

N.E.B. COPY

FINAL WELL REPORT

PARAMOUNT RESOURCES LTD.

PARA ET AL CAMERON H-03

Grid: $60^{\circ} 10'$, $117^{\circ} 30'$

DATE: August 6, 2002

COMPANY REPRESENTATIVE:
Dave Block

TABLE OF CONTENTS

	Page
A. INTRODUCTION	
Summary	1
Locality Map	3
 B. GENERAL DATA	
Well Name.....	4
Well Location	4
Unique Well Identifier.....	4
Operator.....	4
Contractor.....	4
Drilling Unit	4
Position Keeping	4
Support Craft.....	4
Drilling Unit Performance	4
Difficulties and Delays	4
Total Well Cost.....	4
Horizontal/Deviated Wells Require Bottom Hole Co-ordinates	4
 C. SUMMARY OF DRILLING OPERATIONS	
Elevations	5
Total Depth.....	5
Date and Hour Spudded	5
Date Drilling Completed	5
Date of Rig Release	5
Well Status	5
Hole Sizes and Depths.....	5
Casing and Cementing Record	5
Sidetracked Hole	6
Drilling Fluid.....	6
Fishing Operations.....	7
Well Kicks and Well Control Operations	7
Formation Leak Off Tests.....	7
Time Distribution	8
Deviation Survey	11
Abandonment Plugs	11
Composite Well Record.....	11
Completion Record.....	11

	Page
D. GEOLOGY	
Geological Summary.....	12
Tops.....	12
Sample Descriptions	12
Coring Record.....	12
Gas Detection Report.....	12
Drill Stem Tests	12
Well Evaluation	12
Analyses.....	12
Mud Salinity Record	12
Gas, Oil & Water	12
Formation Stimulation	12
Formation and Test Results	12
Detailed Test Pressure Data Readings	12
E. ENVIRONMENTAL WELL ANALYSIS	13
F. ATTACHMENTS TO WELL HISTORY REPORT	14
1. Geological report.	
2. Geological composite log	
3. Survey plan.	

A. INTRODUCTION

Paramount Resources Ltd. (Paramount) drilled a 1661 meter exploratory well spudded on February 22, 2002 and finishing on March 5, 2002 to evaluate hydrocarbon potential. The primary target was the Sulphur Point formation at a depth of 1403 mKB. The secondary target was the Slave Point formation at 1341 mKB

The drilling contractor was Precision Drilling based out of Calgary, Alberta. Precision rig # 117 was used and is a land rig rated for 1800 m. The rig had a mud system capacity of 65 m³ and was equipped with a boiler.

The well was drilled on Significant Discovery License No SDL-103 in which Paramount has a 88% working interest. Operating License No 1940 was issued to Paramount on January 29, 2002.

The exact co-ordinates of the well are as follows:

Latitude: 60° 02' 23.74"
Longitude: 117° 28' 07.70"

Shadow Rathole Drilling Ltd. drilled a 609 mm conductor hole to 12.2 meters. From surface to 0.6 meters was frozen snow, 0.6 – 3.0 m was wet muskeg, 3.0 – 4.6 m was soft clay, and 4.6 – 12.2 m was good clay. A 406 mm, 0.281" wall thickness conductor pipe was set and cemented at 12.2 meters.

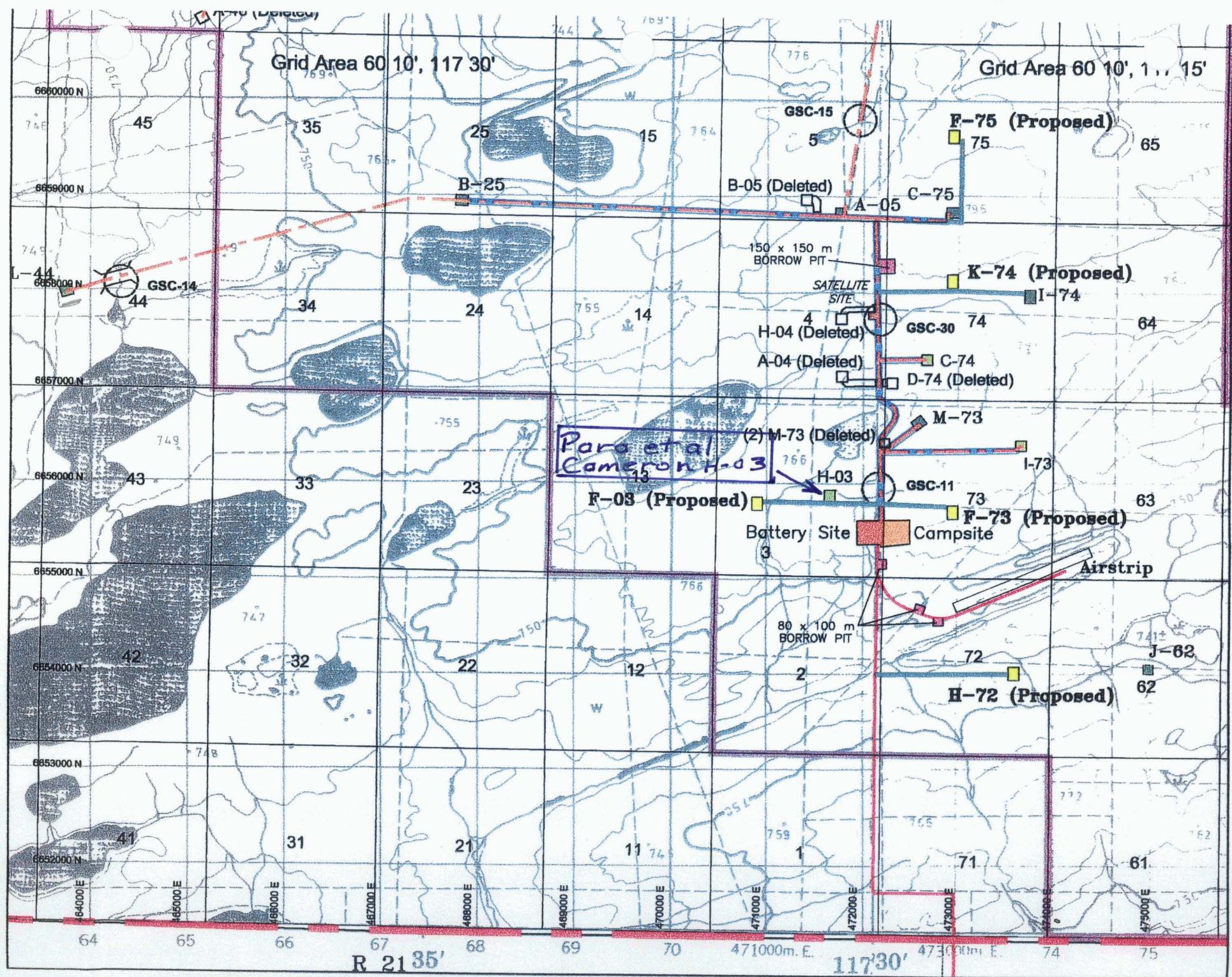
Precision #117 was moved onto the location and rigged up on February 21, 2002. The diverter was nippled up, the rig was rigged up, and the well was spudded on February 22, 2002 at 09:45 hours. A 343 mm surface was drilled to 423 mKB. No major lost circulation problems or mud rings were encountered. A string of 244.5 mm, 53.6 kg/m, J-55, LT&C surface casing was run to 426 mKB. The casing was cemented with 38 t class 'G' cement plus 2% CaCl₂. There were 10 m³ of cement returned to surface while cementing. The plug was bumped and the float held OK. The plug was down at 00:38 hours on February 25, 2002.

The casing and conductor were trimmed and the casing bowl was welded on. The BOP's were installed and function tested. The BOP's and manifold were pressure tested to 1400 kPa low pressure and 14000 kPa high pressure.

