

TUNDRA OIL AND GAS LTD.

2000



KOLA UNIT NO. 2

PROGRESS REPORT

January 1 - December 31, 2000

MARCH, 2001

	Page
INTRODUCTION	1
DISCUSSION	
Production Performance	1
Reserves	1
Recovery Profiles	1
Injector Performance	2
Voidage Replacement	2 - 3
Individual Well Performance	3 - 5
Pressure Surveys	5
Workovers	5
Horizontal Drilling	6
Summary	6
CONCLUSIONS	6 - 7
LIST OF TABLES	8
Table No.1 - Well List	9
Table No.2 - Production Data	10
Table No.3 - Oil-In-Place Estimates	11
Table No.4 - Recovery Profiles	12
Table No.5 - Water Injection Summary	13
Table No.6 - Unit Voidage Calculations	14
Table No.7 - Adjusted Bakken Water Production	15
Table No.8 - Voidage Calculations Waterflood Area	16
Table No.9 - Pressure Surveys	17
Table No.10 - Workovers	18
Table No.11 - Injection History 1-32-10-29	19
LIST OF FIGURES	20
Figure No.1 - Kola Unit No.2 Area Map	21
Figure No.2 - Unit Production History	22
Figure No.2 - Unit Ultimate Oil Recovery Prediction	22
Figure No.3 - Injector Performance 1-32-10-29	23
Figure No.4 - Hall Plot 1-32-10-29	24



Table of Contents (Continued)

APPENDICES

- Appendix A - Historical Unit Production Data**
- Appendix B - Individual Well Ultimate Oil Recovery Predictions**
- Appendix C - 2000 Individual Well Production and Test Data**
- Appendix D - Well 1-32-10-29 Historical Injection Plot and Data**

INTRODUCTION

The Kola Unit No.2 was unitized in October, 1996 for the purposes of waterflooding. Water injection commenced in February, 1997 through well 1-32-10-29 WPM. The subject Progress Report covers the operating period January 1, 2000 thru to December 31, 2000.

DISCUSSION

1. Production Performance

Oil production averaged 32 m³/day during the month of January, 2000 and declined to 25.7 m³/day during the month of December, 2000. Total oil production during 2000 was 10,114 m³. Cumulative oil production in the Unit to 2000.12.31 was 79,215 m³. Table No.2 summarizes the 2000 production statistics of Kola Unit No.2.

Water-cut averaged 22% during January, 2000 and increased to 29% by December, 2000. The majority of water production in the Unit comes from the 2-32-10-29 well, which has been fractured out of zone. Fracture stimulation treatment has resulted in water influx from the overlying Lodgepole formation.

The historical Unit production data is outlined in Appendix A. The 2000 production data of the individual wells is outlined in Appendix C. Figure No.2 outlines the historical production performance of the Unit.

Remaining recoverable oil reserves of 55,475 m³ are estimated from the Kola Unit No.2 at 2000.12.31. Figure No.2 outlines the ultimate oil recovery prediction from the Bakken "A" Pool in the Unit.

2. Reserves

Total oil-in-place in the Unit in the Bakken formation is estimated at 243,342 m³. The total oil-in-place estimates for the individual wells are outlined in Table No.3.

3. Recovery Profiles

Current recovery to 2000.12.31 is estimated at 32.6% of oil-in-place. Ultimate oil recovery in the Unit is estimated at 135,942 m³ or 56% of the oil-in-place. This is considered as the upper end of the recovery spectrum from the Bakken formation with pressure maintenance operations. Table No.4 outlines the current and ultimate oil recoveries of the individual wells in the Unit. Appendix B outlines the individual well ultimate oil recovery predictions.

4. Injector Performance

Figure No.3 outlines the wellhead injection pressure vs cumulative injection volume profile for the 1-32-10-29 injection well. Wellhead injection pressures have progressively increased since the commencement of injection in February, 1997. More recently, the wellhead injection pressures have flattened in the 1,300 psig range. The high injection pressures are attributable to low matrix permeability associated with the Bakken formation. The injection capacity is further impacted by the low mobility ratio identified from relative permeability testing. As a result, during a pressure maintenance operation in the Bakken formation, as reservoir fill-up is approached, it will become progressively more difficult to maintain injection. On this basis, a higher ratio of injectors is required in the Bakken to maximize oil recovery with waterflood operations.

Figure No.4 outlines the Hall Plot for the 1-32-10-29 injection well. The Hall Plot (exponential pressure profile) confirms that injection cannot be improved with additional stimulation programs. Since there is no appreciable change in slope of the injection profile to date, remedial work will not significantly improve injection or reduce wellhead injection pressures.

In summary, total injection during 2000 was 7,760.5 m³. The average daily injection rate in the Unit during 2000 was 21.2 m³/day. Cumulative injection to 2000.12.31 was 28,508.0 m³. Table No.5 summarizes the 2000 injection data for injection well 1-32-10-29. Table No.11 outlines the historical injection pressures, rates, and volumes to 2000.12.31 for WIW 1-32.

5. Voidage Replacement

a. Total Unit Area

Table No.6 outlines the voidage calculations for the Unit. Total voidage in the Unit during 2000 was 12,559 m³. In calculating the annual voidage, an adjustment was required to the water production, since two wells are fractured into the overlying Lodgepole, which is water bearing. Table No.7 outlines the method that was used to determine the volume of water that is being contributed by the Bakken formation. Based on our assessment, 95% of the produced water at this time at well 2-32-10-29 is a direct contribution from the Lodgepole formation. In the case of 11-33-10-29, about 45% of the produced water is attributable to influx from the Lodgepole formation after fracture stimulation in September, 1999. A typical Bakken well produces at a water-cut below 10% over the majority of its life under primary production.

Based on the aforementioned methodology, the resulting voidage replacement ratio in the Unit during 2000 was 0.62. A cumulative voidage replacement ratio of 0.38 Rm³/m³ has been achieved in the Unit to 2000.12.31.

b. Initial Waterflood Area

The voidage replacement calculations in the Unit were further refined to include only the area that is presently receiving pressure maintenance. The initial area of pressure maintenance in the Unit includes wells 13-28, 16-29, 1-32, 2-32, 8-32, and 5-33-10-29. Again accounting for out of zone water production, the resulting 2000 voidage replacement ratio in the initial waterflood area of the Unit was 1.2 Rm³/m³. Cumulative voidage replacement to 2000.12.31 in the initial waterflood area was 0.64 Rm³/m³. Table No.8 summarizes the voidage calculations of the initial pressure maintenance area in the Unit.

6. Individual Well Performance

A review of the 2000 production performance of each individual well is presented hereafter. The analysis is referenced to the wells outlined in Appendices B and C.

a. 13-28-10-29

Oil production at the beginning of the year was 2.78 m³/day at a watercut of 32%. By year end, oil production had increased to 3.15 m³/day with a decrease in watercut to 16%. A review of the production plot indicates that the total fluid rate has stabilized in well 13-28. This may be as a result of waterflood support from the 12-28 injector installed during 1998. The decrease in watercut during 2000 at 13-28 is attributable to waterflood response from the 12-28 injector. No corrective work is required at 13-28 during 2001.

b. 16-29-10-29

Oil production was relatively flat during 2000, with an average oil rate of 1.31 m³/day at a watercut of 25% during January, 2000. By year end, oil production averaged 1.29 m³/day at a watercut of 13%. No corrective work is required at 16-29 during 2001.

c. 2-32-10-29

Oil production at the beginning of 2000 was 1.03 m³/day at a watercut of 81%. By year end, oil production had decreased to 0.67 m³/day with an increase in watercut to 88%. The decrease in oil production is attributable to an increase in watercut from injector 1-32. rate. The high watercut at 2-32 is attributable to fracturing out of zone into the

waterbearing Lodgpole formation during the initial completion program. No corrective work is required at 2-32 during 2001.

d. 8-32-10-29

Oil production at the beginning of 2000 was 4.81 m³/day at a watercut of 8%. By year end oil production had declined to 3.25 m³/day with an increase in watercut to 50%. The significant decline in oil production with an increase in watercut indicates the initiation of waterflood breakthrough from injector 1-32. To date, 8-32 has received the best waterflood support in the initial waterflood area of the Unit. The 8-32 well will be monitored to determine the impact of water breakthrough from WIW 1-32. No corrective work is required at 8-32 during 2001.

e. 1-33-10-29

Oil production at the beginning of 2000 was 2.05 m³/day at a watercut of 13%. By year end, oil production had declined to 1.71 m³/day with watercut relatively unchanged at 13%. The 1-33 well is on the eastern edge of the Unit, and no interference is suspected at this location. No corrective work is required at 1-33 during 2001.

f. 3-33-10-29

Oil production at the beginning of 2000 was 2.69 m³/day at a watercut of 5%. By year end, oil production had slightly declined to 2.25 m³/day with watercut unchanged at 5%. The total fluid rate has stabilized after hydraulic fracturing in 1997, and any interference effects from the offsetting horizontal at 6c-33-10-29. The 3-33 vertical well is a potential injector to supply pressure maintenance in the central portion of the Unit. Once oil productivity has declined to about 1 to 1.5 m³/day, the 3-33 well will be converted to water injection operations. No corrective work is required at 3-33 during 2001.

g. 5-33-10-29

Oil production at the beginning of 2000 was 5.05 m³/day at a watercut of 1%. By year end, oil production declined slightly to 4.43 m³/day with watercut increasing slightly to 8%. There probably initially was some interference between the 6c-33 horizontal in the Unit and the 5-33 well. However, a review of the total fluid rate indicates that the drainage areas for the 5-33 and 6c-33 horizontal have been established, and interference is no longer taking place. The decline in productivity at 5-33 may be attributed at this time to a lack of pressure maintenance in this part of the Unit. No corrective work is required at 5-33 during 2001.

h. 6c-33-10-29 Horizontal

Oil production at the beginning of 2000 was 6.44 m³/day at a watercut of 1%. By year end, oil production had declined to 5.41 m³/day with watercut unchanged at 1%. A further review of the total fluid rate (flat) at 6c-33 indicates that the drainage area of the 6c-33 horizontal has been established and interference effects are minimal at this time between the 6c-33 horizontal and the offsetting vertical wells. The 6c-33 horizontal is the first Bakken horizontal well to be drilled in the Province of Manitoba. No corrective work is required at 6c-33 during 2001.

i. 7-33-10-29

Oil production at the beginning of 2000 was 3.77 m³/day at a watercut of 10%. By year end, oil production had declined to 2.5 m³/day at a watercut of 13%. The decrease in oil productivity is attributable to flush production after hydraulic fracture treatment completed at 7-33 during September, 1999. No corrective work is required at 7-33 during year 2001.

j. 11-33-10-29

Oil production at the beginning of 2000 was 2.11 m³/day at a watercut of 36%. By year end oil production had significantly declined to 1.03 m³/day with a slight decline in watercut to 31%. The decline in total fluid is attributable to flush production after a hydraulic fracture treatment in September, 1999. No corrective work is required at 11-33 during 2001.

7. Pressure Surveys

There were no pressure surveys completed in Kola Unit No.2 during 2000. As outlined in other Progress Reports for Bakken waterflood operations in Manitoba, Bakken reservoirs require long shut-in periods to obtain reliable estimates of static reservoir pressures and their associated formation parameters. On this basis, pressure surveys will only be done if new vertical wells are drilled in or adjacent to the Unit. The Manitoba Petroleum Branch has acknowledged this reservoir phenomenon in a previous submission by Tundra Oil and Gas Ltd., and exempted the Company from running further annual pressure surveys in Bakken pressure maintenance schemes. However, if a new Bakken vertical well is drilled in the vicinity of an existing Bakken waterflood operation, then a DST will be run to obtain current static reservoir pressure at this location.

8. Workovers

There were only maintenance activities in the Unit during 2000.

9. Horizontal Drilling

The first Bakken horizontal well was drilled by Tundra Oil and Gas Ltd. in Manitoba in 1998 in Kola Unit No.2. The 6c-33-10-29 horizontal (refer to Figure No.1) has a total length of 790 metres and was drilled through LSD's 2-33 (entry point in reservoir) and terminated in LSD 6-33-10-29. The 6c-33 horizontal had an I.P. of 14 m³/day (Feb./98), and is currently producing virtually no water. Oil production from the 6c-33 horizontal has impacted offsetting wells 3-33, 5-33 and 11-33-10-29. However, the 6c-33 horizontal well will still provide incremental oil recovery in the Unit. Further horizontal drilling is not recommended in this Unit, since the existing complement of wells will maximize oil recovery.

10. Summary

The Kola Unit No.2 pressure maintenance scheme is an extension of the waterflood operation (Bakken "A" Pool) installed in Kola Unit No.1 during 1993. The Unit has both 16 and 32 hectare spacing to minimize interference between the wells. Horizontal drilling was completed in the Unit during the first quarter of 1998 to determine the technical feasibility of drilling a horizontal in a thin clastic reservoir, and of course to improve oil recovery. Current Unit oil recovery is estimated at 45.3 M STB/well. Ultimate oil recovery at this time is forecasted at 78 M STB/well (including 6c-33 horizontal). The full impact of pressure maintenance has not manifested itself in the Unit. Expansion of the pressure maintenance scheme in the Unit will be timed according to the decline in oil rates in the existing producers. Currently, well 3-33 is the best conversion location to provide further pressure maintenance and incremental oil recovery in the Unit.

CONCLUSIONS

The following conclusions are offered by Tundra Oil and Gas Ltd. in our efforts to maximize oil recovery from Kola Unit No.2.

