

**TUNDRA OIL AND GAS LTD.**

1999-2000



**NORTH VIRDEN SCALLION UNIT NO. 2**  
#2

**PROGRESS REPORT**

**January 1, 1999 - July 31, 2000**

**OCTOBER, 2000**

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## **NORTH VIRDEN SCALLION UNIT NO.2**

### **INTRODUCTION**

The North Virden Scallion Unit No.2 was unitized in August of 1989 for the purposes of pressure maintenance. Water injection in the Unit commence in January, 1990. The Unit presently has 3 water injection wells, 3 horizontal production wells, and 10 vertical producing wells. Table No.1 outlines the Unit well list. The subject Progress Report covers the operating period from January 1, 1999 to July 31, 2000.

### **DISCUSSION**

#### **1. Production Performance**

Oil production averaged 22.6 m<sup>3</sup>/day during the month of January, 1999 and increased to 46.4 m<sup>3</sup>/day by December 31, 1999 due to the drilling of the 3-32-11-26 horizontal. The average daily oil rate during 1999 was 23.1 m<sup>3</sup>/day. Total oil production during 1999 was 7,780.8 m<sup>3</sup>. Oil production during January, 2000 averaged 44.9 m<sup>3</sup>/day and increased to 47.4 m<sup>3</sup>/day by July 31, 2000. Oil production during the first seven months of 2000 has averaged 52.8 m<sup>3</sup>/day due to the drilling of the 15-30-11-26 horizontal during the first quarter of 2000. Cumulative oil production of 109,051.4 m<sup>3</sup> has been obtained in the Unit to 2000-07-31. Tables No.2 and No.3 summarize the 1999 and 2000 production statistics, respectively. Appendix A outlines the Unit's historical production record.

Water-cut averaged 64% during January, 1999 and decreased to 45% by year end. The average water-cut during 1999 was 64%. Similarly, water-cut averaged 46% during January, 2000 and increased to 62% by July 31, 2000. Water-cut averaged 51% during the first 7 months of 2000.

Remaining recoverable oil reserves of 563 M STB (89,553 m<sup>3</sup>) are estimated at 2000-07-31 from the Unit. Figure No.2 outlines the ultimate oil recovery prediction estimated from the Upper Cherty or Scallion formation in the Unit. Appendix C outlines the 2000 individual well production data.

## **2. Reserves**

The total oil-in-place in both the upper and lower Cherty formation is estimated at 4 MM STB (636,352 m<sup>3</sup>). However, the lower Cherty is not considered to be capable of oil production due to the high prevailing formation water saturation. On this basis, the total oil-in-place in the upper Cherty formation is estimated at 3.5 MM STB (555,818 m<sup>3</sup>). Tables No.4 and No.5 outline the individual well oil-in-place estimates for the upper and lower Cherty zones, respectively.

## **3. Recovery Profiles**

Current oil recovery to 2000-07-31 is estimated at 19.6% of oil-in-place (includes only upper Cherty formation). Ultimate oil recovery from the Unit is forecasted to be 35.7% of the oil-in-place or 1.25 MM STB (198,604 m<sup>3</sup>). This is considered to be approaching the upper spectrum with 16 hectare spacing and pressure maintenance. Table No.6 outlines the individual well recovery profiles. Appendix B outlines the individual well ultimate oil recovery predictions.

## **4. Injector Performance**

Tables No.7, No.8, and No.9 outline the Year 2000 injection performance of the Unit's 3 injection wells (12-29, 10-30, and 4-32-11-26). Total injection averaged 48 m<sup>3</sup>/day during the first 7 months of 2000. The individual injection rate per injector is quite low (16 m<sup>3</sup>/day), which is attributable to the low permeability of the upper Cherty formation.

In summary, total injection during the first 7 months of 2000 was 10,272 m<sup>3</sup>. Cumulative injection to 2000-07-31 was 98,945 m<sup>3</sup>.

## **5. Voidage Replacement**

Table No.10 outlines the voidage replacement calculations for the Unit. Total voidage in the Unit during the first 7 months of 2000 was 23,247 Rm<sup>3</sup>. Total injection during the same period equalled 10,271 Rm<sup>3</sup>. The resulting voidage replacement ratio in the Unit was 0.44 Rm<sup>3</sup>/Rm<sup>3</sup>. A cumulative voidage replacement ratio (VRR) of 0.42 Rm<sup>3</sup>/Rm<sup>3</sup> has been achieved in the Unit to 2000-07-31. As is obvious, withdrawals are significantly above injection, which has contributed to a low cumulative VRR after over 10 years of pressure maintenance. This situation is attributable to the low injection capacity of the existing injectors. As a result, more injectors are quite likely required to provide for more effective voidage replacement. This is especially more significant now with the recent drilling of three horizontal wells in the Unit. A review was also completed of the voidage replacement on a per Section basis. The results of this review are outlined here-after.

### **a. Voidage Replacement Section 29-11-26**

Table No.11 outlines the voidage replacement in Section 29-11-26. Total voidage in Section 29 during the first 7 months of 2000 was 6,524 Rm<sup>3</sup>. Total injection during the same period equalled 2,888 Rm<sup>3</sup>. The resulting voidage replacement ratio in Section 29 was 0.44 Rm<sup>3</sup>/Rm<sup>3</sup>. A cumulative VRR of 0.38 Rm<sup>3</sup>/Rm<sup>3</sup> has been achieved in Section 29 to 2000-07-31. As is obvious again, there is low cumulative voidage replacement in this area of the Unit with the existing injector at 12-29. This situation is further complicated by the fact that there are two horizontal wells impacting the voidage in this area of the Unit. Further consideration will have to be given as to whether another well should be converted to injection service in Section 29 to improve voidage replacement.

### **b. Voidage Replacement Section 30-11-26**

Table No.12 outlines the voidage replacement in Section 30-11-26. Total voidage in Section 30 during the first 7 months of 2000 was 7,592 Rm<sup>3</sup>. Total injection during the same period equalled 4,747 Rm<sup>3</sup>. The resulting voidage replacement ratio in the Unit was 0.63 Rm<sup>3</sup>/Rm<sup>3</sup>. A cumulative

VRR of 0.55 Rm<sup>3</sup>/Rm<sup>3</sup> has been achieved in Section 30 to 2000-07-31. Voidage replacement in Section 30 is better than in Section 29, however, with recent horizontal development in this sector of the Unit, further pressure maintenance will also have to be considered in Section 30. The Unit has also quite likely been impacted historically by SWD 8-30-11-26, based on it's close proximity to the Unit, and the large volume of produced water disposed into the Scallion formation in this area.

### **c. Voidage Replacement Section 32-11-26**

Table No.13 outlines the voidage replacement in Section 32-11-26. Total voidage in Section 32 during the first 7 months of 2000 equalled 9,263 Rm<sup>3</sup>. Total injection during the same period equalled 2,636 Rm<sup>3</sup>. The resulting voidage replacement ration in the Unit was 0.28 Rm<sup>3</sup>/Rm<sup>3</sup>. A cumulative VRR of 0.36 Rm<sup>3</sup>/Rm<sup>3</sup> has been achieved in Section 32 to 2000-07-31. Voidage replacement in Section 32 is the lowest in the Unit. The drilling of the 3-32-11-26 horizontal during 1999 will further place an additional load on voidage replacement in Section 32. Further pressure maintenance improvement will also have to be considered in this area of the Unit.

## **6. Pressure Surveys**

Three pressure surveys have been completed during the last 5 years in the Unit. The pressure survey included wells 11-19, 16-30, and 5-32-11-26. The conclusion from the pressure survey was that original static reservoir pressure conditions existed in the Unit during 1995. In comparison to pressure surveys completed prior to unitization (original pressure at time of unitization), there did not appear to be any decline in reservoir pressure in the Unit leading up to the surveys completed in 1995. This suggests that in addition to mechanical pressure maintenance support, there appears to be external aquifer pressure support also being provided to the Scallion formation. Current pressure surveys are required to determine how effective this natural aquifer support is in replacing voidage, especially with the addition of three horizontal wells in the Unit during the last 2 years. Appendix F outlines the historical pressure surveys completed in the Unit during the last 5 years. A Year 2000 program would include conducting

pressure surveys on the same wells that were surveyed in 1995. From there, an assessment can be made as to how many, and where these new injectors should be installed to improve voidage replacement and oil recovery.

## **7. Individual Well Performance**

A review of the production of each of the producing wells is presented hereafter. The analysis is referenced to the wells outlined in Appendices B, C, and G.

### **a. 6-29-11-26**

Oil production at the beginning of 1999 was 1.1 m<sup>3</sup>/day at a water-cut of 84%. By year end, oil production declined to 0.83 m<sup>3</sup>/day at a water-cut of 48%. The decrease in water-cut was accompanied with a significant decrease in the total fluid production. The decline in total fluid production is quite likely attributable to interference from the non-Unit horizontal at 16-19-11-26. Oil production at July 31, 2000 has further declined to 0.5 m<sup>3</sup>/day with an increase in water-cut to 60%. Total fluid has stabilized at 1.2 m<sup>3</sup>/day. No corrective action is planned during 2000.

### **b. 11-29-11-26**

Oil production at the beginning of 1999 was 0.98 m<sup>3</sup>/day at a water-cut of 61%. By year end, oil production has slightly increased to 1.1 m<sup>3</sup>/day with a decrease in water-cut to 51%. Oil production at July 31, 2000 was 1.1 m<sup>3</sup>/day at a water-cut of 59%. The total fluid production at 11-19 has not been impacted by the 16-30-11-26 horizontal, which offsets the 11-29 well to the north. The 12-29 injector appears to be providing suitable pressure maintenance to the 11-29 well. No corrective work is planned at the 11-29 well during 2000, except possible consideration for a pressure survey.



**c. 13-29-11-26**

Oil production at the beginning of 1999 was 0.45 m<sup>3</sup>/day at a water-cut of 46%. By year end, oil production had declined to 0.37 m<sup>3</sup>/day at a water-cut of 57%. Since the 16-30-11-26 horizontal commenced production in 1998, the total fluid production at 13-29 has declined by 60%. This is directly attributable to interference from the 16-30 horizontal. Oil production at July 31, 2000 was 0.28 m<sup>3</sup>/day at a water-cut of 63%. The 13-29 well may be a possible injector, or will be abandoned if production continues to further decline. No further corrective action is planned at this location during 2000.