The float collar and shoe were drilled out to 429 mKB on February 26, 2002. A leak off test was performed with the leak off gradient found to be 26.4 kPa/m. A 222 mm hole was drilled to approximately 1250 m with a flocculated water system and a gel/chem mud system to total depth at 1661 mKB. Lost circulation problems were encountered from approximately 571 – 685 mKB. Cement plugs were placed using RAS2 cement from: #1 685 – 520 m (felt at 613 m), #2 608 – 442 m (felt at 576 m), and #3 571 – 504 m (felt at 451 m). The plugs were then drilled out and no more lost circulation problems were encountered after drilling was resumed. Computalog ran induction and sonic logs from bottom to surface casing and density and micro

resistivity logs from bottom to 1200 mKB. 177.8 mm, 34.23 kg/m, J-55/LS-65, LT&C production casing was run and set at 1662 mKB. It was cemented with 20.7 t Fill-Lite 2-125 + 3% A-9 + 0.7% R-6N and 12 t 'G' cement + 2% CaCl₂ + 0.4% FL-77. Circulation was lost while displacing the cement with water. Subsequent bond logging confirmed cement top at approximately 150 mKB, 273 meters into the surface casing.

Precision #117 was rigged out and released at 23:59 hours on March 6, 2002.



B.GENERAL DATA

1. Well Name: Para et al Cameron H-03

Authority to Drill a Well No: 1940

Exploration Agreement Number: SDL-103

Location Unit: H

Section: 03

Grid Area: $60^0 10' N$, $117^0 30' W$

Classification: ~~Exploratory~~ *Development*

2. Coordinates:

Latitude: $60^0 02' 23.74''$

Longitude: $117^0 30' 07.70''$

3. Unique Well Identifier: 300H036010117300

4. Operator: Paramount Resources Ltd.

5. Contractor: Precision Drilling

6. Drilling Unit: Precision Rig # 117, Land Rig

7. Position Keeping: N/A

8. Support Craft (Helicopter): N/A

9. Drilling Unit Performance: Good

10. Difficulties and Delays: Nothing major

11. Total Well Cost: \$922,000

12. Horizontal Deviated Wells Require Bottom Hole Co-ordinates:

Latitude: same as surface

Longitude: same as surface

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:

Ground: 764.50 m above sea level

KB: 768.97 m above sea level

KB to Casing Flange: 4.47 m

2. Total Depth:

FTD: 1661 mKB

PBTD: 1649 mKB

TVD: 1661 mKB

3. Date and Hour Spudded: February 22, 2002 at 09:45 hours

4. Date Drilling Completed: March 4, 2002

5. Date of Rig Release: March 6, 2002

6. Well status: Cased and Suspended

7. Hole Sizes and Depths:

Conductor Hole: 609 mm to 12.2 m

Surface Hole: 343 mm to 423 mKB

Main Hole: 222 mm to 1661 mKB

8. Casing and Cementing Record:

Conductor Hole:

Casing Size: 406 mm

Wall Thickness: 7 mm

Depth Set: 12.2 m

Cut Height: At Surface

Date Set: February 18, 2002

Cement Volume: 40 sacks

Cement Type: Portland Normal

Surface Hole:

Casing Size: 244.5 mm
Casing Weight: 53.6 kg/m
Casing Grade: J-55
Casing Make: Ipsco
Number of Joints: 32
Thread: LT&C
Depth Set: 423 m KB
Cut Height: At Surface
Date Set: February 24, 2002
Cement Volume: 38 Tonnes
Float Shoe Depth: 423 mKB
Float Collar Depth: 409 mKB
Cement Type: Class 'G'
Additives: 2% CaCl₂
Cement Top: Surface
Casing Bowl Size: 279 mm x 21 Mpa
Casing Bowl Make: ABB Vetco

Main Hole:

Casing Size: 178 mm
Casing Weight: 34.23 kg/m
Casing Grade: J-55 / LS-65
Casing Make: Ipsco / Lonestar
Number of Joints: 66 / 61
Run from – to: 1662 – 886 / 886 - surface
Thread: LT&C
Depth Set: 1662 m KB
Cut Height: surface
Date Set: March 6, 2002
Float Shoe Depth: 1662 mKB
Float Collar Depth: 1649 mKB
Cement Volume 1: 20.7 Tonnes
Cement Type 1: Fill-Lite 2-125
Additives 1: 3% A-9 & 0.7% R-6N
Cement Volume 2: 12 Tonnes
Cement Type 2: Class 'G'
Additives 2: 2% CaCl₂ & 0.4% FL-77
Cement Top: 150 m (by cement bond log)

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole: Water
Properties: N/A

Surface Hole: Properties:	Gel - Chemical Viscosity: 30 - 52 sec/L Weight: 1000 - 1210 kg/m ³ PH: 8.0 – 8.5
Main (423 – 1250 m): Properties:	Floc water Viscosity: 30 sec/L Weight: 1010 kg/m ³ PH: 8.0
Main (1250 m – TD): Properties:	GeI-chem Viscosity: 48 - 50 sec/L Weight: 1085 - 1110 kg/m ³ PH: 10.0 – 10.5 Water loss: 9.5 - 14 cc Solids: Not reported Gels: Not reported Filtrate: Not reported PV / YP: Not reported

11. Fishing Operations: N/A
12. Well Kicks and Well Control Operations: N/A
13. Formation Leak Off Tests:

Depth:	429 m
Fluid Density:	1000 kg/m ³
Applied Pressure:	7000 kPa
Hydrostatic Pressure:	4150 kPa
Mud Weight Equivalent:	2687 kg/m ³
Casing setting depth:	423 mKB

The surface casing leak-off test was taken to a gradient of 26.36 kPa/m without breaking down the formation.

14. Time Distribution

Date	Hours	Activity
02/02/21	16.0	Wait on daylight
02/02/22	14.75	Move in / rig up
	0.25	Safety meeting
	5.0	Nipple up BOP's
	2.5	Function test BOP's
	1.5	Pick up bottom hole assembly
02/02/23	0.5	Rig service
	2.5	Survey
	15.0	Drill
	0.5	Circulate
	1.25	Nipple up BOP's
	0.25	Pre spud meeting
	0.25	BOP drill
	3.75	Trip
02/02/24	0.5	Rig service
	3.0	Rig repair
	1.0	Survey
	9.5	Drill
	7.5	Trip
	2.5	Circulate and condition mud
02/02/25	2.0	Circulate and condition mud
	3.25	Nipple up BOP's
	0.5	Safety meeting
	5.25	Wait on cementer
	1.0	Change shaker screens
	1.25	Cement CASING
	4.0	Wait on cement
	4.75	Run casing
	2.0	Trip
02/02/26	0.25	Rig service
	0.25	Circulate and condition mud
	3.5	Nipple up BOP's
	8.0	Pressure test BOP's
	3.75	Drill

	1.5	Drill out shoe
	1.0	Weld on casing bowl
	1.0	Leak off test
	0.25	BOP drill
	1.0	Slip & cut drill line
	0.5	Change shaker screens
	3.0	Trip
02/02/27	0.25	Rig service
	0.25	Survey
	10.5	Drill
	4.25	Trip
	3.0	Wait on water
	1.75	Wait on orders
	0.25	BOP drill
	3.75	Mix LCM
02/02/28	0.25	Rig service
	1.75	Pump lost circulation plugs
	2.0	Feel lost circulation plugs
	8.25	Wait on cement
	10.0	Trip
	1.25	Lay down tools
	0.5	Safety meeting
02/03/01	0.5	Rig service
	2.0	Survey
	17.75	Drill
	3.5	Drill out lost circulation plugs
	0.25	Function test BOP's
02/03/02	0.75	Rig service
	1.0	Survey
	21.5	Drill
	0.25	Safety meeting
	0.5	Rig repair
02/03/03	0.75	Rig service
	0.75	Survey
	12.25	Drill
	0.5	Circulate and condition mud
	0.75	Pick up Bottom hole assembly

