



PARAMOUNT RESOURCES LTD.

4100 - FIRST CANADIAN CENTRE, 350 - 7TH AVENUE S.W.

CALGARY, ALBERTA T2P 3W5

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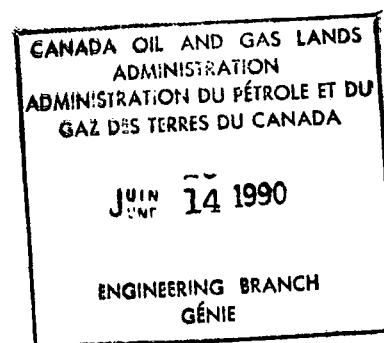
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**FINAL WELL REPORT
FOR
PARAMOUNT
ET AL
SWEDE A-73**

FINAL WELL REPORT
FOR
PARAMOUNT ET AL SWEDE A-73



PARAMOUNT RESOURCES LTD.
4000 First Canadian Centre
350 - 7th Avenue S.W.
CALGARY, Alberta
T2P 3W5

Michael Cholach, P.Geol.

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A. INTRODUCTION

1. Summary

The Paramount et al Swede A-73 well was drilled by Paramount Resources Ltd. during the first quarter of 1990 to explore for reserves of natural gas in the Slave Point, Sulphur Point, and Keg River Formations. The drilling contractor was Sierra Drilling Ltd. The rig used was a Sierra 5000 top drive unit with a hydraulic pipe handling system. The rig also has slant hole capability for angles from 45 degrees to 90 degrees.

The A-73 well was drilled to a total depth of 1585 m. Conductor pipe (339.7 mm) was set at 47 mKB and cemented. Surface hole (311 mm) was drilled to 416 m, cased with 244.5 mm casing and cemented. The main hole (222 mm) was drilled to total depth of 1585 m. The hole was logged by Schlumberger. Logs run were:

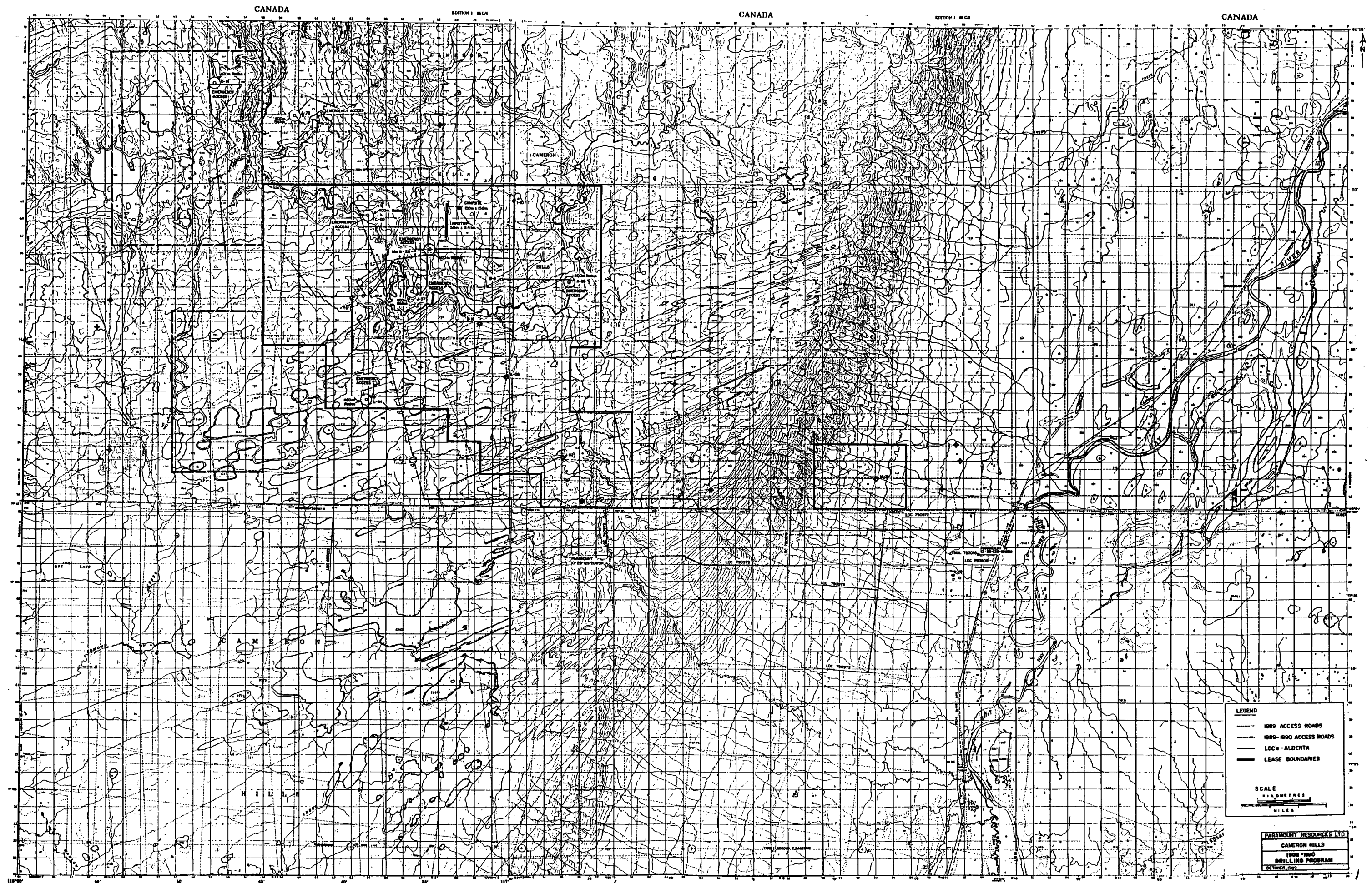
PHASOR INDUCTION-SFL-GR-SP
BHC-SONIC-GR-Ten
CNL-LDT-GR-C₁-C₂-Ten
MICROLOG-GR-Ten²
CYBERLOOK
ARRAY SONIC-STC-WAVEFORMS.

No drill stem tests were run.

The well was cased with 139.7 mm casing which was cemented in two stages. The casing was cleaned with a bit and scraper and cement bond logs were run.

The Keg River and Sulphur Point Formations were evaluated. The Keg River Formation was perforated and swabbed, a total of 49.78 m³ of oil was recovered. A bridge plug was set above the perforations. The Sulphur Point Formation was then perforated and swabbed. A maximum gas flow rate of 21,400 m³/d was obtained prior to acidizing. Following acidizing, flow tests were carried out.

2. Locality Map (See Figure 1, Following Page)



LEGEND

- 1989 ACCESS ROADS
- 1989-1990 ACCESS ROADS
- LOC'S - ALBERTA
- LEASE BOUNDARIES

SCALE

KILOMETRES

MILES

PARAMOUNT RESOURCES LTD.
CAMERON HILLS
1989-1990
DRILLING PROGRAM
OCTOBER, 1992

B. GENERAL DATA

1. Well Name

Paramount et al Swede A-73
Exploration Agreement No. 327
Grid Area: 60° 20' N, 117° 30' W

2. Well Location

Surveyed by conventional ground traverse methods to determine final position.

UTM Ref. Meridian: 117°

Coordinates: North 667 3992.51
East 45 5651.03

Lat. 60° 12' 09.48"
Long. 117° 43' 27.10"

3. Unique Well Identifier

300A736020117300

4. Operator And Drilling Contractor

Operator: Paramount Resources Ltd.
4000 First Canadian Centre
350 - 7th Avenue S.W.
Calgary, Alberta
T2P 3W5

Drilling Contractor: Sierra Drilling Ltd.
P.O. Box 177
Medicine Hat, Alberta
T1A 7E8

5. Drilling Unit (N/A)

6. Position Keeping (N/A)

7. Support Craft (N/A)

8. Drilling Unit Performance (N/A)

9. Difficulties And Delays (N/A)

C. SUMMARY OF OPERATIONS

1. Elevations

Rotary Table 679.6 m

Ground 675.6 m

2. Total Depth

Drilled 1585.00 m

Logged 1585.00 m

PBTD 1380.00 m

3. Date And Hour Spudded

Spudded 1990-01-31 at 20:00 hours.

4. Date Drilling Completed

1990-02-22

5. Date Of Rig Release

1990-02-25

6. Well Status

Shut in gas well.

7. Hole Sizes And Depth

Surface Conductor 406 mm - depth 47 m

Surface Hole 311 mm - depth 416 m

Main Hole 222 mm - depth 1585 m

See Table 1 for Bit Record. (Following Page).

TABLE 1

PARAMOUNT ET AL SWEDE A-73

BIT RECORD

<u>NO.</u>	<u>SIZE</u> <u>MM</u>	<u>MAKE</u>	<u>TYPE</u>	<u>DEPTH</u> <u>OUT</u>	<u>METRES</u> <u>DRILLED</u>	<u>HOURS</u>	<u>METRES</u> <u>PER HOUR</u>	<u>ACCUM</u> <u>HOURS</u>
1A (P)	311	HUGHES	ATS11	47	47	5.25	9.00	5.25
1B (R)	406	SMITH	SDG11	47	47	6.25	7.50	11.50
2A	311	HUGHES	ATS11	76	29	1.50	19.30	13.00
1C (P)	222	REED	HP12	232	156	15.50	10.10	28.50
2C (P)	222	REED	HP13G	361	129	7.00	18.40	35.50
3A	311	HUGHES	ATJ-1	371	295	8.50	34.70	44.00
4A	311	HUGHES	ATJ-1	410	39	10.00	3.90	54.00
5A	311	REED	HP11J	416	6	1.75	3.40	55.75
1	222	REED	HP51A	1223	807	41.00	19.70	96.75
2	222	REED	HP52A	1474	251	69.25	3.60	166.00
3	222	REED	HP53	1585	111	32.50	3.40	198.50

8. Casing And Cement Record

Conductor Pipe: Ran 4 joints, 339.7 mm, 71.4 kg/m, H-40, ST&C, 8RD Takalashi Casing. Cemented with 13.5 tonnes 0.1.0 cement + 2.0% CaCl_2 . Casing landed at 47 mKB.

Surface Casing: Ran 32 joints, 244.5 mm, 53.56 kg/m, J-55, LT&C, Range 3 Ipsco Casing. Landed at 416.0 mKB. Cemented with 35 tonnes 0.1.0 cement + 2% CaCl_2 .

Production Casing: Ran 147 joints of 139.7 mm, K-55, 8RD, LT&C casing. Landed at 1582.25 mKB.

Cementing:

Stage #1: Cemented with 22 tonnes 0.1.0 Class 'G' cement + 0.8% NFL + 0.10% SFC 12000.

Stage #2: Cemented with 75 tonnes 0.1.8 cement + 0.75% T-10.

The calculated cement rise was 390 mKB.

Casing is held by a Tundra Type C-21 11" x 5 1/2" manual slip assembly and a 11" x 5 1/2" type "H" seal assembly.

9. Sidetracked Hole (N/A)

10. Drilling Fluid

Surface Hole (0 - 416 m):

This section was drilled with a bentonite-lime slurry which had the following properties:

Weight	1165 kg/m ³
Viscosity	107
pH	9.5

Main Hole:

The interval from 416 m to 1223 m was drilled with air. While air drilling, a reserve mud supply of 1100 kg/m³ of mud was kept on hand. The mud had a viscosity of 40 - 45 and a pH of 9.0 to 9.5.

The interval from 1223 m to 1585 m was drilled with a gel-chem mud having a density ranging from 1080 kg/m³ to 1125 kg/m³. Viscosity was maintained around 55. Alkalinity was controlled with caustic soda at 10.0 to 10.5. Fluid loss was maintained around 8.0 with drispac.

11. Fishing Operations

On the first attempt to run 244.5 mm surface casing, the casing hung up on boulders at 148 m. While attempting to work casing through the boulders, the bottom 0.3 m of the guide shoe fell off. The shoe was then worked to bottom with a bit, milled, and the fragments fished out with a magnet.

12. Well Kicks

None encountered.

13. Formation Leak-Off Test

A FLOT was run at 421 m (surface casing landed at 416 m). The fluid density was 1000 kg/m³ which had a gradient of 9.81 kg/m. The maximum applied pressure was 4130 kPa with no formation breakdown giving a formation gradient of ~~22~~ kPa/m.

19.37

14. Time Distribution (See Table 2, Following Page)

15. Deviation Survey (N/A)

16. Abandonment Plugs (N/A)

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 1 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P. DRILL	DEPTH 24:00 HOURS
1990-01-31	20:00	22:00	2.00																
1990-01-31	22:00	24:00		2.00															19
1990-02-01	00:00	01:30															1.50		
1990-02-01	01:30	02:15		0.75															
1990-02-01	02:15	02:30															0.25		
1990-02-01	02:30	03:00		0.50															
1990-02-01	03:00	06:15		2.25															
1990-02-01	06:15	07:00	1.75																
1990-02-01	07:00	07:30		0.50															
1990-02-01	07:30	08:00															0.50		
1990-02-01	08:00	08:15				0.25													
1990-02-01	08:15	08:45	0.50																
1990-02-01	08:45	15:00		6.25															
1990-02-01	15:00	16:00	1.00																
1990-02-01	16:00	16:30			.50														
1990-02-01	16:30	16:45							0.25										
1990-02-01	16:45	19:00	2.25																
1990-02-01	19:00	19:15							0.25										
1990-02-01	19:15	19:30		0.25															
1990-02-01	19:30	22:00			2.50														
1990-02-01	22:00	24:00														2.00			47

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 2 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P. DRILL	DEPTH 24:00 HOURS
1990-02-02	00:00	04:15														4.25			
1990-02-02	04:15	04:45		0.50															
1990-02-02	04:45	05:15			0.50														
1990-02-02	05:15	05:45		0.50															
1990-02-02	05:45	06:30			0.75														
1990-02-02	06:30	11:30									5.00								
1990-02-02	11:30	20:30										9.00							
1990-02-02	20:30	21:15			0.75														
1990-02-02	21:15	24:00														2.75			47
1990-02-03	00:00	00:15				0.25													
1990-02-03	00:15	01:45	1.50																
1990-02-03	01:45	02:00							0.25										
1990-02-03	02:00	03:00			1.00														
1990-02-03	03:00	08:00	5.00																
1990-02-03	08:00	08:15				0.25													
1990-02-03	08:15	11:30	3.25																
1990-02-03	11:30	12:00							0.50										
1990-02-03	12:00	17:45	5.75																
1990-02-03	17:45	18:15		0.50															
1990-02-03	18:15	19:00							0.75										
1990-02-03	19:00	21:00	2.00																
1990-02-03	21:00	21:15							0.25										
1990-02-03	21:15	21:30				0.25													
1990-02-03	21:30	24:00			2.50														

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 3 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P.	DEPTH 24:00 DRILL HOURS
1990-02-04	00:00	07:00	7.00																
1990-02-04	07:00	08:00							1.00										
1990-02-04	08:00	08:15				0.25													
1990-02-04	08:15	08:30							0.25										
1990-02-04	08:30	19:00														10.50			
1990-02-04	19:00	19:15							0.25										
1990-02-04	19:15	21:00	1.75																
1990-02-04	21:00	21:15							0.25										
1990-02-04	21:15	24:00			2.75														371
1990-02-05	00:00	02:00			2.00														
1990-02-05	02:00	02:30		0.50															
1990-02-05	02:30	04:45	2.25																
1990-02-05	04:45	05:45		1.00															
1990-02-05	05:45	07:45			2.00														
1990-02-05	07:45	17:30									9.75								
1990-02-05	17:30	20:00			2.50														
1990-02-05	20:00	20:15				0.25													
1990-02-05	20:15	24:00															3.75		402

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 4 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P. DRILL	DEPTH 24:00 HOURS
1990-02-06	00:00	03:15			3.25														
1990-02-06	03:15	03:30		0.25															
1990-02-06	03:30	07:15															3.75		
1990-02-06	07:15	07:30				0.25													
1990-02-06	07:30	10:15		2.75															
1990-02-06	10:15	13:00			2.75														
1990-02-06	13:00	14:00															1.00		
1990-02-06	14:00	18:30			4.50														
1990-02-06	18:30	19:45		1.25															
1990-02-06	19:45	20:00				0.25													
1990-02-06	20:00	22:30			2.50														
1990-02-06	22:30	24:00		1.50															402
1990-02-07	00:00	00:30			0.50														
1990-02-07	00:30	01:00		0.50															
1990-02-07	01:00	04:30			3.50														
1990-02-07	04:30	10:30															5.00		
1990-02-07	10:30	10:45				0.25													
1990-02-07	10:45	11:30															0.75		
1990-02-07	11:30	14:15			2.75														
1990-02-07	14:15	21:30															7.25		
1990-02-07	21:30	23:15			1.75														
1990-02-07	23:15	24:00															0.75		402

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 5 OF 11

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TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-26 AT 12:00 HOURS

PAGE 6 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P.	DEPTH 24:00 DRILL HOURS
1990-02-10	00:00	06:45			5.75														
1990-02-10	06:45	07:30	1.75																
1990-02-10	07:30	09:45		2.25															
1990-02-10	09:45	11:45			2.00														
1990-02-10	11:45	23:45									12.00								
1990-02-10	23:45	24:00										0.25							402
1990-02-11	00:00	07:45										7.75							
1990-02-11	07:45	24:00											16.25						402
1990-02-12	00:00	06:45											5.75						
1990-02-12	06:45	08:30												2.75					
1990-02-12	08:30	13:30											5.00						
1990-02-12	13:30	16:00			2.50														
1990-02-12	16:00	16:15		0.25															
1990-02-12	16:15	19:30												3.25					
1990-02-12	19:30	20:00			0.50														
1990-02-12	20:00	20:30				0.25												0.25	
1990-02-12	20:30	24:00															3.50		412