**d. 14-29-11-26**

Oil production at the beginning of 1999 was 1.34 m<sup>3</sup>/day at a water-cut of 72%. By year end, oil production had declined slightly to 1.1 m<sup>3</sup>/day at a water-cut of 74%. The 14-29 well appears to be receiving very little interference from the 16-30 horizontal. Total fluid has declined by only 15%, since the 16-30 horizontal went on production in early 1998. Oil production at July 31, 2000 was 0.97 m<sup>3</sup>/day at a water-cut of 80%. No further work is planned at this location during 2000.

**e. 9-30-11-26**

Oil production at the beginning of 1999 was 0.8 m<sup>3</sup>/day at a water-cut of 70%. By year end, oil production was relatively unchanged at 0.83 m<sup>3</sup>/day at a water-cut of 66%. Oil production at 9-30 has been impacted by both horizontals 15-30 and 16-30-11-26. There has been a decline in total fluid production at 9-30 after each of the two aforementioned horizontals commenced production. Oil production at July 31, 2000 averaged 0.27 m<sup>3</sup>/day at a water-cut of 82%. The 9-30 well will be considered as a pressure survey candidate during 2000. No further work is planned at this location during 2000.

**f. 15-30-11-26**

Oil production at the beginning of 1999 was 0.27 m<sup>3</sup>/day at a water-cut of 59%. By year end, oil production was relatively unchanged at 0.28 m<sup>3</sup>/day at a water-cut of 64%. The 15-30 well is a pool edge well and has always been a marginal performer. Oil production at July 31, 2000 was 0.14 m<sup>3</sup>/day at a water-cut of 81%. The 15-30 well is at its economic limit, and will be considered either as a potential injector after the pressure survey program is completed or for abandonment operations.

**g. 15-30-11-26 Horizontal**

The 15-30 horizontal was drilled during the first quarter of 2000. Oil production during February, 2000 averaged 18.7 m<sup>3</sup>/day at a water-cut of 54%. By July 31, 2000, oil production had declined to 13.7 m<sup>3</sup>/day with an increase in water-cut to 68%. The decline in oil production is directly attributable to an increasing water-cut. The 15-30 horizontal is quite likely impacting the performance of the 16-30 vertical well. More production time is required at 15-30 horizontal to determine its impact on the offsetting wells. The 15-30 horizontal well would also benefit from improved voidage replacement in this area of the Unit.

**h. 16-30-11-26**

Oil production at the beginning of 1999 was 1.3 m<sup>3</sup>/day at a water-cut of 68%. By year end, oil production was relatively unchanged at 1.39 m<sup>3</sup>/day at a water-cut of 57%. The 16-30 vertical well seems to not have been impacted by the 16-30 horizontal well at this time. However, with the drilling of the 15-30-11-26 horizontal, the total fluid production at 16-30 vertical has declined by 50%. This confirms that there is interference occurring from the 15-30 horizontal well at this time. Oil production at July 31, 2000 was 0.64 m<sup>3</sup>/day at a water-cut of 68%. Production will be monitored at the 16-30 vertical well during 2000, and this location may be considered for pressure maintenance at a later date.

**i. 16-30-11-26 Horizontal**

Oil production at the beginning of 1999 was 13.2 m<sup>3</sup>/day at a water-cut of 39%. By year end, oil production had declined to 10.8 m<sup>3</sup>/day at a water-cut of 51%. Total fluid has not declined during 1999, but the decline in oil production has been attributable to an increasing water-cut. More recently, oil production declined to 8 m<sup>3</sup>/day at a water-cut of 59%. The more recent decline in oil production is attributable to a bottom-hole pump problem. Although there has not been a significant decline in total fluid production at the 16-30 horizontal, this well would also benefit from improved pressure maintenance in this area of the Unit. No further action is planned at this location during the balance of 2000.

**j. 1-31-11-26**

Oil production at the beginning of 1999 was 1.16 m<sup>3</sup>/day at a water-cut of 90%. By year end, oil production had increased slightly to 1.3 m<sup>3</sup>/day with a decline in water-cut to 27%. The decline in water-cut is attributable to resetting a packer up-hole where a casing leak was causing out of zone water inflow. Oil production at July 31, 2000 has declined to 0.6 m<sup>3</sup>/day with an increase in water-cut to 44%. The 1-31 well is probably being impacted by the 3-32-11-26 horizontal well that was drilled in late 1999. More production time is required to determine the long term impact of interference at 1-31 due to the 3-32 horizontal. No further work is planned at 1-31 during 2000.

**k. 3-32-11-26**

Oil production at the beginning of 1999 was 0.62 m<sup>3</sup>/day at a water-cut of 82%. By year end, oil production was relatively unchanged at 0.65 m<sup>3</sup>/day with a decrease in water-cut to 75%. At this time there does not appear to be any interference from the offsetting 3-32 horizontal, with one lateral extending into LSD 3-32. Oil production at July 31, 2000 was 0.67 m<sup>3</sup>/day at a water-cut of 77%. No further corrective work is planned at this location during the balance of 2000.

**l. 3-32-11-26 Horizontal**

Oil production at this new well commenced in December, 1999 at 26 m<sup>3</sup>/day at a water-cut of 34%. Oil production at July 31, 2000 was 19.9 m<sup>3</sup>/day with an increase in water-cut to 52%. The decline in oil productivity is directly related to the increase in water-cut. No corrective work is required at 3-32 horizontal during the balance of 2000.

**m. 5-32-11-26**

Oil production at January, 1999 was 1.2 m<sup>3</sup>/day at a water-cut of 43%. By year end, oil production had increased to 1.48 m<sup>3</sup>/day at a water-cut of 28%. The increase in oil production was directly related to the decrease in water-cut. By July 31, 2000 oil production had declined to 0.5 m<sup>3</sup>/day at a water-cut of 63%. The decline in oil productivity is attributable to both interference from the 3-32 horizontal and an increasing water-cut. The 5-32 well will be considered for a pressure buildup test during the balance of Year 2000. No further action is required at this location during the balance of the year.

**n. 6-32-11-26**

Oil production at January, 1999 was 0.27 m<sup>3</sup>/day at a water-cut of 64%. By year end, oil production increased to 0.4 m<sup>3</sup>/day at a water-cut of 68%. The 6-32 well is on the edge of the pool and has always been a marginal producer. There does not appear to be any interference at this time between the 6-32 vertical and the offsetting 3-32 horizontal. Oil production at July 31, 2000 averaged 0.18 m<sup>3</sup>/day at a water-cut of 73%. No corrective action is planned for this location during the balance of the year.

**8. Summary**

The North Virden Scallion Unit No.2 has been on waterflood operations for over 10 years. There appears to be both a lack of effective annual and cumulative voidage replacement with the existing injection wells. Historical pressure surveys suggest that the Upper Cherty or Scallion formation is receiving pressure support from the underlying aquifer. Current pressure

surveys are required to determine the degree to which injection should be increased in the Unit to more effectively replace voidage. The drilling of 3 horizontal wells during the period from 1998 to 2000 has placed further pressure on voidage replacement in the Unit with the existing injection wells. The remaining producing life of the Unit is forecasted to be 25 years.

## **CONCLUSIONS**

The following conclusions are offered by Tundra Oil and Gas Ltd. in our efforts to maximize oil recovery from the North Virden Scallion Unit No.2:

1. Waterflood response in the Unit has been characterized by an initial increase in oil production after injection commenced in 1990, with a flattening of the production profile until 1998, when production increased significantly with the drilling of the first horizontal well in the Unit.
2. Horizontal drilling has significantly increased oil production in the Unit. The addition of 3 horizontal wells in the Unit during the period from 1998 to 2000 has provided both incremental oil recovery and rate acceleration. Rate acceleration has been confirmed as a result of interference with several vertical wells.
3. Current pressure surveys in the Unit are required to determine whether further injectors are required to improve voidage replacement. There is a possibility that the underlying aquifer is supplying pressure support to the Scallion formation. The following wells will be considered for a pressure buildup during 2000: 11-29, 13-29, 9-30, 16-30, and 5-32-11-26.
4. Subject to the results from the pressure survey, additional injectors may be installed in the Unit to improve voidage replacement and oil recovery.
5. Further horizontal drilling is not being considered in the Unit at this time.

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**TABLE NO.1**

**WELL LIST**

<b><u>WELL</u></b>	<b><u>STATUS</u></b>
6-29-11-26	PRODUCING
11-29-11-26	PRODUCING
12-29-11-26	INJECTOR
13-29-11-26	PRODUCING
14-29-11-26	PRODUCING
9-30-11-26	PRODUCING
10-30-11-26	INJECTOR
15-30-11-26	PRODUCING
15-30-11-26 Hz	PRODUCING
16-30-11-26	PRODUCING
16-30-11-26 Hz	PRODUCING
3-32-11-26	PRODUCING
3-32-11-26 Hz	PRODUCING
4-32-11-26	INJECTOR
5-32-11-26	PRODUCING
6-32-11-26	PRODUCING

TABLE NO.3												
NORTH VIRDEN SCALLION UNIT NO.2												
2000 PRODUCTION DATA												
	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
OIL (m3)	1393.1	1530.8	1835.0	1848.5	1,661.5	1552.0	1456.9	-	-	-	-	-
WATER (m3)	1,167.1	1,376.9	1,658.7	1,610.3	1,668.6	1,809.1	2,324.8	-	-	-	-	-
TOTAL FLUID (m3)	2560.2	2907.7	3493.7	3258.8	3330.1	3361.1	3781.7	-	-	-	-	-
DAILY OIL (m3/day)	44.9	57.8	59.2	54.9	53.6	51.7	47.4	-	-	-	-	-
WATER-CUT (%)	45.6	47.3	47.5	49.4	50.1	53.8	61.5	-	-	-	-	-
AVERAGE MONTHLY OIL =					1,582.5	m3						
AVERAGE MONTHLY WATER =					1,659.4	m3						
AVERAGE MONTHLY TOTAL FLUID =					3,241.9	m3						
AVERAGE ANNUAL DAILY OIL =					52.8	m3/day						
AVERAGE MONTHLY WATER-CUT =					51.2	%						
2000 CUM. OIL PRODUCTION (to 2000-7-31)					11,077.8	m3						
2000 CUM. WATER PRODUCTION (to 00-7-31)					11,615.5	m3						
CUM. OIL PRODUCTION TO 2000-07-31					109,051.4	m3						