1. Tundra will continue to monitor production and carry out the required remedial work to achieve the recovery predictions outlined in this Progress Report.
2. The addition of further injection wells will be timed to decline in oil productivity in the existing Unit wells. Well 3-33-10-29 is considered to be the best candidate to expand pressure maintenance operations to the central portions of the Unit.
3. Horizontal drilling in a Bakken oil reservoir is best applied shortly after initial discovery, since natural pressure support is limited.

4. Applying horizontal drilling after initial Bakken Pool discovery will reduce the number of vertical locations and improve project economics. A further benefit will be realized on the environmental side, since less well site reclamation will be required in the future.
5. Future conventional pressure buildup testing has been discontinued. The Bakken formation requires extended shut-in periods to obtain reliable data. The extended shut-in times will negatively impact the profitability of this pressure maintenance scheme. Fluid levels will be taken periodically to ensure that all wells are pumping at their optimum rates.
6. Further infill or horizontal drilling is not recommended in Kola Unit No.2 at this time.

LIST OF TABLES

- * Table No.1: Unit Well List
- * Table No.2: 2000 Unit Production Data
- * Table No.3: Unit Oil-in-Place Estimate
- * Table No.4: Unit Recovery Profiles
- * Table No.5: 2000 Water Injection Summary
- * Table No.6: Unit Voidage Calculations
- * Table No.7: Adjustment for Out of Zone Water Production
- * Table No.8: Voidage Calculation Initial Waterflood Area
- * Table No.9: Pressure Surveys
- * Table No.10: Workovers
- * Table No.11: Injection History Well 1-32-10-29

LIST OF TABLES

TABLE NO.1

KOLA UNIT NO.2

WELL LIST

<u>WELL</u>	<u>STATUS</u>
13-28-10-29	PRODUCING
16-29-10-29	PRODUCING
1-32-10-29	INJECTOR
2-32-10-29	PRODUCING
8-32-10-29	PRODUCING
1-33-10-29	PRODUCING
3-33-10-29	PRODUCING
5-33-10-29	PRODUCING
6-33-10-29 Hz	PRODUCING
7-33-10-29	PRODUCING
11-33-10-29	PRODUCING

TABLE NO. 2												
KOLA UNIT NO.2												
2000 PRODUCTION DATA												
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
OIL (m3)	963.8	870.9	926.0	842.6	845.0	811.8	845.2	827.1	780.0	799.7	805.7	795.8
WATER (m3)	265.9	242.3	240.8	269.7	266.3	275.4	297.9	305.9	299.4	296.7	292.1	320.8
TOTAL FLUID (m3)	1,229.7	1,113.2	1,166.8	1,112.3	1,111.3	1,087.2	1,143.1	1,133.0	1,079.4	1,096.4	1,097.8	1,116.6
DAILY OIL (m3/day)	32.0	30.0	29.9	29.3	27.3	27.1	28.2	26.7	26.0	25.8	26.9	25.7
WATER-CUT (%)	22	22	21	24	24	25	26	27	28	27	27	29
AVERAGE MONTHLY OIL =					842.8	m3						
AVERAGE MONTHLY WATER =					281.1	m3						
AVERAGE MONTHLY TOTAL FLUID =					1,123.9	m3						
AVERAGE ANNUAL DAILY OIL =					27.9	m3/day						
AVERAGE MONTHLY WATER-CUT =					25.0	%						
2000 CUM. OIL PRODUCTION =					10,113.6	m3						
2000 CUM. WATER PRODUCTION =					3,373.2	m3						
CUM. OIL PRODUCTION TO 2000.12.31					79,214.9	m3						

TABLE NO.3

KOLA UNIT NO.2

OIL-IN-PLACE ESTIMATE

LSD	Constant	Area (hectares)	Phi-h (% - metres)	Sw (fraction)	(1-Sw) (fraction)	Boi (Rm3/m3)	OOIP (m3)	OOIP (STB)
13-28-10-29	10,000	16.19	30.2	0.55	0.45	1.1	20,002	125,813
16-29-10-29	10,000	16.19	29.4	0.55	0.45	1.1	19,472	122,480
1-32-10-29	10,000	16.19	31	0.55	0.45	1.1	20,532	129,145
2-32-10-29	10,000	16.19	20.17	0.55	0.45	1.1	13,359	84,028
8-32-10-29	10,000	16.19	24.5	0.55	0.45	1.1	16,227	102,067
1-33-10-29	10,000	16.19	14.32	0.55	0.45	1.1	9,484	59,657
2-33-10-29	10,000	16.19	22.29	0.55	0.45	1.1	14,763	92,860
3-33-10-29	10,000	16.19	37.5	0.55	0.45	1.1	24,837	156,224
4-33-10-29	10,000	16.19	41.67	0.55	0.45	1.1	27,599	173,596
5-33-10-29	10,000	16.19	36.43	0.55	0.45	1.1	24,128	151,767
6-33-10-29	10,000	16.19	30	0.55	0.45	1.1	19,870	124,979
7-33-10-29	10,000	16.19	18.83	0.55	0.45	1.1	12,471	78,445
8-33-10-29	10,000	16.19	8.6	0.55	0.45	1.1	5,696	35,827
11-33-10-29	10,000	16.19	11.67	0.55	0.45	1.1	7,729	48,617
12-33-10-29	10,000	16.19	10.83	0.55	0.45	1.1	7,173	45,118
Total							243,342	1,530,623

TABLE NO.4

KOLA UNIT NO.2

CURRENT RATES AND RECOVERY PROFILES

Well	Oil Rate (m3/day) 2000.12.31	Water-cut (%) 2000.12.31	Total Rate (m3/day) 2000.12.31	Cum. Oil (m3) 2000.12.31	OOIP (m3)	Ultimate Rec. (m3)	Rem. Oil (m3) 2000.12.31	Cur. Rec. Fac. (% of OOIP) 2000.12.31	Ult. Rec. Fac. (% of OOIP)
13-28-10-29	3.2	16	3.8	7,459.2	20,002	14,600	7,141	37.3	73.0
16-29-10-29	1.3	13	1.5	3,463.0	19,472	5,515	2,052	17.8	28.3
1-32-10-29	0.0	0	0.0	3,032.0	20,532	3,032	0	14.8	14.8
2-32-10-29	0.7	88	5.4	2,373.3	13,359	3,390	1,017	17.8	25.4
8-32-10-29	3.3	50	6.5	18,451.4	16,227	27,080	8,629	113.7	166.9
1-33-10-29	1.7	11	1.9	5,850.5	9,484	8,675	2,825	61.7	91.5
2-33-10-29					14,763				
3-33-10-29	2.3	5	2.4	8,763.1	24,837	12,770	4,007	35.3	51.4
4-33-10-29					27,599				
5-33-10-29	4.4	8	4.8	13,066.7	24,128	22,260	9,193	54.2	92.3
6-33-10-29	5.4	1	5.5	7,383.0	19,870	21,675	13,040		
7-33-10-29	2.5	13	2.9	5,759.9	12,471	11,160	5,400	46.2	89.5
8-33-10-29					5,696				
11-33-10-29	1.0	31	1.5	3,612.8	7,729	5,785	2,172	46.7	74.8
12-33-10-29					7,173				
TOTALS	25.7	29	36.0	79,214.9	243,342	135,942	55,475	32.6	55.9

TABLE NO.5												
KOLA UNIT NO.2												
2000 WATER INJECTION SUMMARY												
WELL 1-32-10-29												
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
TOTAL (m3)	610.5	604.5	652.5	642.3	682.6	650	665.5	668.2	659.4	657.3	600.7	666.6
DAILY (m3/day)	19.7	20.8	21.0	21.4	22.0	21.7	21.5	21.6	22.0	21.2	20.0	21.5
2000 AVERAGE ANNUAL DAILY INJECTION =						21.2	m3/day					
CUMULATIVE INJECTION TO 99.12.31 =						20,747.5	m3					
TOTAL 2000 ANNUAL INJECTION =						7,760.5	m3					
CUMULATIVE INJECTION TO 2000-12-31 =						28,508.0	m3					

2-32-10-29, 95% of total water production is estimated in coming from Lodgepole formation

TABLE NO.8										
				KOLA UNIT NO.2						
				VOIDAGE CALCULATIONS						
				INITIAL WATERFLOOD AREA						
				FROM JAN 1, 2000 TO DEC. 31, 2000						
				OIL FORMATION VOLUME FACTOR = 1.063 Rm3						
MONTH	OIL PRODUCTION m3	WATER PRODUCTION m3	ADJUSTED WATER PRODUCTION m3	OIL VOIDAGE Rm3	TOTAL VOIDAGE Rm3	TOTAL INJECTION Rm3	NET VOIDAGE Rm3	VOIDAGE REPLACEMENT RATIO	VOIDAGE VRR	
JAN.	452.2	200.7	68	480.7	548.9	611	-61.61	1.11		
FEB.	412.6	181.1	57	438.6	495.6	605	-108.91	1.22		
MARCH	448.5	175.1	58	476.8	534.7	653	-117.84	1.22		
APRIL	408.7	210.0	95	434.4	529.1	642	-113.15	1.21		
MAY	413.4	222.4	99	439.4	538.4	683	-144.16	1.27		
JUNE	383.2	245.5	121	407.3	527.8	650	-122.16	1.23		
JULY	403.1	247.9	126	428.5	554.4	686	-111.10	1.20		
AUG.	403.9	260.9	130	429.3	559.7	668	-108.45	1.19		
SEPT.	372.5	266.0	135	396.0	530.7	659	-128.73	1.24		
OCT.	383.2	257.3	132	407.3	539.5	657	-117.76	1.22		
NOV.	387.8	259.4	132	412.2	544.0	601	-56.67	1.10		
DEC.	396.5	283.0	136	421.5	557.8	667	-108.82	1.20		
TOTAL	4,865.6	2,809.3	1,289	5,172.1	6,460.7	7,760.1	-1,299.4	1.20		
CUM. POOL VOIDAGE (to 2000.12.31) =			44,371	Rm3						
CUM. POOL INJECTION (2000.12.31) =			28,505	Rm3						
CUM. NET VOIDAGE (2000.12.31) =			15,866	Rm3						
CUMULATIVE VRR (2000.12.31) =			0.64	Rm3 /m3						

TABLE NO.9

PRESSURE SURVEYS

There were no pressure buildup surveys in the Kola Unit No.2 during 2000. However, fluid levels are taken periodically to ensure that the wells are pumping at their maximum efficiency.

TABLE NO. 10

WORKOVERS

During 2000 there were only maintenance activities in the Unit.

TABLE NO. 11

KOLA UNIT NO.2

INJH132.XLS

WELL 1-32-10-29 INJECTION HISTORY

Year	Month	Qinj (m3/day)	Monthly Injection (m3)	Cum Injection (m3)	Pinj (psig)	Qinj (m3/day)	Pinj*Time (psig.days)	Cum. Injection (m3)	Cum.Pres*Chge Tim (psig.days)
1997	Jan	0	0	0	0	0	0	0	0
	Feb	9.2	257.9	257.9	526	9.2	14,728	258	14,728
	Mar	14.4	445.9	703.8	615	14.4	19,065	704	33,793
	Apr	23.4	701.5	1,405.3	777	23.4	23,310	1,405	57,103
	May	22.5	697.5	2,102.8	835	22.5	25,885	2,103	82,988
	June	10	301	2,403.8	928	10	27,840	2,404	110,828
	July	22.1	684.9	3,088.7	995	22.1	30,845	3,089	141,673
	Aug	22.2	689.4	3,778.1	1,054	22.2	32,674	3,778	174,347
	Sept	22.1	663.7	4,441.8	1,038	22.1	31,140	4,442	205,487
	Oct	23.1	716.3	5,158.1	1,066	23.1	33,046	5,158	238,533
	Nov	21.6	648.1	5,806.2	1,074	21.6	32,220	5,806	270,753
	Dec	22.3	690.5	6,496.7	1,094	22.3	33,914	6,497	304,687
1998	Jan	22	681.9	7,178.6	1,101	22	34,131	7,179	338,798
	Feb	14.9	417.3	7,595.9	1,068	14.9	29,904	7,596	368,702
	Mar	14.3	442.5	8,038.4	972	14.3	30,132	8,038	398,834
	Apr	23	691.1	8,729.5	1,060	23	31,800	8,730	430,634
	May	20.8	644.4	9,373.9	1,091	20.8	33,821	9,374	464,455
	June	21.1	633	10,006.9	1,070	21.1	32,100	10,007	496,555
	July	22.4	695.9	10,702.8	1,111	22.4	34,441	10,703	530,996
	Aug	21.6	668.9	11,371.7	1,149	21.6	35,619	11,372	566,615
	Sept	14.7	440.2	11,811.9	1,094	14.7	32,820	11,812	599,435
	Oct	18.3	567.1	12,379.0	1,155	18.3	35,805	12,379	635,240
	Nov	16.6	496.5	12,875.5	1,170	16.6	35,100	12,876	670,340
	Dec	21.8	678.6	13,554.1	1,201	21.8	37,231	13,554	707,571
1999	Jan	20.6	639.9	14,194.0	1,191	20.6	36,921	14,194	744,492
	Feb	23.1	646.8	14,840.8	1,214	23.1	35,206	14,841	779,698
	Mar	22.8	706.5	15,547.3	1,204	22.8	37,324	15,547	817,022
	Apr	22.3	670	16,217.3	1,201	22.3	36,030	16,217	853,052
	May	19.5	605.2	16,822.5	1,190	19.5	36,890	16,823	889,942
	June	15.9	476	17,298.5	1,172	15.9	35,160	17,299	925,102
	July	20	618.6	17,917.1	1,209	20	37,479	17,917	962,581
	Aug	19.1	591.1	18,508.2	1,216	19.1	37,696	18,508	1,000,277
	Sept	20.9	625.6	19,133.8	1,244	20.9	37,320	19,134	1,037,597
	Oct	12.8	397.7	19,531.5	1,175	12.8	36,425	19,532	1,074,022
	Nov	20.1	601.9	20,133.4	1,155	20.1	34,650	20,133	1,108,672
	Dec	19.8	614.1	20,747.5	1,256	19.8	38,936	20,748	1,147,608
2000	Jan	19.7	610.5	21,358.0	1,253	19.7	38,843	21,358	1,186,451
	Feb	20.8	604.5	21,962.5	1,267	20.8	39,277	21,963	1,225,728
	Mar	21	652.5	22,615.0	1,273	21	39,463	22,615	1,265,191
	Apr	21.4	642.3	23,257.3	1,269	21.4	39,339	23,257	1,304,530
	May	22	682.6	23,939.9	1,273	22	39,463	23,940	1,343,993
	June	21.7	650	24,589.9	1,298	21.7	40,238	24,590	1,384,231
	July	21.5	665.5	25,255.4	1,305	21.5	40,455	25,255	1,424,686
	Aug	21.6	668.2	25,923.6	1,296	21.6	40,176	25,924	1,464,862
	Sept	22	659.4	26,583.0	1,312	22	40,672	26,583	1,505,534
	Oct	21.2	657.7	27,240.7	1,320	21.2	40,920	27,241	1,546,454
	Nov	20	600.7	27,841.4	1,325	20	41,075	27,841	1,587,529
	Dec	21.5	666.6	28,508.0	1,310	21.5	40,610	28,508	1,628,139