PARAMOUNT ET AL SWEDE A-73

SPUDDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-26 AT 12:00 HOURS

PAGE 8 OF 11

[illegible]

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 9 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P. DRILL	DEPTH 24:00 HOURS
1990-02-17	00:00	06:25	6.25																
1990-02-17	06:25	06:45							0.50										
1990-02-17	06:45	10:45		4.00															
1990-02-17	10:45	21:15	10.50																
1990-02-17	21:15	21:45							0.50										
1990-02-17	21:45	22:00				0.25													
1990-02-17	22:00	24:00	2.00																1331
1990-02-18	00:00	06:30	6.50																
1990-02-18	06:30	07:00							0.50										
1990-02-18	07:00	07:15				0.25													
1990-02-18	07:15	21:00	13.75																
1990-02-18	21:00	21:15				0.25													
1990-02-18	21:15	22:45	1.50																
1990-02-18	22:45	23:15														0.50			
1990-02-18	23:15	24:00	0.75																1379
1990-02-19	00:00	04:30	4.50																
1990-02-19	04:30	05:30							1.00										
1990-02-19	05:30	10:15	4.75																
1990-02-19	10:15	10:45							0.50										
1990-02-19	10:45	19:30	8.75																
1990-02-19	19:30	19:45				0.25													
1990-02-19	19:45	23:30	3.75																
1990-02-19	23:30	24:00															0.50		1464

PARAMOUNT ET AL SWEDE A-73

SPUDDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-26 AT 12:00 HOURS

[illegible]

TABLE 2

PARAMOUNT ET AL SWEDE A-73

TIME DISTRIBUTION

SPUDED WELL ON 1990-01-31 AT 20:00 HOURS

RIG RELEASED ON 1990-02-25 AT 12:00 HOURS

PAGE 11 OF 11

DATE	FROM	TO	DRILL	CIRC. COND. MUD	TRIPS	RIG SERVICE	RIG REPAIRS	SLIP & CUT LINE	DEV. SURVEY	WIRELINE LOGS	RUN CASING CEMENT	W.O.C.	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	REAM	OTHER	B.O.P.	DEPTH 24:00 HOURS
1990-02-23	00:00	12:00								12.00									
1990-02-23	12:00	24:00									12.00								
1990-02-24	00:00	00:15				0.25													
1990-02-24	00:15	06:30									6.25								
1990-02-24	06:30	13:00															6.50		
1990-02-24	13:00	12:00									11.00								1585
1990-02-25	00:00	05:00									5.00								
1990-02-25	05:00	12:00															7.00		1585
TOTALS			181.50	43.25	114.75	6.25	0.75	1.25	13.25	23.00	61.00	9.00	27.00	6.00		57.50	30.25	0.25	

D. GEOLOGY

Regional Geological Discussion:

The geological record in the Cameron Hills area can be divided into six lithostratigraphic intervals, each generally bounded by major transgressive or regressive events. These intervals are:

1. Lower Elk Point Group
2. Upper Elk Point Group
3. Beaverhill Lake Group
4. Woodbend Group
5. Winterburn Group
6. Wabamun Group

Lower Elk Point Group

This group includes the interval from the Basal Devonian sands to the base of the Keg River Formation. The evaporites of the Chinchaga Formation and silici-clastics of the basal Granite Wash were deposited within a shallow restricted epicontinental seaway. These deposits onlap the Pre-Devonian surface and range in thickness from zero over the prominent Tathlina and Peace River archs to nearly 300 metres within the interarch basins.

Upper Elk Point Group

A major transgression resulted in the deposition of organic rich open marine carbonates of the Lower Keg River Formation. This crinoid/brachiopod rich carbonate platform ranges in thickness from 15 to 50 metres.

Continued marine transgression and subsidence led to the formation of an extension Upper Keg River barrier reef complex (Shekelie-Presquile Barrier Complex) which enclosed the Elk Point basin on its northern and western sides. Southeast of this barrier, isolated pinnacle reefs, low energy reef mounds and shelf deposits of the Upper Keg River Formation were deposited. Generally the Upper Keg River is deposited conformably upon Lower Keg River Platform carbonates, but in areas of high Pre-Devonian topography, these rocks are deposited unconformably upon the Pre-Devonian surface (e.g. A-5 and I-10 wells).

Relatively open marine conditions existed through to the end of the Keg River time with normal salinity maintained by marine water entering the basin from both the northwest and northeast. During the early Givetian stage the Tathlina land mass elevated resulting in the restriction of the Elk Point basin with normal marine conditions restricted to the Shekelie Barrier Complex. Southeast of the Barrier Complex, the increasingly evaporitic conditions resulted in deposition of interbedded anhydrites and dolomites of the Muskeg Formation.

Toward the end of Upper Elk Point time subsidence of the barrier complex allowed normal marine conditions to return to the northern end of the Elk Point basin resulting in deposition of the regional extensive Sulphur Point dolomites and limestones. Detailed correlations of the Sulphur Point carbonates with adjacent anhydrite/dolomite cycles of the uppermost Muskeg Formation indicated a facies relationship exists between these two formations.

Upper Elk Point deposition was terminated by a pronounced regression, resulting in widespread deposition of shallow marine and continental shales and silty sandstone of the Watt Mountain Formation.

Beaverhill Lake Group

Beaverhill Lake Group sedimentation began with gradual marine transgression over a relatively flat surface of Watt Mountain clastics. The initial deposits comprised of the peritidal and shallow restricted shelf carbonates of the Fort Vermilion Formation. Continued transgression created more open marine conditions and the shallow shelf carbonates of the Slave Point were deposited.

Further marine transgression over the Slave Point surface resulted in deposition of a sequence of basin filling argillaceous limestones and calcareous shales of the Waterways Formation.

Woodbend Group

In northern Alberta the transition from the shallow marine Waterways Formation to the deeper water Woodbend Group is conformable. This transgressive pulse produced the most extensive Devonian marine incursion into the Alberta Basin and is represented by euxinic "deep" water organic rich shales of the Muskwa/Duvernay Formation. These shales are overlain by thick accumulations of Upper Woodbend Group shales of the Fort Simpson Formation and carbonates of the Twin Falls (Grosmont) Formation.

Winterburn Group

The regressive sedimentation patterns developed during infilling of the Woodbend Basin continued with shallow water carbonate shelf deposits prograding out over basin filling clastics. In northern Alberta a regressive pulse allowed the argillaceous carbonates of the Basal Nisku Formation to give way to cleaner shallow water shelf carbonates of the Calmar Formation and Blueridge Member of the Graminia Formation. A second major regressive pulse occurred at the close of Winterburn time resulting in the deposition of terrigenous clastics of the Graminia Silt unit.

Wabamun Group

The Wabamun Group carbonate ramp sequence conformably overlies the Winterburn Group. These largely lime mud rich, burrowed pelletoidal limestones, grading locally to lime grainstones, were deposited in response to six major eustatic sea level rises and accentuated by local subsidence patterns.

Well Summary

Paramount et al Swede A-73 was drilled to evaluate hydrocarbon potential in the Mid-Devonian, Sulphur Point, and Keg River Formations.

The well was drilled from surface to total depth in 22 days. Major engineering problems were encountered in surface hole due to massive boulders and gravel. Surface casing was finally landed at 416.0 m. The 222 mm hole was drilled with air to a depth of 1223 metres. Deviation problems were encountered at 950 m. The remaining 222 mm hole was drilled with a gel chemical mud system, to a total depth of 1585 m. Lost circulation was encountered on mud up at 1223 m. LCM was added and circulation retrieved.

Hydrocarbons were encountered in the Sulphur Point and Keg River Formations. Sample conditions were poor to fair due to the presence of sawdust in the mud system until T.D.

No drill stem tests were run, due to the presence of sawdust in the mud system.

A lazy flame was encountered at the end of the buoy-line while air-drilling circa 820 metres.

1. Drill Cuttings (See Following Pages For Sample Descriptions)

Samples were collected at 10 intervals from 416 m to 1220 m and at 5 m intervals from 1220 m to 1585 m.

Sample Distribution	=	Washed Cuttings - 5 Metre Intervals
One Set Samples	-	C.O.G.L.A., Yellowknife
One Set Samples	-	I.S.P.G., Calgary
One Set Samples	-	Paramount, Calgary.

Sample Distribution	=	Unwashed Cuttings - 10 Metre Intervals
One Set Samples	-	I.S.P.G., Calgary.

2. Cores (N/A)

3. Lithology (See Following Page)

4. Stratigraphic Column (See Figure 2, Following Page)

TABLE OF FORMATIONS

AGE	FORMATION		LITHOLOGY
LATE DEVONIAN	Wabamun		Limestone crypto to micro crystalline
	Winterburn		Limestone crypto - micro crystalline, argillaceous
	Woodbend Group	Twin Falls (Grosmont)	Limestone crypto - micro
		Fort Simpson	shales
		Muskwa	organic rich shales
	Beaverhill Lake	Waterways	shales (basinal)
MIDDLE DEVONIAN	Upper Elk Pt.	Slave Point	Limestone
		Ft. Vermilion	Limestone
		Watt Mountain	shales - bituminous
		Sulphur Point	Limestone & Dolomite
	Upper Keg River	Muskeg	anhydrite & dolomite / Dolomite
		Lower Keg River	organic rich limestone & dolomite
	Lower Elk Point	Chinchaga	anhydrite
		Granite Wash	sands
EARLY DEVONIAN			Metamorphic Complex
PRE DEVONIAN			

GEOLOGICAL MARKERS

K.B: 679.6 m

GRD: 675.6 m

[illegible]

Paramount et al Swede A-73

Sample Descriptions

Surface Casing @ 416.0 m

416 - 440 m Shale 100%, black to dark grey, firm, subfissile, earthy, locally silty.

Wabamun 443.0 m (+ 236.6 m)

440 - 460 m Limestone 100%, brown/white, firm, cryptocrystalline, chalky to marly, mudstone, tight.

460 - 470 m Limestone 100%, white, firm to hard, cryptocrystalline to microcrystalline, chalky to waxy, sucrosic in part, mudstone to wackestone, tight, locally 0-6% intercrystalline porosity, no show.

470 - 560 m No sample.

560 - 570 m Limestone 90%, white to white/brown, hard to brittle, cryptocrystalline, rarely microcrystalline, waxy to chalky, rarely sucrosic, pelletal to oolitic, trace Crinoid, mudstone to wackestone, tight. Shale 10%, black, firm to hard, subfissile to fissile, earthy to waxy, locally calcareous, rarely micaceous.

570 - 580 m Limestone 50%, Shale 50%, as above.

580 - 590 m Limestone 100%, white to locally brown/white, brittle, microcrystalline to locally cryptocrystalline, sucrosic to waxy, occasionally pelletal, packstone, tight, locally 0-6% intercrystalline porosity, no show.

590 - 600 m Limestone 100%, white to grey/white, as above.

600 - 620 m Limestone 90%, white to brown/white, as above. Shale 10%, dark grey to black, firm, subfissile, earthy, trace pyrite.

620 - 630 m Limestone 100%, white, brittle to friable, microcrystalline to very fine crystalline, sucrosic, good trace sparry calcite, packstone, 0-6% intercrystalline porosity, no show.

630 - 660 m Limestone 100%, as above, locally cryptocrystalline and waxy. Shale trace, dark grey to black, firm, subfissile, earthy.

660 - 670 m Limestone 90%, white, brittle, cryptocrystalline to very fine crystalline, waxy to sucrosic, good trace sparry calcite, rarely pelletal, mudstone to packstone, tight. Shale 10%, as above, trace pyrite.

670 - 700 m Limestone 90%, white/brown to grey/white, brittle to friable, microcrystalline, sucrosic, pelletal, rare trace pyrite, packstone, tight. Shale 10%, as above, locally grey/green, firm, subfissile, waxy.

700 - 710 m Shale 60%, green/grey, firm, subfissile, waxy to earthy,

locally silty, micaceous. Limestone 40%, as above.

710 - 730 m Shale 40%, grey/green, black, dark grey, firm, fissile, earthy to waxy, micaceous in part. Sandstone 30%, green/grey, friable to brittle, very fine, sub-round, well sorted, 80% quartz, calcareous cement, trace glauconite, locally micaceous, tight. Limestone 30%, as above.

730 - 740 m Shale 80%, grey/green, black, dark grey, as above, locally silty. Limestone 20%, as above.

740 - 770 m No sample.

770 - 780 m Shale 80%, grey/green, black, dark brown, firm, fissile, earthy to waxy, rarely micaceous, locally silty. Limestone 20%, as above.

780 - 820 m No sample.

Twin Falls 811.0 m (- 131.4 m)

820 - 830 m Limestone 50%, grey/brown, hard to brittle, cryptocrystalline to microcrystalline, waxy to sucrosic, occasionally marly, argillaceous in part, locally pelletal, mudstone to wackestone, tight. Shale 50%, as above.

830 - 840 m No sample.

840 - 860 m Limestone 50%, as above, dominately cryptocrystalline. Shale 50%, dark grey to black, locally green/grey, firm, subfissile, earthy, rarely micaceous.

860 - 870 m No sample.

870 - 880 m Limestone 90%, grey/white, brittle to hard, microcrystalline to very fine crystalline, sucrosic, pelletal, argillaceous clasts, abundant sparry calcite, trace Crinoid, trace Cephalopod, wackestone to packstone, tight. Shale 10%, as above.

880 - 900 m No sample.

900 - 910 m Limestone 100%, as above.

910 - 940 m Limestone 80%, grey/white to grey/brown, hard to brittle, cryptocrystalline to microcrystalline, waxy to sucrosic, mudstone to wackestone, tight. Shale 20%, dark grey, grey/green, brown, black, firm, subfissile, earthy.

940 - 950 m No sample.

950 - 960 m Limestone 50%, grey/white, hard, cryptocrystalline, earthy, argillaceous, mudstone, trace Crinoid, tight. Shale 50%, black, firm, subfissile, earthy, trace Bryozoa.

960 - 990 m No sample.

990 - 1000 m Shale 100%, grey/green to black, firm, fissile to sub-fissile, earthy, micaceous, locally silty.

1000 - 1020 m No sample.

1020 - 1030 m Shale 100%, green/grey to dark grey, firm, subfissile, earthy, micaceous.

1030 - 1040 m No sample.

1040 - 1060 m Shale 100%, occasionally black, as above.

1060 - 1100 m No sample.

1100 - 1110 m Shale 100%, dark grey, black, occasionally brown, firm, subfissile, occasionally micaceous, earthy.

1110 - 1120 m Shale 90%, as above. Limestone 10%, dark grey, hard, microcrystalline, sucrosic, argillaceous, wackestone, tight.

1120 - 1130 m No sample.

1130 - 1140 m Shale 100%, dark grey to black, firm, subfissile to fissile, earthy to waxy, micaceous in part.

1140 - 1160 m Shale 100%, as above, locally mottled, trace pyrite.

1160 - 1170 m Shale 100%, grey/green, dark grey, black, firm, fissile, earthy, micaceous.

1170 - 1200 m Shale 100%, dark grey to locally black, firm, subfissile, earthy to mottled, locally micaceous.

1200 - 1210 m No sample.

1210 - 1220 m Shale 100%, black to locally dark grey, firm, fissile to subfissile, mottled to platey, micaceous in part, rare trace pyrite.

Mud up @ 1223 m

Lost circulation on mud up. Added sawdust and recovered circulation. Drilled ahead, initially with 100% LCM. Poor sample quality.

1220 - 1280 m No sample, 100% LCM.

Muskwa 1239.0 m (-559.4 m)

1280 - 1285 m 80% LCM. Shale 20%, dark grey to black, firm, fissile, waxy to earthy, locally micaceous. Limestone trace, dark grey, hard, cryptocrystalline, waxy to earthy, argillaceous, mudstone, tight.

Waterways 1283.0 m (-603.4 m)

1285 - 1295 m Shale 80%, as above, dominarely black, mottled. Limestone 10%, grey/white, firm, cryptocrystalline, marly, mudstone, tight. Anhydrite 10%, grey/white, soft, amorphous, chalky.

1295 - 1300 m Shale 70%, dark grey, firm, subfissile, earthy, trace pyrite. Limestone 30%, dark grey, hard, cryptocrystalline, waxy to locally chalky, mudstone, tight.

1300 - 1305 m Shale 60%, Limestone 40%, as above.

Slave Point 1304.0 m (-624.4 m)

1305 - 1310 m Limestone 70%, grey/brown, dark brown, hard, cryptocrystalline, waxy, locally argillaceous clasts, mudstone, tight. Shale 30%, as above.

1310 - 1315 m Limestone 80%, dark brown, brown/white, hard, cryptocrystalline, waxy to chalky, locally pelletal, mudstone, tight, trace pyrite. Shale 20%, as above.

1315 - 1320 m Limestone 100%, dark brown, brown/white, grey/white, hard to firm, cryptocrystalline, waxy to chalky, occasionally marly, locally pelletal, mudstone, tight, isolated vuggy porosity, trace pyrite.

1320 - 1330 m Limestone 80%, as above, locally microcrystalline and sucrosic, pelletal, locally fragmental, good trace pyrite. Anhydrite 20%, white, soft, amorphous, chalky.