	8.75	Trip
	0.25	Safety meeting
02/03/04	0.75	Rig service
	23.0	Drill
	0.25	Safety meeting
02/03/05	0.5	Rig service
	3.25	Drill
	6.75	Logging
	3.5	Circulate and condition mud
	10.0	Tripping
02/03/06	0.5	Rig service
	1.0	Rig repair
	4.25	Tripping
	2.0	Circulate and condition mud
	1.5	Logging
	5.5	Run casing
	0.25	Safety meeting
	7.5	Lay down tools
	1.25	Slip & cut drill line
02/03/08	0.25	Rig service
	4.0	Run casing
	2.75	Circulate and condition mud
	0.25	Safety meeting
	1.75	Cement CASING
	7.0	Rig out

Time Break Down by Activity:

<u>Activity</u>	<u>Hours</u>
Wait on daylight	16.0
Move in / rig up:	14.75
Pre-spud meeting	0.25
Drilling:	116.5
Drill out casing shoe:	1.5
Surveying:	7.25
Circulate and condition mud:	14.0
Running casing:	14.25
Cementing casing:	3.0
Wait on cement	12.25
Rig service:	5.75

Rig repair:	4.5
Tripping:	53.5
Safety meetings:	2.5
Weld on casing bowl:	1.0
Nipple up BOP's:	13.0
Pressure test BOP's	8.0
Function test BOP's:	2.75
BOP drill:	0.75
Leak off tests:	1.0
Handle tools:	11.75
Slip & cut drill line:	2.25
Logging:	7.25
Wait on cementer:	5.25
Change out shaker screens:	1.5
Wait on water:	3.0
Wait on orders:	1.75
Mix lost circulation materials:	3.75
Pump lost circulation plugs:	1.75
Feel lost circulation plugs:	2.0
Drill out lost circulation plugs:	3.5
Rig out:	7.0

15. Deviation Survey: See page 7 of the Geological Report in the Attachment Section
16. Abandonment Plugs: N/A
17. Composite Well Record: See the copy of the strip log in the Geological Report in the Attachment Section.
18. Completion Record: Reported in a separate report.

D: GEOLOGY

GEOLOGICAL SUMMARY

Tops: See page 9 of the Geological Report in the Attachment Section.

Sample Descriptions: See page 10 - 17 of the Geological Report in the Attachment Section.

Total Depth: 1661 mKB

Coring Record: No coring done.

GAS DETECTION REPORT

A gas detector was utilized from the drill out of the conductor pipe to total depth. The gas detector readings are included on the composite geological log at the end of the Geological Report in the Appendix Section.

DRILL STEM TESTS

There were no drill stem tests run on the well.

WELL EVALUATION

The following logs were run:

Simultaneous Triple Induction Shallow Focused Log:	423 - 1661 mKB
Borehole Compensated Sonic Log:	423 - 1648 mKB
Spectral Density Compensated Neutron Log:	1200 - 1660 mKB
Micro Resistivity Log:	1200 - 1650 mKB
Cement Volume Log:	423 - 1660 mKB

GAS, OIL, & WATER ANALYSES: N/A

FORMATION STIMULATION: N/A

FORMATION AND TEST RESULTS: N/A *Swabbing*

DETAILED TEST PRESSURE DATA READINGS: N/A

E. ENVIRONMENTAL CONSIDERATIONS

There are no known outstanding environmental considerations on this well. The well was drilled sumpless with all drilling fluids being held in tanks on the lease. At the end of the job the water was stripped from the mud system and hauled to the next lease for re-use. The solids were hauled to a remote site where they were disposed of using the mix/bury/cover technique.

RUNNING HORSE RESOURCES INC.



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Geological Report

on

Para et al Cameron H-03 H-03 60° 10', 117° 30'

Well Reached Total Depth of 1661 metres
on
March 04, 2002 @ 12:00 hours.

for

PARAMOUNT RESOURCES LTD.

Prepared for: **Mr. Paul Poscente**
Paramount Resources Ltd.

Wellsite Geologist: **Darrell Nordby, P.Geol.**
Running Horse Resources Inc.

Approved by:


Dennis Winchester, P.Geol.
Running Horse Resources Inc.

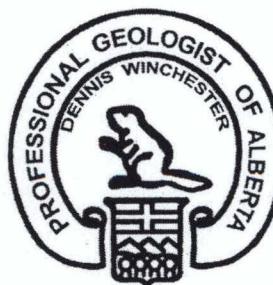


Table of Contents

Executive Summary	2
Well Data Summary	3
Logging Summary	5
Bit Record & Casing Summary	6
Deviation Surveys	7
Daily Drilling Summary	8
Formation Tops	9
Sample Descriptions	10
Geological Striplog 1:240 scale	Back Sleeve

Executive Summary

Para et al Cameron H-03 is a vertical well spudded by Precision #117 on February 22, 2002. Surface hole is 342.9 mm with 244.5mm casing landed at 422.96 meters. The 222mm main hole was terminated in the **preCambrian** at 1661.0 meters on March 04, 2002.

This well was drilled primarily to produce oil and gas from the **Sulphur Point dolomite** and secondarily for **Slave Point** gas. Samples were taken from 1200m to TD. Simultaneous Triple Induction and Sonic logs were run from TD to surface casing. Microlog and Neutron-Density logs were run from TD to 1200m. There were no cores cut and no DSTs were run.

The **Sulphur Point dolomite** is a crystalline dolostone. Common subhedral crystal faces and euhedral dolomite crystals indicate the presence of significant porosity. Traces of bitumen and pyrite were noted. The porosity is primarily intercrystalline and is fair to good, usually 3 to 6% with zones exceeding 9%. Vugular and pinpoint vugular porosity is also present. Oil staining is patchy at the top of the zone but increases towards the base with bright whitish yellow fluorescence and solvent cuts throughout. Gas detector readings were elevated through the upper portion (800 units over background of 150 units) and a large peak (2060 units) was recorded at the base of the zone. This zone has excellent potential for oil and associated gas production.

Good gas detector shows (almost 2000 units over background of 200 units) were seen through the **Slave Point** section. The Slave Point is a micro- to finely crystalline limestone and is commonly quite chalky looking. Occasional pinpoint vugular porosity was visible and drilling breaks indicate the presence of porosity however sample porosity is estimated at less than 6%. Oil staining was not seen but fluorescence and solvent cuts were good. Productive potential for this zone is questionable.

Minor drilling breaks were seen in the **Muskeg** dolomite and some intercrystalline porosity (estimated at 3-6%) was detected in samples however no significant gas detector shows were noted. This formation is not considered to have productive potential.

The **Keg River** had good porosity developed in one zone but no gas detector shows were encountered. Production from the Keg River is considered unlikely.

Para et al Cameron H-03 was cased as a potential **Sulphur Point** oil and gas well.

Well Data Summary

OPERATOR	Paramount Resources Ltd.
WELL NAME	Para et al Cameron
LOCATION	H-03 60° 10', 117° 30'
UWI	300H036010117300
POOL	
FIELD	Cameron Hills
PROVINCE	NWT
LICENCE NUMBER	1940
CLASSIFICATION	Development
A.F.E. NUMBER	01N210061

SURFACE COORDINATES	60° 02' 23.743" N / 117° 30' 07.70" W
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BOTTOMHOLE COORDINATES	60° 02' 23.743" N / 117° 30' 07.70" W
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ELEVATIONS	KB: 768.97m
	GL: 764.50m

TOTAL DEPTH	Driller: 1661.0m
	Logger: 1660.7m

DRILLING CONTRACTOR	Precision - Rig 117
ENGINEER	Brian Neigum (403) 548-0813
GEOLOGIST	Darrell Nordby (403) 620-8715

SPUD DATE	Feb. 22, 2002 @ 09:45
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COMPLETED DRILLING	Mar. 04, 2002 @ 12:00
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Well Data Summary

HOLE SIZE Surface hole: 342.9mm
Main hole: 222mm

CORING No cores cut

LOGGING DISFL-SP-GR - from TD to surface casing
BCS-GR-DAC
SPeD-CNT-GR-DAC - from TD to 1200m
MRT

DSTs No DSTs were run.