LIST OF FIGURES

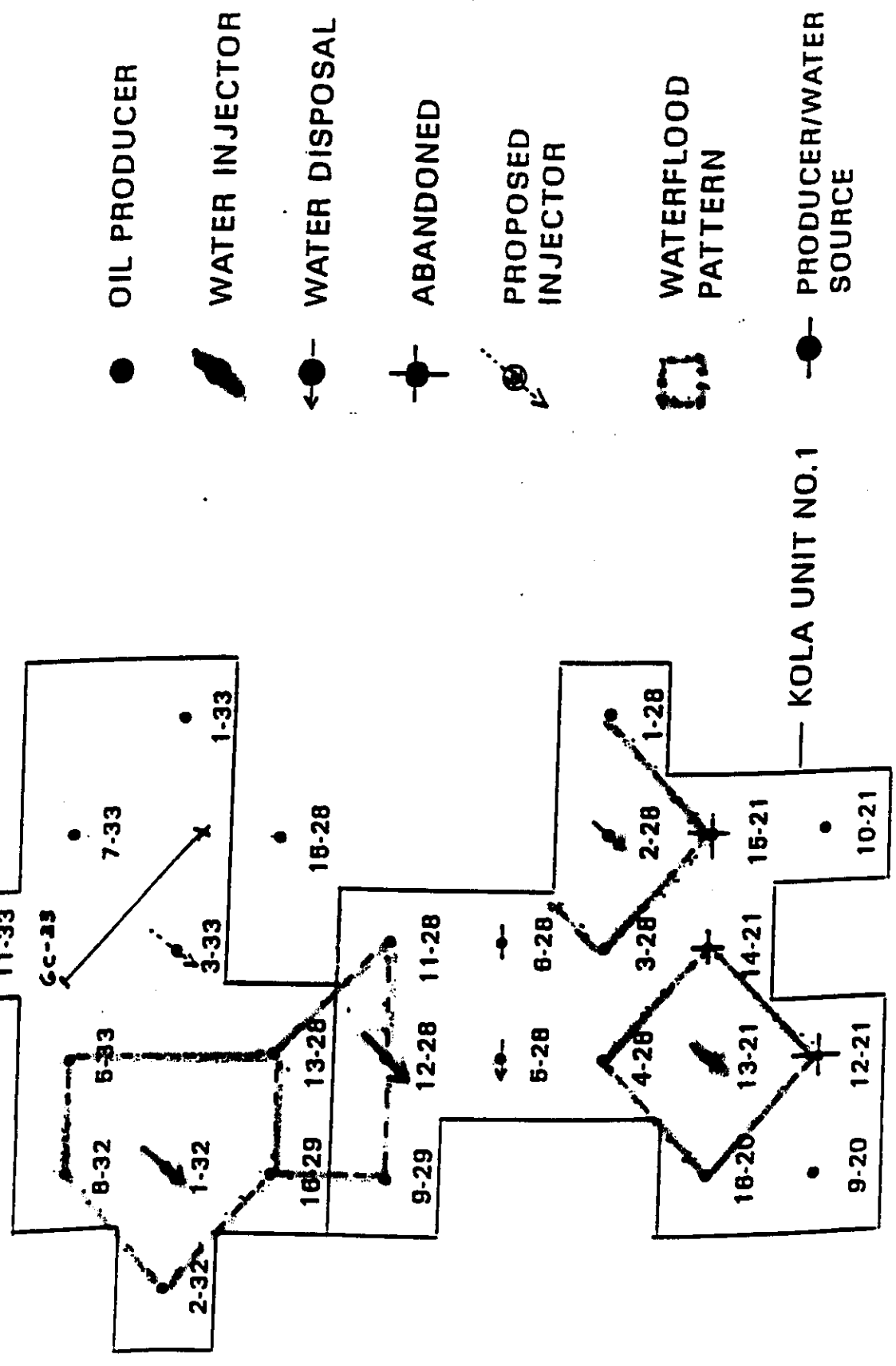
- * **Figure No.1: Kola Unit No.2**
- * **Figure No.2: Unit Production History**
- * **Figure No.2: Unit Ultimate Recovery Prediction**
- * **Figure No.3: Injection Performance Well 1-32-10-29**
- * **Figure No.4: Hall Plot Well 1-32-10-29**

LIST OF
FIGURES

WATERFLOOD PATTERNS

— KOLA UNIT NO.2

FIGURE NO.1



CINJH132.XLC

FIGURE NO.3

INJECTION PERFORMANCE OF WELL 1-32-10-29 WPM

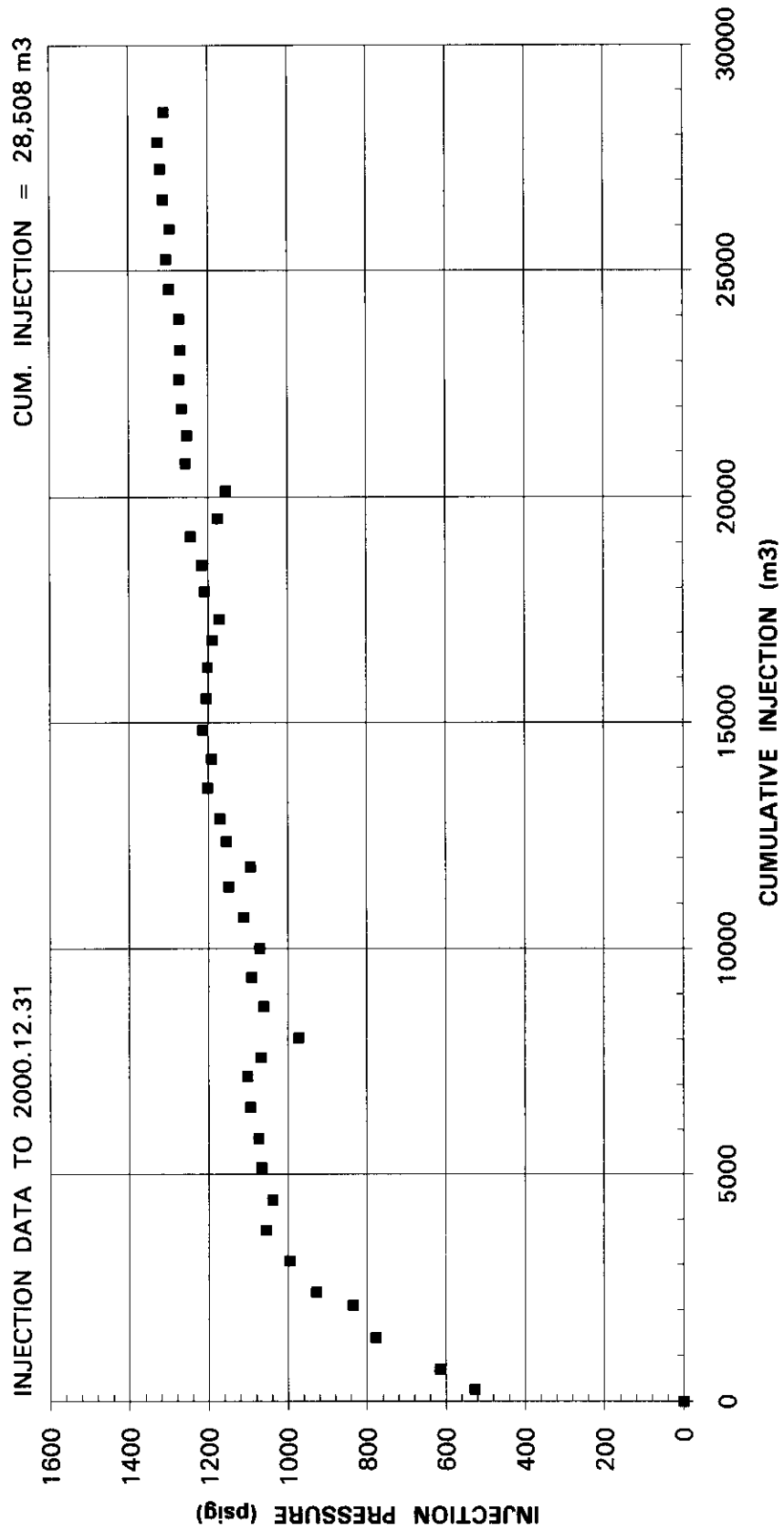
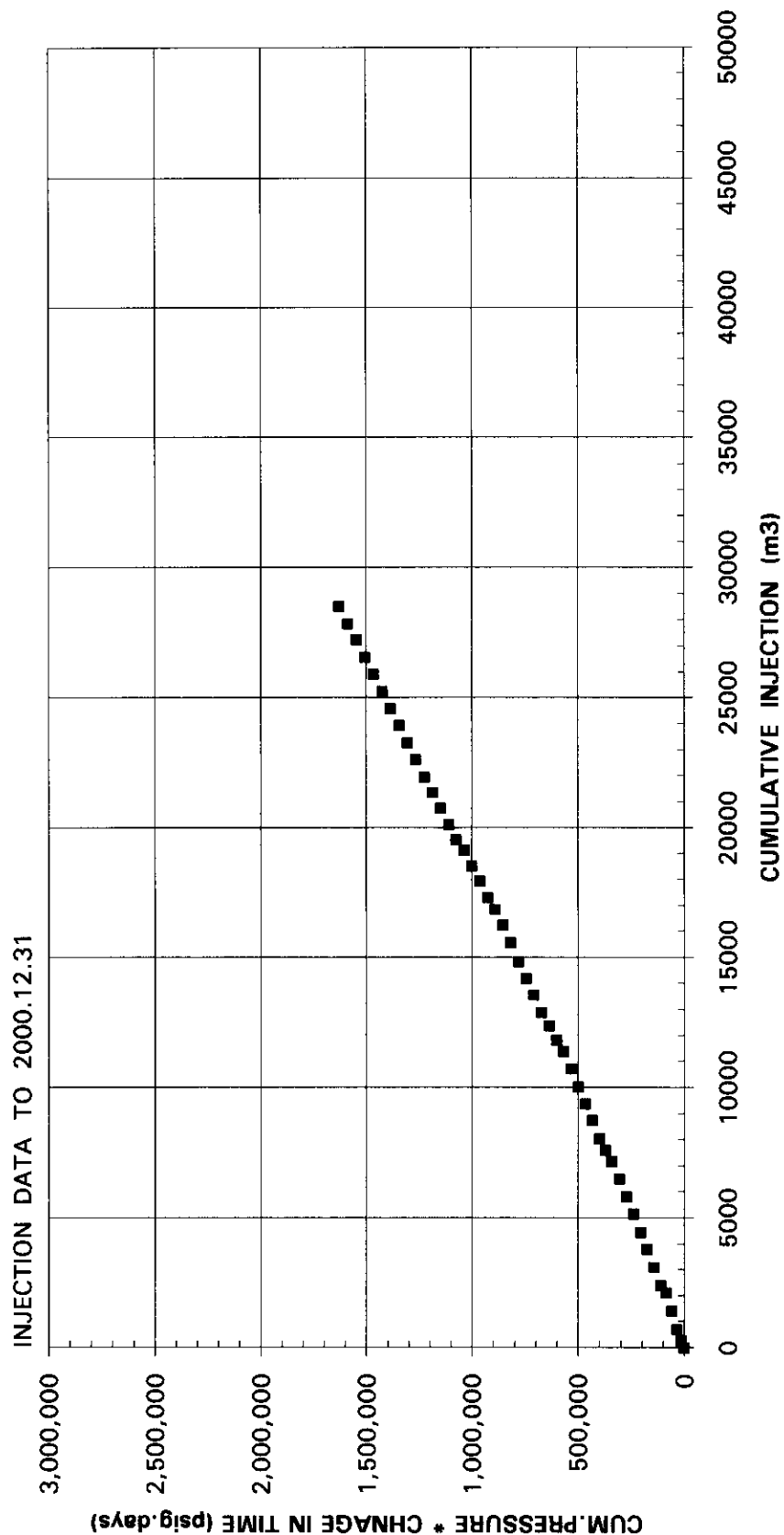


FIGURE NO.4
HALL PLOT INJECTION WELL 1-32-10-29



APPENDICES

- **Appendix A: Historical Unit Production Data**
- **Appendix B: Individual Well Ultimate Oil Recovery Predictions**
- **Appendix C: 2000 Individual Well Production and Test Data**
- **Appendix D: Well 1-32-10-29 Historical Injection Plot and Data**