1330 - 1340 m Limestone 70%, dark brown, brown/white, hard, cryptocrystalline to occasionally microcrystalline, waxy, mottled, chalky, pelletal, fragmental, trace sparry calcite, mudstone, tight. Anhydrite 30%, grey/white, as above.

Fort Vermilion 1337.0 m (-657.4 m)

1340 - 1345 m Limestone 90%, grey/white, brown/white, rarely dark brown, hard to brittle, cryptocrystalline, waxy to chalky, pelletal, fragmental, wackestone to mudstone, tight. Anhydrite 10%, as above.

1345 - 1355 m Limestone 50%, grey/white, as above. Anhydrite 30%, grey/white, soft to firm, amorphous, chalky. Shale 20%, dark grey, firm, subfissile, earthy.

Watt Mountain 1356.0 m (-676.4 m)

1355 - 1360 m Shale 50%, dark grey to locally grey/green, firm, fissile to subfissile, earthy to locally mottled, rarely micaceous. Limestone 30%, Anhydrite 20%, as above.

Sulphur Point 1361.0 m (-681.4 m)

1360 - 1365 m Limestone 70%, brown/white to grey/white, brittle to hard, cryptocrystalline, earthy to chalky, rarely waxy, pelletal, anhydritic, mudstone to wackestone, tight, trace isolated vuggy porosity. Anhydrite 30%, grey/white, firm, amorphous, chalky to earthy.

1365 - 1370 m Dolomite 80%, dark brown to grey/brown, brittle, fine

crystalline to microcrystalline, sucrosic to granular, abundant sparry calcite, locally pelletal, packstone to grainstone, trace pyrite, 0-6% intercrystalline to pin-point porosity, locally 6-12% pin-point to vuggy porosity, dark brown oil staining, 20% pale yellow fluorescence, slow streaming to hazy, blue/white to pale yellow cut fluorescence, POOR SHOW. Shale 20%, black to dark grey, firm, fissile, earthy, micro-micaceous.

1370 - 1375 m Dolomite 60%, as above, show as above. Shale 40%, dark grey, firm, fissile, earthy, abundant pyrite.

1375 - 1380 m Dolomite 90%, dark brown, brittle to hard, cryptocrystalline to microcrystalline, locally fine crystalline, sucrosic to waxy, occasionally granular, locally pelletal, good trace sparry calcite, grainstone to packstone, 0-6% pin-point to vuggy porosity, 40% dark brown oil staining, strong oil odour, 30% bright yellow fluorescence, instant streaming to hazy bright blue cut fluorescence, FAIR SHOW. Shale 10%, as above.

Muskeg 1382.0 m (-702.4 m)

1380 - 1385 m Dolomite 40%, dark brown, grey/brown, hard to brittle, cryptocrystalline to microcrystalline, chalky to waxy, locally sucrosic, mudstone to wackestone, tight. Shale 40%, dark grey, firm, fissile, earthy. Anhydrite 20%, white, firm, amorphous, chalky.

1385 - 1390 m Anhydrite 60%, white to brown/white, firm, amorphous to microcrystalline, sucrosic to chalky. Dolomite 40%, brown/white, hard, cryptocrystalline, waxy, mudstone, tight.

1390 - 1395 m Anhydrite 80%, Dolomite 20%, as above.

1395 - 1400 m Dolomite 60%, light brown to brown/white, hard, cryptocrystalline to microcrystalline, waxy to sucrosic, pelletal, locally argillaceous, trace pyrite, mudstone to packstone, tight, isolated pin-point porosity, no show. Anhydrite 40%, white to grey/white, firm, amorphous, chalky, very soluble.

1400 - 1410 m Dolomite 50%, light brown to brown/white, hard, cryptocrystalline, waxy, locally argillaceous, mudstone, tight. Anhydrite 50%, as above.

1410 - 1420 m Dolomite 80%, as above, locally pelletal. Anhydrite 20%, as above.

1420 - 1425 m Dolomite 80%, light brown, brown/white, hard, cryptocrystalline, locally microcrystalline, waxy to locally sucrosic, locally anhydritic, mudstone to wackestone, tight. Anhydrite 20%, white, firm, amorphous, chalky.

- 1425 - 1430 m Anhydrite 60%, grey/white, firm, amorphous to crystalline, sucrosic to chalky. Dolomite 40%, as above.
- 1430 - 1435 m Anhydrite 80%, Dolomite 20%, as above.
- 1435 - 1440 m Dolomite 60%, grey/brown, brown/white, hard, cryptocrystalline, waxy to earthy, argillaceous in part, trace sparry calcite, locally anhydritic, mudstone, tight, trace isolated vuggy porosity. Anhydrite 40%, white, firm, amorphous, chalky to waxy.
- 1440 - 1445 m Dolomite 80%, dark brown to brown/white, hard to brittle, cryptocrystalline to microcrystalline, waxy to sucrosic, mudstone to packstone, tight, locally 0-6% intercrystalline porosity, no show. Anhydrite 20%, as above.
- 1445 - 1450 m Dolomite 90%, as above, dominately cryptocrystalline, locally very fine to fine crystalline, granular, grainstone, 0-6% pin-point to vuggy porosity, no show. Anhydrite 10%, as above.
- 1450 - 1465 m Dolomite 90%, cryptocrystalline, as above, good trace pyrite. Anhydrite 10%, as above.
- Keg River 1463.0 m (-783.4 m)
- 1465 - 1475 m Dolomite 100%, dark brown to brown/white, brittle, microcrystalline to locally cryptocrystalline, sucrosic to occasionally waxy, trace sparry calcite, locally pelletal, packstone, tight, locally 0-6% intercrystalline porosity, no show.
- 1475 - 1480 m Dolomite 100%, dark brown, grey/brown, brown/black, brittle to friable, microcrystalline to very fine crystalline, sucrosic to granular, pelletal, argillaceous streaks, packstone, 0-6% intercrystalline porosity, dark brown oil staining, dull orange fluorescence, slow streaming to hazy pale yellow cut fluorescence, POOR SHOW, trace pyrite.
- 1480 - 1485 m Dolomite 100%, dark brown, brittle, microcrystalline to very fine crystalline, sucrosic, pelletal, packstone, 0-6% intercrystalline porosity, TRACE SHOW, as above.
- 1485 - 1495 m Dolomite 100%, dark brown to brown/white, brittle, microcrystalline to locally fine crystalline, sucrosic to granular, pelletal, trace sparry calcite, packstone to grainstone, tight, locally 0-6% intercrystalline porosity, no show.
- 1495 - 1500 m Dolomite 100%, brown/white, locally dark brown, as above, locally cryptocrystalline and waxy.
- 1500 - 1505 m Dolomite 100%, light brown, brown/white, buff, brittle, microcrystalline to fine crystalline, pelletal, trace sparry calcite, grainstone to packstone, tight, locally

0-6% intercrystalline and pin-point porosity.

- 1505 - 1510 m Dolomite 100%, as above, becoming brown/white, hard, cryptocrystalline, waxy, trace sparry calcite, mudstone, tight.
- 1510 - 1530 m Dolomite 100%, dark brown to brown/black, brittle to friable, microcrystalline, sucrosic, bituminous, pelletal, abundant sparry calcite, packstone, tight to locally 0-6% intercrystalline porosity, no show.
- 1530 - 1535 m Dolomite 100%, light to dark brown, microcrystalline, as above.
- 1535 - 1540 m Dolomite 100%, light to dark brown, hard to brittle, microcrystalline to cryptocrystalline, sucrosic to waxy, pelletal, trace sparry calcite, wackestone to packstone, tight.
- 1540 - 1550 m Dolomite 100%, as above, dominately cryptocrystalline and waxy, good trace pyrite.
- 1550 - 1555 m Dolomite 100%, brown/white, hard, cryptocrystalline, waxy, anhydritic, mudstone, tight.
- 1555 - 1560 m Dolomite 80%, as above. Anhydrite 20%, grey/white to white, firm, amorphous, chalky.
- 1560 - 1565 m Dolomite 80%, Anhydrite 10%, as above. Granite 10%, weathered, orange/green, translucent, hard, angular, siliceous, feldspathic, trace chlorite.

Pre-Devonian 1564.0 m (-884.4 m)

- 1565 - 1570 m Granite 90%, Dolomite 10%, as above.
- 1570 - 1575 m Granite 100%, orange, red/brown, orange/green, hard, hard, angular, siliceous, feldspathic, chlorite and trace biotite.
- 1575 - 1585 m Granite 100%, salmon pink, orange, orange/green, hard, angular, feldspathic, trace quartz, trace chlorite, trace biotite.

Total Depth 1585.0 m (-905.4 m)

E. WELL EVALUATION

1. Downhole Logs (In Pocket, At The End)

TABLE 3

DOWNHOLE LOG SUMMARY - Schlumberger

<u>DATE</u>	<u>RUN</u>	<u>TYPE</u>	<u>SCALE</u>	<u>INTERVAL (M)</u>
1990-02-22	1	PHASOR-INDUCTION- SFL-SP-GR	1-600	416.0 - 1585.0
			1-240	416.0 - 1585.0
	2	BHC-SONIC-GR-CAL-Ten	1-600	416.0 - 1583.0
			1-240	416.0 - 1583.0
	2	CNL-LDT-GR	1-240	416.0 - 1584.2
			1-600	416.0 - 1584.2
	3	MICROLOG	1-240	1250.0 - 1584.2
	3	CYBERLOOK	1-240	416.0 - 1584.2
	3	ARRAY SONIC-STC- WAVEFORMS		
				20.0 - 440.0

2. Other Logs (N/A)

3. Synthetic Seismograms

Refer to Array Sonic Log.

4. Formation Stimulation

Keg River Formation

- 1990-02-11: Rigged in Computalog, ran GR-N-CBL-DVL log.
- 1990-02-12: Ran in hole with 101.6 mm perforating gun, 13 spm. Perforated interval from 1461.5 m to 1464.0 mKB, total 21 shots. Ran in hole with 73 mm tubing displaced to oil (17 m³). Swabbed well, recovered 15.57 m³ load oil.
- 1990-02-13: Swabbed and flowed 12.28 m³ oil. Recovered 10.85 m³ new fluid.
- 1990-02-14: Swabbed and flowed 23.32 m³ oil having an average cut of 1% water. Total new oil produced 34.17 m³.
- 1990-02-15: Swabbed and flowed 16.39 m³ fluid having an average 38% water cut. Daily recovery was 13.11 m³ oil and 3.27 m³ water. Total new oil recovered was 47.28 m³.
- 1990-02-16: Swabbing, recovered 2.77 m³ fluid with a 10% water cut. Total new oil recovered was 49.78 m³. Displaced hole to salt water. Pulled tubing.

Sulphur Point Formation:

Rigged in Computalog, ran in hole with a 139.7 mm bridge plug, set at 1380 mKB. Ran in hole with a 101.6 mm casing gun, 13 spm. Perforated interval from 1369.0 m to 1370.5 mKB, total 21 shots. Ran in hole with 1 joint 73 mm tubing, Baker "R" nipple (2.25 "I.D.), 3 joints 73 mm tubing, Cardium 139.7 DGP packer, 139.7 mm Excell on-off connector containing 2.31 "I.D. "F" profile and 73 mm tubing. Set packer and landed tubing at 1378.2 mKB. Swabbed and flowed well. Maximum flow rate through a 16/64" choke at 1350 kPa was 8,645 m³/day.

- 1990-02-17: Unseated packer, displaced annulus with 12 m³ inhibited water (Nowsco 500). Set packer. Flowed well through a 16/64" choke at 1350 kPa, flow rate 8,645 m³/day.
- 1990-02-18: Flowed well through at 48/64" choke at 2800 kPa, flow rate 17,120 m³/day.
- 1990-02-19: Flowed well at 16/64" choke, 3480 kPa, flow rate 21,400 m³/day.

5. Formation And Production Test Results

An A.O.F. test was run on the Sulphur Point Formation by Norward Energy Services Ltd. A report on this test is on the following pages.

SECTION E, 5.

PARAMOUNT ET AL SWEDE A-73

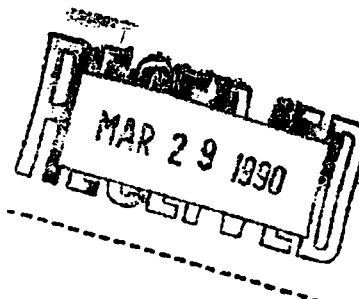
FORMATION AND PRODUCTION TESTS

NORWARD

"THE WELL TESTERS"

March 27, 1990

Paramount Resources Ltd.
4100, 350 - 7th Avenue S.W.
Calgary, Alberta
T2P 3W5



Attention: Mr. Mike Cholach

Dear Mr. Cholach:

Re: Paramount et al Swede A-73

Norward testers rigged in well testing equipment 90 03 21. From 1020 to 1630 hours, 90 03 21, the well was stop-cocked on bypass to flare.

At 1900 hours, 90 03 21, a 4 point flow-after-flow test was commenced, through test equipment, consisting of 4 increasing rates of 2 hours duration without intervening shut ins. At the end of Rate #4, the choke setting was maintained for a 24 hour extended rate ending at 0300 hours, 90 03 23. The final gas rate was approximately $15.7 \times 10^3 \text{ m}^3/\text{d}$ at a tubing pressure of 2370 KPAG. No liquid production was observed.

An acid job was performed in the A.M. of 90 03 23. A cleanup was performed from 1128 hours to 1300 hours, producing $.52 \text{ m}^3$ of acid water.

At 1600 hours, 90 03 23, a 4 point flow-after-flow test was commenced, consisting of 4 increasing rates of 2 hours duration without intervening shut ins. At the end of Rate #4, the choke setting was increased from 24/64 to 26/64 for a 24 hour extended rate, ending at 2400 hours, 90 03 24. The final gas rate was approximately $119 \times 10^3 \text{ m}^3/\text{d}$ at a tubing pressure of 6440 KPAG. Because only back-packs were available on location, the tank was gauged daily instead of hourly. The test after cleanup produced 4.15 m^3 of water (presumably acid returns) and $.11 \text{ m}^3$ of condensate. The last 18 hour liquid production was 2.06 m^3 of water and $.11 \text{ m}^3$ of condensate.

$160 \times 10^3 \text{ m}^3$ gas was flared in the 2 tests.

cont/....



-2-

Surface build-ups were taken until 0400 hours, 90 03 25, with a final reading of 8740 KPAG. Test equipment was rigged out and released.

We trust this summary is satisfactory, and remain available at your convenience.

Yours truly;
NORWARD ENERGY SERVICES LTD.

A handwritten signature in cursive script, appearing to read "T E Brown".

Terry E. Brown, P. Eng.
Manager Technical Services

TEB/11



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 21, 1990 PAGE 1 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE _____ DIFF. RANGE: _____

OPERATION: Stop Cock

PIPELINE ☐

OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Water	Oil ☐ Conden- sate ☐	Oil/Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate					
					Recorder	D.W.														
IMP Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD					
ST Units	Psi kPa	°C	Psi kPa	mm	Psi kPa	Psi kPa	kPa	°C	mm	Psi kPa	kPa	°C	mm	MMSCFD	MMSCFD	METER m ³	METER m ³	METER °C		
0900					Arrive on location, spot equipment and rig in, Solid pulling recorders															
1020	1276			64/64	Open well to flare on by-pass															
	8800			25.40																
1025	435																			
	2000																			
1030	116																			
	800																			
1045	116				Shut-in well, rig out wireline															
	800																			
1120	899			64/64	Open well on by-pass to flare, stop-cocking for clean-up															
	6200			25.40																
1130	80																			
	550																			
1140	80																			
	550																			
1145	80				Shut-in well															
	550																			
1225	979			64/64	Open well on by-pass to flare, stop-cocking for clean-up															
	6750			25.40																
1230	174																			
	1200																			
1235	73				Shut-in well															
	500																			
1315	986			64/64	Open well to flare on by-pass															
	6800			25.40																
1320	174																			
	1200																			
1325	73				Trace water to surface															
	500																			
1345	73				Shut-in well															
	500																			
1415	725																			
	5500																			

REMARKS: Gas rates calculated using Hewlett-Packard - Gas Density .650, H₂S 1%, Atmospheric Pressure 100 kPa.