SAMPLES Operator: 1 set vials (@ 5m) Interval 1200m - TD
NEB: 1 set bags (@ 5m) Interval 1200m - TD
2 sets vials (@ 5m)
1 set geochem jars (@10m)

DIRECTIONS From Hwy #35 1.3 km South of Indian Cabins, West 32 km on main road (keep right at all Y forks), right (up big hill) 6.9 km, left into location.

PROBLEMS

On Surface Hole: No major problems were encountered while drilling the surface hole.

On Main Hole: Lost circulation in the Wabamun, ran cement plugs. Problems with Pason caused losses of ROP & gas detector data. Shale shaker is very poor and makes sampling difficult.

Logging Summary

Date: Mar. 04, 2002

Logging Company: Computalog **Engineer:** D. Hryniw **Unit #:** 380 **Edmonton**

Mud Properties: Den: 1120 Vis: 75 WL: 9.0 pH: 10 Gel chem

Hole Size: 222mm

Surface Casing: 244.5mm (53.57kg/m) set @ 422.96m

Depths: Driller: 1661.0m (tally) Logger: 1660.7m

Logging Times: First alerted 10:00 Mar. 03, 2002
Time required: 21:00 Mar. 04, 2002 (8hr final notice)
Arrived: 23:00 Mar. 04, 2002
Left location: 08:30 Mar. 05, 2002

Hole Condition: Good

Circulations: 0.5hrs before, then 2hrs after the wiper trip

Wiper Trips: 1 from TD to 1080m

Logging Sequence:

Run #1 STI-SFL-SP / BCS-GR-DAC
Interval: TD to surface casing

Run #2 SPED-CNT-GR-DAC / MRT
Interval: TD to 1200m

Remarks: Logging operations went quickly and smoothly.

Bit Record & Casing Summary

Bit Record

Bit #	Make	Type	Size	In	Out	Meters	Hours	ROP m/hr	IADC				
									T	B	G		
1A	Smith	MSDSHC	342.9	17	253	236	12.5	18.9	5	-	3	-	in
2A	Smith	DSJ	342.9	253	389	136	9.5	14.3	4	-	3	-	in
3A	Smith	DSJ	342.9	389	423	34	2.75	12.4	1	-	7	-	in
1	Hughes	PDC	222	423	1575	1152	65.75	17.5	Fair (60%)				
2	Varel	ETD-28	222	1575	1661	86	26.25	3.3	4 - 2 - in				

Casing Summary

Type	Csg. Size	Hole Size	Land @	Total Jts	Remarks
surface	244.5	342.9	426.0	32	- 53.57kg/m, cement w/ 38 tonne 0-1-0 "G"+ 2% CaCl ₂ , 10m ³ returns, plug down 02-02-25 @ 00:38
production	177.8	222	1661	124	Not available

Deviation Surveys

<u>Depth</u>	<u>Inclination</u>
30m	$\frac{1}{2}$
57	$\frac{1}{4}$
85	$\frac{1}{4}$
114	$\frac{3}{4}$
142	$\frac{1}{2}$
170	$\frac{3}{4}$
199	$\frac{1}{2}$
255	$\frac{1}{4}$
284	1
313	1
341	$1\frac{1}{4}$
370	1
398	1
522	$\frac{1}{4}$
675	$\frac{1}{4}$
779	$\frac{1}{4}$
930	$\frac{1}{4}$
1072	$\frac{1}{2}$
1225	$\frac{1}{2}$
1378	$\frac{3}{4}$
1521	1

Daily Drilling Summary

Date	Depth	Progress	Operations (previous 24 hrs.)
Feb. 27	865m	171m	Drill ahead to 571m, lost circulation, drill blind to 685m, POOH to run cement plugs.
Feb. 28	865m	0m	Run cement plugs (x3), RIH, drill out cement.
Mar. 01	1086m	401m	Finish drilling out cement, drilled ahead w/ PDC.
Mar. 02	1481m	395m	Drilled ahead w/ surveys & rig service, muddled up at 1250m.
Mar. 03	1575m	94m	Drilled to 1575m w/ surveys & rig service, trip out bit.
Mar. 04	1651m	76m	RIH w/ new bit, drilled to 1651m.
Mar. 05	1661m	10m	Drilled to TD, condition mud & wiper trip, POOH, log w/ Computalog.

Formation Tops

Formation	PROGNOSIS			SAMPLES		LOGS	
	Meas.	TVD	S/sea	Meas.	TVD	Meas.	S/sea
Bluesky	546		+223			536.4	+232.6
Wabamun	563		+206			552.1	+216.9
Jean Marie	717		+ 52			712.9	+ 56.1
Fort Simpson	723		+ 46			719.0	+ 50.0
Twin Falls	830		- 61			831.0	- 62.0
Hay River Shale	993		-224			991.2	-222.2
start samples	1200			1200			
Beaverhill Lk.	1282		-513	1281.4		1286.4	-517.4
Muskwa	1315		-546	1319.4		1320.3	-551.3
Slave Point **	1342		-573	1342.6		1343.3	-574.3
Fort Vermillion	1376		-607	1371.6		1373.7	-604.7
F4	1392		-623				
Watt Mtn.	1395		-626	1389.0		1393.3	-624.3
Sulphur Pt. Lst.	1399		-630	1393.8		1394.6	-625.6
Sulphur Pt. Dol.*	1404		-635	1409.4		1411.5	-642.5
Muskeg	1422		-653	1426.4		1426.2	-657.2
Keg River	1517		-748	1525.2		1526.5	-757.5
Chinchaga	1592		-823	1601.6		1599.9	-830.9
Granite Wash	1612		-843	1634.4		1624.3	-855.3
preDevonian	1632		-863				
preCambrian	1647		-878	1643.6		1634.5	-865.5
Total Depth	1651		-882	1661.0		1660.7	-891.7

*Primary Zones of Interest

** Secondary Zones of Interest

Sample Descriptions

Samples start at 1195m in Hay River Fm.

1195-1205 100% **SHALE** medium gray to slightly greenish gray in part, slightly micromicaceous to micromicaceous, blocky to slightly platy, moderately hard to hard, calcareous, silty in part, massive + trace LIMESTONE white to gray, very finely crystalline, mudstone, dense, tight, no shows

1205-1215 100% **SHALE** as above, becoming dark gray and subfissile in part, trace to occasional bituminous patches, no fluorescence or cut

1215-1220 Missed sample

1220-1230 100% **SHALE** medium gray to slightly greenish gray in part, slightly micromicaceous to micromicaceous, blocky to slightly platy, moderately hard to hard, slightly calcareous to calcareous, silty in part, massive

1230-1240 100% **SHALE** as above, occasional dark gray, trace pyrite + trace LIMESTONE gray, finely crystalline, mudstone, dense, tight, no shows

1240-1245 100% **SHALE** medium gray to slightly greenish gray in part, slightly micromicaceous to micromicaceous, blocky to slightly platy, moderately hard to hard, slightly calcareous to calcareous, silty in part, massive

1245-1250 100% **SHALE** as above + trace LIMESTONE gray, finely crystalline, mudstone, dense, tight, no shows

1250-1265 100% **SHALE** as above

1265-1275 100% **SHALE** medium gray to slightly greenish gray in part, occasional dark gray, slightly micromicaceous to micromicaceous, blocky to slightly platy, moderately hard to hard, slightly calcareous to calcareous, massive

1275-1280 100% **SHALE** medium to dark gray, trace black; bituminous appearance, dull to micromicaceous, blocky to platy, moderately hard to hard, slightly calcareous in part, massive to slightly fissile in part

1280-1285 100% **SHALE** as above, slightly waxy appearance in part, calcareous in part, massive + trace LIMESTONE gray, finely crystalline, mudstone, tight