TABLE NO.4											
NORTH VIRDEN SCALLION UNIT NO.2											
ORIGINAL OIL-IN-PLACE ESTIMATES											
UPPER CHERTY ZONE											
Well	Constant	Area (hectares)	Area Factor (fraction)	Net Pay (metres)	Porosity (fraction)	Sw (fraction)	So (fraction)	Boi (Rm3/m3)	OOIP (m3)	OOIP (STB)	
6-29-11-26	10,000	16.19	0.85	2.44	0.16	0.6	0.4	1.05	20,467	128,735	
11-29-11-26	10,000	16.19	0.95	4.2	0.191	0.5	0.5	1.05	58,418	367,448	
12-29-11-26	10,000	16.19	1	3.2	0.219	0.5	0.5	1.05	54,028	339,838	
13-29-11-26	10,000	16.19	1	3	0.17	0.5	0.5	1.05	39,319	247,314	
14-29-11-26	10,000	16.19	0.75	4.3	0.195	0.5	0.5	1.05	48,145	302,832	
9-30-11-26	10,000	16.19	1	3.7	0.23	0.5	0.5	1.05	64,899	408,213	
10-30-11-26	10,000	16.19	1	3.0	0.23	0.6	0.4	1.05	42,415	266,789	
15-30-11-26	10,000	16.19	0.75	1.5	0.165	0.66	0.34	1.05	9,731	61,210	
16-30-11-26	10,000	16.19	1	3	0.22	0.5	0.5	1.05	50,883	320,053	
1-31-11-26	10,000	16.19	0.95	2.5	0.195	0.5	0.5	1.05	35,705	224,583	
3-32-11-26	10,000	16.19	0.45	3.1	0.175	0.6	0.4	1.05	15,057	94,707	
4-32-11-26	10,000	16.19	1	4.11	0.2	0.5	0.5	1.05	63,372	398,612	
5-32-11-26	10,000	16.19	1	3	0.2	0.5	0.5	1.05	46,257	290,957	
6-32-11-26	10,000	16.19	0.4	2	0.165	0.65	0.35	1.05	7,124	44,807	
Total									555,818	3,496,098	

TABLE NO.5										
NORTH VIRDEN SCALLION UNIT NO.2										
ORIGINAL OIL-IN-PLACE ESTIMATES										
LOWER CHERTY ZONE										
Well	Constant	Area (hectares)	Net Pay (metres)	Porosity (fraction)	Sw (fraction)	So (fraction)	Boi (Rm3/m3)	OOIP (m3)	OOIP (STB)	
12-29-11-26	10,000	16.19	2	0.16	0.7	0.3	1.05	14,802	93,106	
14-29-11-26	10,000	16.19	2.6	0.185	0.7	0.3	1.05	19,844	124,821	
16-30-11-26	10,000	16.19	2.6	0.16	0.7	0.3	1.05	19,243	121,038	
3-32-11-26	10,000	16.19	3.6	0.16	0.7	0.3	1.05	26,644	167,591	
Total								80,534	506,557	

TABLE NO.6

## NORTH VIRDEN SCALLION UNIT NO.2

NVSU#2RECP 2000.XLS

## CURRENT SCALLION RATES AND RECOVERY PROFILES

Well	Oil Rate (m3/day) 2000-07-31	Water-cut (%) 2000-07-31	Total Rate (m3/day) 2000-07-31	Cum. Oil (m3) 2000-07-31	OOIP (m3)	Ultimate Rec. (m3)	Rem. Oil (m3) 2000-07-31	Cur. Rec. Fac. (% of OOIP) 2000-07-31	Ult. Rec. Fac (% of OOIP)
6-29-11-26	0.51	60	1.3	6,099.7	20,467	10,000	3,900	29.8	48.9
11-29-11-26	1.11	58	2.6	9,510.9	58,418	13,995	4,484	16.3	24.0
12-29-11-26	-	-	-	2,132.3	54,028	2,132	0	3.9	3.9
13-29-11-26	0.28	63	0.8	5,991.4	39,319	6,155	164	15.2	15.7
14-29-11-26	0.97	81	5.1	12,348.8	48,145	18,160	5,811	25.6	37.7
9-30-11-26	0.27	82	1.5	8,890.1	64,899	8,949	59	13.7	13.8
10-30-11-26	-	-	-	2,888.7	42,415	2,889	0	6.8	6.8
15-30-11-26	0.14	81	0.7	2,133.0	9,731	2,185	52	21.9	22.5
15-30-11-26 Hz	13.7	68	42.8	2,683.6	-	18,750	16,066	-	-
16-30-11-26	0.64	68	2.0	10,449.8	50,883	14,385	3,935	20.5	28.3
16-30-11-26 Hz	8.1	59	19.6	11,975.8	-	34,920	22,944	-	-
3-32-11-26	0.7	77	2.9	4,904.2	15,057	6,720	1,816	32.6	44.6
3-32-11-26 Hz	20.16	52	42.0	5,462.6	-	27,430	21,967	-	-
4-32-11-26	-	-	-	3,745.1	63,372	3,745	0	5.9	5.9
5-32-11-26	0.48	63	1.3	6,724.6	46,257	10,270	3,545	14.5	22.2
6-32-11-26	0.18	73	0.7	1,794.2	7,124	1,794	0	25.2	25.2
1-31-11-26	0.58	44	1.0	11,316.6	35,705	16,125	4,808	31.7	45.2
<b>TOTALS</b>	<b>47.7</b>	<b>61.6</b>	<b>124.4</b>	<b>109,051</b>	<b>555,820</b>	<b>198,604</b>	<b>89,553</b>	<b>19.6</b>	<b>35.7</b>



TABLE NO.8												
NORTH VIRDEN SCALLION UNIT NO.2												
2000 WATER INJECTION SUMMARY												
10-30-11-26 INJECTION WELL												
	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
TOTAL(m3)	597	477	652	624	804	818	775	-	-	-	-	-
DAILY(m3/day)	19	16	21	21	26	27	25	-	-	-	-	-
2000 AVERAGE ANNUAL DAILY INJECTION												
					22	m3/day						
CUMULATIVE INJECTION TO 99-12-31 =												
					31,417	m3						
TOTAL 2000 ANNUAL INJECTION (00.07.31)												
					4,747	m3						
CUMULATIVE INJECTION TO 2000-07-31												
					36,164	m3						

TABLE NO.9												
NORTH VOIREDEN SCALLION UNIT NO.2												
2000 WATER INJECTION SUMMARY												
4-32-11-26 INJECTION WELL												
	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
TOTAL(m3)	229	169	247	427	520	528	516	-	-	-	-	-
DAILY(m3/day)	7	6	8	14	17	18	17	-	-	-	-	-
2000 AVERAGE ANNUAL DAILY INJECTION												
CUMULATIVE INJECTION TO 99-12-31 =												
TOTAL 2000 ANNUAL INJECTION (00.07.31)												
CUMULATIVE INJECTION TO 2000-07-31												

				TABLE NO.10							
				NORTH VIRDEN SCALLION UNIT NO.2							
				VOIDAGE CALCULATIONS							
				FROM January 1, 2000 TO July 31, 2000							
				OIL FORMATION VOLUME FACTOR = 1.05 Rm3							
MONTH	OIL PRODUCTION	WATER PRODUCTION	OIL VOIDAGE	TOTAL VOIDAGE	TOTAL INJECTION	NET VOIDAGE	VOIDAGE REPLACEMENT RATIO				
	m3	m3	Rm3	Rm3	Rm3	Rm3	VRR				
JAN.	1,393.1	1,167.1	1,462.76	2,629.9	1,135	1,494.86	0.43				
FEB.	1,530.8	1,376.9	1,607.34	2,984.2	935	2,049.24	0.31				
MAR.	1,835.0	1,658.7	1,926.75	3,585.5	1,342	2,243.45	0.37				
APRIL	1,648.5	1,610.3	1,730.93	3,341.2	1,516	1,825.23	0.45				
MAY	1,661.5	1,668.6	1,744.58	3,413.2	1,799	1,614.18	0.53				
JUNE	1,552.0	1,809.1	1,629.60	3,438.7	1,807	1,631.70	0.53				
JULY	1,456.9	2,324.8	1,529.75	3,854.5	1,737	2,117.55	0.45				
AUG.	-	-	-	-	-	-	-				
SEPT.	-	-	-	-	-	-	-				
OCT.	-	-	-	-	-	-	-				
NOV.	-	-	-	-	-	-	-				
DEC.	-	-	-	-	-	-	-				
TOTAL	11,077.8	11,615.5	11,631.7	23,247.2	10,271.0	12,976.2	0.44				
CUM. POOL VOIDAGE (00.07.31) =			235,270	Rm3							
CUM. POOL INJECTION (00.07.31) =			98,945	Rm3							
CUM. NET VOIDAGE (00.07.31) =			136,325	Rm3							
CUM. VRR (00.07.31) =			0.42	Rm3 / Rm3							

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		TABLE NO.12											
				NORTH VIRDEN SCALLION UNIT NO.2									
				VOIDAGE CALCULATIONS									
				FROM January 1, 2000 TO July 31, 2000									
				OIL FORMATION VOLUME FACTOR = 1.05 Rm3									
				Section 30-11-26									
MONTH		OIL PRODUCTION	WATER PRODUCTION	OIL VOIDAGE	TOTAL VOIDAGE	TOTAL INJECTION	NET VOIDAGE	VOIDAGE REPLACEMENT RATIO					
		m3	m3	Rm3	Rm3	Rm3	Rm3	VRR					
JAN.		109.9	165.1	115.40	280.5	597	-316.51	2.13					
FEB.		343.5	433.4	360.68	794.1	477	317.08	0.60					
MAR.		609.6	683.4	640.08	1,323.5	652	671.48	0.49					
APRIL		535.7	697.9	562.49	1,260.4	624	636.39	0.50					
MAY		495.3	805.6	520.07	1,325.7	804	521.67	0.61					
JUNE		456.9	750.2	479.75	1,229.9	818	411.95	0.67					
JULY		429.3	926.7	450.77	1,377.5	775	602.47	0.56					
AUG.		-	-	-	-	-	-	-					
SEPT.		-	-	-	-	-	-	-					
OCT.		-	-	-	-	-	-	-					
NOV.		-	-	-	-	-	-	-					
DEC.		-	-	-	-	-	-	-					