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 21, 1990

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CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

L.P. METER SIZE

DIFF. RANGE:

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

OPERATION: Stop Cock, 4 Point Test - Rate #1

PIPELINE ☐

OR:

CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water			
					Recorder	D.W.													
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C	
SI Units	kPa	°C	kPa	mm	kPa	kPa	kPa	°C	mm	kPa	mm	°C	mm	m³/d	m³/d	TANK m³	TANK m³	TANK °C	
1432	957			64/64	Open well on by-pass to flare														
	6600			25.40															
1435	667																		
	4600																		
1445	145																		
	1000																		
1500	131																		
	900																		
1510	73				Shut-in well, trace water														
	500																		
1540	798																		
	5500																		
1615	986			64/64	Open well on by-pass to flare														
	6800			25.40															
1620	363																		
	2500																		
1625	174																		
	1200																		
1630	73				Shut-in for wireline														
	500																		
1756					Tandem 21 MPA recorders, 180 hr. clocks set at 1367 m CF														
1830	1260																		
	8690																		
1900				10/64	Open well to flow on Rate #1 .750														
				3.97															
1905	1197																		
	8250		TSTM																
1910	1053																		
	2260		TSTM																
1915	975																		
	6920		TSTM																
1930	873																		
	6080	1	TSTM			700	15	28						.286					
														8.06					

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 21, 1990

PAGE 3 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE

DIFF. RANGE:

OPERATION: 4 Point Test - Rate #1 and Rate #2

PIPELINE ☐

OR:

CRITICAL FLOW PROVER

CRITICAL FLOW PROVER																				
DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Water	Oil ☐ Condensate ☐	Oil/Condensate Temp
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate					
					Recorder	D.W.														
					IMP. Units	PSIG										°F	PSIG			
SI Units	Pgs kPa	°C	Pgs kPa	mm	Pgs kPa	Pgs kPa	kPa	°C	mm	Pgs kPa	kPa	°C	mm	liters/d	liters/d	TANK m³	TANK m³	TANK °C		
				10/64	Set back pressure at 700 kPa .750															
1940				3.97	(102 PSI)															
	770					102														
1945	5310	1	TSTM			700														
	738					102								.447						
2000	5090	2	TSTM			700	37	35						12.58						
	711					102								.432						
2030	4900	1	TSTM			700	35.25	40						12.17						
	700					102								.426						
2100	4870	1	TSTM			700	34.25	40						11.99						
				12/64	End of Rate #1,					1.000	Increase choke, change orifice plate, Start Rate #2									
2100				4.76					25.40											
					Total gas flared last 2 hrs. on Rate #1 - .93 10 ³ m ³ (.033 MMSCF)															
					Drawdown 43.6% on Rate #1															
	677																			
2105	4670	1	TSTM																	
	640																			
2110	4410	1	TSTM																	
	612																			
2115	4220	1	TSTM																	
	577					102								.465						
2130	3980	2	TSTM			700	13	42						13.10						
	563																			
2145	3880	2	TSTM																	
	557					102								.456						
2200	3840	2	TSTM			700	12.5	41						12.86						
	554					102								.456						
2230	3820	2	TSTM			700	12.5	41						12.86						
	555					102								.447						
2300	3830	2	TSTM			700	12	41						12.60						
				14/64	Increase choke, Begin Rate #3															
2300				5.56																

REMARKS: Total gas flared last 2 hrs. on Rate #2 - 1.07 10³m³ (.038 MMSCF)

Drawdown 55.4% on Rate #2

NOTE: Drawdowns calculated using 8690 kPa (first deadweight pressure).

GAS FLOW RATES ARE FIELD APPROXIMATIONS ONLY



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10
CUSTOMER: Paramount Resources Ltd.
REP. BY: Hugh Pearson

FIELD NOTES

DATE March 21, 1990 E 4 OF 19

TEST OPERATOR(S): G. Hogarth, E. Vanberg
H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa
L.P. METER SIZE _____ DIFF. RANGE: _____
OR: _____ CRITICAL FLOW PROVER

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒
OPERATION: 4 Point Test - Rate #3 and Rate #4 PIPELINE ☐

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Water	Oil ☐ Condensate ☐	Oil/ Condensate Temp.			
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate								
					Recorder	D.W.																	
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD								
SI Units	kPa	°C	kPa	mm	kPa	kPa	kPa	°C	mm	kPa	kPa	°C	mm	m³/d	m³/d	METER m³	METER m³	METER °C					
2305	522			14/64					1.000														
	3600			5.56					25.40														
2310	489																						
	3370																						
2315	464																						
	3200																						
2330	428					102								.538									
	2950	3	TSTM			700	17.5	44						15.16									
2345	416																						
	2870	3	TSTM																				
2400	413					102								.502									
	2850	3	TSTM			700	15.25	44						14.14									
Mar. 22 0030	412					102								.503									
	2840	3	TSTM			700	15.25	43						14.17									
0100	416					102								.503									
	2870	3	TSTM			700	15.25	43						14.17									
0100				16/64	End of Rate #3, Begin Rate #4, increase choke																		
				6.35																			
					Total gas flared on Rate #3 - 1.20 10³m³ (.043 MMSCF)																		
					Drawdown 67% on Rate #3																		
0105	387																						
	2670																						
0110	363																						
	2500																						
0115	345																						
	2380																						
0130	338					102								.551									
	2330	3	TSTM			700	18.25	42						15.53									
0145	338																						
	2330	4	TSTM																				
0200	339					102								.551									
	2340	4	TSTM			700	17	42						15.53									

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 21, 1990

PAGE 5 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒ FLARE ☐

L.P. METER SIZE DIFF. RANGE:

OPERATION: 4 Point Test - Rate #4 and Extended Rate

PIPELINE ☐

OR: CRITICAL FLOW PROVER ☐

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Oil ☐ Condensate ☐	Oil/Condensate Temp.		
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water					
					Recorder	D.W.															
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C			
SI Units	P _{ss} kPa	°C	P _{cs} kPa	cm	P _{ss} kPa	P _{ps} kPa	kPa	°C	mm	P _{ss} kPa	kPa	°C	mm	m³/d	m³/d	TANK m³	TANK m³	TANK °C			
0230	338			16/64		102			1.000					.532							
	2330	4	TSTM	6.35		700	17	42	25.40					14.99							
0300	339					102								.532							
	2340	4	TSTM			700	17	42						14.99							
0300					End of Rate #4, continue to flow on Extended Rate																
					Total gas flared on Rate #4 last 2 hrs. - 1.26 10 ³ m ³ (.045 MMSCF)																
					Drawdown 73.1% on Rate #4																
0330	342					102								.532							
	2360	4	TSTM			700	17	42						14.99							
0400	342					102								.532							
	2360	4	TSTM			700	17	43						14.99							
0430	344					102								.532							
	2370	4	TSTM			700	17	43						14.99							
0500	347					102								.532							
	2390	14	TSTM			700	17	42						14.99							
0530	349					102								.530							
	2410	4	TSTM			700	17	44						14.94							
0600	349					102				H2S 3.4% by Gastec				.530							
	2410	4	TSTM			700	17	44						14.94							
					Total gas flared last 3 hrs. on Extended Rate - 1.88 10 ³ m ³ (.067 MMSCF)																
					Drawdown 72.3% at 0600 hrs.																
					Total gas flared last 11 hrs. on 4 Point - 6.34 10 ³ m ³ (.225 MMSCF)																

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 22, 1990

PAGE 6 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE _____ DIFF. RANGE: _____

OPERATION: 4 Point Test - Extended Rate

PIPELINE ☐

OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Water	Oil ☐ Conden- sate ☐	Oil/ ☐ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate					
					Recorder	D.W.														
					PSIG	PSIG														
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C		
SI Units	Pgs kPa	°C	Pgs kPa	mm	Pgs kPa	Pgs kPa	kPa	°C	mm	Pgs kPa	kPa	°C	mm	l/min/d	l/min/d	TANK m³	TANK m³	TANK °C		
0630	351			16/64					1.000											
	2420	4	TSTM	6.35		700	17	44	25.40											
0700	351													.525						
	2420	4	TSTM			700	16.75	45						14.80						
0730	353																			
	2435	4	TSTM			700	17	45												
0800	355													.525						
	2450	4	TSTM			700	16.75	45						14.80						
0830	354																			
	2440	4	TSTM			700	16.75	45												
0900	354													.509						
	6440	4	0			700	16.75	45						14.33						
0930	258																			
	2470	5	0			650	16.75	45												
1000	363													.507						
	2500	5	0			650	16.75	47						14.28						
1030	268																			
	2540	5	0			650	16.5	47												
1036					Rock choke to clear obstruction															
1100	347													.522						
	2390	6	0			650	18.25	53						14.72						
1130	344																			
	2370	6	0			650	18	57												
1200	342													.520						
	2360	7	0			650	18.25	58						14.65						
1230	339																			
	2340	7	0			650	18.25	56												
1300	338													.524						
	2330	7	0			650	18.25	53						14.77						
1330	332																			
	2290	7	0			650	18.25	51												
1400	329													.525						
	2270	7	0			650	18	48						14.79						

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 22, 1990 PAGE 7 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: 4 Point Test - Extended Rate

PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP. GAS METERING				H.P.		L.P.		Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water			
					Recorder	D.W.													
					IMP. Units	PSIG				°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches		
SI Units	P _{gs} kPa	°C	P _{gs} kPa	mm	P _{gs} kPa	P _{gs} kPa	kPa	°C	mm	P _{gs} kPa	kPa	°C	mm	MMSCFD	MMSCFD	TANK m³			
	328			16/64					1.000										
1430	2260	7	0	6.35		650	17.5	46	25.40										
	310													.516					
1500	2140	6	0			650	17.25	45						14.54					
	325																		
1530	2240	6	0			650	17.25	44											
	342													.515					
1600	2360	6	0			650	17	42						14.57					
1614					Obstruction in choke, rock choke to clear														
	361																		
1630	2490	6	0			650	18.25	42											
	361													.543					
1700	2490	5	0			650	18.75	40						15.30					
	363																		
1730	2500	5	0			650	18.75	39											
	360													.544					
1800	2480	4	0			650	18.75	39						15.32					
	358																		
1830	2470	4	0			650	18.75	40											
	347													.545					
1900	2390	6	0			630	18.75	38						15.39					
	354																		
1930	2440	5	0			650	18.75	37											
	348													.548					
2000	2400	5	0			650	18.75	35						15.43					
	344																		
2030	2370	5	0			650	19.25	34											
	345													.556					
2100	2380	5	0			650	19.25	34						15.66					
	336																		
2130	2320	5	0			650	19.25	33											
	336													.553					
2200	2320	5	0			650	19	33						15.58					

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 22, 1990 PAGE 8 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE _____

DIFF. RANGE: _____

OPERATION: 4 Point Test - Extended Rate

PIPELINE ☐

OR: _____

CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Water	Oil ☐ Condensate ☐	Oil/Condensate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate					
					Recorder	D.W.														
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD					
SI Units	Psi kPa	°C	Psi kPa	mm	Psi kPa	Psi kPa	kPa	°C	mm	Psi kPa	kPa	°C	mm	m³/d	m³/d	METER m³	METER m³	METER °C		
2230	336			16/64					1.000											
	2320	5	0	6.35		650	18.75	32	25.40											
2300	338													.550						
	2330	5	0			650	18.75	32						15.50						
2330	339																			
	2340	5	0			675	18.5	31												
2400	341													.556						
	2350	4	0			675	18.5	32						15.66						
Mar 23	342																			
0030	2360	4	0			675	18.5	32												
0100	342													.556						
	2360	4	0			675	18.5	32						15.66						
0130	342																			
	2360	4	0			675	18.5	31												
0200	344													.557						
	2370	4	0			675	18.5	31						15.68						
0230	342																			
	2360	5	0			675	18.5	31												
0300	344				Shut-in well, End of Extended Rate, Record build-ups									.557						
	2370	5	0			675	18.5	31						15.68						
					Total gas flared last 21 hrs. on Extended Rate - 13.21 10³m³ (.469 MMSCF)															
					Cumulative gas flared - 19.55 10³m³ (.694 MMSCF)															
0305	460																			
	3170																			
0310	624		Slight																	
	4300		Blow																	
0315	740		Slight																	
	5100		Blow																	
0330	993		Slight																	
	6850		Blow																	
0345	1139		Slight																	
	7850		Blow																	

REMARKS:

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE

DIFF. RANGE:

OPERATION: Build-Up

PIPELINE ☐

OR:

CRITICAL FLOW PROVER

[illegible]

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 23, 1990 PAGE 10 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP. GAS METERING					H.P.		L.P.		Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water				
					Recorder	D.W.														
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m ³	METER m ³	METER °C		
SI Units	Psi kPa	°C	Psi kPa	mm	Psi kPa	Psi kPa	kPa	°C	mm	Psi kPa	mm	°C	mm	m ³ /d	m ³ /d	TANK m ³	TANK m ³	TANK °C		
0630	1178		Slight																	
	8120		Blow																	
0700	1178		Slight																	
	8120		Blow																	
0730	1178		Slight																	
	8120		Blow																	
0800	1178		Slight																	
	8120		Blow																	
0810					Shut-in master valve, rig in Solid Wireline															
1000				64/64 25.40	Recorders out of hole, open well through separator															
1015					Liquid (condensate) to surface															
1022					Shut-in well, Newsco rigging in to acidize															
1117	1385 9550		1500 10343		Newsco finished acidizing and rigged off wellhead															
1128				12/64 4.76	Open well through separator, nitrogen to surface															
1130	1168 8050			24/64 9.53	Increase choke															
1135	702 4840																			
1140	648 4470				Liquid to surface (acid water)															
1145	779 5370		1349 9300																	
1155					Meter in service					1.500 38.10	Gas to surface									
1200	851 5730	7	1189 8200			1450	44	35						2.780 78.29						
1215	840 5790	9	1051 7250			1470	42.5	35												

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 23, 1990

SE 11 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: Clean-Up and 4 Point Modified Test - Rate #1 PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.	L.P.	Water	Oil ☐ Condensate ☐	Oil/Condensate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate			
					Recorder	D.W.												
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C
SI Units	kPa	°C	kPa	mm	kPa	kPa	mm	°C	mm	kPa	mm	°C	mm	m³/d	m³/d	TANK m³	TANK m³	TANK °C
	846		1015	24/64					1.500					2.797				
1230	5830	9	7000	9.53		1470	44	35	38.10					78.80				
					Change orifice plate				1.750									
1238									44.45									
	864		841															
1245	5960	9	5800			1490	24	38										
	870		754		Shut-in well for wireline									2.923				
1300	6000	9	5200			1490	24.75	32						82.36		.52		
					Total gas flared last 1.53 hrs. - 5.09 10 ³ m ³ (.181 MMSCF)													
					Total water produced last 1.53 hrs. - .52 m ³													
	1198		450		Tandem 180 hr. recorders landed at 1367 m CF													
1412	8261		3100															
					Solid Wireline out of hole and rigging out													
1420																		
	1208		406															
1430	8330		2800															
	1210		334															
1500	8340		2300															
	1210		334															
1530	8340		2300															
	1210		326	14/64	Open well through separator. Begin Rate #1, NOTE: Tanks gauged only, daily for safety reasons. Only back-packs on location.													
1600	8340		2250	5.56														
	1147		326															
1605	7910		2250															
					Meter in service				1.375									
1608									34.925									
	1133		326															
1610	7810	7	2250															
	1124		326															
1615	7750	7	2250			1540	14.5	34										
	1118		326											1.390				
1630	7710	8	2250			1530	15	34						39.16				

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 23, 1990

PAGE 12 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: 4 Point Modified Test - Rate #1 and Rate #2

PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP. GAS METERING					L.P. SEP. GAS METERING				H.P.		L.P.		Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water			
					Recorder	D.W.													
					PSIG	PSIG											Inches		
SI Units	Pgs kPa	°C	Pgs kPa	mm	Pgs kPa	Pgs kPa	kPa	°C	mm	Pgs kPa	kPa	°C	mm	DMSCFD	DMSCFD	TANK m ³	TANK m ³	TANK °C	
1645	1111		326	14/64					1.375										
	7660	8	2250	5.56		1520	15.5	33	14.925										
1700	1108		326											1.397					
	7640	9	2250			1520	15.25	34						39.36					
1730	1107		326											1.386					
	7630	9	2250			1530	15.25	40						39.06					
1800	1134		326	17/64	Increase choke, End of Rate #1, Begin Rate #2, Trace of									1.338	water to surface				
	7820	8	2250	6.75		1530	14	36						37.69					
					Total gas flared on Rate #1 last 2 hrs. - 3.23 10 ³ m ³ (.115 MMSCF)														
					Final drawdown on tubing - 10%														
1805	1096																		
	7560																		
1810	1094																		
	7540																		
1815	1098		326																
	7570	8	2250			1540	31	41											
1830	1108		326											2.153					
	7640	8	2250			1580	14.75	34						60.66					
1857					Rock choke														
1900	1102		326											2.115					
	7600	10	2250			1570	14.25	38						59.60					
1930	1096		326											2.108					
	7560	10	2250			1570	34	38						59.38					
2000	1098		326	20/64	Increase choke, End of Rate #2, Begin Rate #3, meter out of									2.119	service,				
	7570	10	2250	7.94		1570	34.5	39	Change orifice plate				59.71						
					Total gas flared last 2 hrs. on Rate #2 - 4.99 10 ³ m ³ (.177 MMSCF)														
					Final drawdon on tubing = 13%														
2005	1047								1.500										
	7220								38.10										

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 23, 1990

PAGE 13 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: 4 Point Modified Test - Rate #2 and Rate #3 PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.	L.P.	Water	Oil ☐ Condensate ☐	Oil/Condensate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate			
					Recorder	D.W.												
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD			
SI Units	Psi kPa	°C	Psi kPa	mm	Psi kPa	Psi kPa	inches	°C	mm	Psi kPa	inches	°C	mm	mm³/d	mm³/d	METER m³	METER m³	METER °C
2008				20/64	Meter in service				1.500									
				7.94					38.10									
2010	1041																	
	7180																	
2015	1033																	
	7120																	
2016					Rock choke													
2030	1030		326											2.750				
	7100	11	2250			1570	40.25	37						77.48				
2045	1022																	
	7050																	
2100	1030		326		Rock choke									2.740				
	7100	12	2250			1570	40.25	39						77.20				
2130	1030		326											2.769				
	7100	12	2250			1570	41.25	40						78.02				
2200	1034		326	24/64	Increase choke, End of Rate #3, Begin Rate #4, Meter out of service,					change orifice plate			2.830					
	7130	12	2250			1570	42	33						79.73				
					Total gas flared last 2 hrs. on Rate #3 - 6.51 10 ³ m ³ (.231 MMSCF)													
					Final drawdown on tubing = 18%													
2205	953				Meter in service				1.875									
	6570								47.625									
2210	946																	
	6520																	
2215	933																	
	6430																	
2230	921		326											3.527				
	6350	14	2250			1600	25.25	34						99.36				
2245	933																	
	6430																	
2300	937		326											3.545				
	6460	14	2250			1640	25	35						99.87				