Beaverhill Lake 1281.4m (- 512.4m)

1285-1290 100% **SHALE** medium to dark gray, slightly micromicaceous to micromicaceous, slightly bituminous appearance in part, hard, calcareous

Sample Descriptions

in part, massive to subfissile in part

1290-1295 100% **SHALE** dark gray, dull to slightly micromicaceous, bituminous appearance, hard, calcareous, silty, subfissile

1295-1300 70% **SHALE** light to medium gray, slightly micromicaceous to micromicaceous, blocky, slightly waxy appearance in part, moderately soft, slightly calcareous to calcareous, massive + 30% **SHALE** dark gray as above

1300-1310 90% **SHALE** light to medium gray as above, becoming more calcareous + 10% **SHALE** dark gray as above + trace **LIMESTONE** white to gray, finely crystalline, mudstone, slightly argillaceous, tight

1310-1315 100% **SHALE** light to medium gray, slightly micromicaceous to micromicaceous, blocky, slightly waxy appearance in part, moderately soft, slightly calcareous to calcareous, massive + trace **LIMESTONE** white to off-white, crystalline, mudstone, trace pyrite, tight

1315-1320 70% **SHALE** dark brown gray to black, micromicaceous to very micromicaceous, platy to blocky in part, bituminous, very organic appearance, moderately hard, brittle, calcareous, fissile + 30% **SHALE** light to medium gray as above + trace **LIMESTONE** as above

Muskwa 1319.4m (- 550.4m)

1320-1325 70% **SHALE** light to medium gray, slightly micromicaceous to micromicaceous, blocky, slightly waxy appearance in part, moderately soft, calcareous, massive + 20% **LIMESTONE** white to gray, microcrystalline, mudstone, trace satiny appearance(?), occasional pyrite, tight, no stain or cut + 10% **SHALE** dark brown gray to black as above

1325-1335 70% **SHALE** light to medium gray as above + 30% **LIMESTONE** as above

1335-1340 80% **SHALE** light to medium gray, slightly micromicaceous, blocky, slightly waxy appearance in part, trace pyrite, moderately soft, calcareous, massive + 20% **LIMESTONE** white to gray, occasional gray brown, microcrystalline, mudstone, occasional pyrite, slightly argillaceous, tight, no stain or cut

1340-1345 50% **LIMESTONE** buff to brown, crypto to microcrystalline, mudstone, very dense, tight, no stain or cut + 40% **SHALE** as above + 10% **LIMESTONE** white to gray as above

Sample Descriptions

Slave Point 1342.6m (- 573.6m)

1345-1350 90% **LIMESTONE** buff to brown as above, becoming finely crystalline and chalky, slightly argillaceous, trace pinpoint vugular porosity, instant bright white yellow fluorescence and cut + 10% SHALE

1350-1360 90% **LIMESTONE** buff to light brown, finely crystalline, microcrystalline in part, mudstone, trace wackestone, chalky, slightly argillaceous, trace pellets, trace to occasional pinpoint vugular porosity (<3%), fair to good white yellow fluorescence and cut + 10% SHALE as above

Note: very oily smell when washing and drying Slave Pt. samples.
(1350m geochem sample had oil floating on top)

1360-1365 100% **LIMESTONE** buff to light brown, micro to finely crystalline, mudstone, chalky, argillaceous, trace pyrite, trace bitumen partings, generally tight, trace pinpoint vugular porosity, fair to good white yellow fluorescence and cut

1365-1370 100% **LIMESTONE** as above, becoming denser and less chalky

1370-1375 90% **LIMESTONE** as above, becoming brown gray and cryptocrystalline in part, no stain or cut + 10% ANHYDRITE white to off-white, finely crystalline, dull to pearly lustre, soft

Ft. Vermillion 1371.6m (- 602.6m)

1375-1380 90% **LIMESTONE** buff to brown gray, crypto to finely crystalline, mudstone, slightly chalky in part, argillaceous, rare bioclastic material (Gastropod), dense, tight, no stain or cut + 10% ANHYDRITE as above

1380-1385 80% **LIMESTONE** brown gray, occasional brown, crypto to finely crystalline, mudstone, slightly chalky in part, argillaceous, dense, tight, no stain or cut + 20% ANHYDRITE white to off-white to gray, finely crystalline, argillaceous, calcareous, vitreous lustre, moderately soft

1385-1390 60% **LIMESTONE** as above + 20% SHALE light to medium pale green, waxy appearance in part, blocky, soft to moderately hard in part, slightly calcareous, common disseminated pyrite crystals, massive + 20% ANHYDRITE as above

Watt Mtn. 1389.0m (- 620.0m)

Sample Descriptions

1390-1395 50% **LIMESTONE** brown gray as above + 20% **LIMESTONE** buff to light brown, microcrystalline, packstone; coarse size detrital grains, chalky in part, tight to poor pinpoint vugular porosity (<3%), no stain or cut + 20% **SHALE** green as above + 10% **LIMESTONE** white to gray, microcrystalline, mudstone, dense, tight + trace **ANHYDRITE** as above

Sulphur Pt. Limestone 1393.8m (- 624.8m)

1395-1400 80% **LIMESTONE** off-white to brown, occasional gray, crypto to finely crystalline, mudstone, trace wackestone, chalky in part, generally tight, occasional poor to fair pinpoint vugular porosity (<5%), rare large vugs, fair white yellow fluorescence and cut + 20% **SHALE** green as above + trace **ANHYDRITE** as above

1400-1405 100% **LIMESTONE** white to off-white, micro to finely crystalline, mudstone, trace wackestone, chalky, trace pellets, generally tight, trace pinpoint vugular porosity, white yellow fluorescence and cut

1405-1410 80% **LIMESTONE** as above + 20% **DOLOMITE** light brown, coarsely crystalline, welded appearance, tight, very faint fluorescence and cut

Sulphur Pt. Dolomite 1409.4m (- 640.4m)

1410-1415 100% **DOLOMITE** light brown to brown, microcrystalline to crystalline, sucrosic in part, trace pyrite, tight to fair intercrystalline porosity (<5%), trace pinpoint vugular porosity, trace patchy oil stain, bright white yellow fluorescence and cut

1415-1420 100% **DOLOMITE** light to dark brown, crystalline, occasional to common subhedral and euhedral crystals, occasional bitumen, trace pyrite, fair to good intercrystalline porosity (upper to 9%), occasional good vugular porosity, patchy oil stain, bright white yellow fluorescence and cut

1420-1425 100% **DOLOMITE** as above, increasing oil stain and bitumen, common good vugular porosity

Muskeg 1426.4m (- 657.4m)

1425-1430 50% **DOLOMITE** buff, micro to coarsely crystalline, welded appearance in part, anhydritic, slightly argillaceous, tight, no stain or cut + 30% **ANHYDRITE** white, finely crystalline, pearly to vitreous lustre, soft + 20% **DOLOMITE** brown as above

Sample Descriptions

1430-1435 80% **DOLOMITE** buff as above, becoming light to medium brown, fair fluorescence and cut + 20% **ANHYDRITE** as above

1435-1445 70% **DOLOMITE** light to medium brown, finely crystalline to crystalline, occasional coarsely crystalline, trace subhedral to euhedral crystals, anhydritic to very anhydritic, slightly argillaceous, trace fair intercrystalline (vugular?) porosity, faint fluorescence and cut + 30% **ANHYDRITE** white to tan, finely crystalline, pearly to vitreous lustre, soft

1445-1450 60% **DOLOMITE** light to medium brown, finely crystalline to crystalline, anhydritic, tight to poor intercrystalline porosity (<3%), good white yellow fluorescence and cut + 40% **ANHYDRITE** as above

1450-1465 60% **ANHYDRITE** white to tan, finely crystalline, pearly to vitreous lustre, soft + 40% **DOLOMITE** as above, no stain or cut