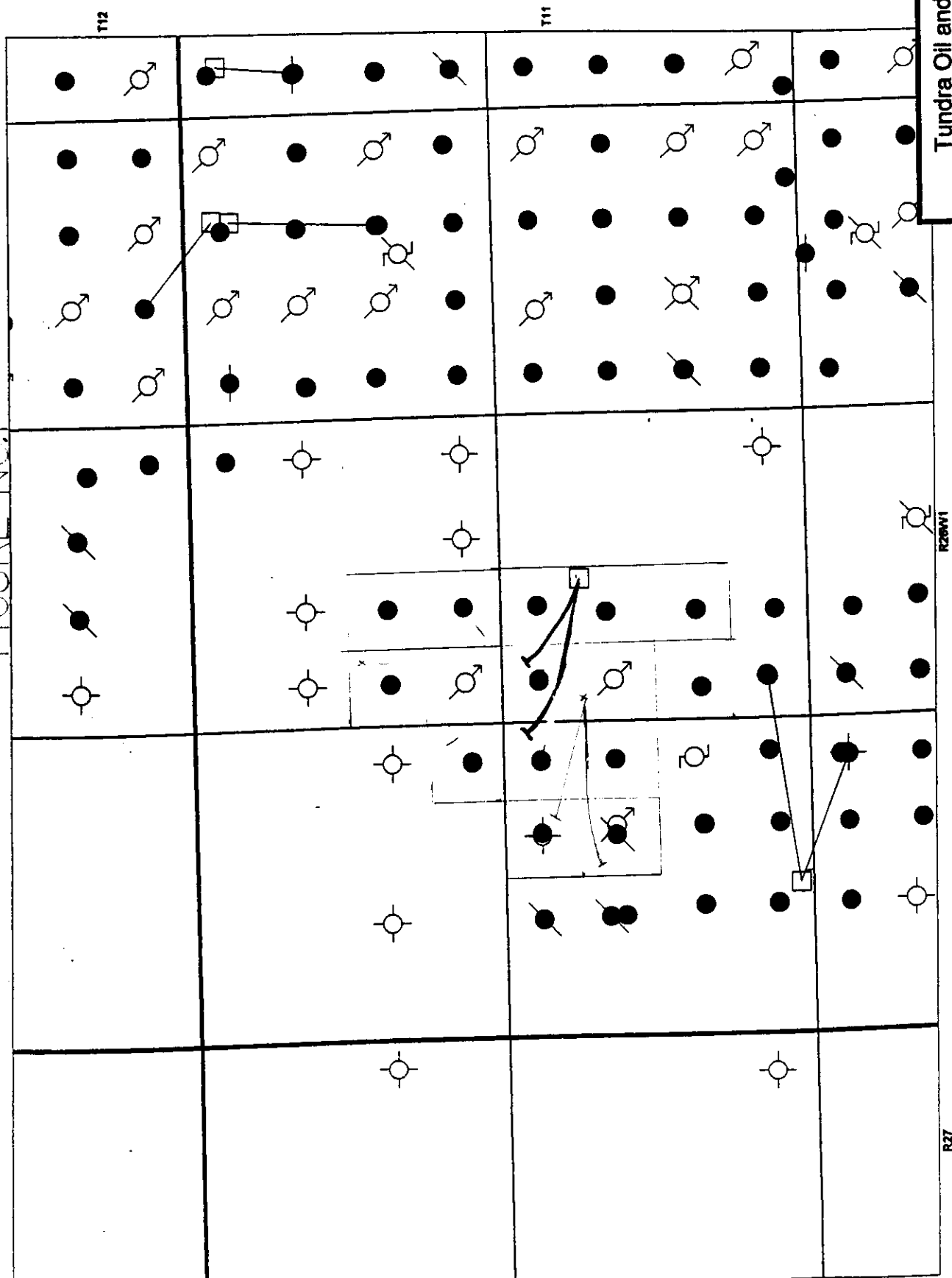
		TABLE NO.13					
		NORTH VIRDEN SCALLION UNIT NO.2					
		VOIDAGE CALCULATIONS					
		FROM January 1, 2000 TO July 31, 2000					
		OIL FORMATION VOLUME FACTOR = 1.05 Rm3					
		Section 32-11-26					
MONTH	OIL PRODUCTION	WATER PRODUCTION	OIL VOIDAGE	TOTAL VOIDAGE	TOTAL INJECTION	NET VOIDAGE	VOIDAGE REPLACEMENT RATIO
	m3	m3	Rm3	Rm3	Rm3	Rm3	VRR
JAN.	877.7	495.4	921.59	1,417.0	229	1,187.99	0.16
FEB.	793.6	450.5	833.28	1,283.8	169	1,114.78	0.13
MAR.	804.1	477.1	844.31	1,321.4	247	1,074.41	0.19
APRIL	672.8	481.7	706.44	1,188.1	427	761.14	0.36
MAY	714.4	538.8	750.12	1,288.9	520	768.92	0.40
JUNE	680.3	561.9	714.32	1,276.2	528	748.22	0.41
JULY	674.2	780.0	707.91	1,487.9	516	971.91	0.35
AUG.	-	-	-	-	-	-	-
SEPT.	-	-	-	-	-	-	-
OCT.	-	-	-	-	-	-	-
NOV.	-	-	-	-	-	-	-
DEC.	-	-	-	-	-	-	-
TOTAL	5,217.1	3,785.4	5,478.0	9,263.4	2,636.0	6,627.4	0.28
CUM. POOL VOIDAGE (00.07.31) =			69,512	Rm3			
CUM. POOL INJECTION (00.07.31) =			25,161	Rm3			
CUM. NET VOIDAGE (00.07.31) =			44,351	Rm3			
CUM. VRR (00.07.31) =			0.36	Rm3 / Rm3			

**LIST OF FIGURES**

**Figure No.1: - Unit Area Map**

**Figure No.2: - Unit Production History and Ultimate Recovery Forecast**

FIGURE NO.



Tundra Oil and Gas Ltd.

North Virden Scallion Unit #2

Licensed to: Tundra Oil & Gas

By: [Signature]

Date: 1999/04/29

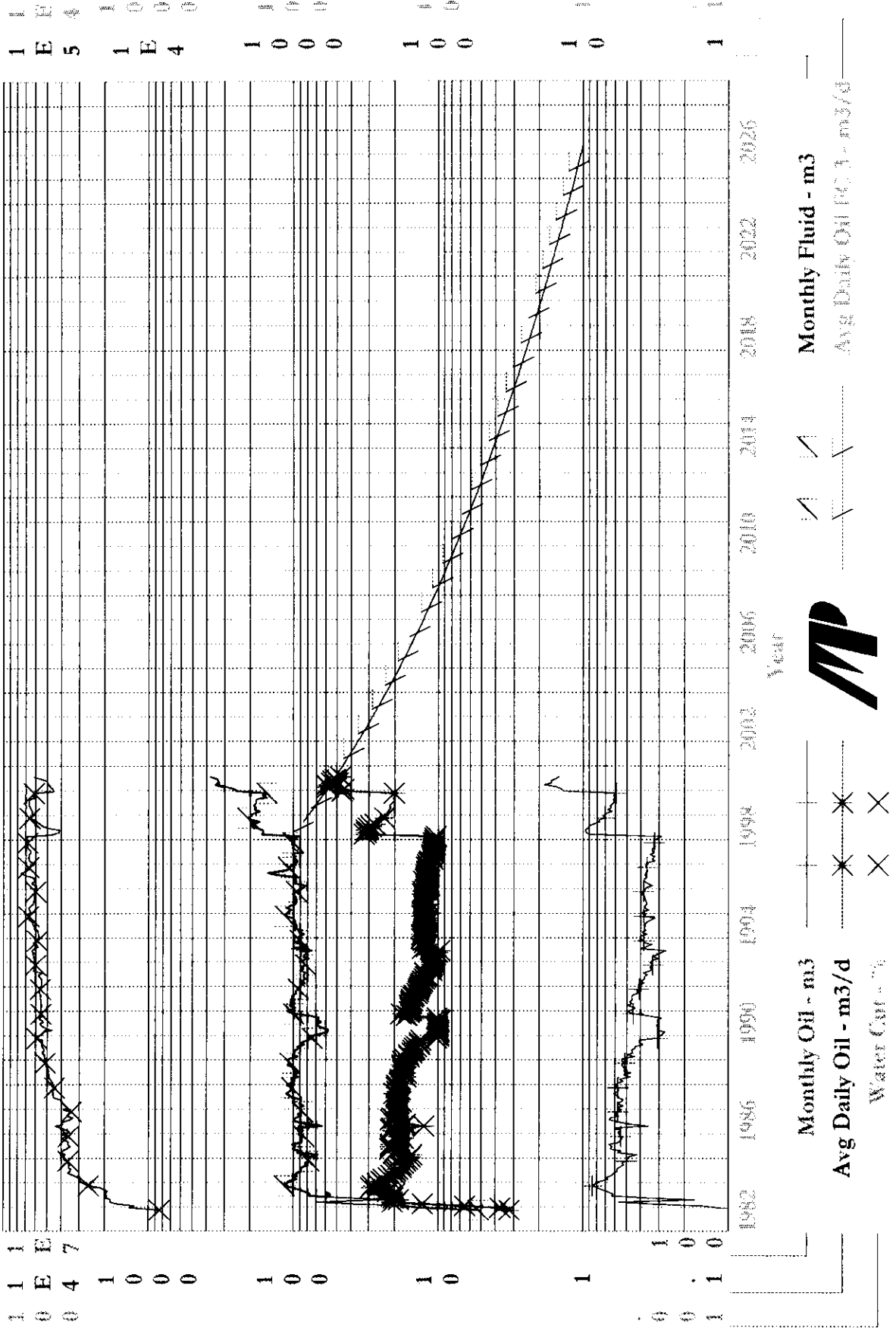
Scale: 1:30000

Project: Lighthouse

Sheet: [Number]

FIGURE NC.2

Operator: NVSL NUCWELL, Inc. 11/82-07/00  
 Field: Avg Daily Oil FCF (Rate-Time)  
 Zone: qt: 87,328 m3/d, Sep. 1996  
 Type: Unknown qt: 0.99271 m3/d, May 2026  
 Group: NVSL#2 dcf (tp): 24,948 CID: 10031 m3  
 RR: 80532.8 m3 For 19844 m3



## **LIST OF APPENDICES**

- Appendix A: Unit Production History**
- Appendix B: Individual Well Ultimate Recovery Predictions**
- Appendix C: Year 2000 Individual Well Production Data**
- Appendix D: Water Injector Historical Plots**
- Appendix E: Water Injector Historical Injection Data**
- Appendix F: Historical Pressure Surveys**
- Appendix G: Historical Well Production Data**