APPENDICES

APPENDIX A

HISTORICAL UNIT PRODUCTION DATA

Production Report

Group : KOLAU2	Date : 8/17/6 11:28:26 am
Well : KOLAU2SW	User : George
: 000000027	
Hist.Data : 03/93-12/00	On Prod : 02/09
Operator :	Status : Oil
Field :	Zone :

Production Data from March, 1993 to December, 2000

Year	Monthly Oil	Cum Oil	Avg Daily Oil	Water Cut	Monthly Water	Cum Water
	m3	m3	m3/d	%	m3	m3
Mar., 1993	29.8	29.8	1.65556	50.5694	30.5	30.5
Apr., 1993	56.6	86.4	1.88667	3.57599	2.1	32.6
May., 1993	54	140.4	1.86207	1.8174	1	33.6
Jun., 1993	61.8	202.2	2.06	6.92487	4.6	38.2
Jul., 1993	60.2	262.4	2.00667	4.13838	2.6	40.8
Aug., 1993	58.1	320.5	1.87419	0.683462	0.4	41.2
Sep., 1993	50.1	370.6	1.67	5.64737	3	44.2
Oct., 1993	236.001	606.601	12.8145	13.0705	35.5	79.7
Nov., 1993	633.6	1240.2	22.6961	7.63533	52.3997	132.1
Dec., 1993	684.6	1924.8	22.4766	24.0519	216.901	349
Jan., 1994	741.1	2665.9	26.2336	22.3658	213.599	562.6
Feb., 1994	655.899	3321.8	23.8148	22.1684	186.899	749.499
Mar., 1994	742.1	4063.9	23.9387	23.2973	225.501	975
Apr., 1994	643.801	4707.7	22.5895	22.6125	188.2	1163.2
May., 1994	611.6	5319.3	19.729	25.9569	214.5	1377.7
Jun., 1994	421	5740.3	17.3608	20.7083	109.999	1487.7
Jul., 1994	612.1	6352.4	20.867	24.4985	198.7	1686.4
Aug., 1994	717.599	7070	25.4769	20.4364	184.4	1870.8
Sep., 1994	897.701	7967.7	30.7344	17.0577	184.7	2055.5
Oct., 1994	915.2	8882.9	30.763	17.1402	189.4	2244.9
Nov., 1994	835.601	9718.5	28.1663	17.1544	173.1	2418
Dec., 1994	812.5	10531	26.4228	17.8648	176.8	2594.8
Jan., 1995	736.101	11267.1	25.13	19.3334	176.499	2771.3
Feb., 1995	675.1	11942.2	24.5863	18.2918	151.2	2922.5
Mar., 1995	688.2	12630.4	23.9028	16.2713	133.799	3056.3
Apr., 1995	703.6	13334	24.1925	16.3317	137.4	3193.7
May., 1995	672.6	14006.6	22.42	22.0459	190.299	3384
Jun., 1995	756.6	14763.2	28.5061	20.5097	195.301	3579.3
Jul., 1995	930.801	15694	31.0267	17.6365	199.399	3778.7
Aug., 1995	852.1	16546.1	27.4871	17.5536	181.5	3960.2
Sep., 1995	792.7	17338.8	26.6454	18.3559	178.3	4138.5
Oct., 1995	852.6	18191.4	28.9017	15.0909	151.6	4290.1
Nov., 1995	875	19066.4	29.1667	16.0612	167.5	4457.6
Dec., 1995	807.6	19874	27.9285	17.2563	168.5	4626.1
Jan., 1996	781.901	20655.9	27.4351	14.6901	134.7	4760.8
Feb., 1996	851.501	21507.4	36.5582	15.0228	150.6	4911.4
Mar., 1996	1184	22691.4	39.4667	14.1664	195.5	5106.9

Production Report

Group : KOLAU2
Well : KOLAU2SW
: 000000027

Date : 8/17/6 11:28:26 am
User : George

Production Data from March, 1993 to December, 2000 (cont.)

Year	Monthly Oil m3	Cum Oil m3	Avg Daily Oil m3/d	Water Cut %	Monthly Water m3	Cum Water m3
Apr., 1996	1110	23801.4	37.3632	13.2559	169.7	5276.6
May., 1996	1026.8	24828.2	37.1692	15.5395	189	5465.6
Jun., 1996	1040.2	25868.4	35.1617	15.1632	186	5651.6
Jul., 1996	1029.6	26898	34.32	16.5376	204.1	5855.7
Aug., 1996	955.201	27853.2	31.0634	16.6722	191.2	6046.9
Sep., 1996	930.699	28783.9	31.0233	15.3545	168.9	6215.8
Oct., 1996	931.1	29715	30.9507	15.3104	168.4	6384.2
Nov., 1996	922.501	30637.5	31.7647	15.4233	168.3	6552.5
Dec., 1996	909.7	31547.2	29.4243	16.2742	176.9	6729.4
Jan., 1997	858.601	32405.8	27.8465	17.1972	178.4	6907.8
Feb., 1997	787.6	33193.4	28.4675	10.9309	96.7	7004.5
Mar., 1997	891.2	34084.6	29.7894	14.3435	149.3	7153.8
Apr., 1997	904.5	34989.1	30.7044	17.0045	185.4	7339.2
May., 1997	992.6	35981.7	32.149	10.9653	122.3	7461.5
Jun., 1997	1087.6	37069.3	37.7748	11.0813	135.6	7597.1
Jul., 1997	1121.2	38190.5	36.7105	14.6737	192.9	7790
Aug., 1997	1122.7	39313.2	37.268	11.7467	149.5	7939.5
Sep., 1997	1217.9	40531.1	42.9847	16.9966	249.5	8189
Oct., 1997	1276.7	41807.8	43.3392	19.1433	302.4	8491.4
Nov., 1997	1163.6	42971.4	40.709	19.2269	277.1	8768.5
Dec., 1997	1152.8	44124.2	38.3734	17.8151	250	9018.5
Jan., 1998	1099.7	45223.9	36.1051	19.1507	260.6	9279.1
Feb., 1998	1100.5	46324.4	42.6	20.5573	284.9	9564
Mar., 1998	1325	47649.4	43.3834	14.9003	232.1	9796.1
Apr., 1998	1145	48794.4	38.4874	16.0375	218.8	10014.9
May., 1998	1161.8	49956.2	38.7267	15.7264	216.9	10231.8
Jun., 1998	1099.1	51055.3	39.2536	14.9116	192.7	10424.5
Jul., 1998	1201.8	52257.1	39.949	14.2375	199.6	10624.1
Aug., 1998	1187.1	53444.2	38.3451	13.3769	183.4	10807.5
Sep., 1998	1074.4	54518.6	35.8631	13.3707	165.9	10973.4
Oct., 1998	1033.7	55552.3	35.0902	15.438	188.8	11162.2
Nov., 1998	993.9	56546.2	33.2686	15.3782	180.7	11342.9
Dec., 1998	1033.4	57579.6	33.3355	13.2639	158.1	11501
Jan., 1999	1008	58587.6	32.5599	13.1733	153	11654
Feb., 1999	890.9	59478.5	31.8653	13.4241	138.2	11792.2
Mar., 1999	955.1	60433.6	31.0602	14.7329	165.1	11957.3
Apr., 1999	926.8	61360.4	31.1094	16.0828	177.7	12135
May., 1999	961.1	62321.5	31.0032	15.9084	181.9	12316.9
Jun., 1999	946.4	63267.9	31.946	14.2389	157.2	12474.1
Jul., 1999	930.2	64198.1	30.1686	16.1091	178.7	12652.8
Aug., 1999	890	65088.1	28.9824	16.9404	181.6	12834.4

Production Report

Group : KOLAU2
Well : KOLAU2SW
: 000000027

Date : 8/17/6 11:28:26 am
User : George

Production Data from March, 1993 to December, 2000 (cont.)

Year	Monthly Oil m3	Cum Oil m3	Avg Daily Oil m3/d	Water Cut %	Monthly Water m3	Cum Water m3
Sep., 1999	905.9	65994	31.2379	17.5416	192.8	13027.2
Oct., 1999	1097.8	67091.8	35.4129	19.6682	268.9	13296.1
Nov., 1999	1008.6	68100.4	34.3353	19.4276	243.3	13539.4
Dec., 1999	1000.9	69101.3	32.5938	19.6188	244.4	13783.8
Jan., 2000	963.8	70065.1	32.0377	21.6157	265.9	14049.7
Feb., 2000	870.9	70936	30.031	21.7586	242.3	14292
Mar., 2000	926	71862	29.9112	20.6304	240.8	14532.8
Apr., 2000	842.6	72704.6	29.2654	24.239	269.7	14802.5
May., 2000	845	73549.6	27.2948	23.9549	266.3	15068.8
Jun., 2000	811.8	74361.4	27.1354	25.3228	275.4	15344.2
Jul., 2000	845.2	75206.6	28.1733	26.0522	297.9	15642.1
Aug., 2000	827.1	76033.7	26.6806	26.9904	305.9	15948
Sep., 2000	780	76813.7	26	27.7288	299.4	16247.4
Oct., 2000	799.7	77613.4	25.7968	27.0526	296.7	16544.1
Nov., 2000	805.7	78419.1	26.894	26.5992	292.1	16836.2
Dec., 2000	795.8	79214.9	25.671	28.7211	320.8	17157

APPENDIX B

INDIVIDUAL WELL ULTIMATE OIL RECOVERY PREDICTIONS

00/13-28-010-29W1/0 (Candor Kola Unit No. 3 Prov. 13-28-10-29W1) Dec 11/93-12/00

Operator:

Field:

Zone: 60A

Type: Unknown

Group: KOLA2

Production Cums

Oil: 7459.2 m3

Gas: 0.156 m3

Water: 900.3 m3

Cond: 0 m3

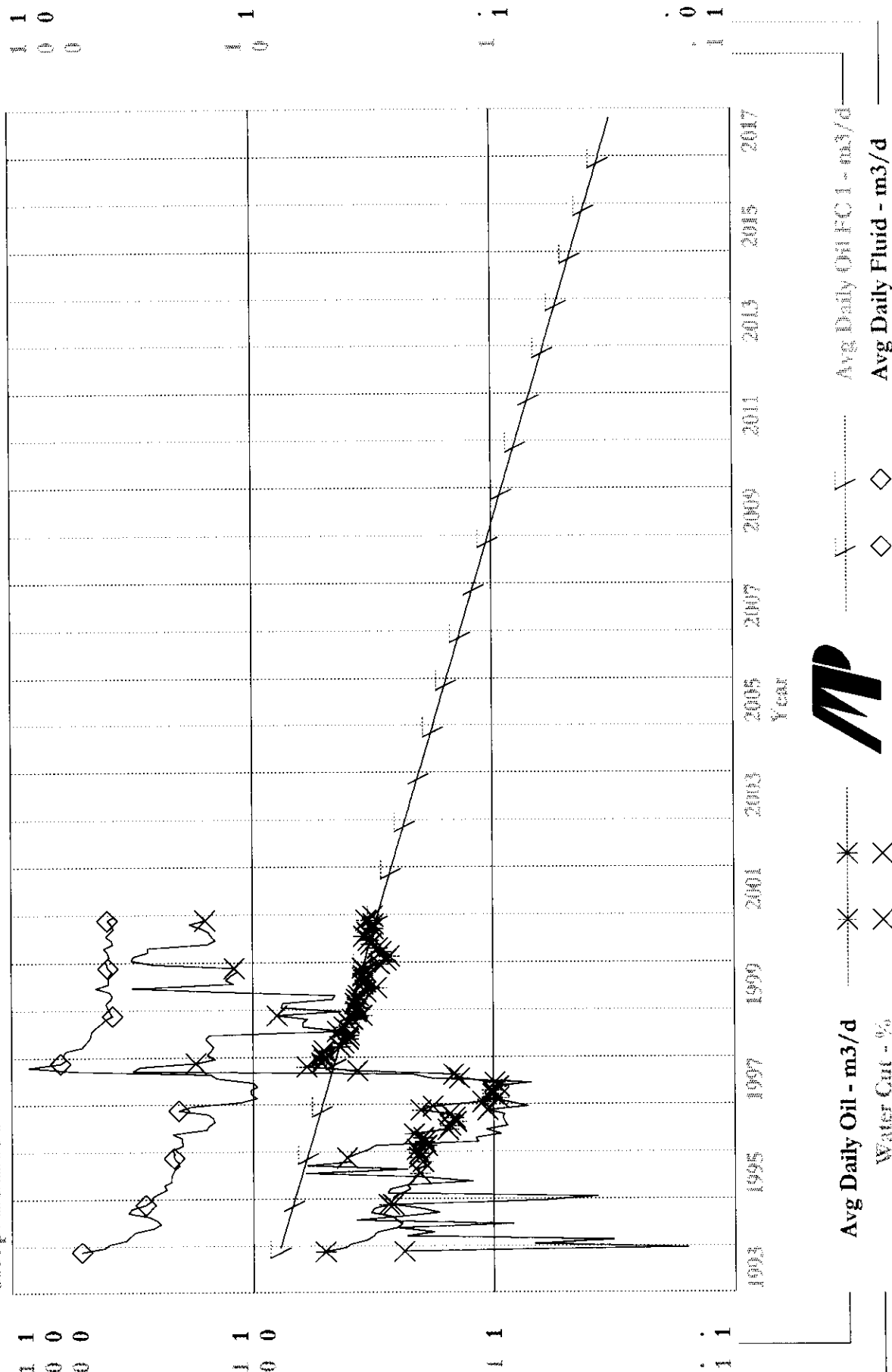
Avg Daily Oil FCI (Rate-Time)

q: 7.79508 m3/d, Dec, 1993

q: 0.316749 m3/d, Oct, 2017

di(Esp): 12.5348 CTD: 7459.2 m3

NR: 7140.39 m3 Tot: 14599.6 m3



00/16-20-010-29W1/0 (Canada, Sub Unit No. 2 Rev. 16-20-10-29W1) Data 11/93-12/00

Operator:

Field 1

Zone: 61A

Type: Unknown

Group: KOLAU2

Avg Daily Oil FC 1 (Rate-Time)

q1: 43035 m3/d, Mar, 1993

q2: 0.29930 m3/d, Apr, 2010

d1(Exp): 14524 C/D: 3463 m3

RR: 205123 m3 Tot: 551423 m3

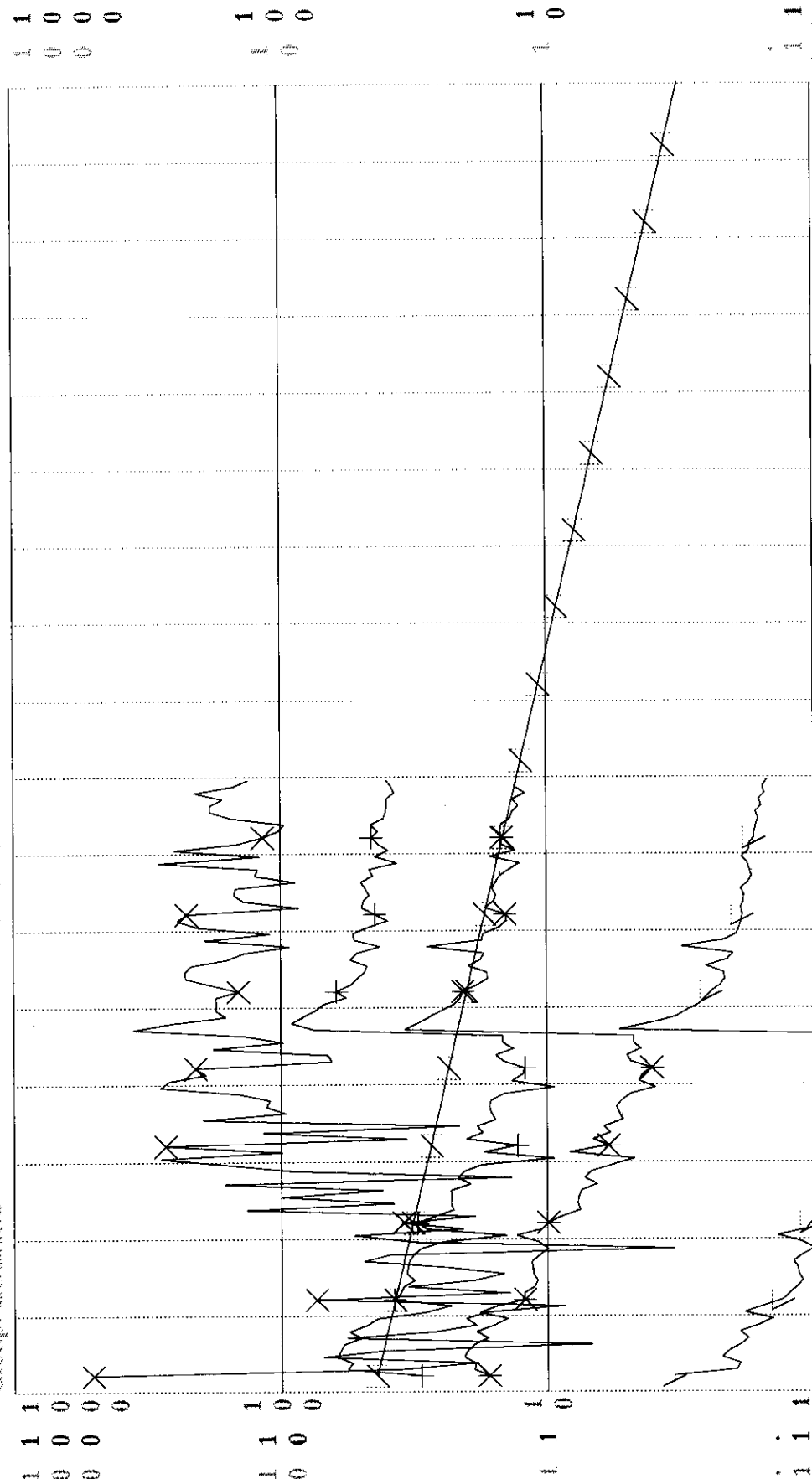
Production Cums

Oil: 3463 m3

Gas: 0.66m3

Water: 562.6 m3

Cond: 0 m3



Monthly Oil - m3

Avg Daily Oil - m3/d

Water Cut - %

Avg Daily Oil FC 1 - m3/d

Avg Daily Fluid - m3/d



00/02-32-010-20W1/H (Tundra Kola Unit No.2 02-32-10-20W1) Date: 10/93-12/00

Operator:

Field: 1

Zone: 60A

Type: Unknown

Group: KOLAU2

Avg Daily OI/FCL (Rate-Time)

qt: 1.40526 m3/d, Jan. 1994

qe: 0.298657 m3/d, Aug. 2007

di(Exp): 10.7134 CIPD: 2373.3 m3

RR: 1016.86 m3 Tot: 3390.16 m3

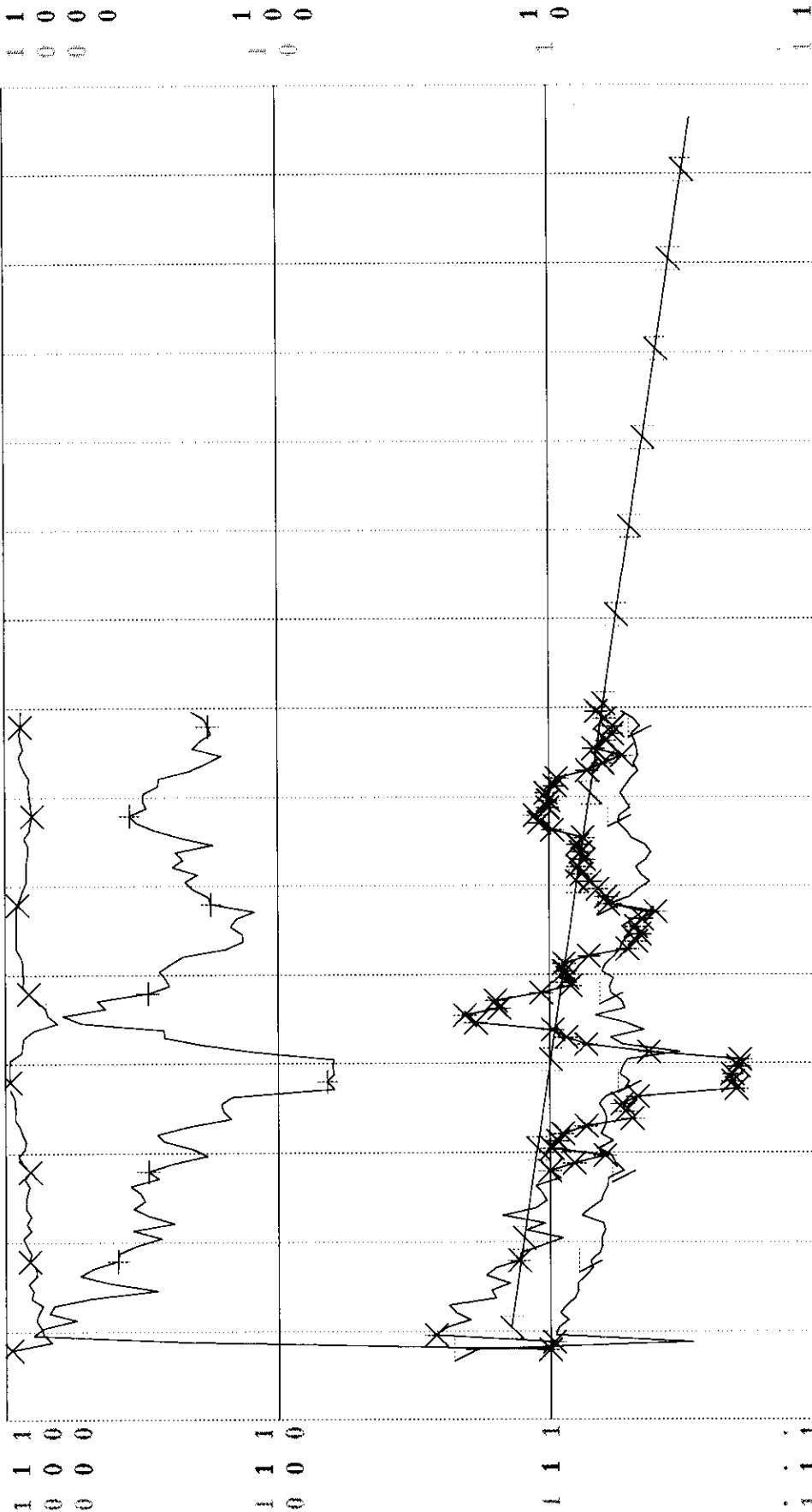
Production Cums

Oil: 2373.3 m3

Gas: 0.56m3

Water: 1221.7 m3

Cond: 0 m3



Monthly Oil - m3

Avg Daily Oil - m3/d

Water Cut - %

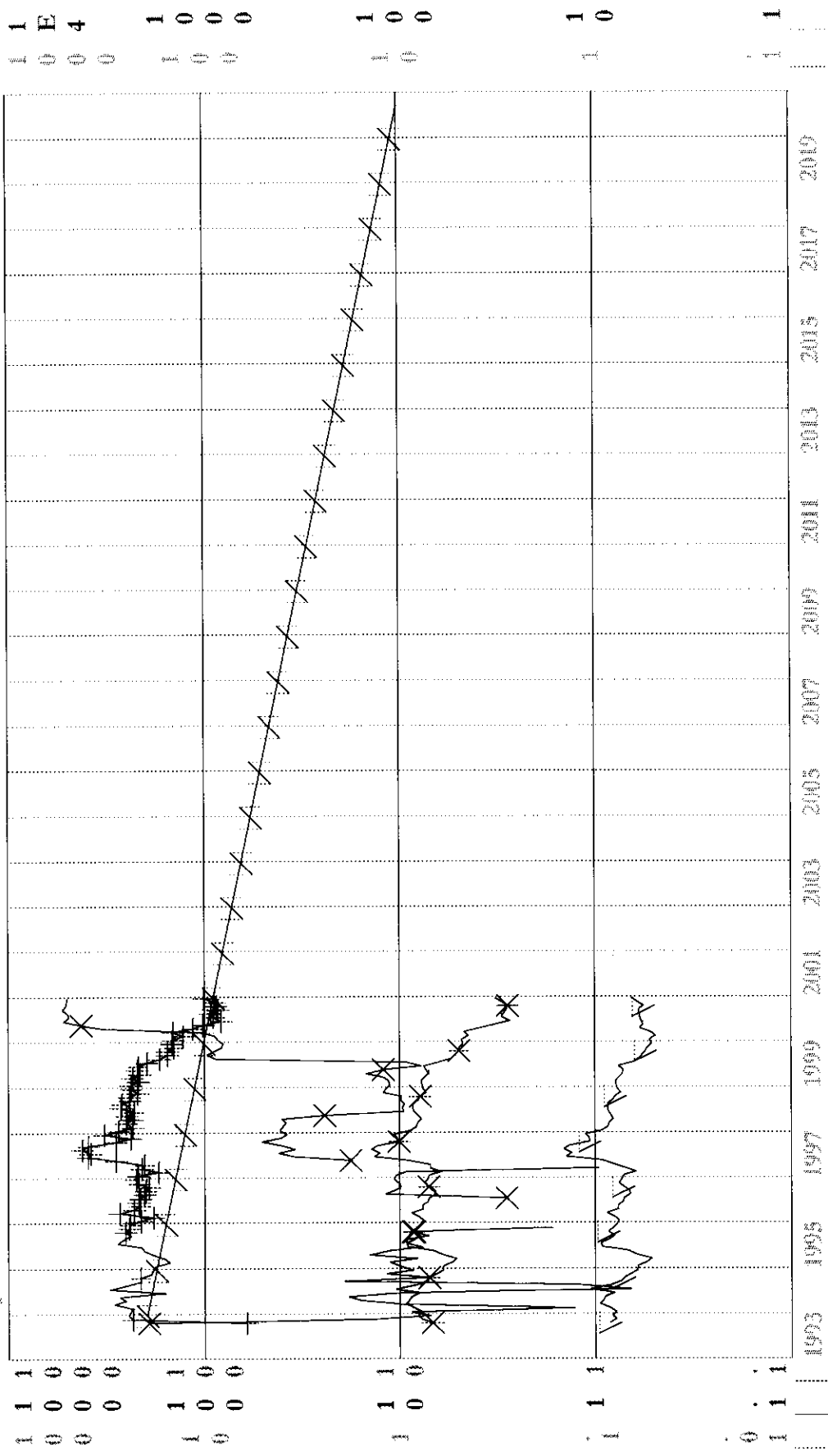
Avg Daily OI/FCL - m3/d

Avg Daily Fluid - m3/d



00/08-32-010-20W1/0 (Tendra Kola 1 int No.2 08-32-10-20W1) Data 10/03-12/00

Operator: Production Cons
 Field: 1 Oil: 18451.4 m3
 Zone: 6M Gas: 0.66 m3
 Type: Unknown Water: 1154.5 m3
 Group: KOLAL12 Cond: 0 m3