1465-1470 50% **DOLOMITE** light brown to brown, finely crystalline to crystalline, anhydritic in part, generally tight, trace pinpoint vugular porosity, no stain or cut + 50% **ANHYDRITE** as above

1470-1480 60% **ANHYDRITE** white to tan, finely crystalline, slightly argillaceous in part, pearly to vitreous lustre, soft + 40% **DOLOMITE** light to medium brown, micro to finely crystalline, anhydritic, trace bituminous partings, tight to poor intercrystalline porosity (<3%), no stain or cut

1480-1485 50% **DOLOMITE** off-white to light brown, microcrystalline, occasional finely crystalline, slightly argillaceous in part, trace bitumen partings, tight, no stain or cut + 50% **ANHYDRITE** as above

1485-1495 90% **DOLOMITE** off-white to light brown gray, micro to finely crystalline, tight to poor intercrystalline porosity (<3%), no stain or cut + 10% **ANHYDRITE** white to tan, finely crystalline, pearly to vitreous lustre, soft

1495-1505 50% **ANHYDRITE** as above + 50% **DOLOMITE** off-white to light brown gray, micro to finely crystalline, tight to poor intercrystalline porosity (<3%), no stain or cut

1505-1510 60% **DOLOMITE** off-white to light brown gray, microcrystalline, anhydritic, tight, no stain or cut + 40% **ANHYDRITE** white to tan, finely crystalline, pearly to vitreous lustre, soft

1510-1515 60% **ANHYDRITE** white to tan, finely crystalline, pearly to vitreous lustre, soft + 40% **DOLOMITE** as above

Sample Descriptions

1515-1520 70% **ANHYDRITE** as above + 30% **DOLOMITE** off-white to light brown, microcrystalline, occasional finely crystalline, anhydritic, slightly argillaceous in part, dense, tight, no stain or cut

1520-1525 80% **DOLOMITE** as above + 20% **ANHYDRITE** white to off-white, finely crystalline, pearly to vitreous lustre, soft

Keg River 1525.2m (- 756.2m)

1525-1530 100% **DOLOMITE** light brown to brown, finely crystalline to crystalline, tight to poor intercrystalline porosity (<3%), trace pinpoint vugular porosity, trace patchy oil stain, trace streaming white yellow cut + trace **ANHYDRITE** as above

1530-1540 100% **DOLOMITE** white to brown, finely crystalline to crystalline, rare fine size subhedral to euhedral clear dolomite crystals, generally tight, trace pinpoint vugular porosity, trace patchy oil stain, no fluorescence or cut + trace **ANHYDRITE** as above

1540-1545 100% **DOLOMITE** brown, finely to coarsely crystalline, common subhedral and euhedral dolomite crystals, occasional large (1.5mm) clear dolomite rhombs, occasional bitumen, tight to good intercrystalline porosity (upper to 6%), common oil stain, fair white yellow fluorescence and cut

1545-1550 100% **DOLOMITE** brown, finely crystalline to crystalline, trace subhedral to euhedral clear dolomite crystals, generally tight, trace pinpoint vugular porosity, trace patchy oil stain, faint fluorescence or cut

1550-1555 very poor samples; 99% cavings (unusable)

1555-1560 very poor samples 100% **DOLOMITE** light brown to brown, finely crystalline to crystalline, tight to poor intercrystalline porosity (<3%)

1560-1565 100% **DOLOMITE** light brown to brown, occasional gray brown, trace dark brown, finely crystalline to crystalline, trace cryptocrystalline, slightly argillaceous in part, trace bituminous partings, tight, no stain or cut

1565-1575 100% **DOLOMITE** light to very dark brown, generally dark, finely crystalline to crystalline, common subhedral to euhedral clear dolomite crystals, trace bitumen, tight to fair intercrystalline porosity (<5%), patchy dead oil stain, no fluorescence or cut

1575-1585 100% **DOLOMITE** as above, becoming crypto to microcrystalline in part (very dark brown), no stain or cut

Sample Descriptions

1585-1590 100% **DOLOMITE** light to dark brown, crystalline to coarsely crystalline, occasional microcrystalline, occasional clear to white dolomite fracture fill, trace euhedral clear dolomite crystals (oil stain), rare selenite crystals; clear, tabular and striated, generally tight, no fluorescence or cut

1590-1595 100% **DOLOMITE** light to very dark brown, fine to coarsely crystalline, tight, no fluorescence or cut

1595-1600 Missed sample

1600-1605 50% **DOLOMITE** buff to light brown, micro to finely crystalline, dense, tight + 30% **DOLOMITE** light to dark brown as above + 20% **ANHYDRITE** white to tan, finely crystalline, pearly to satiny lustre

Chinchaga 1601.6m (- 832.6m)

1605-1615 very poor samples; 80% **DOLOMITE** buff to light brown as above + 20% **ANHYDRITE** as above + trace **DOLOMITE** light to dark brown as above

1615-1620 80% **DOLOMITE** buff to light brown, micro to finely crystalline, slightly argillaceous in part, dense, tight, no stain or cut + 20% **ANHYDRITE** white to tan, finely crystalline, pearly to satiny lustre

1620-1625 60% **DOLOMITE** as above + 40% **ANHYDRITE** as above

1625-1630 70% **DOLOMITE** buff to light brown, micro to finely crystalline, tight, no stain or cut + 30% **ANHYDRITE** white to tan, finely crystalline, pearly to satiny lustre

1630-1635 60% **SANDSTONE** white to orangish pink, medium to coarse grained, angular to subrounded, moderately to poor sorted, abundant clear quartz, occasional orangish pink feldspar, trace biotite, moderately to poorly consolidated, tight to fair intergranular (intercrystalline?) porosity (upper to 10%), no stain or cut + 30% **DOLOMITE** as above + 10% **ANHYDRITE** white to tan, finely crystalline, pearly to satiny lustre

Granite Wash 1634.4m (- 865.4m)

1635-1640 100% **SANDSTONE** as above, feldspar increasing, common biotite, becoming more angular and consolidated (fresher)

1640-1645 80% **GNEISS**; clear quartz, white feldspar, biotite, chlorite(?) and hornblende crystals, dense, very hard + 20% **SANDSTONE** as above

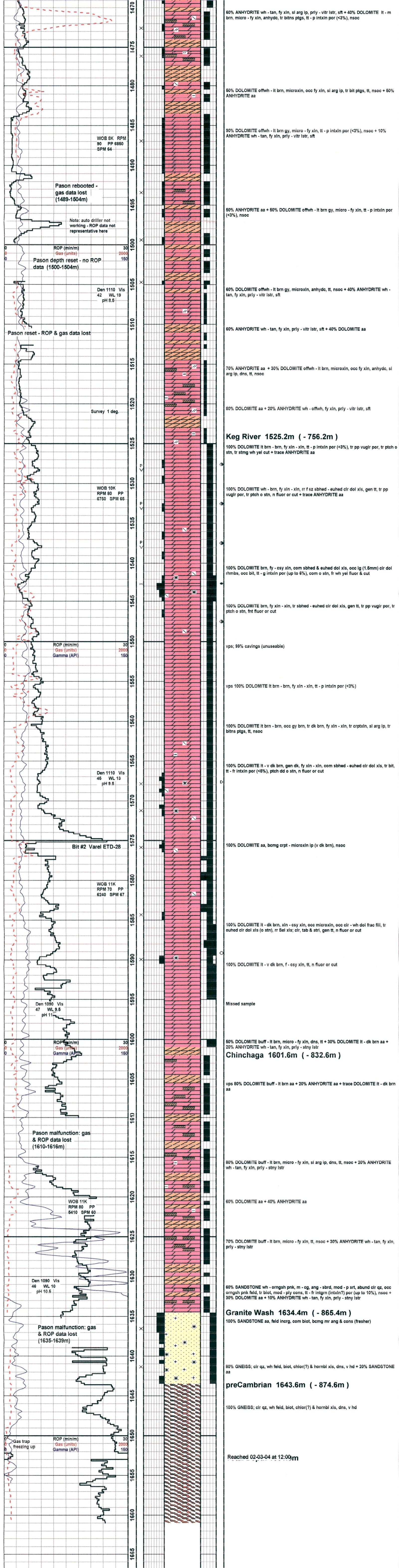
Sample Descriptions

preCambrian 1643.6m (- 874.6m)