## APPENDIX A

### UNIT PRODUCTION HISTORY

## Production Report

Group : NVSU#2	Date : 3/1/6 5:50:13 am
Well : NVSUN02WELL	User : George
: 000000002	
Hist.Data : 11/82-07/00	On Prod : 02/09
Operator :	Status : Unknown
Field :	Zone :

### Production Data from November, 1982 to July, 2000

Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
Nov., 1982	3.21333	48.2	48.2	8.36164	4.4	4.4
Dec., 1982	3.7	114.7	162.9	13.5593	18	22.4
Jan., 1983	6.53578	147.6	310.5	12.5022	21.0993	43.4993
Feb., 1983	12.7658	323.401	633.901	16.4282	63.6008	107.1
Mar., 1983	20.6517	561.9	1195.8	18.4404	127.1	234.2
Apr., 1983	18.6679	171.9	1367.7	18.2137	38.2988	272.499
May., 1983	20.345	369.601	1737.3	19.7845	91.1995	363.698
Jun., 1983	20.8634	625.901	2363.2	19.3359	150.1	513.798
Jul., 1983	19.7709	612.899	2976.1	19.8229	151.6	665.398
Aug., 1983	22.2698	678.299	3654.4	19.1083	160.3	825.697
Sep., 1983	26.7294	738.401	4392.8	20.1227	186.1	1011.8
Oct., 1983	29.176	791.399	5184.2	21.465	216.399	1228.2
Nov., 1983	28.5233	855.699	6039.9	25.969	300.299	1528.49
Dec., 1983	26.0839	808.601	6848.5	27.6073	308.499	1836.99
Jan., 1984	24.6163	754.899	7603.4	29.6825	318.8	2155.79
Feb., 1984	23.7693	669.501	8272.9	29.2042	276.3	2432.09
Mar., 1984	22.1387	686.299	8959.2	30.4708	300.899	2732.99
Apr., 1984	21.0933	632.799	9592	32.4413	304	3036.99
May., 1984	20.0088	608.6	10200.6	35.8187	339.8	3376.79
Jun., 1984	19.5067	578.699	10779.3	34.3853	303.4	3680.19
Jul., 1984	18.8507	582.8	11362.1	34.0849	301.501	3981.69
Aug., 1984	17.9678	557	11919.1	35.5744	307.699	4289.39
Sep., 1984	17.7914	520.399	12439.5	34.7935	277.801	4567.19
Oct., 1984	17.2065	533.401	12972.9	35.8176	297.8	4864.99
Nov., 1984	16.6367	499.1	13472	35.9206	279.9	5144.9
Dec., 1984	16.2579	497.9	13969.9	38.3379	309.701	5454.6
Jan., 1985	15.5323	481.5	14451.4	37.6757	291.2	5745.8
Feb., 1985	15.1332	423.1	14874.5	37.3824	252.7	5998.5
Mar., 1985	20.1276	572.799	15447.3	39.1634	368.9	6367.4
Apr., 1985	19.7639	546.8	15994.1	39.0986	351.199	6718.59
May., 1985	21.3517	645	16639.1	36.6302	373	7091.59
Jun., 1985	21.2823	629.601	17268.7	34.5702	332.8	7424.4
Jul., 1985	21.2742	659.5	17928.2	35.6923	366.199	7790.59
Aug., 1985	18.9218	564.499	18492.7	35.5713	311.799	8102.39
Sep., 1985	18.3733	551.2	19043.9	36.5824	318.1	8420.49
Oct., 1985	17.3143	535.3	19579.2	39.769	353.6	8774.09
Nov., 1985	18.6613	547.399	20126.6	35.4837	301.2	9075.29



# Production Report

Group : NVSU#2  
Well : NVSUN02WELL  
: 000000002

Date : 3/1/6 5:50:13 am  
User : George

## Production Data from November, 1982 to July, 2000 (cont.)

Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
Dec., 1985	18.5142	561.599	20688.2	38.9992	359.201	9434.49
Jan., 1986	18.5609	569.2	21257.4	34.9459	305.899	9740.39
Feb., 1986	20.8835	542.1	21799.5	36.1983	307.7	10048.1
Mar., 1986	20.8749	604.501	22404	36.0351	340.7	10388.8
Apr., 1986	12.5125	354	22758	43.9143	277.3	10666.1
May., 1986	16.6925	466	23224	39.1302	299.7	10965.8
Jun., 1986	19.5598	559.899	23783.9	39.4009	364.202	11330
Jul., 1986	21.1704	655.4	24439.3	34.646	347.6	11677.6
Aug., 1986	20.8108	643.4	25082.7	33.2615	320.802	11998.4
Sep., 1986	19.4527	569.801	25652.5	36.2681	324.402	12322.8
Oct., 1986	19.4032	601.501	26254	35.7683	335.101	12657.9
Nov., 1986	19.06	571.8	26825.8	33.9625	294.201	12952.1
Dec., 1986	18.6198	542.3	27368.1	37.977	332.2	13284.3
Jan., 1987	18.8506	577.3	27945.4	36.4036	330.601	13614.9
Feb., 1987	18.8536	527.9	28473.3	36.8967	308.8	13923.7
Mar., 1987	18.6516	578.199	29051.5	36.9776	339.4	14263.1
Apr., 1987	17.9266	537.799	29589.3	39.365	349.299	14612.4
May., 1987	18.2922	525.901	30115.2	40.0918	352.099	14964.5
Jun., 1987	18.8811	562.5	30677.7	44.4719	450.699	15415.2
Jul., 1987	19.1432	572.701	31250.4	45.5033	478.4	15893.6
Aug., 1987	20.087	616	31866.4	45.1801	507.902	16401.5
Sep., 1987	19.2168	570.899	32437.3	45.8549	483.701	16885.2
Oct., 1987	18.229	565.1	33002.4	44.3635	450.799	17336
Nov., 1987	19.4383	570.999	33573.4	44.4984	458	17794
Dec., 1987	19.3258	599.1	34172.5	46.4645	520.199	18314.2
Jan., 1988	18.4968	573.399	34745.9	45.3796	476.6	18790.8
Feb., 1988	18.3493	530.6	35276.5	46.2411	456.599	19247.4
Mar., 1988	18.1705	554.199	35830.7	46.2771	477.6	19725
Apr., 1988	16.6524	473.899	36304.6	48.3828	444.399	20169.4
May., 1988	17.2385	522.901	36827.5	48.0418	483.7	20653.1
Jun., 1988	16.4326	469.699	37297.2	49.462	459.901	21113
Jul., 1988	17.4277	519.202	37816.4	48.2294	483.9	21596.9
Aug., 1988	17.4436	509.499	38325.9	48.4984	480	22076.9
Sep., 1988	17.7321	509.799	38835.7	50.3687	517.601	22594.5
Oct., 1988	17.7416	538.901	39374.6	50.9757	560.599	23155.1
Nov., 1988	17.2485	515.299	39889.9	51.4308	545.899	23701
Dec., 1988	17.5047	539	40428.9	50.2795	545.3	24246.3
Jan., 1989	17.0649	528.301	40957.2	50.1305	531.3	24777.6
Feb., 1989	15.9004	441.899	41399.1	52.4577	487.801	25265.4
Mar., 1989	15.9106	486.6	41885.7	51.8823	524.902	25790.3
Apr., 1989	15.1452	451.2	42336.9	53.8068	525.8	26316.1

## Production Report

Group : NVSU#2  
Well : NVSUN02WELL  
: 000000002

Date : 3/1/6 5:50:13 am  
User : George

### Production Data from November, 1982 to July, 2000 (cont.)

Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
May., 1989	14.9369	461.8	42798.7	52.1936	504.401	26820.5
Jun., 1989	14.5705	435.9	43234.6	52.5622	483.2	27303.7
Jul., 1989	14.1048	434.899	43669.5	53.9289	509.299	27813
Aug., 1989	13.4177	385.199	44054.7	54.2029	456.1	28269.1
Sep., 1989	13.5133	405.398	44460.1	53.9157	474.5	28743.6
Oct., 1989	13.1967	406.899	44867	53.7031	472.199	29215.8
Nov., 1989	10.2267	306.8	45173.8	58.6806	435.9	29651.7
Dec., 1989	9.87097	306	45479.8	59.572	451.1	30102.8
Jan., 1990	9.91937	307.5	45787.3	53.7136	357	30459.8
Feb., 1990	9.78214	273.9	46061.2	52.7649	306.1	30765.9
Mar., 1990	9.9	306.9	46368.1	46.2789	264.5	31030.4
Apr., 1990	10.0533	301.6	46669.7	51.2101	316.7	31347.1
May., 1990	10.0097	310.3	46980	53.648	359.3	31706.4
Jun., 1990	10.0767	302.3	47282.3	56.0757	386.1	32092.5
Jul., 1990	9.81936	304.4	47586.7	52.992	343.3	32435.8
Aug., 1990	9.86774	305.9	47892.6	54.7911	370.9	32806.7
Sep., 1990	10.1298	288.7	48181.3	56.7447	378.9	33185.6
Oct., 1990	16.4842	365.4	48546.7	52.9983	412.2	33597.8
Nov., 1990	18.0661	450.9	48997.6	55.0743	553	34150.8
Dec., 1990	15.8032	489.9	49487.5	55.4082	609	34759.8
Jan., 1991	15.3226	458.4	49945.9	55.8145	579.3	35339.1
Feb., 1991	15.55	435.4	50381.3	54.8372	528.9	35868
Mar., 1991	15.7484	488.2	50869.5	54.3117	580.6	36448.6
Apr., 1991	15.34	460.2	51329.7	54.805	558.3	37006.9
May., 1991	15.338	474.2	51803.9	54.9173	577.9	37584.8
Jun., 1991	15.2268	454.9	52258.8	54.8063	551.9	38136.7
Jul., 1991	14.8419	460.1	52718.9	55.4058	571.9	38708.6
Aug., 1991	14.671	454.8	53173.7	55.137	559.2	39267.8
Sep., 1991	13.9833	419.5	53593.2	56.1359	537.1	39804.9
Oct., 1991	13.671	423.8	54017	56.3389	547.1	40352
Nov., 1991	13.7233	411.7	54428.7	55.6583	517	40869
Dec., 1991	13.4323	416.4	54845.1	54.9046	507.2	41376.2
Jan., 1992	13.2452	410.6	55255.7	54.1273	484.7	41860.9
Feb., 1992	13.0828	379.4	55635.1	54.4265	453.3	42314.2
Mar., 1992	12.7548	395.4	56030.5	54.619	476.1	42790.3
Apr., 1992	12.4567	373.7	56404.2	54.4825	447.5	43237.8
May., 1992	12.1516	376.7	56780.9	55.9461	478.6	43716.4
Jun., 1992	12.0133	360.4	57141.3	57.419	486.2	44202.6
Jul., 1992	12.3355	382.4	57523.7	53.6712	443.2	44645.8
Aug., 1992	11.0065	341.2	57864.9	61.8837	554.2	45200
Sep., 1992	11.2733	338.2	58203.1	60.3505	515	45715

