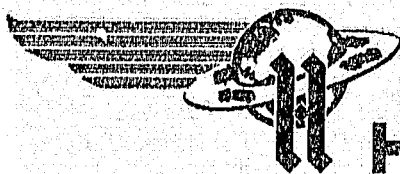
REMARKS:

202
000026

TICKET NO. 32778800

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.825	8959.4	
4		FLEX WEIGHT.....	5.000	2.875	182.9	
3		DRILL COLLARS.....	6.250	2.875	176.8	
51		PUMP OUT REVERSING SUB.....	5.000	3.000	1.0	9321.4
3		DRILL COLLARS.....	6.250	2.875	89.1	
50		IMPACT REVERSING SUB.....	5.000	3.000	1.0	9411.5
3		DRILL COLLARS.....	6.250	2.875	89.7	
258		BAR CATCHER SUB.....	5.750	1.180	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.1	9505.7
5		CROSSOVER.....	5.000	2.200	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	4.9	
202		SAMPLE CHAMBER.....	5.000	2.500	4.9	
33		DRAIN VALVE.....	5.000	2.200	0.9	
60		HYDROSPRING TESTER.....	5.000	0.750	5.3	9523.2
80		AP RUNNING CASE.....	5.000	2.250	4.1	9526.7
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9539.6
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9547.4
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	10.0	
5		CROSSOVER.....	5.750	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.875	90.4	
5		CROSSOVER.....	5.750	2.500	1.0	
61		BLANKED-OFF RUNNING CASE.....	5.000		4.1	9557.0
TOTAL DEPTH					9560.0	
EQUIPMENT DATA						

000022

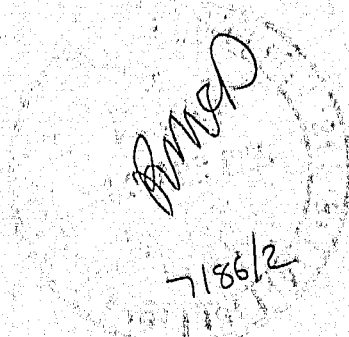


HALLIBURTON SERVICES

TICKET NO. 32778900

05-APR-89

MDDMBA



FORMATION TESTING SERVICE REPORT

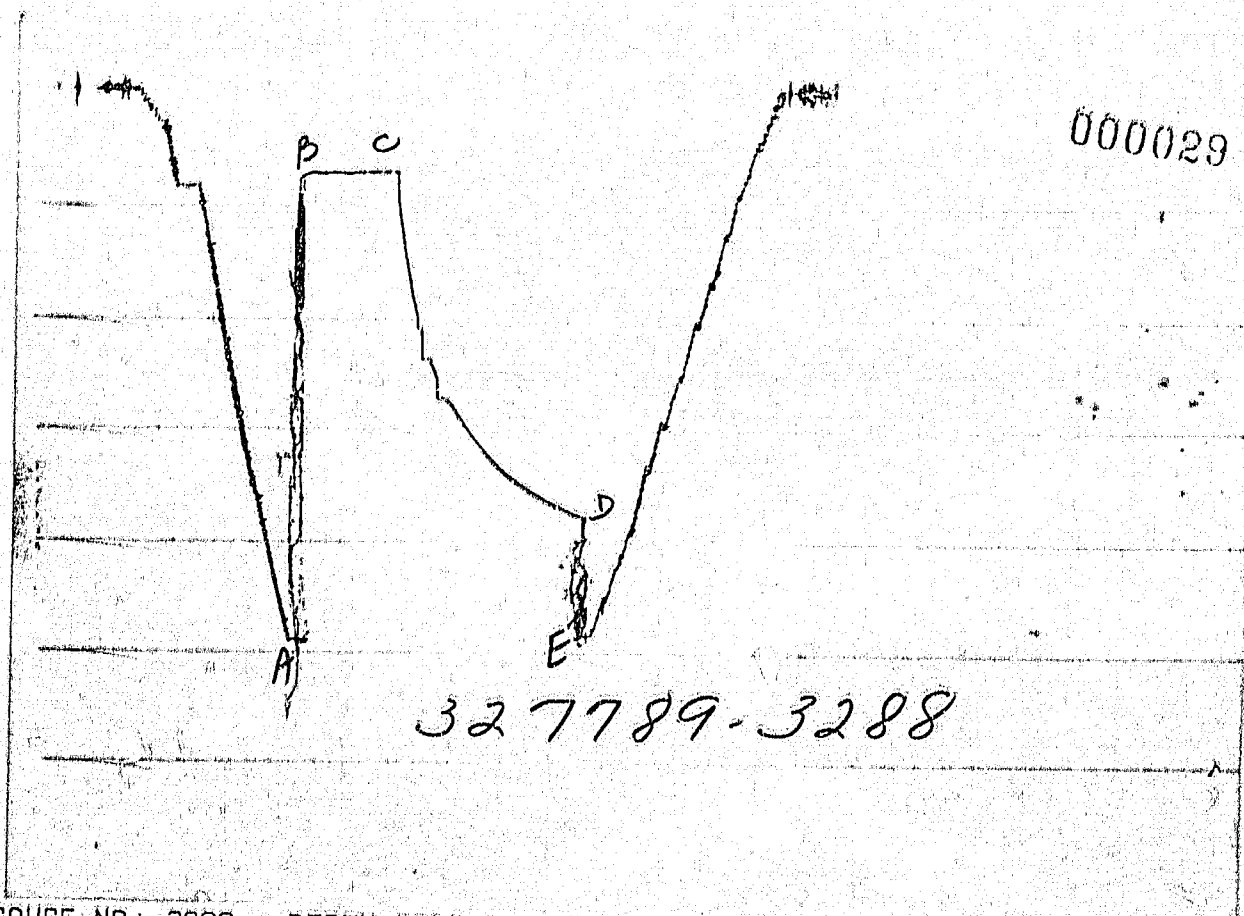
LEGAL LOCATION		WELL NO.		TEST NO.		COOPER BASIN		COUNTY SOUTH AUSTRALIA		STATE AUSTRALIA		SM	
LEASE NAME		2		3		9979.7 - 10082.0						LEASE OWNER/COMPANY NAME	
SEC - TWP - RNS		SEE REMARKS SECTION		FIELD AREA		TESTED INTERVAL						SPRINGS LTD.	