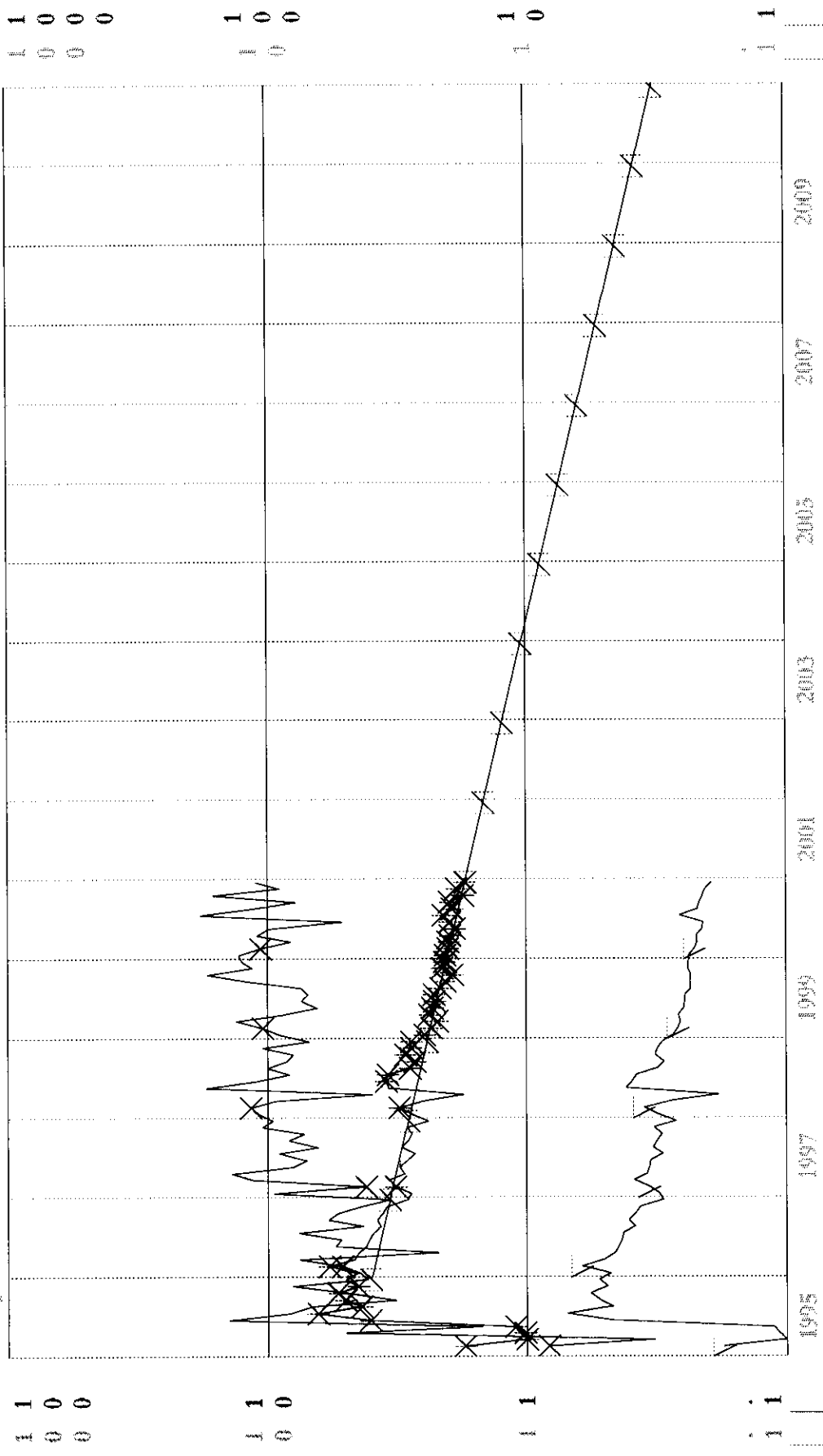


Year
 Monthly Oil - m3
 Avg Daily Oil - m3/d
 Water Cut - %
 Monthly Oil FC - m3
 Avg Daily Fluid - m3/d



00/01.13-010-29971/0 (Tundra Field Unit No 2 01.13-10-29W) Data 02/95-12/00

Operator: Production Cum
 Field: 1 Oil: 5830.5 m3
 Zone: 604 Gas: 0.56 m3
 Type: Unknown CTD: 5830.5 m3
 Group: KOLAU/2 RR: 2825.05 m3 TOC: 8075.53 m3

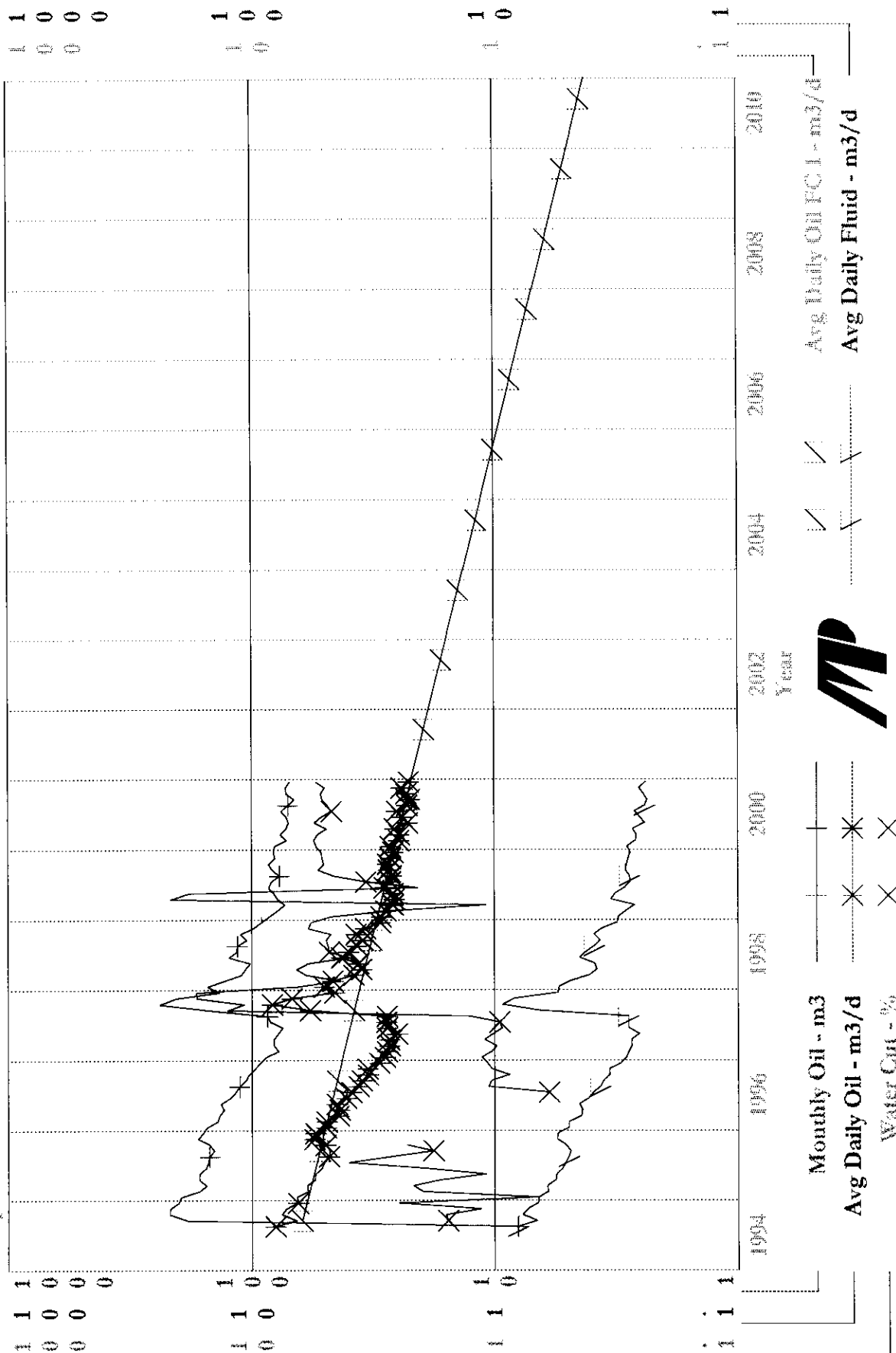


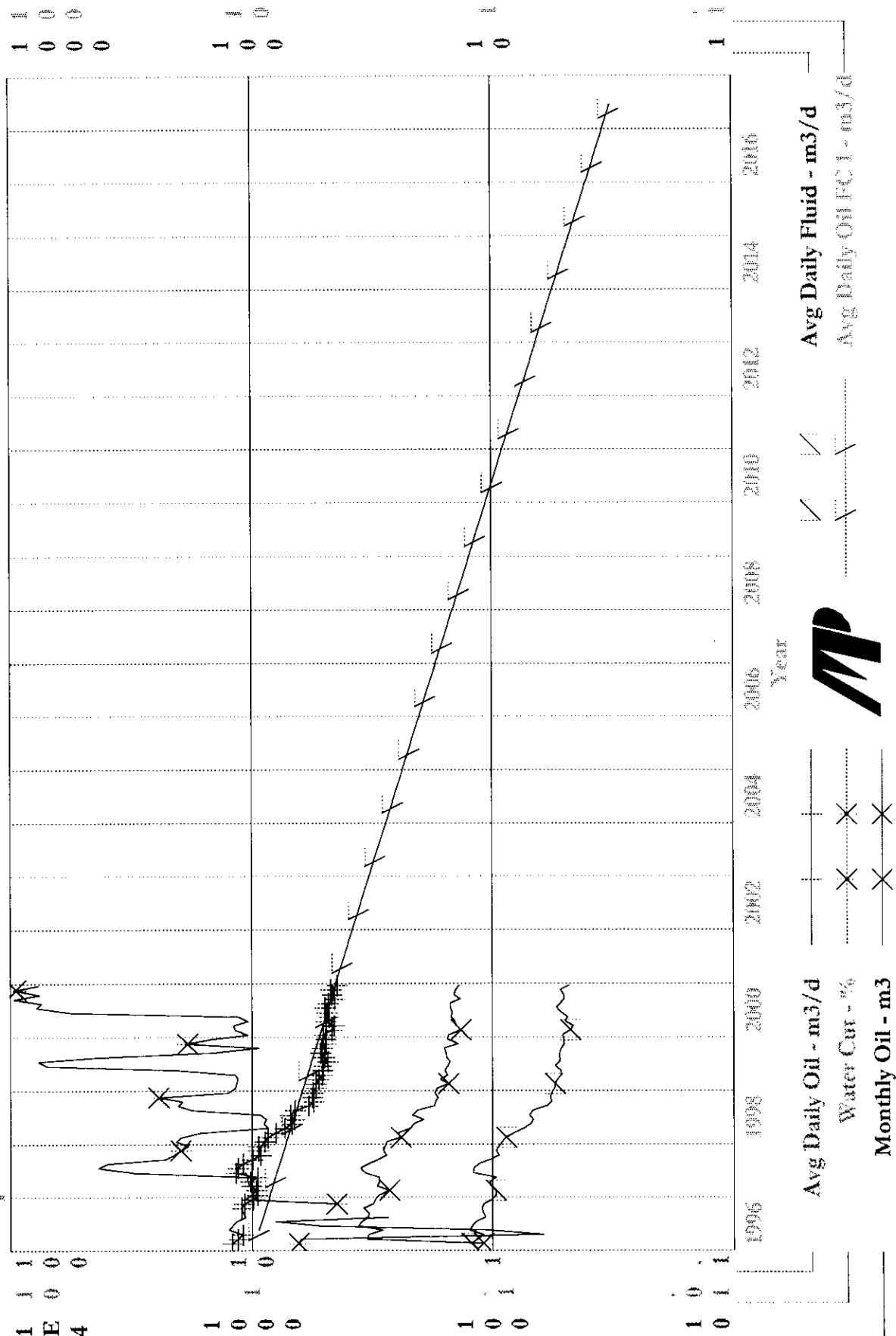
Avg Daily Oil - m3/d
 Water Cut - %

Avg Daily OI FC1 - m3/d
 Avg Daily Fluid - m3/d

[illegible]

Operator:	452 490 0000	Product:	452 490 0000
Model:	452 490 0000	Part:	452 490 0000
Zone:	452 490 0000	Part:	452 490 0000
Type:	452 490 0000	Part:	452 490 0000
Code:	452 490 0000	Part:	452 490 0000



[illegible]

00/00-33-010-2001/0 (Kola Unit No. 21/2/N TL 06-33-10-2001) 13 Jun 02/98-12/00

Operator:

Field: 1

Zone: 60A

Type: Unknown

Group: KOLAU2

Avg Daily Oil FC 1 (Rate-Time)

qt: 8.17242 m3/d, Mar 1998

qt: 0.297764 m3/d, Oct 2022

dt(Exp): 12.5684 CTD: 7383 m3

RR: 14291.1 m3 Toe: 21674.1 m3

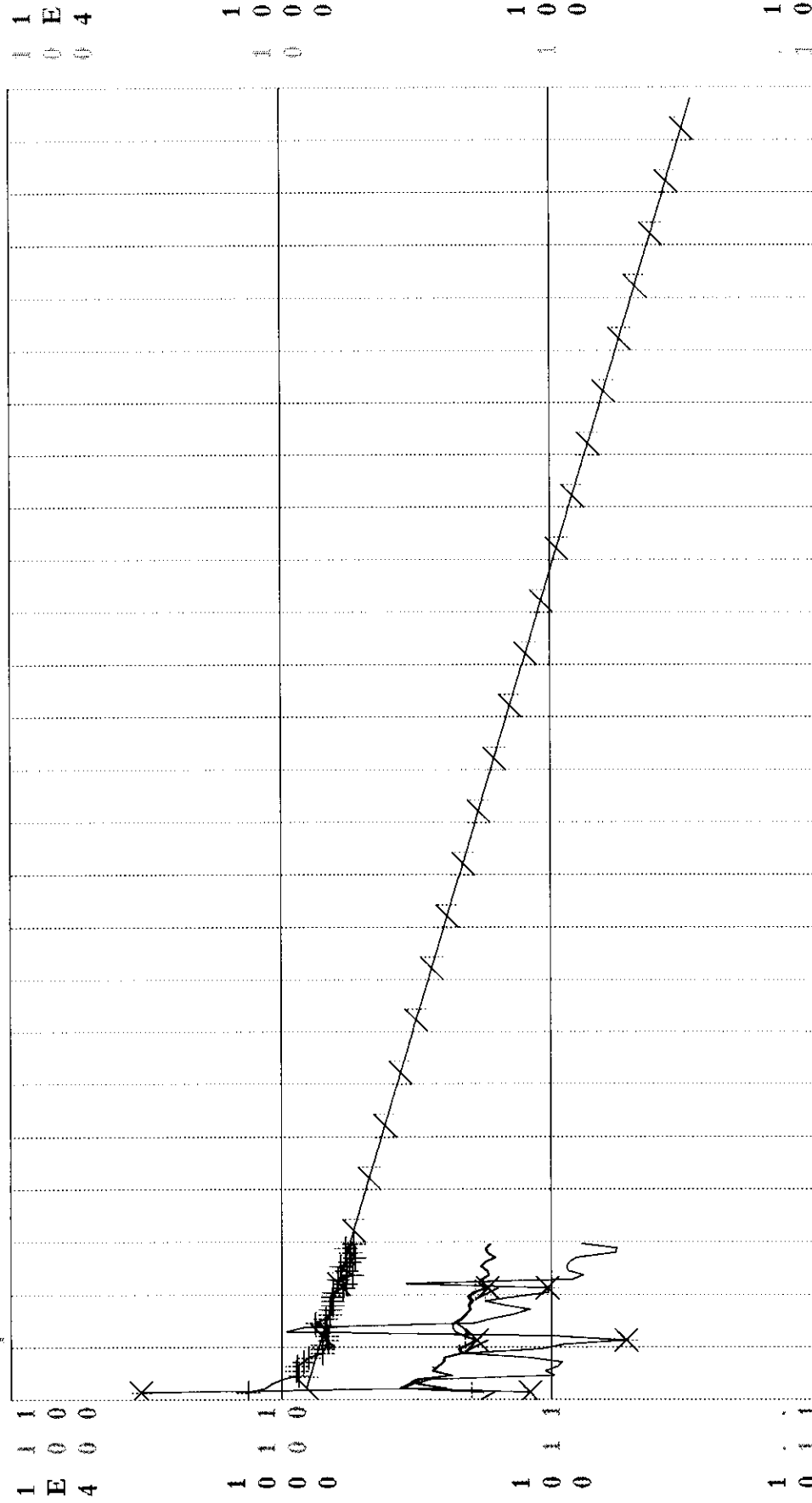
Production Cums

Oil: 7383 m3

Gas: 0 Ecm3

Water: 199.7 m3

Cond: 0 m3



Avg Daily Oil - m3/d

Water Cut - %

Monthly Oil - m3

Avg Daily Oil FC 1 - m3/d

Monthly Fluid - m3



[illegible][illegible]

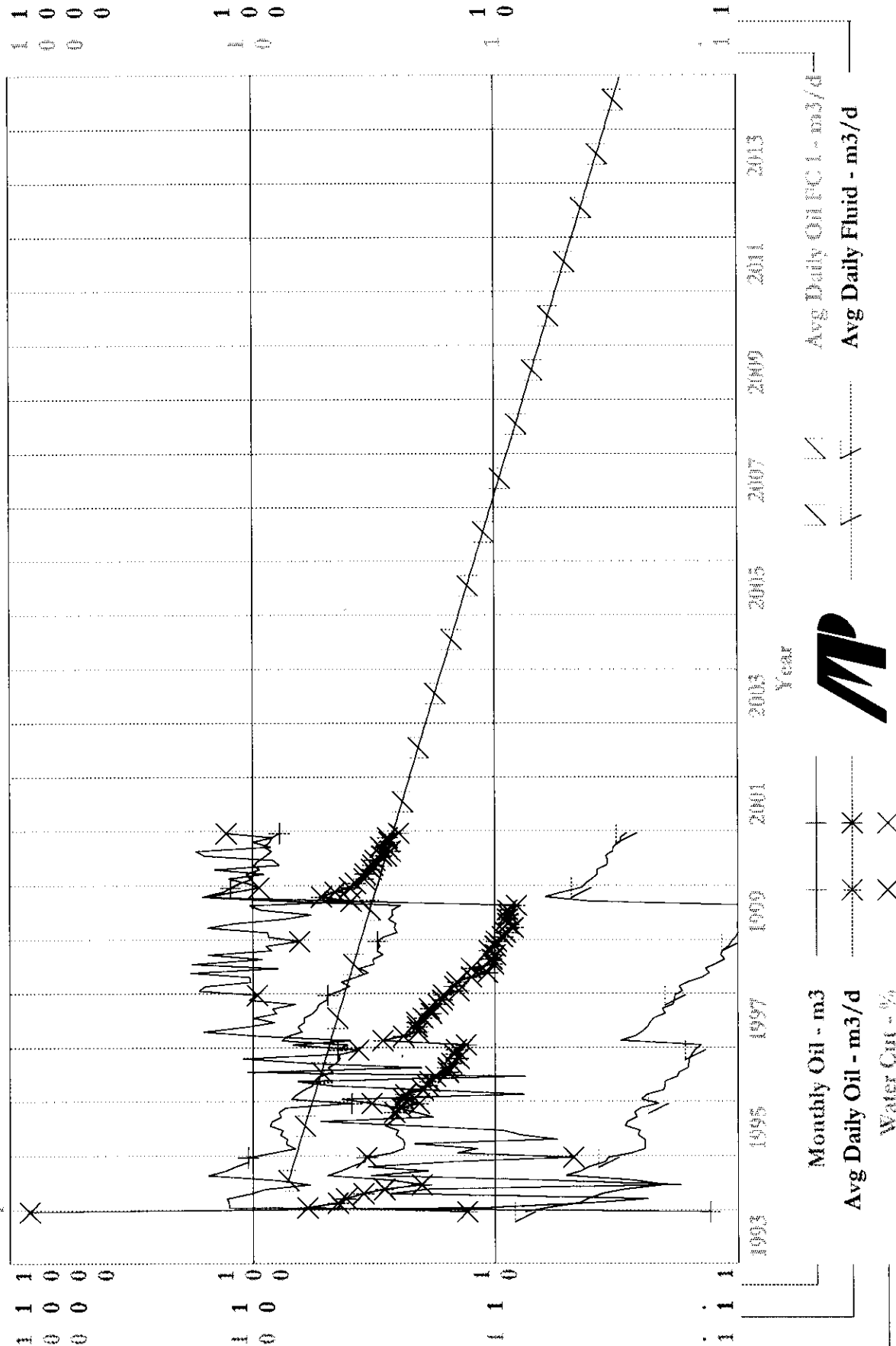
1998

[illegible]

SECRET

[illegible]

Figure 1: Schematic representation of the experimental design. The figure shows a sequence of five diagrams illustrating the experimental setup. 1. A subject is shown in a car, looking at a road with a target point. 2. The subject is shown in a car, looking at a road with a target point. 3. The subject is shown in a car, looking at a road with a target point. 4. The subject is shown in a car, looking at a road with a target point. 5. The subject is shown in a car, looking at a road with a target point.

[illegible]



APPENDIX C

2000 INDIVIDUAL WELL PRODUCTION AND TEST DATA

TUNDRA OIL AND GAS LTD.
Fluid Production Report
Year: 2000

WELL: 13281029W1 DAILY 13-28-10-29 WPM (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTH	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	2.78	86.2	40.2	126.4	31.8	31	4.08	2.48	1.4	24.0	9
02	2.69	78.1	35.6	113.7	31.31	29	3.92	3.01	1.0	24.0	12
03	2.91	90.3	33.6	123.9	27.12	31	4.0	2.73	1.17	24.0	26
04	3.01	87.2	32.6	119.8	27.21	29	4.13	3.32	0.54	24.0	26
05	3.21	99.5	18.0	117.5	15.32	31	3.79	3.4	0.46	24.0	25
06	3.28	98.5	16.4	114.9	14.27	30	3.83	3.29	0.53	24.0	8
07	3.45	103.5	18.0	121.5	14.81	30	4.05	3.24	0.57	24.0	8
08	3.33	103.2	18.5	121.7	15.2	31	3.93	3.18	0.56	24.0	8
09	3.15	94.5	18.3	112.8	16.22	30	3.76	3.18	0.56	24.0	8
10	3.16	97.3	21.8	119.1	18.3	31	3.86	3.09	0.68	24.0	4
11	3.36	100.8	18.8	119.6	15.72	30	3.99	3.15	0.55	24.0	23
12	3.15	97.8	18.7	116.5	16.05	31	3.76	3.21	0.56	24.0	27
	3.12	1136.9	290.5	1427.4	20.35	364	3.92				

TUNDRA OIL AND GAS LTD.
Fluid Production Report
Year: 2000

WELL: 16291029W1 DAILY PROV 16-29-10-29 WPM (KOLA UNIT #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTN	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	1.31	39.2	13.0	52.2	24.9	30	1.74				
02	1.49	43.1	7.3	50.4	14.48	29	1.74				
03	1.47	45.5	6.0	51.5	11.65	31	1.66				
04	1.49	43.1	4.9	48.0	10.21	29	1.66				
05	1.47	45.7	4.9	50.6	9.68	31	1.63				
06	1.36	40.9	7.3	48.2	15.15	30	1.61				
07	1.34	40.2	9.0	49.2	18.29	30	1.64				
08	1.27	39.5	8.9	48.4	18.39	31	1.56				
09	1.33	39.9	7.9	47.8	16.53	30	1.59				
10	1.21	37.2	9.9	47.1	21.02	31	1.53				
11	1.31	38.1	6.7	44.8	14.96	29	1.54				
12	1.29	40.0	6.1	46.1	13.23	31	1.49				
	1.36	492.4	91.9	584.3	15.73	362	1.61				

WELL: 02321029W1 DAILY 2-32-10-29 WPM (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTN	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	1.03	30.9	132.5	163.4	81.09	30	5.45	1.0	4.06	24.0	4
02	0.95	27.5	124.1	151.6	81.86	29	5.23				
03	0.94	27.2	117.2	144.4	81.16	29	4.98	0.91	3.66	24.0	15
04	0.72	21.0	115.3	136.3	84.59	29	4.7	0.58	3.81	24.0	10
05	0.63	18.3	123.4	141.7	87.09	29	4.89	0.68	3.84	24.0	8
06	0.54	16.1	125.0	141.1	88.59	30	4.7	0.54	3.91	24.0	1
07	0.68	20.5	122.0	142.5	85.61	30	4.75	0.66	3.8	24.0	4
08	0.62	19.1	130.5	149.6	87.23	31	4.83	0.59	3.96	24.0	1
09	0.58	17.5	131.3	148.8	88.24	30	4.96	0.59	4.07	24.0	4
10	0.58	18.0	125.1	143.1	87.42	31	4.64	0.54	3.86	24.0	26
11	0.62	18.6	127.6	146.2	87.28	30	4.87	0.68	4.38	24.0	24
12	0.67	20.7	146.7	167.4	87.63	31	5.4	0.65	4.22	24.0	20
	0.71	255.4	1520.7	1776.1	85.62	359	4.95				

TUNDRA OIL AND GAS LTD.
Fluid Production Report
Year: 2000

WELL: 01331029W1 DAILY 1-33-10-29 WPM (KOLA UNIT #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTN	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	2.05	61.5	9.1	70.6	12.89	30	2.35				
02	2.0	58.1	6.9	65.0	10.62	29	2.24				
03	2.01	62.2	5.5	67.7	8.12	31	2.18				
04	1.97	57.0	7.0	64.0	10.94	29	2.21				
05	1.89	58.5	6.4	64.9	9.86	31	2.09				
06	1.97	57.1	3.1	60.2	5.15	29	2.08				
07	2.09	62.6	13.8	76.4	18.06	30	2.55				
08	1.93	59.9	7.9	67.8	11.65	31	2.19				
09	1.98	59.3	5.0	64.3	7.78	30	2.14				
10	1.76	54.2	10.5	64.7	16.23	31	2.1				
11	1.86	55.8	5.5	61.3	8.97	30	2.04				
12	1.71	53.1	6.6	59.7	11.06	31	1.93				
	1.93	699.3	87.3	786.6	11.1	362	2.17				

TUNDRA OIL AND GAS LTD.
Fluid Production Report
Year: 2000

WELL: 03331029W1 DAILY 3-33-10-29 WPM (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTN	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	2.69	80.6	4.6	85.2	5.4	30	2.84				
02	2.47	71.7	4.2	75.9	5.53	29	2.62				
03	2.45	76.1	4.3	80.4	5.35	31	2.59	2.48	0.13	24.0	12
04	2.57	71.9	3.7	75.6	4.89	28	2.7	2.37	0.12	24.0	14
05	2.27	70.4	4.1	74.5	5.5	31	2.4	2.35	0.12	24.0	21
06	2.39	71.6	3.9	75.5	5.17	30	2.52	2.46	0.12	24.0	15
07	2.52	75.5	3.7	79.2	4.67	30	2.64	2.29	0.11	24.0	16
08	2.34	70.7	3.6	74.3	4.85	30	2.46	2.2	0.11	24.0	17
09	2.23	66.8	3.6	70.4	5.11	30	2.35	2.29	0.12	24.0	14
10	2.32	71.5	3.9	75.4	5.17	31	2.45	2.27	0.12	24.0	12
11	2.41	72.4	3.8	76.2	4.99	30	2.54	2.26	0.12	24.0	9
12	2.25	69.8	4.0	73.8	5.42	31	2.38	2.25	0.12	24.0	7
	2.41	869.0	47.4	916.4	5.17	361	2.54				