## Production Report

Group : NVSU#2  
 Well : NVSUN02WELL  
 : 000000002

Date : 3/1/6 5:50:13 am  
 User : George

### Production Data from November, 1982 to July, 2000 (cont.)

Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
Oct., 1992	11.1323	345.1	58548.2	60.2268	522.8	46237.8
Nov., 1992	11.05	331.5	58879.7	59.8417	494.2	46732
Dec., 1992	11.0613	342.9	59222.6	60.2191	519.3	47251.3
Jan., 1993	10.7968	334.7	59557.3	61.403	532.7	47784
Feb., 1993	10.8321	303.3	59860.6	60.9548	473.7	48257.7
Mar., 1993	10.8545	328.8	60189.4	61.5469	526.5	48784.2
Apr., 1993	10.4538	311	60500.4	62.402	516.4	49300.6
May., 1993	10.0613	311.9	60812.3	61.729	503.3	49803.9
Jun., 1993	9.75636	268.3	61080.6	63.8503	474.1	50278
Jul., 1993	12.8452	398.2	61478.8	61.423	634.3	50912.3
Aug., 1993	12.0394	366.7	61845.5	57.9895	506.4	51418.7
Sep., 1993	11.7337	334.9	62180.4	58.8266	478.7	51897.4
Oct., 1993	12.3929	378.5	62558.9	62.1245	621.1	52518.5
Nov., 1993	12.6333	379	62937.9	58.0274	524.2	53042.7
Dec., 1993	13.0387	404.2	63342.1	56.3767	522.6	53565.3
Jan., 1994	12.8355	397.9	63740	56.2591	512	54077.3
Feb., 1994	12.9679	363.1	64103.1	56.6598	474.9	54552.2
Mar., 1994	12.5129	387.9	64491	57.4563	524.1	55076.3
Apr., 1994	12.2967	368.9	64859.9	57.781	505.1	55581.4
May., 1994	12.3097	381.6	65241.5	60.3221	580.4	56161.8
Jun., 1994	12.38	371.4	65612.9	60.7502	575.1	56736.9
Jul., 1994	12.2	378.2	65991.1	60.3832	576.7	57313.6
Aug., 1994	11.8921	363.7	66354.8	63.122	622.8	57936.4
Sep., 1994	11.6868	343.3	66698.1	64.671	628.7	58565.1
Oct., 1994	11.6932	320.1	67018.2	67.9964	680.4	59245.5
Nov., 1994	12.992	381.1	67399.3	66.7528	765.5	60011
Dec., 1994	11.871	368	67767.3	67.1976	754.2	60765.2
Jan., 1995	12.6489	387.9	68155.2	64.4874	704.7	61469.9
Feb., 1995	12.6143	353.2	68508.4	65.973	685.1	62155
Mar., 1995	12.3377	376.3	68884.7	66.8973	760.8	62915.8
Apr., 1995	12.5484	370.7	69255.4	64.8359	683.8	63599.6
May., 1995	12.1067	363.2	69618.6	62.3133	600.8	64200.4
Jun., 1995	12.4991	365.6	69984.2	61.7509	590.5	64790.9
Jul., 1995	11.9645	370.9	70355.1	60.9803	579.9	65370.8
Aug., 1995	12.3552	372.2	70727.3	61.1256	585.5	65956.3
Sep., 1995	12.5767	377.3	71104.6	60.6997	583	66539.3
Oct., 1995	12.8452	398.2	71502.8	60.7927	617.7	67157
Nov., 1995	12.7767	383.3	71886.1	60.0998	577.6	67734.6
Dec., 1995	12.0065	372.2	72258.3	57.9708	513.6	68248.2
Jan., 1996	11.8323	366.8	72625.1	58.6551	520.6	68768.8
Feb., 1996	11.4621	332.4	72957.5	59.284	484.2	69253

## Production Report

Group : NVSU#2  
Well : NVSUN02WELL  
: 000000002

Date : 3/1/6 5:50:13 am  
User : George

### Production Data from November, 1982 to July, 2000 (cont.)

Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
Mar., 1996	11.6677	361.7	73319.2	63.7401	636.1	69889.1
Apr., 1996	12.6393	377.6	73696.8	60.8438	587	70476.1
May., 1996	12.2903	381	74077.8	60.5199	584.3	71060.4
Jun., 1996	12.0667	362	74439.8	62.0839	593	71653.4
Jul., 1996	12.0968	375	74814.8	71.1315	924.401	72577.8
Aug., 1996	11.8935	368.7	75183.5	75.6053	1143.2	73721
Sep., 1996	12.0233	360.7	75544.2	69.96	840.401	74561.4
Oct., 1996	11.5968	359.5	75903.7	66.2279	705.3	75266.7
Nov., 1996	12.0633	361.9	76265.6	66.7518	726.9	75993.6
Dec., 1996	11.8677	367.9	76633.5	61.8257	596.1	76589.7
Jan., 1997	11.6484	361.1	76994.6	62.3712	598.8	77188.5
Feb., 1997	11.4929	321.8	77316.4	65.7159	617.1	77805.6
Mar., 1997	10.9724	334.2	77650.6	66.3718	659.9	78465.5
Apr., 1997	10.9886	320.5	77971.1	66.7157	642.7	79108.2
May., 1997	11.1226	344.8	78315.9	66.3938	681.5	79789.7
Jun., 1997	10.8567	325.7	78641.6	65.1371	608.8	80398.5
Jul., 1997	10.7903	334.5	78976.1	64.6343	611.6	81010.1
Aug., 1997	10.6903	331.4	79307.5	67.4363	686.6	81696.7
Sep., 1997	10.5933	317.8	79625.3	68.0507	677.2	82373.9
Oct., 1997	10.4871	325.1	79950.4	68.6526	712.3	83086.2
Nov., 1997	10.8033	324.1	80274.5	67.8504	684.3	83770.5
Dec., 1997	10.4871	325.1	80599.6	68.5647	709.4	84479.9
Jan., 1998	10.5097	325.8	80925.4	68.9561	724	85203.9
Feb., 1998	10.3107	288.7	81214.1	68.6884	633.6	85837.5
Mar., 1998	32.6006	893.8	82107.9	45.9111	759	86596.5
Apr., 1998	31.54	946.2	83054.1	41.3503	667.4	87263.9
May., 1998	31.534	963.1	84017.2	40.9216	667.4	87931.3
Jun., 1998	30.4833	914.5	84931.7	48.2931	854.5	88785.8
Jul., 1998	29.271	907.4	85839.1	53.4819	1043.7	89829.5
Aug., 1998	27.4821	850.8	86689.9	55.1299	1045.8	90875.3
Sep., 1998	26.3793	765	87454.9	55.2889	946.4	91821.7
Oct., 1998	24.9935	774.8	88229.7	60.6535	1194.9	93016.6
Nov., 1998	23.5	705	88934.7	66.1317	1377.2	94393.8
Dec., 1998	23.4534	725.1	89659.8	62.8203	1225.7	95619.5
Jan., 1999	22.629	701.5	90361.3	63.6031	1226.4	96845.9
Feb., 1999	22.55	631.4	90992.7	63.139	1082	97927.9
Mar., 1999	21.7806	675.2	91667.9	63.8848	1194.9	99122.8
Apr., 1999	21.2833	638.5	92306.4	64.9614	1184.3	100307
May., 1999	21.5867	648.5	92954.9	65.7522	1245.6	101553
Jun., 1999	20.8563	617	93571.9	65.9731	1196.8	102750
Jul., 1999	19.8463	611.1	94183	66.2631	1200.8	103950