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 23, 1990 PAGE 14 OF 19

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE _____ DIFF. RANGE: _____

OPERATION: 4 Point Modified Test - Rate #4 and Extended Rate PIPELINE ☐

OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.	L.P.	Water	Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate			
					Recorder	D.W.												
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m ³	METER m ³	METER °C
ST. Units	Psi kPa	°C	Psi kPa	mm	Psi kPa	Psi kPa	kPa	°C	mm	Psi kPa	kPa	°C	mm	1000/d	1000/d	TANK m ³	TANK m ³	TANK °C
2330	941		326	24/64					1.875					3.569				
	6490	14	2250	9.53		1640	25.25	34	47.625					100.55				
2400	941		326	26/64	Increase	choke, End of Rate #4	continue to flow on Extended				3.587	Rate						
	6490	14	2250	10.32		1640	25.5	34						101.05				
					Total gas flared last 2 hrs. on Rate #4 - 8.35				10 ³ m ³ (.296 MMSCF)									
					Final drawdown on tubing = 25%													
Mar 24	892																	
0005	6150																	
0010	883																	
	6090																	
0015	877																	
	6050																	
0030	885		341															
	6100	14	2350			1710	29.5	33										
0035					Rock choke													
0045	892																	
	6150																	
0100	902		341											4.072				
	6220	15	2350			1800	30	34						114.73				
0130	883		341															
	6090	15	2350			1800	30	34										
0200	904		341											4.065				
	6230	15	2350			1800	30	35						114.52				
0230	893		341															
	6160	16	2350			1800	30	36										
0300	915		341											4.050				
	6310	16	2350			1800	30	37						114.10				
0330	901		341															
	6210	16	2350			1800	30.25	41										
0400	920		341											4.037				
	6340	16	2350			1800	30.25	41						113.75				

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 24, 1990

PAGE 15 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE _____ DIFF. RANGE: _____

OPERATION: 4 Point Modified Test - Extended Rate

PIPELINE ☐

OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Oil ☐ Condensate ☐	Oil/Conden- sate Temp.	
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water				
					Recorder	D.W.														
																	IMP. Units			PSIG
SI Units	Pss kPa	°C	Pss kPa	mm	Pss kPa	Pss kPa	kPa	°C	mm	Pss kPa	kPa	°C	mm	MMSCFD	MMSCFD	TANK m³	TANK m³	TANK °C		
0430	914		341	26/64					1.875											
	6300	16	2350	10.32		1800	30.25	37	47.625											
0500	902		341											4.084						
	6220	17	2350			1800	30.5	37						115.05						
0530	922		341																	
	6360	17	2350			1800	30.5	40												
0600	920		341		H2S 2%									4.052						
	6340	17	2350			1800	30.25	39						114.16		*1.57				
					Total gas flared last 6 hrs. on Extended Rate -									28.60	10³m³	(1.015 MMSCF)				
					Total water produced last 6 hrs. on Extended Rate -									1.57	m³					
					Total gas flared last 15.53 hrs. -									56.77	10³m³	(2.015 MMSCF)				
					Total water produced last 15.53 hrs. -									2.09	m³					
					Total condensate produced last 15.53 hrs. -									Trace						
					Cumulative gas flared -									76.32	10³m³	(2.709 MMSCF)				
					Cumulative water produced -									2.09	m³					
					Cumulative condensate produced -									Trace						

REMARKS: *NOTE: This gauge since 1300 hrs. Mar. 23/90.



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 24, 1990 PAGE 16 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE DIFF. RANGE:

OPERATION: 4 Point Modified Test - Extended Rate

PIPELINE ☐

OR: CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.		L.P.		Oil ☐ Conden- sate ☐	Oil/Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate	Water			
					Recorder	D.W.													
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C	
SI Units	Pss kPa	°C	Pss kPa	mm	Pss kPa	Pss kPa	kPa	°C	mm	Pss kPa	kPa	°C	mm	1000/d	1000/d	TANK m³	TANK m³	TANK °C	
0630	918		341	26/64					1.875										
	6330	17	2350	10.32		1800	30.25	39	47.625										
0700	927		348											4.088					
	6390	18	2400			1840	31	47						115.17					
0730	914		348																
	6300	17	2400			1840	31	41											
0800	921		348											4.124					
	6350	18	2400			1840	31	42						116.19					
0830	924		348																
	6370	17	2400			1840	31	39											
0900	918		363											4.096					
	6330	17	2500			1840	30.25	39						115.39					
0930	933		348																
	6430	17	2400			1840	31	39											
1000	928		348											4.141					
	6400	18	2400			1840	31.5	42						116.66					
1030	927		348																
	6390	18	2400			1840	31.5	43											
1100	933		348											4.150					
	6430	18	2400			1840	31.5	43						116.92					
1130	933		348																
	6430	18	2400			1840	31.5	42											
1200	931		348											4.172					
	6420	18	2400			1840	31.5	40						117.55					
1230	924		348																
	6370	18	2400			1840	31.5	40											
1300	921		348											4.157					
	6350	18	2400			1840	31.5	42						117.13					
1330	933		348																
	6430	19	2400			1840	31.5	42											
1400	933		348											4.157					
	6430	19	2400			1840	31.5	42						117.13					
1430	931		348																
	6420	19	2400			1840	31.5	42											

REMARKS:



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10

FIELD NOTES

DATE March 24, 1990 PAGE 17 OF 19

CUSTOMER: Paramount Resources Ltd. TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒

L.P. METER SIZE _____ DIFF. RANGE: _____

OPERATION: 4 Point Modified Test - Extended Rate

PIPELINE ☐

OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP. GAS METERING					L.P. SEP. GAS METERING				H.P.	L.P.	Water	Oil ☐ Conden- sate ☐	Oil/Conden- sate Temp.
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate			
					Recorder	D.W.												
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m³	METER m³	METER °C
SI Units	Pgs kPa	°C	Pgs kPa	mm	Pgs kPa	Pgs kPa	kPa	°C	mm	Pgs kPa	kPa	°C	mm	m³/d	m³/d	TANK m³	TANK m³	TANK °C
1500	933		348	26/64	Salinity of Water 0 PPM,				1.875	PH - 3.5				4.157				
	6430	19	2400	10.32		1840	31.5	42	47.625					117.13				
1530	927		348															
	6390	19	2400			1840	31.5	43										
1600	937		348											4.168				
	6460	19	2400			1850	31.5	42						117.44				
1630	928		348															
	6400	19	2400			1830	31.5	42										
1700	931		348											4.170				
	6420	19	2400			1850	31.75	44						117.49				
1730	921		348															
	6350	19	2400			1850	31.75	42										
1800	928		348											4.190				
	6400	19	2400			1840	32	42						118.06				
1830	938		348															
	6470	19	2400			1840	31.75	36										
1900	930		341											4.174				
	6410	19	2350			1840	31.75	42						117.60				
1930	931		341															
	6420	20	2350			1840	31.5	41										
2000	931		341											4.172				
	6420	20	2350			1840	31.5	40						117.55				
2030	931		341															
	6420	20	2350			1840	31.25	40										
2100	935		341											4.157				
	6450	20	2350			1840	31.25	40						117.13				
2130	925		341															
	6380	20	2350			1840	31.75	41										
2200	937		341											4.193				
	6460	20	2350			1850	31.75	41						118.12				
2230	933		341															
	6430	20	2350			1850	31.75	40										
2300	931		341											4.216				
	6420	20	2350			1850	31.75	38						118.77				

REMARKS:

1600 hrs. - Samples Taken - 2 H.P. Gas #4870 and #4586, and 2 Stock Water Samples. C & G cylinders used.

1630 hrs. - Samples Taken - 2 H.P. Condensate #9984 and #2666 and 2 Stock Condensate. Samples sent to C & G Labs. Grande

GAS FLOW RATES ARE FIELD APPROXIMATIONS ONLY

Prairie 3



Norward Energy Services Ltd.
Calgary, Alberta

TEST UNIT No. 10
CUSTOMER: Paramount Resources Ltd.
REP. BY: Hugh Pearson

FIELD NOTES

DATE March 24, 1990 PAGE 18 OF 19

WELL: Paramount et al Swede A-73 (N.W.T.) GAS TO: FLARE ☒
OPERATION: 4 Point Modified Test - Extended Rate PIPELINE ☐

TEST OPERATOR(S): G. Hogarth, E. Vanberg
H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa
L.P. METER SIZE _____ DIFF. RANGE: _____
OR: _____ CRITICAL FLOW PROVER

DATE AND TIME	WELLHEAD DATA				H.P. SEP GAS METERING					L.P. SEP GAS METERING				H.P.	L.P.	Oil ☐ Conden- sate ☐	Oil/ Conden- sate Temp.				
	TUBING Pressure	Flow Temp.	CASING Pressure	Choke Size	STATIC PRESSURE or prover		Diff.	Temp.	Orifice Plate Size	Static Pressure	Diff.	Temp.	Orifice Plate Size	Gas Rate	Gas Rate			Water			
					Recorder	D.W.															
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	MMSCFD	MMSCFD	METER m ³	METER m ³	METER °C			
SI Units	Pga kPa	°C	Pgs kPa	mm	Pga kPa	Pgs kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	m ³ /d	m ³ /d	TANK m ³	TANK m ³	TANK °C			
2330	928		341	26/64					1.875												
	6400	20	2350	10.32		1850	31.75	38	47.625												
2400	934		341		Shut-in well, End of Test, tubing drawdown - 26%,										4.217	Record build-up					
	6440	20	2350			1850	31.75	38						118.80		*2.06	*.11				
					Total gas flared last 18 hrs. on Extended Rate - 87.98 10 ³ m ³ (3.121 MMSCF)																
					Total water produced last 18 hrs. on Extended Rate - 2.06 m ³																
					Total condensate produced last 18 hrs. on Extended Rate - .11 m ³																
					Cumulative gas flared - 164.25 10 ³ m ³ (5.831 MMSCF)																
					Cumulative water produced - 4.15 m ³																
					Cumulative condensate produced - .11 m ³																
									</												

REMARKS: *NOTE: This gauge since 0600 hrs., Mar. 23/90.

CUSTOMER: Paramount Resources Ltd.

TEST OPERATOR(S): G. Hogarth, E. Vanberg

REP. BY: Hugh Pearson

H.P. METER SIZE 3.819" (97.00 mm) DIFF. RANGE: 0-50 kPa

WELL: Paramount et al Swede A-73 (N.W.T.)

GAS TO: FLARE ☒

L.P. METER SIZE

DIFF. RANGE:

OPERATION: Build-Up

PIPELINE ☐

OR:

CRITICAL FLOW PROVER

[illegible]

REMARKS:

SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 ADDRESS : CALGARY ALTA
 FIELD & POOL :
 TYPE OF TEST : FLOW & BUILDUP
 PERF/O.H. INT : 1365.0 to 1366.5
 ELEV.(CF) : 675.6 (KB) : 679.6
 POOL DATUM :

WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 STATUS : GAS
 DATE OF TEST : MARCH 23-25/90
 PROD. THROUGH : TUBING
 MID-POINT OF PROD. INTERVAL : 1365.8
 DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8261;8750

CASING PRES : 3100;2415

RUN DEPTH : 1365.0

TEMPERATURE AT RUN DEPTH : 53 C

PRES. AT RUN DEPTH : 9905.1

SHUT-IN TIME : MAR 24 @ 2400 HRS.

ON/OFF BOT. : 23/3@1412-25/3@1100 HRS

SURFACE TEMP. :

PRES. AT MID-POINT OF PERF. : 0.0

DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres (CF) ; Pressure in KPAG)

ELEMENT SERIAL NO. : 10544N

RANGE : 0 - 20684

CAL. EQU. : 454.27 * Defl. + 17.25

CLOCK RANGE : 180 HR

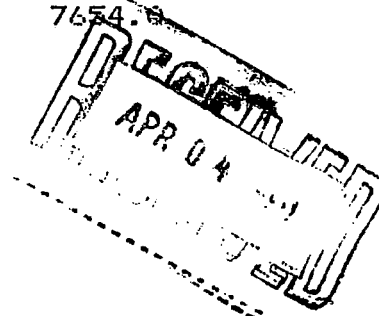
LATEST CALIBRATION : 16/1/90

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			----- CALC	CORR	CORRECTED
Depth : 1365.0 m					
ON BOTTOM	0.00	21.515	9791.0	11.4	9802.3
MAR 23@ 1412 HRS	1.00	21.563	9812.8	11.3	9824.1
	1.80	21.590	9825.0	11.3	9836.3
START FLOW	0.00	21.590	9825.0	11.3	9836.3
MAR 23@ 1600 HRS	.50	20.380	9275.4	13.0	9288.4
	1.00	20.245	9214.0	13.2	9227.2
	2.00	20.312	9244.5	13.1	9257.6
	2.50	19.428	8842.9	14.4	8857.2
	3.00	19.272	8772.0	14.6	8786.6
	4.00	19.308	8788.4	14.5	8802.9
	4.50	18.475	8410.0	15.7	8425.7
	5.00	18.440	8394.1	15.8	8409.8
	6.00	18.380	8366.8	15.8	8382.7
	6.50	17.398	7920.7	16.9	7937.6
	7.00	17.310	7880.7	16.8	7897.6
	8.00	17.292	7872.6	16.8	7889.4
	8.50	16.800	7649.1	16.3	7665.3
	9.00	16.780	7640.0	16.3	7656.2
	10.00	16.758	7630.0	16.2	7646.2
	11.00	16.775	7637.7	16.3	7654.8

REMARKS :

SURVEY COMPANY : SOLID WIRELINE

TEST BY : K.T.



SOLID WIRELINE SERVICES

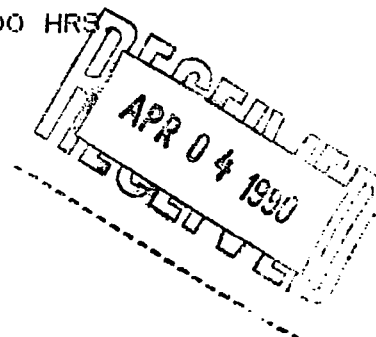
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 DATE OF TEST : MARCH 23-25/90
 DEPTH : 1365.0

WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 SERIAL NO. : 10544N

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			----- CALC	CORR	CORRECTED
	12.00	16.800	7649.1	16.3	7665.3
	14.00	16.892	7690.8	16.4	7707.2
	16.00	16.968	7725.4	16.5	7741.8
	18.00	16.968	7725.4	16.5	7741.8
	20.00	17.012	7745.4	16.5	7761.9
	22.00	17.048	7761.7	16.5	7778.3
	24.00	17.072	7772.6	16.6	7789.2
	26.00	17.090	7780.8	16.6	7797.4
	28.00	17.105	7787.6	16.6	7804.2
	30.00	17.093	7782.2	16.6	7798.7
	32.00	17.112	7790.8	16.6	7807.4
WELL SHUT-IN	0.00	17.112	7790.8	16.6	7807.4
MAR 24@ 2400 HRS	.25	20.570	9361.7	12.7	9374.4
	.50	20.930	9525.2	12.2	9537.4
	.75	21.188	9642.4	11.8	9654.3
	1.00	21.350	9716.0	11.6	9727.6
	1.25	21.412	9744.2	11.5	9755.7
	1.50	21.462	9766.9	11.4	9778.3
	1.75	21.490	9779.6	11.4	9791.0
	2.00	21.522	9794.1	11.4	9805.5
	2.50	21.562	9812.3	11.3	9823.6
	3.00	21.585	9822.8	11.3	9834.0
	3.50	21.610	9834.1	11.2	9845.4
	4.00	21.630	9843.2	11.2	9854.4
	5.00	21.658	9855.9	11.2	9867.1
	6.00	21.678	9865.0	11.1	9876.1
	7.00	21.693	9871.8	11.1	9882.9
	8.00	21.708	9878.6	11.1	9889.7
	9.00	21.721	9884.5	11.1	9895.6
	10.00	21.732	9889.5	11.1	9900.6
	11.00	21.742	9894.1	11.1	9905.1

RECORDERS OFF BOTTOM MARCH 25 @ 1100 HRS



SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD	WELL NAME : PARAMOUNT ET AL SWEDE
ADDRESS : CALGARY ALTA	LOCATION : A-73 (N.W.T.)
FIELD & POOL :	STATUS : GAS
TYPE OF TEST : FLOW & BUILDUP	DATE OF TEST : MARCH 23-25/90
PERF/O.H. INT : 1365.0 to 1366.5	PROD. THROUGH : TUBING
ELEV.(CF) : 675.6 (KB) : 679.6	MID-POINT OF PROD. INTERVAL : 1365.8
POOL DATUM :	DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8261;8750	SHUT-IN TIME : MAR 24 @ 2400 HRS.
CASING PRES : 3100;2415	ON/OFF BOT. : 23/3@1412-25/3@1100 HRS
RUN DEPTH : 1367.0	SURFACE TEMP. :
TEMPERATURE AT RUN DEPTH : 53 C	PRES. AT MID-POINT OF PERF. : 0.0
PRES. AT RUN DEPTH : 9911.7	DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres (CF) ; Pressure in KPAG)

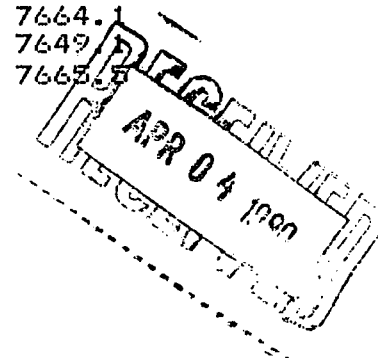
ELEMENT SERIAL NO. : 10745N	CLOCK RANGE : 180 HR
RANGE : 0 - 21375	LATEST CALIBRATION : 16/1/90
CAL. EQU. : 466.46 * Defl. + 27.84	

COMMENTS	TIME hrs	DEFL mm	----- PRESSURE KPAG -----		
			CALC	CORR	CORRECTED
Depth : 1367.0 m					
ON BOTTOM	0.00	20.960	9804.9	16.3	9821.1
MAR 23@ 1412 HRS	1.00	21.018	9831.9	16.2	9848.1
	1.80	21.030	9837.5	16.1	9853.7
START FLOW	0.00	21.030	9837.5	16.1	9853.7
MAR 23@ 1600 HRS	.50	19.812	9269.4	18.4	9287.8
	1.00	19.700	9217.1	18.6	9235.8
	2.00	19.765	9247.4	18.5	9266.0
	2.50	18.872	8830.9	20.2	8851.1
	3.00	18.750	8774.0	20.4	8794.4
	4.00	18.782	8788.9	20.4	8809.3
	4.50	17.953	8402.2	21.9	8424.2
	5.00	17.968	8409.2	21.9	8431.1
	6.00	17.900	8377.5	22.0	8399.5
	6.50	16.908	7914.8	23.5	7938.2
	7.00	16.830	7878.4	23.4	7901.8
	8.00	16.830	7878.4	23.4	7901.8
	8.50	16.340	7649.8	22.7	7672.5
	9.00	16.322	7641.4	22.7	7664.1
	10.00	16.290	7626.5	22.6	7649.9
	11.00	16.325	7642.8	22.7	7665.5

REMARKS :

SURVEY COMPANY : SOLID WIRELINE

TEST BY : K.T.