3.10.6.2 DATE: 01/01/01
TIME: 9.76

TUNDRA OIL AND GAS LTD
Fluid Production Report
Year: 2000

Page: 494

WELL: 05331029W1 DAILY 5-33-10-29 WPM (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTN	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	5.05	151.5	1.6	153.1	1.05	30	5.1				
02	4.66	135.0	1.6	136.6	1.17	29	4.71				
03	4.55	141.1	1.7	142.8	1.19	31	4.61	4.54	0.05	24.0	7
04	4.92	142.7	1.5	144.2	1.04	29	4.97	4.68	0.05	24.0	7
05	4.79	148.4	1.7	150.1	1.13	31	4.84	5.19	0.05	24.0	14
06	4.87	146.0	8.6	154.6	5.56	30	5.15	4.78	0.38	24.0	11
07	4.97	149.0	12.6	161.6	7.8	30	5.39	4.63	0.4	24.0	11
08	4.82	149.3	12.0	161.3	7.44	31	5.2	4.61	0.34	24.0	13
09	4.52	135.6	14.5	150.1	9.66	30	5.0	4.54	0.5	24.0	11
10	4.67	144.1	11.8	155.9	7.57	31	5.06	4.6	0.33	24.0	7
11	4.71	141.3	14.8	156.1	9.48	30	5.2	4.39	0.48	24.0	5
12	4.43	137.3	11.3	148.6	7.6	31	4.79	4.44	0.32	24.0	4
	4.74	1721.3	93.7	1815.0	5.16	363	5.0				

WELL: 06331029HZ DAILY HZ 6-33-10-29 (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTH	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	6.44	193.2	2.0	195.2	1.02	30	6.51				
02	5.93	172.0	1.8	173.8	1.04	29	5.99				
03	5.76	178.6	6.4	185.0	3.46	31	5.97	5.97	0.05	24.0	12
04	6.17	179.0	1.5	180.5	0.83	29	6.22	5.69	0.04	24.0	14
05	5.46	169.2	1.3	170.5	0.76	31	5.5	5.65	0.04	24.0	21
06	5.73	171.8	1.5	173.3	0.87	30	5.78	5.9	0.05	24.0	15
07	6.03	181.0	1.6	182.6	0.88	30	6.09	5.5	0.05	24.0	16
08	5.63	174.0	1.5	175.5	0.85	31	5.68	5.29	0.04	24.0	17
09	5.37	160.4	1.3	161.7	0.8	30	5.41	5.52	0.04	24.0	14
10	5.59	172.3	1.0	173.3	0.58	31	5.62	5.47	0.03	24.0	12
11	5.82	173.7	1.0	174.7	0.57	30	5.86	5.45	0.03	24.0	9
12	5.41	167.1	1.3	168.4	0.77	31	5.45	5.41	0.04	24.0	7
	5.77	2092.3	22.2	2114.5	1.05	363	5.84				

3.10.6.2 DATE: 07/01/01
TIME: 9.76

TUNDRA OIL AND GAS LTD.
Fluid Production Report
Year: 2000

Page: 496

WELL: 0733102941 DAILY 7-33-10-29 WPM (KOLA UNIT #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTH	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	3.77	113.0	13.2	126.2	10.46	30	4.21				
02	3.46	100.2	14.4	114.6	12.57	29	3.95				
03	3.43	106.3	10.5	116.8	8.99	31	3.77				
04	3.23	93.7	15.7	109.4	14.35	29	3.77				
05	3.18	98.7	8.3	107.0	7.76	31	3.45				
06	3.13	93.8	8.4	102.2	8.22	30	3.41				
07	2.93	88.0	16.5	104.5	15.79	30	3.48				
08	2.7	83.6	17.3	100.9	17.15	31	3.25				
09	2.98	89.3	8.2	97.5	8.41	30	3.25				
10	2.75	84.9	9.4	94.3	9.97	31	3.06				
11	2.77	83.1	7.5	90.6	8.28	30	3.02				
12	2.5	77.4	11.4	88.8	12.84	31	2.86				
	3.06	1112.0	140.8	1252.8	11.24	363	3.45				

WELL: 11331029W1 DAILY 11-33-10-29 WPM (KOLA #2)

MONTH	M3 OIL / DAY	M3 OIL / MTH	M3 H2O / MTH	M3 FLUID / MONTH	% H2O	# DAYS OF PROD./MTH	M3 FLUID / DAY	PROD. TEST OIL	WTR	HRS	DATE
01	2.11	63.3	36.3	99.6	36.45	30	3.32				
02	1.94	56.3	33.9	90.2	37.58	29	3.11				
03	1.75	54.3	39.0	93.3	41.8	31	3.01	1.71	1.22	24.0	7
04	1.24	32.3	31.8	64.1	49.61	26	2.47	1.1	1.15	24.0	4
05	1.12	34.8	23.8	58.6	40.61	31	1.89	1.22	0.36	24.0	14
06	1.14	34.3	13.0	47.3	27.48	30	1.58	1.12	0.43	24.0	11
07	1.17	35.0	14.4	49.4	29.15	30	1.65	1.09	0.46	24.0	11
08	1.13	35.0	14.7	49.7	29.58	31	1.6	1.08	0.44	24.0	13
09	1.06	31.7	15.3	47.0	32.55	30	1.57	1.06	0.49	24.0	11
10	1.09	33.6	14.6	48.2	30.29	31	1.56	1.07	0.44	24.0	7
11	1.1	32.9	14.9	47.8	31.17	30	1.59	1.02	0.47	24.0	5
12	1.03	31.9	14.5	46.4	31.25	31	1.5	1.03	0.42	24.0	4
	1.32	475.4	266.2	741.6	35.9	360	2.06				

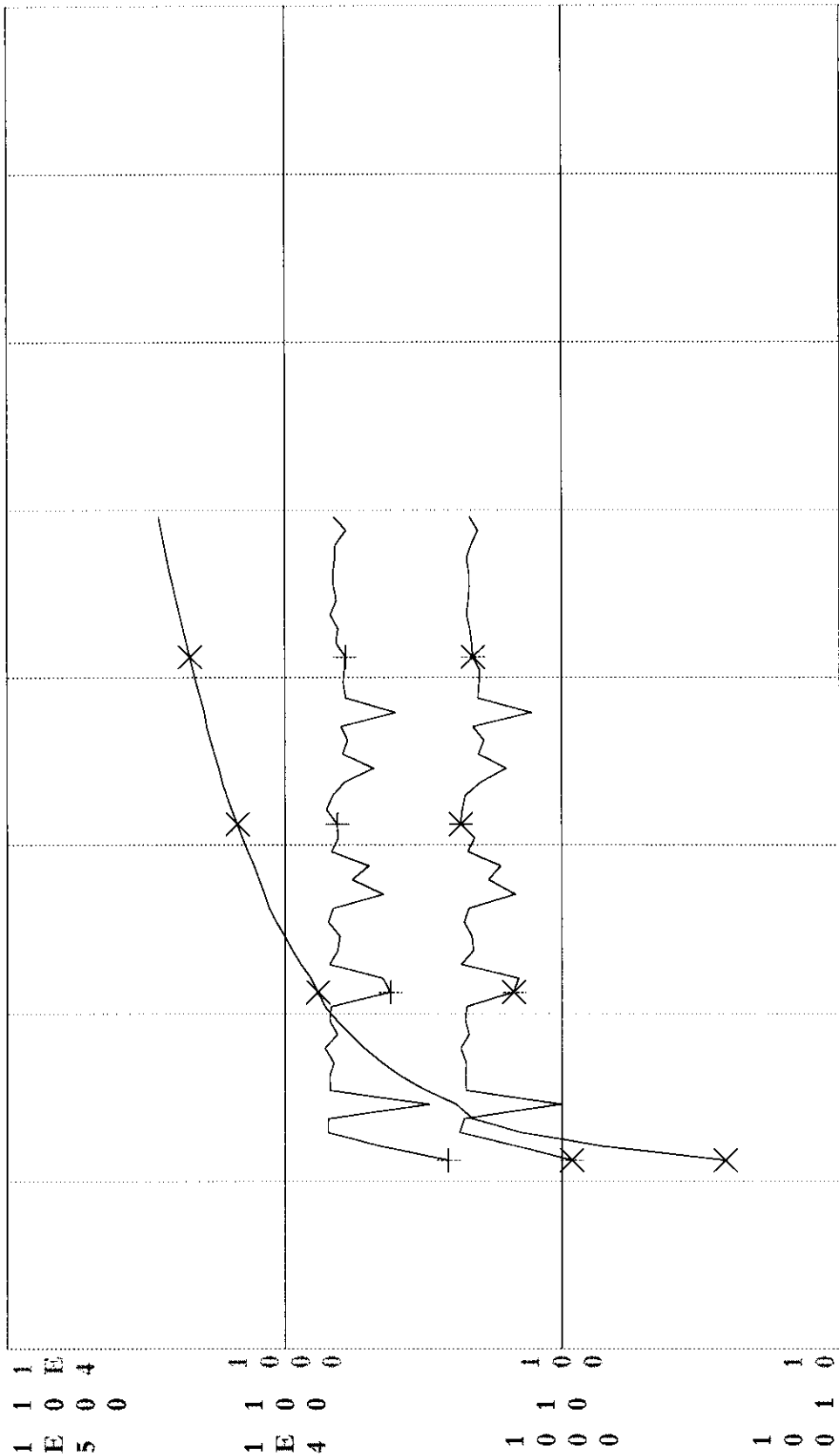
APPENDIX D

WELL 1-32-10-29 HISTORICAL INJECTION PLOT AND DATA

00/H132-00-29W1/0 (Tundra Kolb Unit No. 2 W1W 01-32-10-29W1) Data 10/93-12/00

Operator:
Field: 1
Zone: 60A
Type: Unknown
Group: KOLAUI2

Production Units
Oil: 3032 m3
Gas: 0 m3
Water: 494 m3
Cond: 0 m3



2002

2000

Year



Month Water Inj - m3

Cal Day Water Inj - m3/d

Cum Water Inj - m3

1996 1998 2000 2002

1996 1998 2000 2002

1996 1998 2000 2002

Production Report

Group : KOLAU2 Date : August 18, 2006 4:29:11 am
 Well : Tundra Kola Unit No. 2 WIW 01-32-10-29W1 User : George
 : 00/01-32-010-29W1/0

Production Data from October, 1993 to December, 2000 (cont.)

Year	Month Water Inj m3	Cal Day Water Inj m3/d	Cum Water Inj m3
Nov., 1996			
Dec., 1996			
Jan., 1997			
Feb., 1997	257.9	9.21071	257.9
Mar., 1997	446	14.3871	703.9
Apr., 1997	701.5	23.3833	1405.4
May., 1997	697.5	22.5	2102.9
Jun., 1997	300.8	10.0267	2403.7
Jul., 1997	684.9	22.0935	3088.6
Aug., 1997	689.4	22.2387	3778
Sep., 1997	663.7	22.1233	4441.7
Oct., 1997	716.8	23.1226	5158.5
Nov., 1997	648.1	21.6033	5806.6
Dec., 1997	690.5	22.2742	6497.1
Jan., 1998	681.9	21.9968	7179
Feb., 1998	417.3	14.9036	7596.3
Mar., 1998	442.5	14.2742	8038.8
Apr., 1998	691.1	23.0367	8729.9
May., 1998	644.4	20.7871	9374.3
Jun., 1998	632.7	21.09	10007
Jul., 1998	695.9	22.4484	10702.9
Aug., 1998	668.9	21.5774	11371.8
Sep., 1998	440.2	14.6733	11812
Oct., 1998	569.8	18.3806	12381.8
Nov., 1998	496.5	16.55	12878.3
Dec., 1998	676.2	21.8129	13554.5
Jan., 1999	639.9	20.6419	14194.4
Feb., 1999	646.8	23.1	14841.2
Mar., 1999	706.5	22.7903	15547.7
Apr., 1999	670	22.3333	16217.7
May., 1999	605.2	19.5226	16822.9
Jun., 1999	475.6	15.8533	17298.5
Jul., 1999	618.6	19.9548	17917.1
Aug., 1999	591.1	19.0677	18508.2
Sep., 1999	625.6	20.8533	19133.8
Oct., 1999	397.7	12.829	19531.5
Nov., 1999	601.9	20.0633	20133.4
Dec., 1999	614.1	19.8097	20747.5
Jan., 2000	610.5	19.6935	21358
Feb., 2000	604.5	20.8448	21962.5
Mar., 2000	652.5	21.0484	22615

Production Report

Group : KOLAU2 Date : August 18, 2006 4:29:11 am
Well : Tundra Kola Unit No. 2 WIW 01-32-10-29W1 User : George
: 00/01-32-010-29W1/0

Production Data from October, 1993 to December, 2000 (cont.)

Year	Month Water Inj m3	Cal Day Water Inj m3/d	Cum Water Inj m3
Apr., 2000	642.3	21.41	23257.3
May., 2000	682.6	22.0194	23939.9
Jun., 2000	650.4	21.68	24590.3
Jul., 2000	665.5	21.4677	25255.8
Aug., 2000	668.2	21.5548	25924
Sep., 2000	659.4	21.98	26583.4
Oct., 2000	657.3	21.2032	27240.7
Nov., 2000	600.7	20.0233	27841.4
Dec., 2000	666.6	21.5032	28508