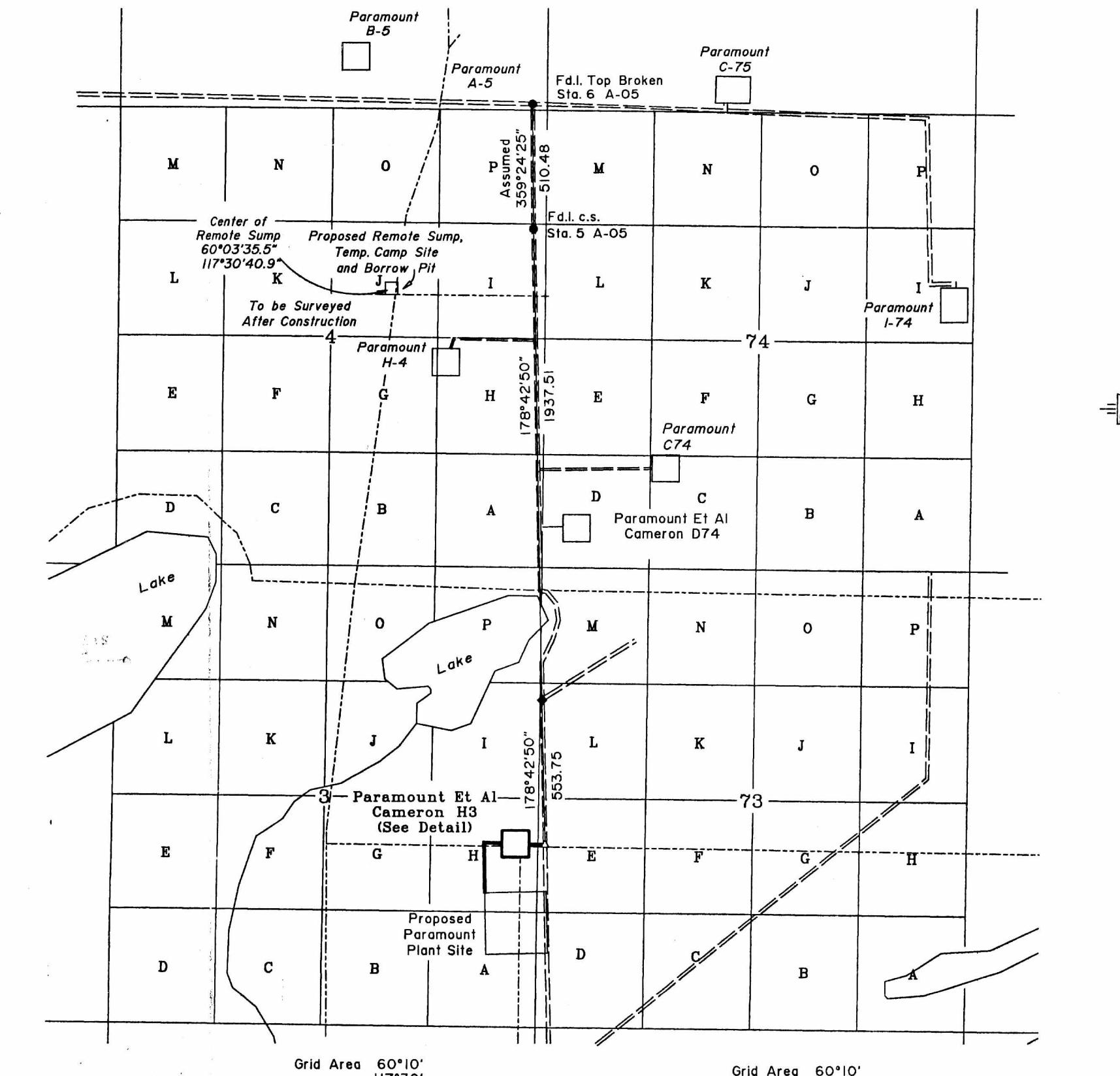
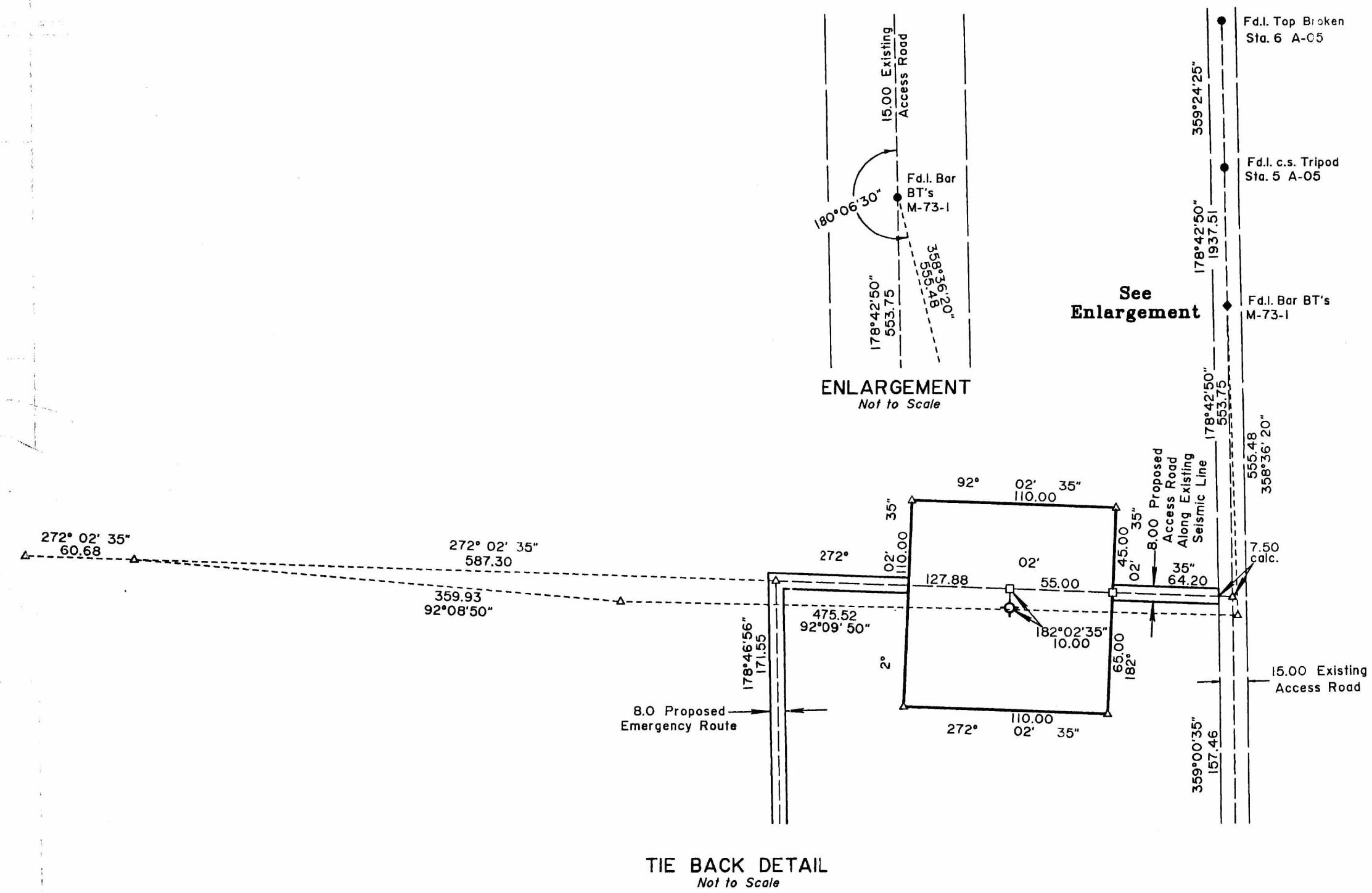
1645-1655 100% **GNEISS**; clear quartz, white feldspar, biotite, chlorite(?) and hornblende crystals, dense, very hard

1655-1661 100% **GNEISS** as above

Total Depth 1661.0m



1670



PLAN AND FIELD NOTES
OF SURVEY OF
PROPOSED EXPLORATORY WELL
PARAMOUNT ET AL CAMERON H-3
IN UNIT H, SECTION 3
GRID AREA: 60°10', 117°30'
NORTHWEST TERRITORIES

SURVEYED FOR:
PARAMOUNT RESOURCES LTD.