SOLID WIRELINE SERVICES

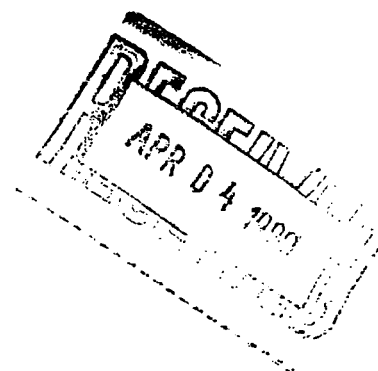
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 DATE OF TEST : MARCH 23-25/90
 DEPTH : 1367.0

WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 SERIAL NO. : 10745N

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			----- CALC	CORR	CORRECTED
	12.00	16.338	7648.9	22.7	7671.6
	14.00	16.455	7703.5	22.9	7726.3
	16.00	16.428	7690.9	22.8	7713.7
	18.00	16.525	7736.1	23.0	7759.1
	20.00	16.570	7757.1	23.0	7780.1
	22.00	16.580	7761.8	23.0	7784.8
	24.00	16.622	7781.4	23.1	7804.4
	26.00	16.578	7760.8	23.0	7783.9
	28.00	16.642	7790.7	23.1	7813.8
	30.00	16.642	7790.7	23.1	7813.8
	32.00	16.660	7799.1	23.1	7822.2
WELL SHUT-IN MAR 24@ 2400 HRS	0.00	16.660	7799.1	23.1	7822.2
	.25	20.221	9460.1	17.7	9477.8
	.50	20.532	9605.2	17.1	9622.3
	.75	20.680	9674.3	16.8	9691.1
	1.00	20.772	9717.2	16.6	9733.8
	1.25	20.832	9745.2	16.5	9761.7
	1.50	20.875	9765.2	16.4	9781.6
	1.75	20.905	9779.2	16.4	9795.6
	2.00	20.933	9792.3	16.3	9808.6
	2.50	20.975	9811.9	16.2	9828.1
	3.00	20.998	9822.6	16.2	9838.8
	3.50	21.015	9830.5	16.2	9846.7
	4.00	21.033	9838.9	16.1	9855.1
	5.00	21.063	9852.9	16.1	9869.0
	6.00	21.085	9863.2	16.0	9879.2
	7.00	21.100	9870.2	16.0	9886.2
	8.00	21.120	9879.5	16.0	9895.5
	9.00	21.133	9885.6	15.9	9901.5
	10.00	21.145	9891.2	15.9	9907.1
	11.00	21.155	9895.8	15.9	9911.7

RECORDERS OFF BOTTOM MARCH 25 @ 1100 HRS.



SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD	WELL NAME : PARAMOUNT ET AL SWEDE
ADDRESS : CALGARY ALTA	LOCATION : A-73 (N.W.T.)
FIELD & POOL :	STATUS : GAS
TYPE OF TEST : STATIC GRADIENT	DATE OF TEST : MARCH 25/90
PERF/O.H. INT : 1365.0 to 1366.5	PROD. THROUGH : TUBING
ELEV.(CF) : 675.6 (KB) : 679.6	MID-POINT OF PROD. INTERVAL : 1365.8
POOL DATUM :	DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8750	SHUT-IN TIME : MAR 24 @ 2400 HRS.
CASING PRES : 2415	ON BOTTOM/OFF BOTTOM : 1315-1325 HRS
RUN DEPTH TOP : 1364.0	SURFACE TEMPERATURE :
TEMPERATURE AT RUN DEPTH : 53 C	PRES. AT MID-POINT OF PERF. : 9916.9
GRAD. AT RUN DEPTH TOP : .770	DATUM DEPTH PRESS. : 0.0
PRES. AT RUN DEPTH TOP : 9915.5	

NOTE : All above units in metric (Depth in meters (CF) ; Pressure in KPAG)

ELEMENT SERIAL NO. : 10544N
 RANGE : 0 - 20684
 CAL. EQUATION : $454.27 * \text{Defl.} + 17.25$ LATEST CALIBRATION : 16/1/90
 CLOCK RANGE : 3 HR

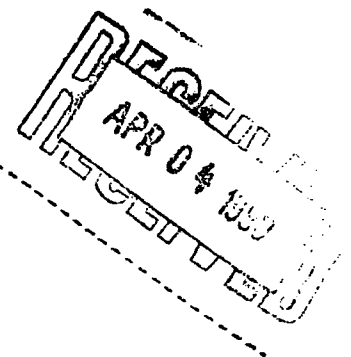
TOP RECORDER DEPTH (m)	DEFLECTION mm	CALCULATED PRESSURE KPAG	CORRECTION P + PC KPAG	CORRECTED PRESSURE KPAG	GRADIENT KPAG/m
0.0	19.258	8765.7	14.6	8780.3	0.000
0.0	19.258	8765.7	14.6	8780.3	0.000
298.0	19.870	9043.7	13.7	9057.4	.924
598.0	20.440	9302.6	12.9	9315.5	.860
898.0	20.965	9541.1	12.2	9553.3	.792
1098.0	21.325	9704.6	11.6	9716.3	.815
1198.0	21.490	9779.6	11.4	9791.0	.747
1264.0	21.600	9829.6	11.3	9840.8	.755
1314.0	21.680	9865.9	11.1	9877.1	.725
1364.0	21.765	9904.5	11.0	9915.5	.770

REMARKS :

FINAL SURFACE FLEX PRESSURE THIS REC'D = 8771.2 KPAG.

SURVEY COMPANY : SOLID WIRELINE

TEST BY : K.T.



SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 ADDRESS : CALGARY ALTA
 FIELD & POOL :
 TYPE OF TEST : STATIC GRADIENT
 PERF/O.H. INT : 1365.0 to 1366.5
 ELEV.(CF) : 675.6 (KB) : 679.6
 POOL DATUM :

WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 STATUS : GAS
 DATE OF TEST : MARCH 25/90
 PROD. THROUGH : TUBING
 MID-POINT OF PROD. INTERVAL : 1365.8
 DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8750
 CASING PRES : 2415
 RUN DEPTH BOT. : 1366.0
 TEMPERATURE AT RUN DEPTH : 53 C
 GRAD. AT RUN DEPTH BOT. : .790
 PRES. AT RUN DEPTH BOT. : 9907.1

SHUT-IN TIME : MAR 24 @ 2400 HRS.
 ON BOTTOM/OFF BOTTOM : 1315-1325 HRS
 SURFACE TEMPERATURE :
 PRES. AT MID-POINT OF PERF. : 9906.9
 DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in meters (CF) ; Pressure in KPAG)

ELEMENT SERIAL NO. : 10745N

RANGE : 0 - 21375

CLOCK RANGE : 3 HR

CAL. EQUATION : $466.46 * \text{Defl.} + 27.84$ LATEST CALIBRATION : 16/1/90

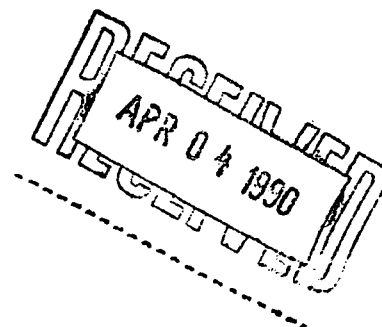
BOTTOM RECORDER DEPTH (m)	DEFLECTION mm	CALCULATED PRESSURE KPAG	CORRECTION P + PC KPAG	CORRECTED PRESSURE KPAG	GRADIENT KPAG/m
0.0	18.735	8767.0	20.5	8787.5	0.000
0.0	18.735	8767.0	20.5	8787.5	0.000
300.0	19.300	9030.5	19.4	9049.9	.875
600.0	19.858	9290.8	18.4	9309.2	.864
900.0	20.350	9520.3	17.4	9537.7	.762
1100.0	20.690	9678.9	16.8	9695.7	.790
1200.0	20.870	9762.9	16.4	9779.3	.836
1266.0	20.980	9814.2	16.2	9830.4	.774
1316.0	21.060	9851.5	16.1	9867.6	.743
1366.0	21.145	9891.2	15.9	9907.1	.790

REMARKS :

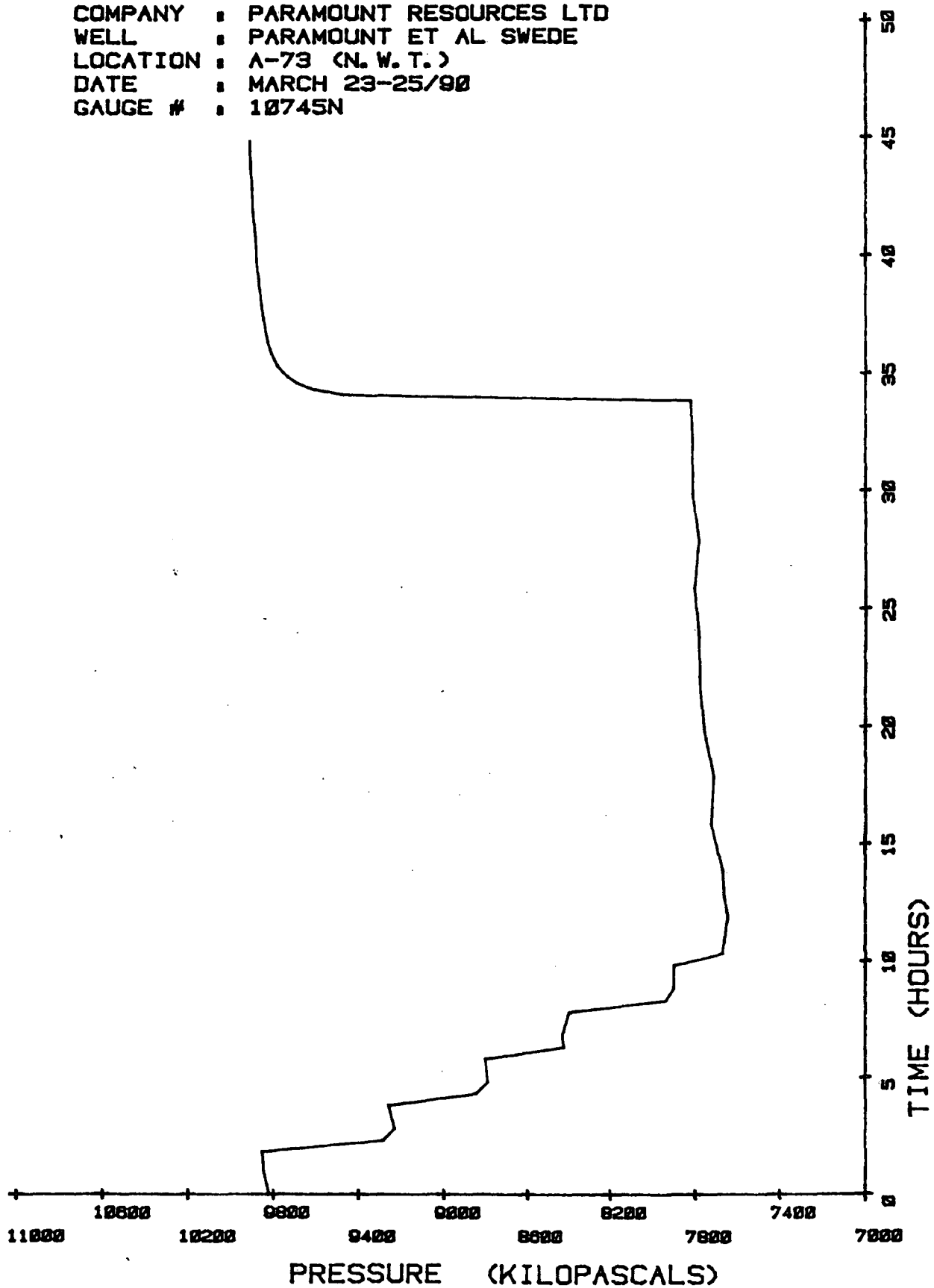
FINAL SURFACE FLEX PRESSURE THIS REC'D = 8787.5 KPAG.

SURVEY COMPANY : SOLID WIRELINE

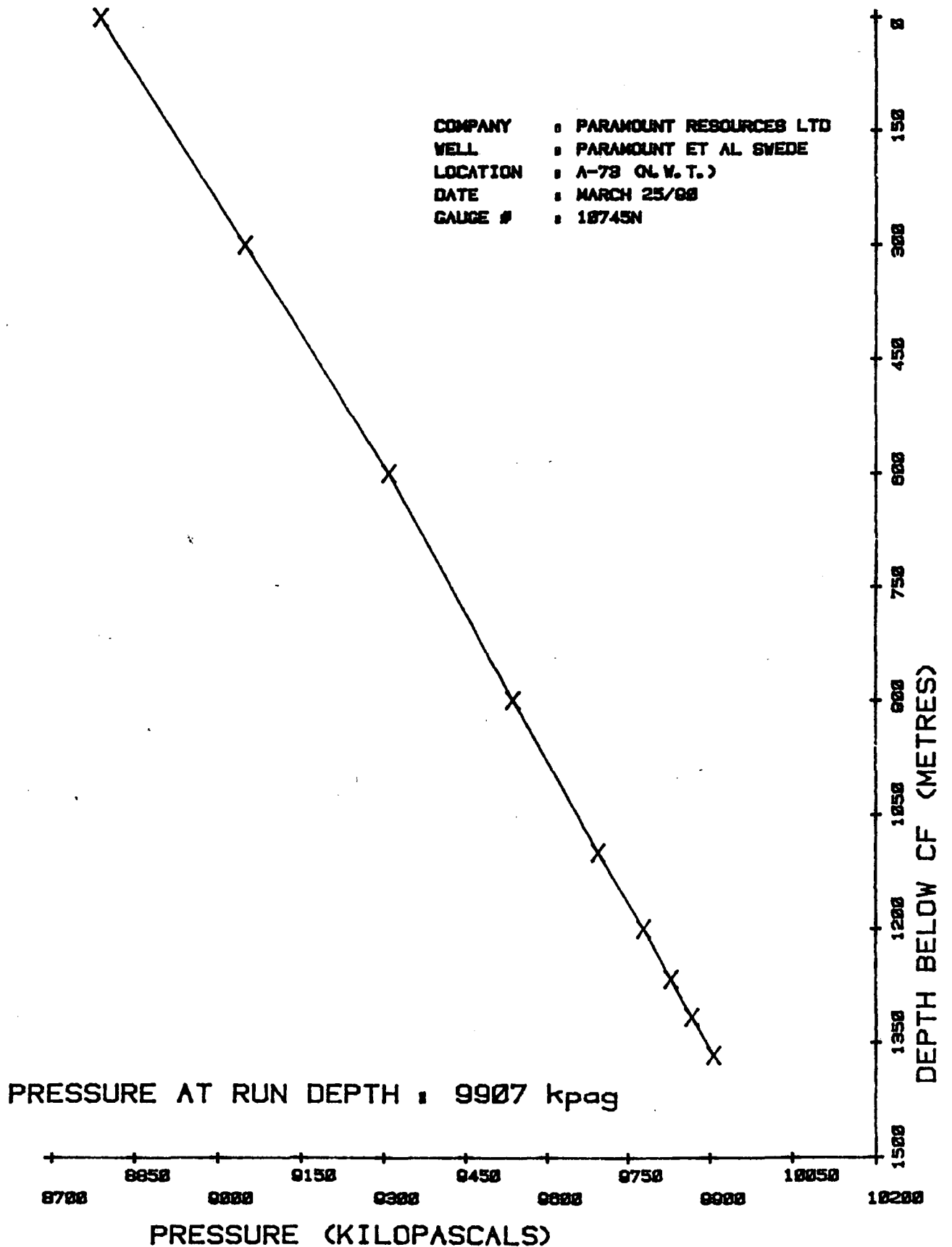
TEST BY : K.T.