000028

327789.5093

GAUGE NO: 5093 DEPTH: 9938.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	697	728.7			
C	FINAL FIRST FLOW		703.8	120.0	119.7	F
C	INITIAL FIRST CLOSED-IN		703.8			
D	FINAL FIRST CLOSED-IN	724	737.0	240.0	240.3	C
E	FINAL HYDROSTATIC					

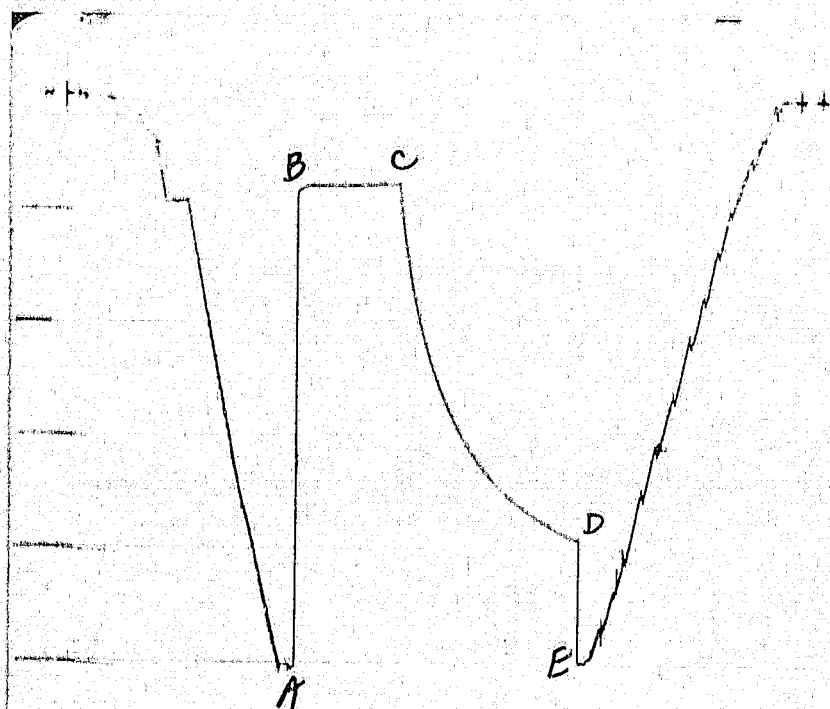


GAUGE NO: 3288 DEPTH: 9959.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4892	4920.0			
B	INITIAL FIRST FLOW	688	783.9			
C	FINAL FIRST FLOW	710	705.2	120.0	119.7	F
C	INITIAL FIRST CLOSED-IN	710	705.2			
D	FINAL FIRST CLOSED-IN	3793	3797.4	240.0	240.3	C
E	FINAL HYDROSTATIC	4848	4868.1			