LEGEND

LEGEND

UTM coordinates are computed for Zone 11, central meridian 117°W.
Distances are expressed in meters and decimals thereof.
Monuments found are shown thus: -----●
Monuments found are shown thus: -----◆ (Iron Bar)
Monuments placed are shown thus: -----△ (30cm Iron Spike)
Areas referred to are bounded thus: [redacted]
Distances shown in traverse are measured distances reduced to the
horizontal at general ground level.
For the computation of coordinates measured distances have been
reduced to the UTM plane by multiplying them by an average combined
scale factor of 0.99949. Coordinates were then adjusted to fit the control.
Distances shown on grid area subdivisions are UTM plane.
Elevations were derived from Geodetic Survey of Canada Monument
No. 289. Elevation = 763.19m.

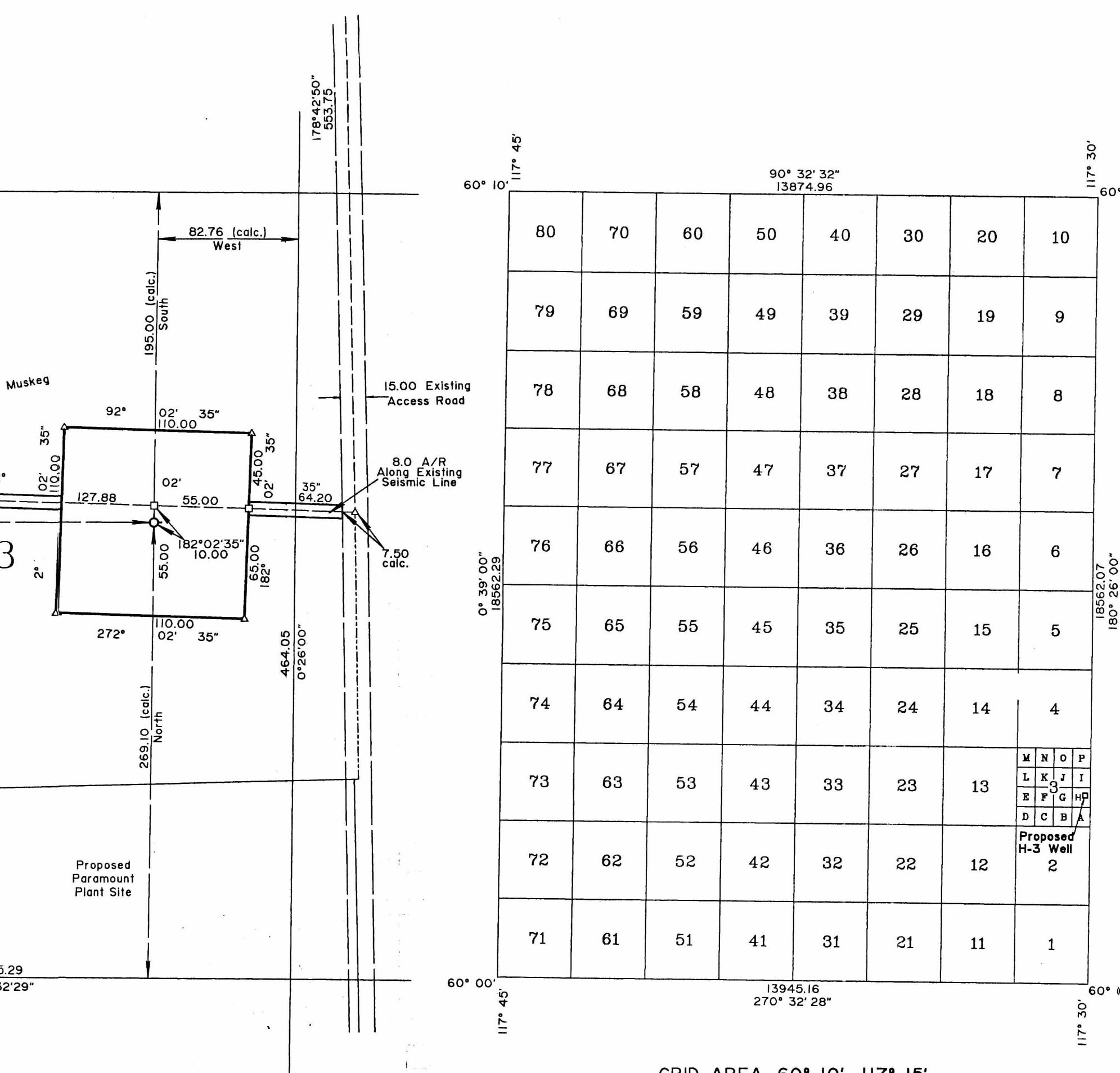
Survey was completed prior to drilling; therefore wells as drilled may not necessarily agree with proposed location.

ORIGIN OF CONTROL

Bearings are grid derived from the astronomic bearing $270^{\circ} 01' 50''$ of the line between monuments 289 and 291 as shown on Midwest Surveys' plan for HB CAMERON RIVER A-5 dated on the 19th of January, 1968. A convergence factor of $0^{\circ} 25' 59''$ has been applied in order to refer the bearings to Central Meridian 117° West.
UTM coordinates were generated from the published coordinates for monument 289.
N. 6651266.61 E. 473165.76

ELEVATION: 764.44 Ground (Tentative)

OFFSET: 195.00 S. of N. Boundary } Unit H Sec. 3



GEOGRAPHIC AND UTM COORDINATES (NAD 27)				
Latitude	Latitude	Longitude (West)	Northing	Eastng
CONTROL MONUMENTS				
Sta.6, A-05	60° 04' 00.860"	117° 30' 03.152"	6658761.54	472117.84
Sta.5, A-05	60° 03' 44.369"	117° 30' 02.561"	6658251.33	472123.12
GRID AREA				
N.E.	60° 10' 00"	117° 30' 00"	6669871.56	472250.65
N.W.	60° 10' 00"	117° 45' 00"	6670002.85	458376.31
S.E.	60° 00' 00"	117° 30' 00"	6651310.02	472110.25
S.W.	60° 00' 00"	117° 45' 00"	6651441.75	458165.71
H3, N.W.	60° 02' 30.027"	117°30'28.124"	6655954.52	471710.13
H3, N.E.	60°02'30"	117°30'30"	6655950.37	472145.33
H3, S.W.	60°02'15.027"	117°30'28.124"	6655490.48	471706.56
H3, S.E.	60°02'15"	117°30'30"	6655486.32	472141.82
PROPOSED WELL				
117° 30' 00"	6655950.37	472145.33		

Certified Correct and completed on the 24th day of July 2000

Sa Bogg Canada Lands Surveyor

Nov 23 2001

PARAMOUNT RESOURCES LTD

Dave Block

Nov 26, 2001

GREG A. BOGGS CANADA LANDS SURVEYOR	Stick No.:	-	SCALE AS SHOWN
	Plan No.:	1 of 1	
	Job No.:	321110809	
McELHANNEY LAND SURVEYS (ALTA.) LTD. 138, 14315-118 AVENUE, EDMONTON, ALBERTA, T5L 4S6 PH: (780) 451-3420 FAX: (780) 452-7033	File No.:	12728WS	