COMPANY : PARAMOUNT RESOURCES LTD
WELL : PARAMOUNT ET AL SWEDE
LOCATION : A-73 (N. W. T.)
DATE : MARCH 23-25/90
GAUGE # : 10745N



COMPANY : PARAMOUNT RESOURCES LTD
WELL : PARAMOUNT ET AL SWEDE
LOCATION : A-78 OL V. T.)
DATE : MARCH 25/98
GAUGE # : 18745N



SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD	WELL NAME : PARAMOUNT ET AL SWEDE
ADDRESS : CALGARY ALTA	LOCATION : A-73 (N.W.T.)
FIELD & POOL :	STATUS : GAS
TYPE OF TEST : FLOW & BUILDUP	DATE OF TEST : MARCH 21-23/90
PERF/O.H. INT : 1365.0 to 1366.5	PROD. THROUGH : TUBING
ELEV.(CF) : 675.6 (KB) : 679.6	MID-POINT OF PROD. INTERVAL : 1365.8
POOL DATUM :	DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8600;8120	SHUT-IN TIME : MAR 23 @ 0300 HRS.
CASING PRES :	ON/OFF BOT. : 21/3@1800-23/3@0840 HRS.
RUN DEPTH : 1365.0	SURFACE TEMP. :
TEMPERATURE AT RUN DEPTH :	PRES. AT MID-POINT OF PERF. : 0.0
PRES. AT RUN DEPTH : 9845.4	DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres (CF) ; Pressure in KPAG)

ELEMENT SERIAL NO. : 10544N

RANGE : 0 - 20684

CAL. EQU. : 454.27 * Defl. + 17.25

CLOCK RANGE : 10 HR

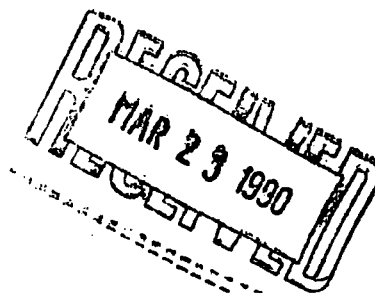
LATEST CALIBRATION : 16/1/90

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			CALC	CORR	CORRECTED
Depth : 1365.0 m					
ON BOTTOM	0.00	21.385	9731.9	11.6	9743.5
MAR 21@ 1800 HRS	.50	21.600	9829.6	11.3	9840.8
	1.00	21.620	9838.7	11.2	9849.9
START FLOW	0.00	21.620	9838.7	11.2	9849.9
MAR 21@ 1900 HRS	.50	14.240	6486.1	13.6	6499.7
	1.00	12.878	5867.4	12.2	5879.6
	1.50	12.425	5661.6	11.7	5673.3
	2.00	12.305	5607.1	11.6	5618.7
	2.50	10.212	4656.3	9.4	4665.7
	3.00	9.822	4479.1	9.0	4488.1
	3.50	9.748	4445.5	8.9	4454.4
	4.00	9.778	4459.1	8.9	4468.1
	4.50	7.742	3534.2	5.0	3539.2
	5.00	7.462	3407.0	4.2	3411.2
	5.50	7.432	3393.4	4.1	3397.5
	6.00	7.525	3435.7	4.3	3440.0
	6.50	6.278	2869.2	.8	2869.9
	7.00	6.282	2871.0	.8	2871.8
	8.00	6.355	2904.2	1.0	2905.1
	9.00	6.453	2948.7	1.3	2949.9

REMARKS :

SURVEY COMPANY : SOLID WIRELINE

TEST BY : K.T.



SOLID WIRELINE SERVICES

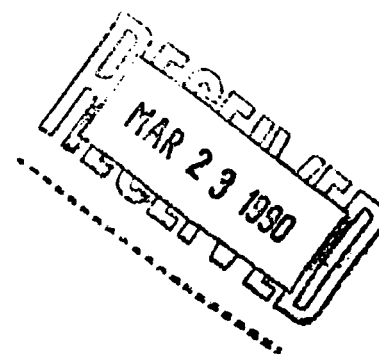
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 DATE OF TEST : MARCH 21-23/90
 DEPTH : 1365.0

WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 SERIAL NO. : 10544N

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			----- CALC	CORR	CORRECTED
	10.00	6.578	3005.5	1.6	3007.1
	11.00	6.663	3044.1	1.9	3045.9
	12.00	6.750	3083.6	2.1	3085.7
	14.00	6.858	3132.7	2.4	3135.1
	15.50	7.145	3263.0	3.2	3266.3
	16.00	6.842	3125.4	2.4	3127.8
	18.00	6.752	3084.5	2.1	3086.6
	20.00	6.642	3034.5	1.8	3036.3
	20.50	6.650	3038.2	1.8	3040.0
	21.00	6.975	3185.8	2.8	3188.6
	21.50	7.290	3328.9	3.7	3332.6
	22.00	7.358	3359.8	3.9	3363.7
	23.00	7.320	3342.5	3.8	3346.3
	24.00	7.270	3319.8	3.6	3323.4
	26.00	7.210	3292.6	3.4	3296.0
	28.00	7.228	3300.7	3.5	3304.2
	30.00	7.325	3344.8	3.8	3348.6
	32.00	7.428	3391.6	4.1	3395.7
WELL SHUT-IN	0.00	7.428	3391.6	4.1	3395.7
MAR 23@ 0300 HRS	.25	13.430	6118.2	12.8	6130.9
	.50	17.642	8031.6	16.9	8048.5
	.75	20.320	9248.1	13.1	9261.2
	1.00	21.308	9696.9	11.7	9708.6
	1.25	21.545	9804.6	11.3	9815.9
	1.50	21.580	9820.5	11.3	9831.8
	1.75	21.592	9825.9	11.3	9837.2
	2.00	21.600	9829.6	11.3	9840.8
	2.50	21.608	9833.2	11.2	9844.4
	3.00	21.610	9834.1	11.2	9845.4
	3.50	21.610	9834.1	11.2	9845.4
	4.00	21.610	9834.1	11.2	9845.4
	5.00	21.610	9834.1	11.2	9845.4
	5.67	21.610	9834.1	11.2	9845.4

RECORDERS OFF BOTTOM MARCH 23 @ 0840 HRS.



SOLID WIRELINE SERVICES

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD WELL NAME : PARAMOUNT ET AL SWEDE
 ADDRESS : CALGARY ALTA LOCATION : A-73 (N.W.T.)
 FIELD & POOL : STATUS : GAS
 TYPE OF TEST : FLOW & BUILDUP DATE OF TEST : MARCH 21-23/90
 PERF/O.H. INT : 1365.0 to 1366.5 PROD. THROUGH : TUBING
 ELEV.(CF) : 675.6 (KB) : 679.6 MID-POINT OF PROD. INTERVAL : 1365.8
 POOL DATUM : DATUM DEPTH OF WELL : 0.0

STATIC TEST

TUBING PRES : 8600/8120 SHUT-IN TIME : MAR 23 @ 0300 HRS.
 CASING PRES : ON/OFF BOT. : 21/3@1800-23/3@0840 HRS.
 RUN DEPTH : 1367.0 SURFACE TEMP. :
 TEMPERATURE AT RUN DEPTH : PRES. AT MID-POINT OF PERF. : 0.0
 PRES. AT RUN DEPTH : 9859.2 DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres (CF) : Pressure in KPAG)

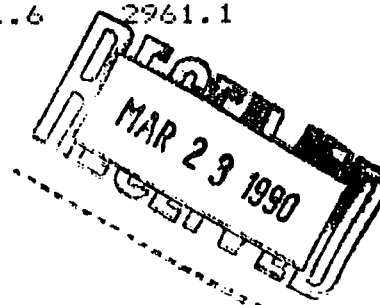
ELEMENT SERIAL NO. : 10745N
 RANGE : 0 - 21375 CLOCK RANGE : 180 HR
 CAL. EQU. : $466.46 * \text{Defl.} + 27.84$ LATEST CALIBRATION : 16/1/90

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG		
			----- CALC	CORR	CORRECTED
Depth : 1367.0 m					
ON BOTTOM	0.00	20.850	9753.6	16.5	9770.0
MAR 21@ 1800 HRS	.50	21.058	9850.6	16.1	9866.7
	1.00	21.075	9858.5	16.1	9874.6
START FLOW	0.00	21.075	9858.5	16.1	9874.6
MAR 21@ 1900 HRS	.50	14.220	6660.9	19.8	6680.7
	1.00	12.620	5914.6	17.6	5932.2
	1.50	12.100	5672.0	16.9	5688.9
	2.00	12.008	5629.1	16.7	5645.8
	2.50	9.980	4683.1	14.0	4697.1
	3.00	8.570	4025.4	12.0	4037.4
	3.50	9.522	4469.5	13.3	4482.8
	4.00	9.532	4474.1	13.3	4487.5
	4.50	7.490	3521.6	7.2	3528.9
	5.00	7.280	3423.7	6.2	3429.9
	5.50	7.270	3419.0	6.2	3425.2
	6.00	7.350	3456.3	6.6	3462.9
	6.50	6.125	2884.9	.8	2885.7
	7.00	6.132	2888.2	.9	2889.0
	8.00	6.200	2919.9	1.2	2921.1
	9.00	6.285	2959.5	1.6	2961.1

REMARKS :

SURVEY COMPANY : SOLID WIRELINE

TEST BY : K.T.



SOLID WIRELINE SERVICES

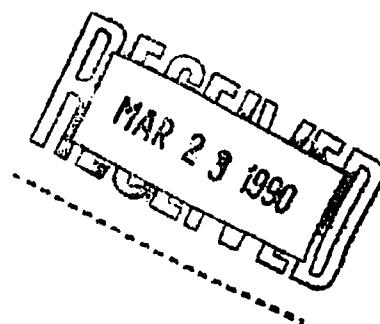
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD
 DATE OF TEST : MARCH 21-23/90
 DEPTH : 1367.0

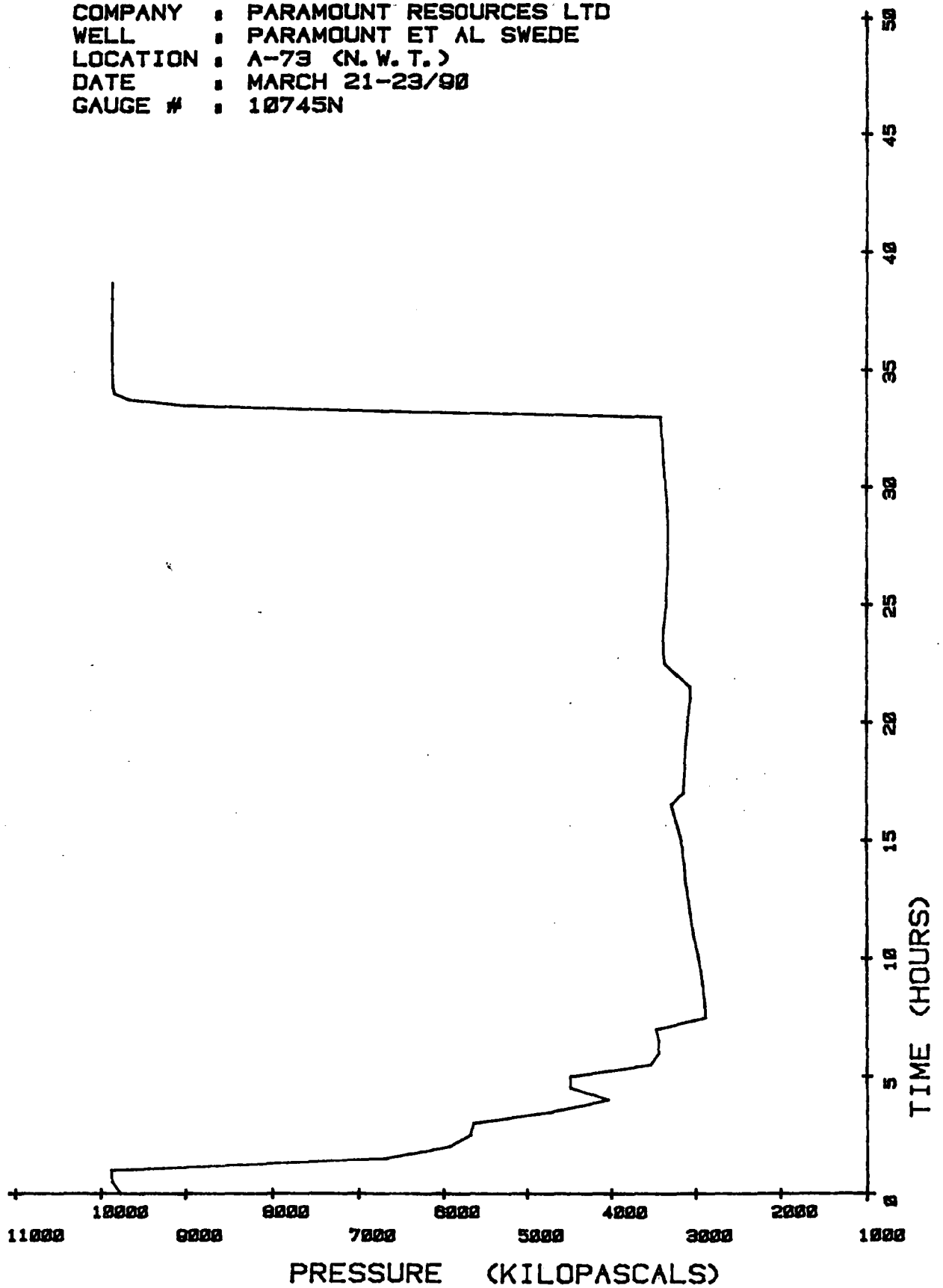
WELL NAME : PARAMOUNT ET AL SWEDE
 LOCATION : A-73 (N.W.T.)
 SERIAL NO. : 10745N

COMMENTS	TIME hrs	DEFL mm	----- PRESSURE KPAG -----		
			CALC	CORR	CORRECTED
	10.00	6.418	3021.6	2.2	3023.8
	11.00	6.500	3059.8	2.6	3062.4
	12.00	6.590	3101.8	3.0	3104.8
	14.00	6.708	3156.9	3.6	3160.4
	15.50	6.962	3275.3	4.8	3280.1
	16.00	6.652	3130.7	3.3	3134.0
	18.00	6.598	3105.5	3.1	3108.6
	20.00	6.485	3052.8	2.5	3055.4
	20.50	6.492	3056.1	2.6	3058.7
	21.00	6.808	3203.5	4.0	3207.5
	21.50	7.112	3345.3	5.5	3350.8
	22.00	7.155	3365.4	5.7	3371.0
	23.00	7.132	3354.6	5.6	3360.2
	24.00	7.075	3328.0	5.3	3333.3
	26.00	7.032	3308.0	5.1	3313.1
	28.00	7.052	3317.3	5.2	3322.5
	30.00	7.142	3359.3	5.6	3364.9
	32.00	7.221	3396.2	6.0	3402.1
WELL SHUT-IN MAR 23@ 0300 HRS	0.00	7.221	3396.2	6.0	3402.1
	.25	14.125	6616.6	19.7	6636.3
	.50	19.143	8957.3	19.7	8977.0
	.75	20.612	9642.5	16.9	9659.5
	1.00	20.978	9813.3	16.2	9829.5
	1.25	21.015	9830.5	16.2	9846.7
	1.50	21.028	9836.6	16.1	9852.7
	1.75	21.035	9839.8	16.1	9856.0
	2.00	21.038	9841.2	16.1	9857.4
	2.50	21.040	9842.2	16.1	9858.3
	3.00	21.042	9843.1	16.1	9859.2
	3.50	21.042	9843.1	16.1	9859.2
	4.00	21.042	9843.1	16.1	9859.2
	5.00	21.042	9843.1	16.1	9859.2
	5.67	21.042	9843.1	16.1	9859.2

RECORDERS OFF BOTTOM MARCH 23 @ 0840 HRS.



COMPANY : PARAMOUNT RESOURCES LTD
WELL : PARAMOUNT ET AL SWEDE
LOCATION : A-73 (N. W. T.)
DATE : MARCH 21-23/90
GAUGE # : 10745N



F. ENVIRONMENTAL REPORT (N/A)

G. APPENDICES TO WELL HISTORY REPORT

1. Oil, Gas, And Water Analyses (See Section E, 5.)
2. Reservoir Engineering Data (N/A)
3. Petrographic Record (N/A)
4. Details Of Formation And Production Testing (See Section E, 5.)
5. Petrological Reports (N/A)
6. Paleontological Reports (N/A)
7. Palynological Reports (N/A)
8. Geochemical Reports (N/A)
9. Age Determinations (K/Ar etc.) (N/A)
10. Processed Combination Of Well Logs (See Cyberlook In Pocket)
11. Deviation Record (See Table 4, See Following Pages)
12. Gas Detector Log Or Mud Log Records
See tabulation of results and composite well record on following pages.
13. Completion Data (N/A)
14. Composite Well Record (In Pocket)
15. Final Survey Plat (In Pocket)
16. Mud Data (See Following Pages)

SECTION G, 11.