052

000030



327789.3289

GAUGE NO: 3289 DEPTH: 10079.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	5023	5050.0			
B	INITIAL FIRST FLOW	752	864.8			
C	FINAL FIRST FLOW	774	776.5	120.0	119.7	F
C	INITIAL FIRST CLOSED-IN	774	776.5			
D	FINAL FIRST CLOSED-IN	3913	3940.3	240.0	240.3	C
E	FINAL HYDROSTATIC	4981	5007.7			

000031

EQUIPMENT & HOLE DATA		TICKET NUMBER: 32778900	
FORMATION TESTED: PATCHAWARRA		DATE: 10-31-88 TEST NO: 3	
NET PAY (ft):		TYPE DST: OPEN HOLE	
GROSS TESTED FOOTAGE: 102.3		HALLIBURTON CAMP: MOOMBA	
ALL DEPTHS MEASURED FROM: KELLY BUSHING		TESTER: D. HARRISON	
CASING PERFS. (ft):		WITNESS: SPEECHLY	
HOLE OR CASING SIZE (in): 8.500		DRILLING CONTRACTOR: ATCO RIG #1-A	
ELEVATION (ft): 140.0 KELLY BUSHING			
TOTAL DEPTH (ft): 10082.0			
PACKER DEPTH(S) (ft): 9972. 9980			
FINAL SURFACE CHOKE (in): 0.50000			
BOTTOM HOLE CHOKE (in): 0.750			
MUD WEIGHT (lb/gal): 9.50			
MUD VISCOSITY (sec): 40			
ESTIMATED HOLE TEMP. (°F):			
ACTUAL HOLE TEMP. (°F): 276 @ 10078.0 ft			
FLUID PROPERTIES FOR RECOVERED MUD & WATER		SAMPLER DATA	
SOURCE	RESISTIVITY	CHLORIDES	P _{sig} AT SURFACE:
	°F	ppm	cu.ft. OF GAS:
	°F	ppm	cc OF OIL:
	°F	ppm	cc OF WATER:
	°F	ppm	cc OF MUD:
	°F	ppm	TOTAL LIQUID cc:
	°F	ppm	
HYDROCARBON PROPERTIES		CUSHION DATA	
OIL GRAVITY (°API): @ °F		TYPE	AMOUNT WEIGHT
GAS/OIL RATIO (cu.ft. per bbl):		WATER (FT)	1700.0 8.40
GAS GRAVITY:			
RECOVERED: 90 FEET OF SLIGHTLY GAS CUT WATERY MUD 1700 FEET OF GAS CUT WATER CUSHION MEASURED FROM: TESTER VALVE			
REMARKS: LEGAL LOCATION: LAT. 27 DEG, 28', 17.9"S LONG. 140 DEG, 13', 31.4"E.			

000032

[illegible]

856

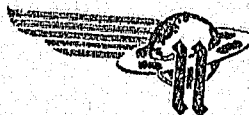
000033

TICKET NO: 32778900

CLOCK NO: 30347 HOUR: 24

GAUGE NO: 5093

DEPTH: 9938.0



REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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FIRST FLOW

B	1	0.0	728.7		
	2	20.0	721.2	-7.5	
	3	40.0	718.2	-2.9	
	4	60.0	717.2	-1.1	
	5	80.0	711.5	-5.6	
	6	100.0	707.0	-4.6	
C	7	119.7	703.8	-3.2	

FIRST CLOSED-IN

C	1	0.0	703.8		
D	2	240.3	737.0	33.2	79.9 0.176

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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REMARKS:

V92

000034

TICKET NO: 32778900

CLOCK NO: 12462 HOUR: 24



GAUGE NO: 3288

DEPTH: 9959.0

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	783.9								
	2	20.0	722.4	-61.5							
	3	40.0	722.4	0.0							
	4	50.0	720.9	-1.5							
	5	80.0	713.3	-7.5							
	6	100.0	707.5	-5.8							
C	7	119.7	705.2	-2.4							
FIRST CLOSED-IN											
C	1	0.0	705.2								
	2	10.0	1480.2	775.1	9.2	1.114					
	3	20.0	1850.4	1155.3	17.1	0.844					
☐	4	30.0	2110.2	1405.0	24.0	0.699					
☐	5	41.9	2391.4	1686.2	31.0	0.586					
	6	50.0	2533.0	1827.8	35.3	0.531					
	7	50.0	2740.9	2035.8	40.0	0.476					
	8	70.0	2797.6	2092.4	44.2	0.433					
	9	80.0	2817.7	2212.5	47.9	0.397					
	10	90.0	3018.0	2313.6	51.4	0.367					
	11	100.0	3114.6	2409.5	54.5	0.342					
	12	110.0	3199.6	2494.4	57.9	0.320					
	13	120.0	3269.2	2564.1	59.9	0.300					
	14	130.0	3339.7	2634.6	62.3	0.283					
	15	140.0	3401.5	2696.4	64.5	0.268					
	16	150.0	3457.2	2752.0	66.6	0.255					
	17	160.0	3507.0	2801.8	68.5	0.243					
	18	170.0	3553.5	2848.3	70.3	0.232					
	19	180.0	3599.3	2894.2	71.9	0.221					
	20	190.0	3638.4	2939.3	73.4	0.212					
	21	200.0	3677.3	2972.1	74.9	0.204					
	22	210.0	3712.4	3007.3	76.2	0.196					
	23	220.0	3745.9	3040.7	77.5	0.189					
	24	230.0	3773.6	3068.4	78.7	0.182					
D	25	240.3	3797.4	3097.2	79.9	0.176					