## Production Report

Group : NVSU#2  
 Well : NVSUN02WELL  
 : 000000002

Date : 3/1/6 5:50:14 am  
 User : George

### Production Data from November, 1982 to July, 2000 (cont.)

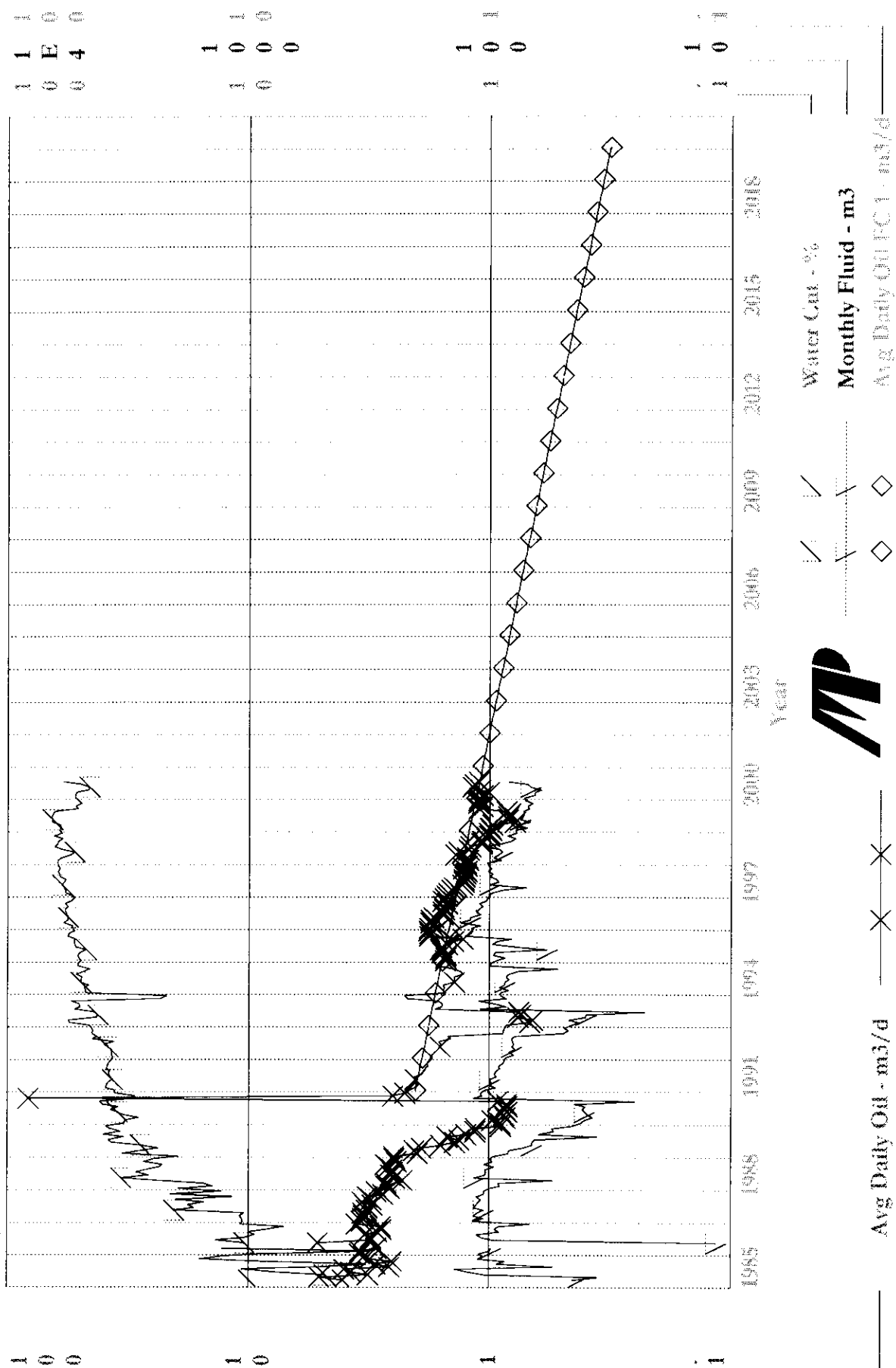
Year	Avg Daily Oil m3/d	Monthly Oil m3	Cum Oil m3	Water Cut %	Monthly Water m3	Cum Water m3
Aug., 1999	20.2805	619.4	94802.4	65.754	1189.8	105140
Sep., 1999	20.1801	601.2	95403.6	60.8208	933.7	106074
Oct., 1999	19.8581	615.6	96019.2	62.5011	1026.5	107100
Nov., 1999	20.103	592.2	96611.4	61.2634	937	108037
Dec., 1999	46.3728	1362.2	97973.6	44.9685	1113.6	109151
Jan., 2000	44.9387	1393.1	99366.7	45.5754	1167.1	110318
Feb., 2000	57.766	1530.8	100897	47.3426	1376.9	111695
Mar., 2000	59.1936	1835	102732	47.4659	1658.7	113354
Apr., 2000	54.95	1648.5	104381	49.4029	1610.3	114964
May., 2000	53.5968	1661.5	106042	50.0956	1668.6	116633
Jun., 2000	51.7333	1552	107594	53.8137	1809.1	118442
Jul., 2000	47.4431	1456.9	109051	61.4646	2324.8	120766

## APPENDIX B

### INDIVIDUAL WELL ULTIMATE RECOVERY PREDICTIONS

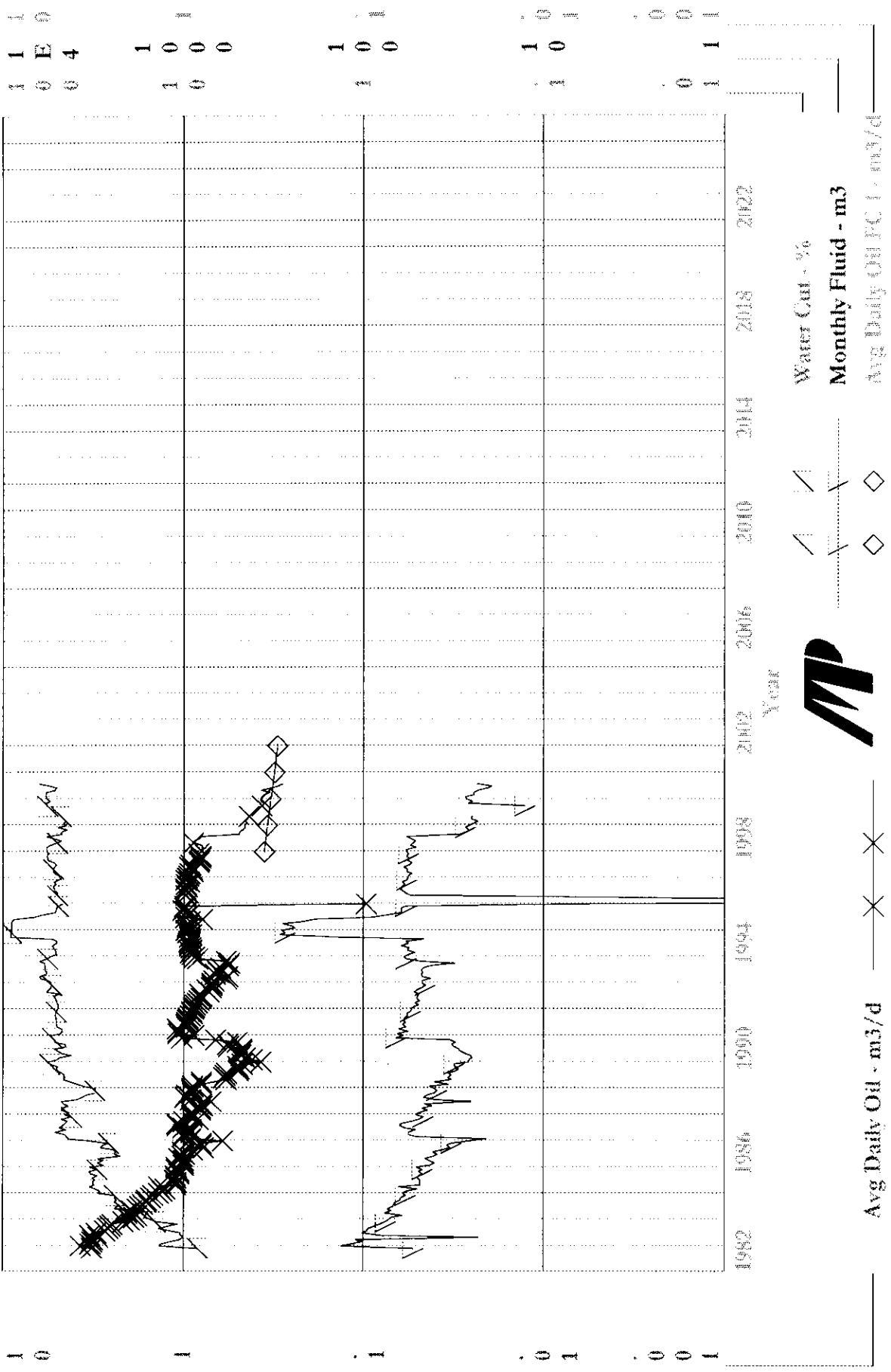


Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1977	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100





40/14-29-001-26W1/0 (Mound NFV Unit No. 3 Proc. L-29-11-36) Data 11/82-07/04  
 Operator: \_\_\_\_\_  
 Field: 3  
 Zone: 3A  
 Type: Unknown  
 Group: NYS11#2  
 Avg Daily Oil PC (Rate-Tuned) 5991.4 m3  
 q: 0.3547 m3/d, Dec, 1997  
 q: 0.29958 m3/d, Jan, 2002  
 d(Cap): 4.19736 CVD: 5991.4 m3  
 HRC: 164.448 m3 TCC: 615.85 m3  
 Production Units  
 Oil: 5991.4 m3  
 Gas: 0.06 m3  
 Water: 5957.9 m3  
 Cond: 0 m3

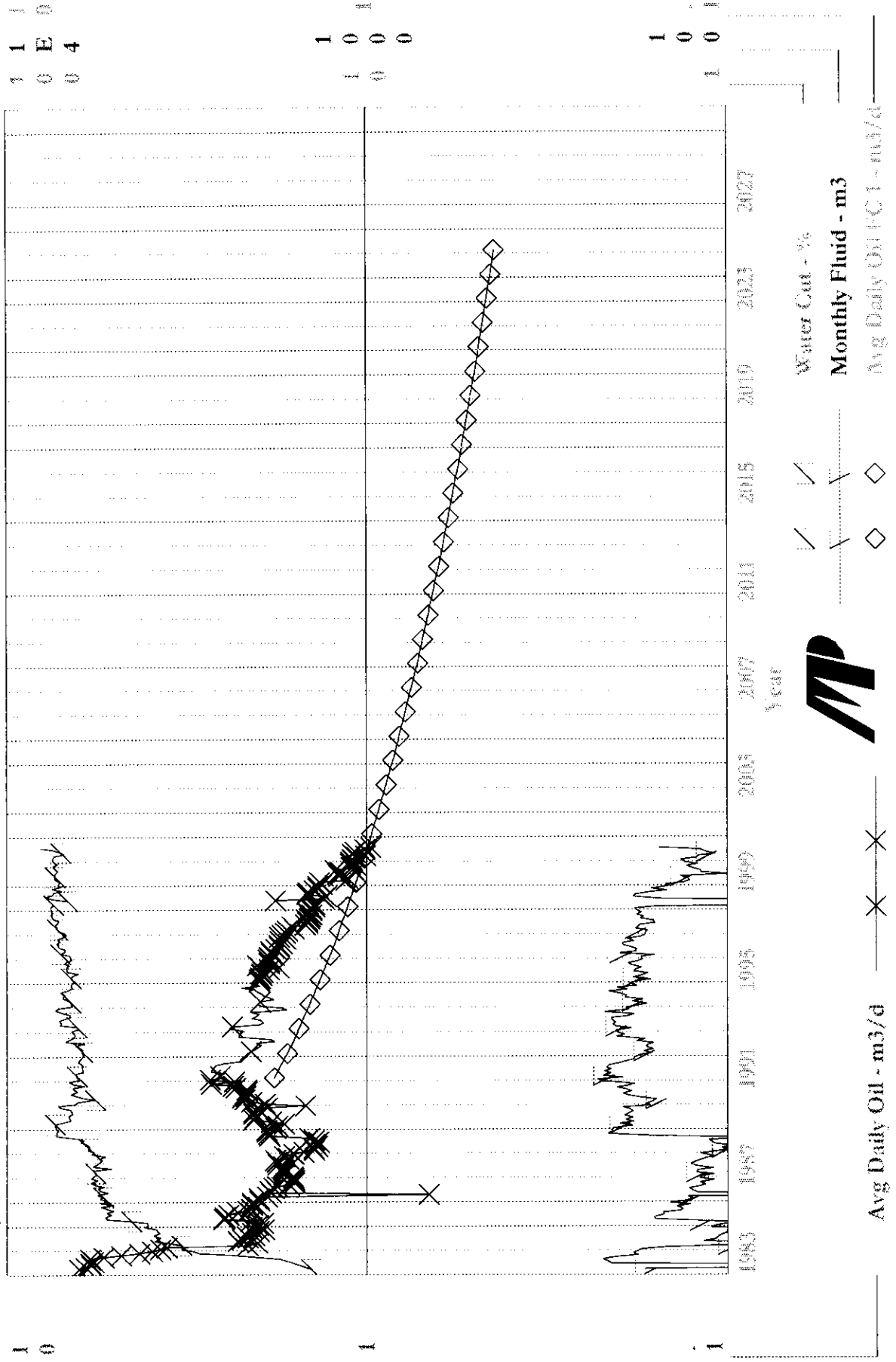


Operator: **Operator**  
 Field: **Field**  
 Zone: **39A**  
 Type: **Unknown**  
 Group: **NVSI #2**