TABLE 4

PARAMOUNT ET AL SWEDE A-73

DEVIATION RECORD

TABLE 4

PARAMOUNT ET AL SWEDE A-73

DEVIATION RECORD

DEPTH (M)	DEVIATION (DEGREES)
56	1/2
85	1/2
113	1 1/4
141	1
159	1/2
187	1/2
214	3/4
242	1/2
386	1 1/4
528	3/4
576	1/2
623	3/4
671	3/4
786	1/2
834	1/4
975	1/8
1023	1/2
1051	1
1089	1/2
1117	3/4
1147	3/4
1175	1
1204	1 1/8
1232	1 3/4
1261	2
1288	1 1/2
1308	2 1/4
1327	1 3/4
1394	1/2
1445	1 1/4
1474	1 1/8
1521	1 3/4
1549	2 1/4
1577	2 1/2

SECTION G, 12.

PARAMOUNT ET AL SWEDE A-73

GAS DETECTOR & MUD LOG RECORDS

Paramount et al Swede A-73

Total Gas and Chromatograph Values

Depth m	Total Gas units	Chromatograph				
		C1	C2	C3	iC4	nC4
1225	6	441	23	-	-	-
1230	8	642	23	-	-	-
1235	7	334	11	-	-	-
1240	8	401	11	-	-	-
Muskwa						
1245	7	367	23	-	-	-
1250	11	601	27	-	-	-
1255	7	334	11	-	-	-
1260	7	367	23	-	-	-
1265	15	1002	50	20	-	-
1267	17	1134	62	31	-	-
1270	10	668	34	10	-	-
1275	No returns					
1276	9	575	37	15	-	-
1280	12	601	30	5	-	-
Connection Gas @ 1283 m = 26/13 units.						
1285	14	635	23	12	-	-
Waterways						
1290	14	534	23	7	-	-
1295	16	468	34	7	-	-
1300	12	417	34	20	-	-
Slave Point						
1305	20	969	46	24	-	-
1310	34	1670	68	61	-	20
1315	22	868	46	41	7	10
1320	16	701	39	29	-	32
1325	15	534	46	24	-	20
1329	20	1069	68	24	-	20
1330	17	868	46	15	-	8
1335	17	668	41	24	-	8
Fort Vermilion						

Paramount et al Swede A-73
Total Gas and Chromatograph Values

Depth m	Total Gas	Chromatograph				
	units	C1	C2	C3	iC4	nC4
1340	13	634	34	20	-	8
1345	10	501	23	12	-	-
1350	5	167	5	-	-	-
1355	6	246	8	-	-	-
Watt Mountain						
1360	9	367	8	-	-	-
Sulphur Point						
1365	41	1988	126	84	-	20
1370	74	4509	228	61	15	30
1375	59	2672	143	61	-	50
Connection Gas @ 1379 m = 11/63 units.						
1380	46	2271	80	49	-	20
Muskeg						
1385	15	468	27	12	-	-
Connection Gas @ 1388 m = 6/10 units.						
1390	8	401	23	-	-	-
1395	7	134	11	-	-	-
1400	6	159	11	-	-	-
1405	9	287	23	9	-	-
Connection Gas @ 1407 m = 4/9 units.						
1410	9	442	23	12	-	-
1412	15	701	40	12	-	-
1415	11	542	29	9	-	-
Connection Gas @ 1417 m = 10/12 units.						
1420	18	952	46	12	-	4
1425	10	534	32	12	-	-
Connection Gas @ 1426 m = 8/8 units.						
1430	7	451	29	7	-	-
1433	40	1436	68	17	-	-
1435	28	501	40	-	-	-
1440	25	334	29	-	-	-

Paramount et al Swede A-73
Total Gas and Chromatograph Values

Depth	Total Gas	Chromatograph				
m	units	C1	C2	C3	iC4	nC4
1445	11	501	34	5	-	-
1450	7	250	24	-	-	-
1455	4	184	-	-	-	-
1460	3	234	3	-	-	-
Keg River						
1463	7	368	5	-	-	-
1465	4	334	5	-	-	-
1470	4	334	5	-	-	-
Trip Gas @ 1474 m = 80/35 units						
1475	82	5376	202	167	-	30
1476	17	969	68	24	-	-
1480	6	317	21	-	-	-
1485	4	167	11	-	-	-
1490	2	100	-	-	-	-
1495	3	200	18	-	-	-
1500	6	334	34	-	-	-
1505	4	200	18	-	-	-
1510	4	217	18	-	-	-
1515	6	317	27	-	-	-
1520	6	307	23	-	-	-
1525	4	167	11	-	-	-
1530	4	167	11	-	-	-
1535	5	174	11	-	-	-
1540	9	351	25	-	-	-
1545	11	401	25	-	-	-
1550	5	267	11	-	-	-
1555	4	134	-	-	-	-
1560	6	267	23	-	-	-
Granite Wash						
1565	5	234	11	-	-	-
1570	4	188	-	-	-	-

Paramount et al Swede A-73
Total Gas and Chromatograph Values

Depth m	Total Gas	Chromatograph				
	units	C1	C2	C3	iC4	nC4
1575	4	301	-	-	-	-
1580	6	468	-	-	-	-
1585	3	233	-	-	-	-

SECTION G, 14.

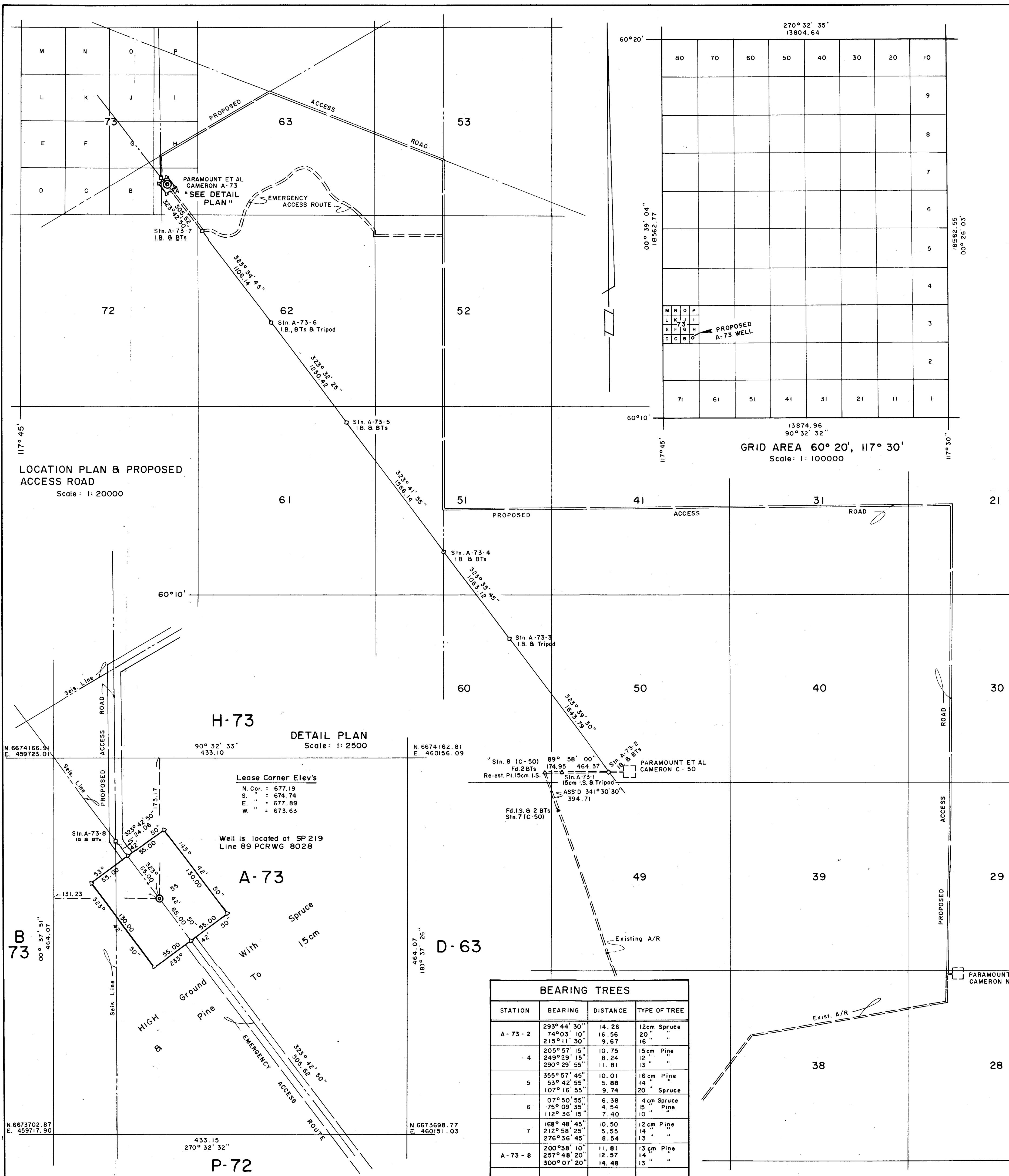
PARAMOUNT ET AL SWEDE A-73

COMPOSITE WELL RECORD

SECTION G, 15.

PARAMOUNT ET AL SWEDE A-73

FINAL SURVEY PLAN



SKETCH PLAN SHOWING
PROPOSED EXPLORATORY WELL
PARAMOUNT ET AL CAMERON A-73
IN UNIT A, SECTION 73
GRID AREA 60° 20', 117° 30'
NORTHWEST TERRITORIES

SURVEYED FOR:
PARAMOUNT RESOURCES LTD.

LEGEND:

UTM. Co-ordinates are computed for Zone 11, central meridian 117° W.
Distances are expressed in metres and decimals thereof.
Monuments found are shown thus: ▲ (30 cm Iron Spike)
Monuments planted are shown thus: △ (30 cm Iron Spike) ◇ (Iron Bar)
Distances shown in traverse are measured distances reduced to the horizontal or general ground level.
For the computation of co-ordinates measured distances reduced to the U.T.M. plane by multiplying them by an average combined scale factor of 0.99951.
Distances shown on grid area subdivisions are U.T.M. plane.

ELEVATION: 675.56 Ground

CO-ORDINATES: U.T.M. REF MERIDIAN: 117°
NORTH: 6673992.51
EAST: 459852.33
LAT: 60° 12' 09.48"
LONG: 117° 43' 27.10"

AREAS Well Site = 1.430 ha.

I certify that the survey represented by this plan is correct and true to the best of my knowledge and was completed on the 23rd day of January, 1990.

Alberta Land Surveyor
ALBERTA LAND SURVEYOR

Witness
WITNESS

OPERATOR:
PARAMOUNT RESOURCES LTD.

PARAMOUNT ET AL CAMERON N-28

McELHANNY LAND SURVEYS (ALTA) LTD.
138, 14315 - 118th AVE. - EDMONTON, ALBERTA
Phone: 451-3420

JOB N° 50901277

SECTION G, 16.

PARAMOUNT ET AL SWEDE A-73

MUD DATA

DAILY WELL HISTORY

MUD PROPERTIES

DAY NO.	DATE	DEPTH @ 08:00	WT	VISC	W.L	PH	DAILY OPERATIONS
	SPUD						
01	02/01	22	1080	80	-	10.0	Spud well @ 20:00 hrs, 90-01-31
							Drill out cement; Drill ahead.
02	02/02	47	1190	150	-	9.5	Drill 311 mm hole to 47 m;
							Ream out to 406 mm; Pooh and
							ran 339 mm csg.
03	02/03	121	1070	39	-	9.5	Drill ahead w/ 311 mm bit;
							High deviation; Drill ahead w/
							222 mm pilot bit.
04	02/04	371	1150	46	8.6	8.5	Drill ahead.
05	02/05	402	1190	63	6.4	10.0	Drill to 361 m; Pooh to change
							bit; Drill to 402 m; Pooh to
							run Csg.
06	02/06	402	1190	96	-	9.0	Ran Csg to 148 m; Hung up; Pooh;
							Lost guide shoe in hole; RIH w/
							311 mm bit to clean out.
07	02/07	402	1180	106	-	9.0	Mill up iron and retrieve w/
							magnet.
08	02/08	402	1165	107	-	9.5	Still milling on shoe.
09	02/09	403	1160	135	-	9.0	Rih w/ magnet & retrieve metal.
10	02/10	411	1170	105	-	9.0	Rih & ream to bottom; Drill to
							410 m; Metal on bottom, Rih w/
							magnet & retrieve; Drill ahead.
11	02/11	416	-	-	-	-	Pooh; Ran sfc csg to 416 m.
12	02/12	416	-	-	-	-	Pr Test BOP's
13	02/13	521	-	-	Air		Nipple up; Drill 5 m; Do leak
							off; Blow hole dry & drill ahead
14	02/14	779					Drill ahead.
15	02/15	1125					Drill ahead; deviation from 943
							metres.
16	02/16	1223	1040	45	-	9.5	Drill to 1223 m; Mud up; Lost
							circulation; Retrieve circulati-
							on; clean to bottom.
17	02/17	1274	1080	72	8.0	8.5	Clean to 1175 m, & loose Circ.;

MUD PROPERTIES

[illegible]

Paramount et al Swede A-73
Total Gas and Chromatograph Values

Depth m	Total Gas	Chromatograph				
	units	C1	C2	C3	iC4	nC4
1225	6	441	23	-	-	-
1230	8	642	23	-	-	-
1235	7	334	11	-	-	-
1240	8	401	11	-	-	-
Muskwa						
1245	7	367	23	-	-	-
1250	11	601	27	-	-	-
1255	7	334	11	-	-	-
1260	7	367	23	-	-	-
1265	15	1002	50	20	-	-
1267	17	1134	62	31	-	-
1270	10	668	34	10	-	-
1275	No returns					
1276	9	575	37	15	-	-
1280	12	601	30	5	-	-
Connection Gas @ 1283 m = 26/13 units.						
1285	14	635	23	12	-	-
Waterways						
1290	14	534	23	7	-	-
1295	16	468	34	7	-	-
1300	12	417	34	20	-	-
Slave Point						
1305	20	969	46	24	-	-
1310	34	1670	68	61	-	20
1315	22	868	46	41	7	10
1320	16	701	39	29	-	32
1325	15	534	46	24	-	20
1329	20	1069	68	24	-	20
1330	17	868	46	15	-	8
1335	17	668	41	24	-	8
Fort Vermilion						

Paramount et al Svede A-73
Total Gas and Chromatograph Values

Depth	Total Gas	Chromatograph				
m	units	C1	C2	C3	iC4	nC4
1340	13	634	34	20	-	8
1345	10	501	23	12	-	-
1350	5	167	5	-	-	-
1355	6	246	8	-	-	-
Watt Mountain						
1360	9	367	8	-	-	-
Sulphur Point						
1365	41	1988	126	84	-	20
1370	74	4509	228	61	15	30
1375	59	2672	143	61	-	50
Connection Gas @ 1379 m = 11/63 units.						
1380	46	2271	80	49	-	20
Muskeg						
1385	15	468	27	12	-	-
Connection Gas @ 1388 m = 6/10 units.						
1390	8	401	23	-	-	-
1395	7	134	11	-	-	-
1400	6	159	11	-	-	-
1405	9	287	23	9	-	-
Connection Gas @ 1407 m = 4/9 units.						
1410	9	442	23	12	-	-
1412	15	701	40	12	-	-
1415	11	542	29	9	-	-
Connection Gas @ 1417 m = 10/12 units.						
1420	18	952	46	12	-	4
1425	10	534	32	12	-	-
Connection Gas @ 1426 m = 8/8 units.						
1430	7	451	29	7	-	-
1433	40	1436	68	17	-	-
1435	28	501	40	-	-	-
1440	25	334	29	-	-	-

Paramount et al Swede A-73
Total Gas and Chromatograph Values

Depth	Total Gas	Chromatograph				
m	units	C1	C2	C3	iC4	nC4
1445	11	501	34	5	-	-
1450	7	250	24	-	-	-
1455	4	184	-	-	-	-
1460	3	234	3	-	-	-
Keg River						
1463	7	368	5	-	-	-
1465	4	334	5	-	-	-
1470	4	334	5	-	-	-
Trip Gas @ 1474 m = 80/35 units						
1475	82	5376	202	167	-	30
1476	17	969	68	24	-	-
1480	6	317	21	-	-	-
1485	4	167	11	-	-	-
1490	2	100	-	-	-	-
1495	3	200	18	-	-	-
1500	6	334	34	-	-	-
1505	4	200	18	-	-	-
1510	4	217	18	-	-	-
1515	6	317	27	-	-	-
1520	6	307	23	-	-	-
1525	4	167	11	-	-	-
1530	4	167	11	-	-	-
1535	5	174	11	-	-	-
1540	9	351	25	-	-	-
1545	11	401	25	-	-	-
1550	5	267	11	-	-	-
1555	4	134	-	-	-	-
1560	6	267	23	-	-	-
Granite Wash						
1565	5	234	11	-	-	-
1570	4	188	-	-	-	-

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Total Gas and Chromatograph Values

Depth m	Total Gas	Chromatograph				
	units	C1	C2	C3	iC4	nC4
1575	4	301	-	-	-	-
1580	6	468	-	-	-	-
1585	3	233	-	-	-	-

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LOGS