LEGEND:

☐ STAIR-STEP

REMARKS:

ALL READINGS QUESTIONABLE DUE TO SPLIT STYLUS POINT AND STAIR STEPPING.

592

000035

TICKET NO: 32778900

CLOCK NO: 30343 HOUR: 24

GAUGE NO: 3289

DEPTH: 10079.0



REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	854.8			
2	20.0	795.6	-69.2		
3	40.0	795.6	0.0		
4	60.0	792.0	-3.5		
5	80.0	785.2	-6.9		
6	100.0	776.1	-9.1		
C 7	119.7	776.5	0.4		

FIRST CLOSED-IN					
C 1	0.0	776.5			
2	10.0	1390.2	613.7	9.2	1.113
3	20.0	1806.1	1029.5	17.1	0.844
4	30.0	2103.3	1326.7	24.0	0.598
5	40.0	2342.9	1566.3	30.0	0.501
6	50.0	2542.2	1765.7	35.3	0.531
7	60.0	2713.6	1937.0	40.0	0.476
8	70.0	2857.1	2080.6	44.2	0.433
9	80.0	2986.4	2209.9	47.9	0.397
10	90.0	3106.7	2330.2	51.4	0.367
11	100.0	3208.0	2431.5	54.5	0.342
12	110.0	3298.3	2521.7	57.3	0.320
13	120.0	3382.2	2605.7	59.9	0.301
14	130.0	3456.0	2679.4	62.3	0.284
15	140.0	3522.3	2745.8	64.5	0.268
16	150.0	3579.2	2802.6	66.6	0.255
17	160.0	3628.9	2852.3	68.5	0.243
18	170.0	3680.5	2903.9	70.2	0.232
19	180.0	3725.6	2949.0	71.9	0.221
20	190.0	3769.8	2993.3	73.4	0.212
21	200.0	3808.2	3031.7	74.9	0.204
22	210.0	3843.8	3067.3	76.2	0.196
23	220.0	3877.2	3100.7	77.5	0.189
24	230.0	3910.6	3134.1	78.7	0.182
D 25	240.3	3940.3	3163.8	79.9	0.176

REMARKS:

952
000036

TICKET NO. 32778900

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.825	9361.4
4		FLEX WEIGHT.....	5.000	2.875	182.9
3		DRILL COLLARS.....	5.250	2.875	267.6
51		PUMP OUT REVERSING SUB.....	5.000	3.000	1.0
					9812.5
3		DRILL COLLARS.....	5.250	2.875	69.7
50		IMPACT REVERSING SUB.....	5.000	3.000	1.0
					9903.2
3		DRILL COLLARS.....	5.250	2.875	30.3
25P		BAR CATCHER SUB.....	5.750	1.180	1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1
					9938.0
5		CROSSOVER.....	5.000	2.200	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
202		SAMPLE CHAMBER.....	5.000	2.500	4.9
33		DRAIN VALVE.....	5.000	2.200	0.9
50		HYDROSPRING TESTER.....	5.000	0.750	5.3
					9955.5
80		AP RUNNING CASE.....	5.000	2.250	4.1
					9959.0
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	2.6
70		OPEN HOLE PACKER.....	7.500	1.530	5.8
					9971.8
18		DISTRIBUTOR VALVE.....	11.000	1.680	2.0
70		OPEN HOLE PACKER.....	7.500	1.530	5.8
					9979.7
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
20		FLUSH JOINT ANCHOR.....	5.000	2.370	30.0
5		CROSSOVER.....	5.750	2.500	1.0
3		DRILL COLLARS.....	5.250	2.875	60.1
5		CROSSOVER.....	5.750	2.500	1.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1
					10079.0
TOTAL DEPTH					10082.0

EQUIPMENT DATA