ID: 112941126A L/O (Maximum) NVSI Unit No. 2 Rev. 11291126) Date: 01/28/07/00

Avg Daily Oil FC1 (Bar-Time)  
 q: 1.8379 m3/d, Feb, 1991  
 q: 1.44085 m3/d, Feb, 2003  
 d(1yr): 78343 CID: 12348.8 m3  
 PR: 58173 m3 For 18160.5 m3

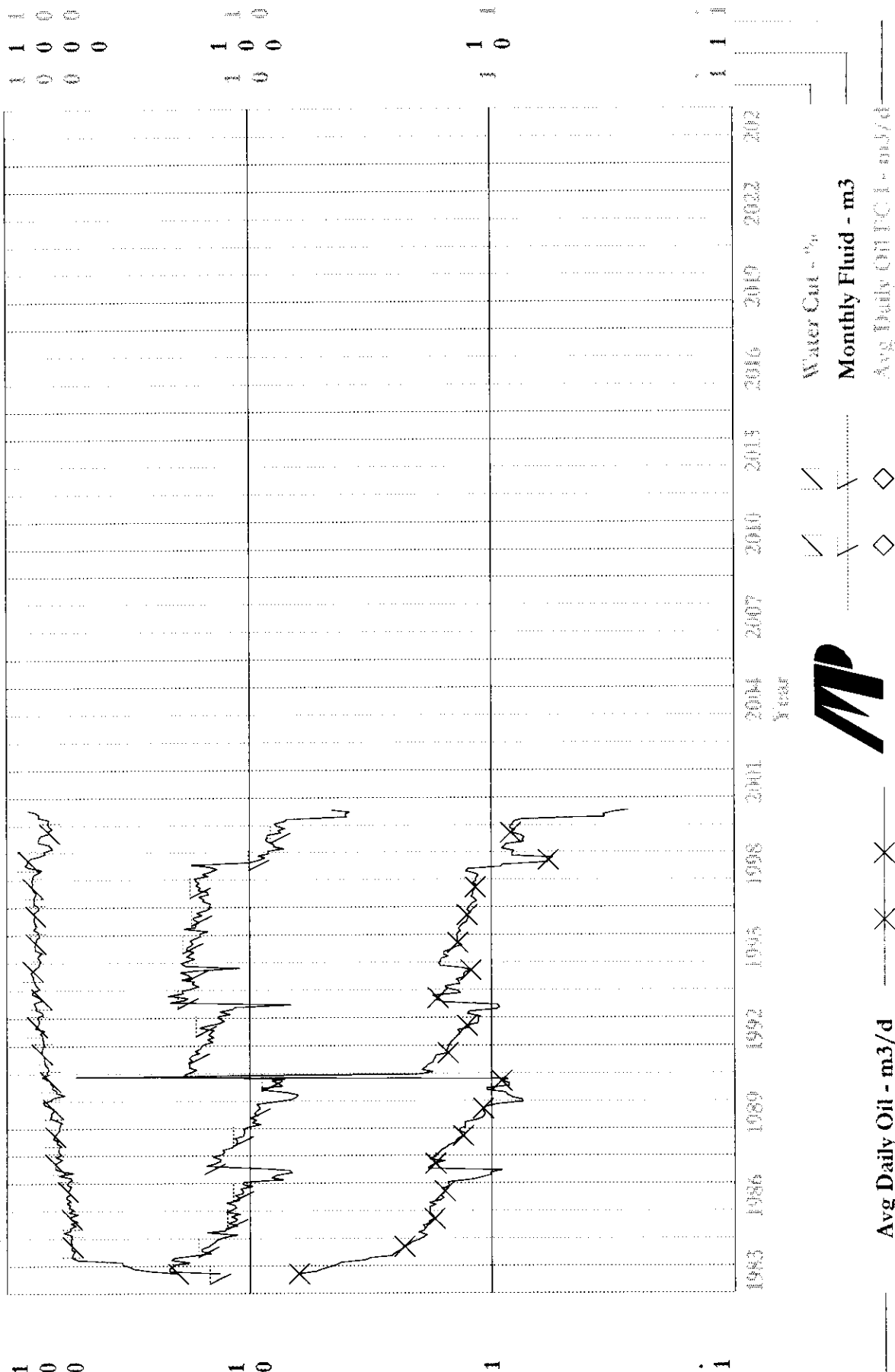
Production Units  
 Oil: 12348.8 m3  
 Gas: 0 Eam3  
 Water: 20615 m3  
 Cond: 0 m3



Operator: NVS-4012400/0 (Abourell NVS Unit 204-5012400) Data 09/24/7/00

Field: 5  
Zone: 39A  
Type: Unknown  
Group: NVS #2

Production Cums  
Oil: 3591.1 m3  
Gas: 0.0 m3  
Water: 1797.5 m3  
Cond: 0 m3



02/13-30-011-24W1/4 (NPS Unit No. 2112, ST1, 15-30-11-26W1) Date: 02/09-07/10

Operator:

Field:

Zone: 39A

Type: Unknown

Group: NVSU#2

Avg Daily Oil FC 1 (Rate-Time)

q: 16.682 m3/d, Mar, 2002

q: 0.290101 m3/d, Nov, 2022

driftyp: 39.4173 CID: 2683.6 m3

RR: 16088.2 m3 Tot: 187518 m3

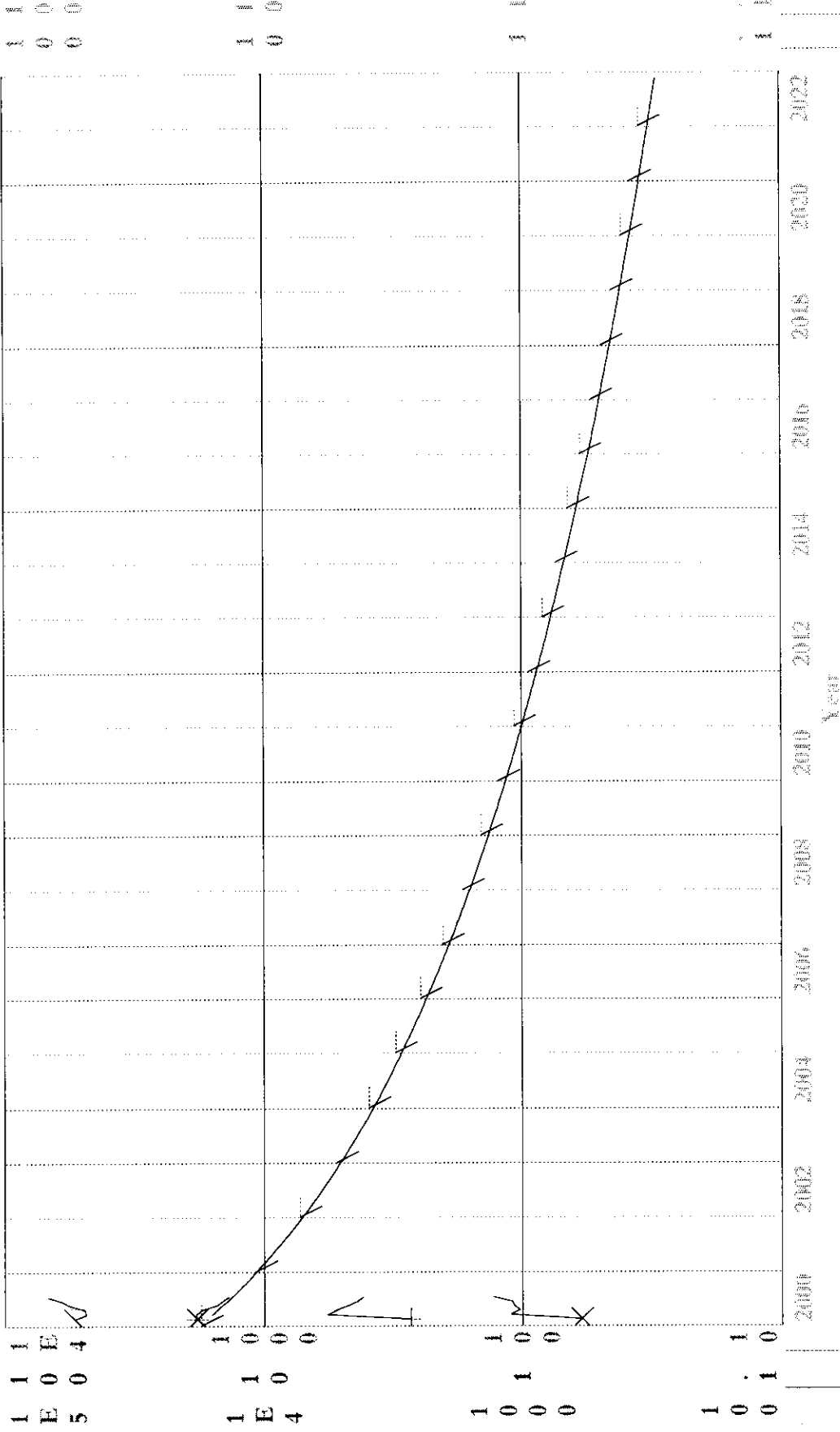
Production Counts

Oil: 2683.6 m3

Gas: 0.36003

Water: 3500.7 m3

Cond: 0 m3



Monthly Oil - m3

Avg Daily Oil - m3/d

Monthly Fluid - m3

Water Cut - %

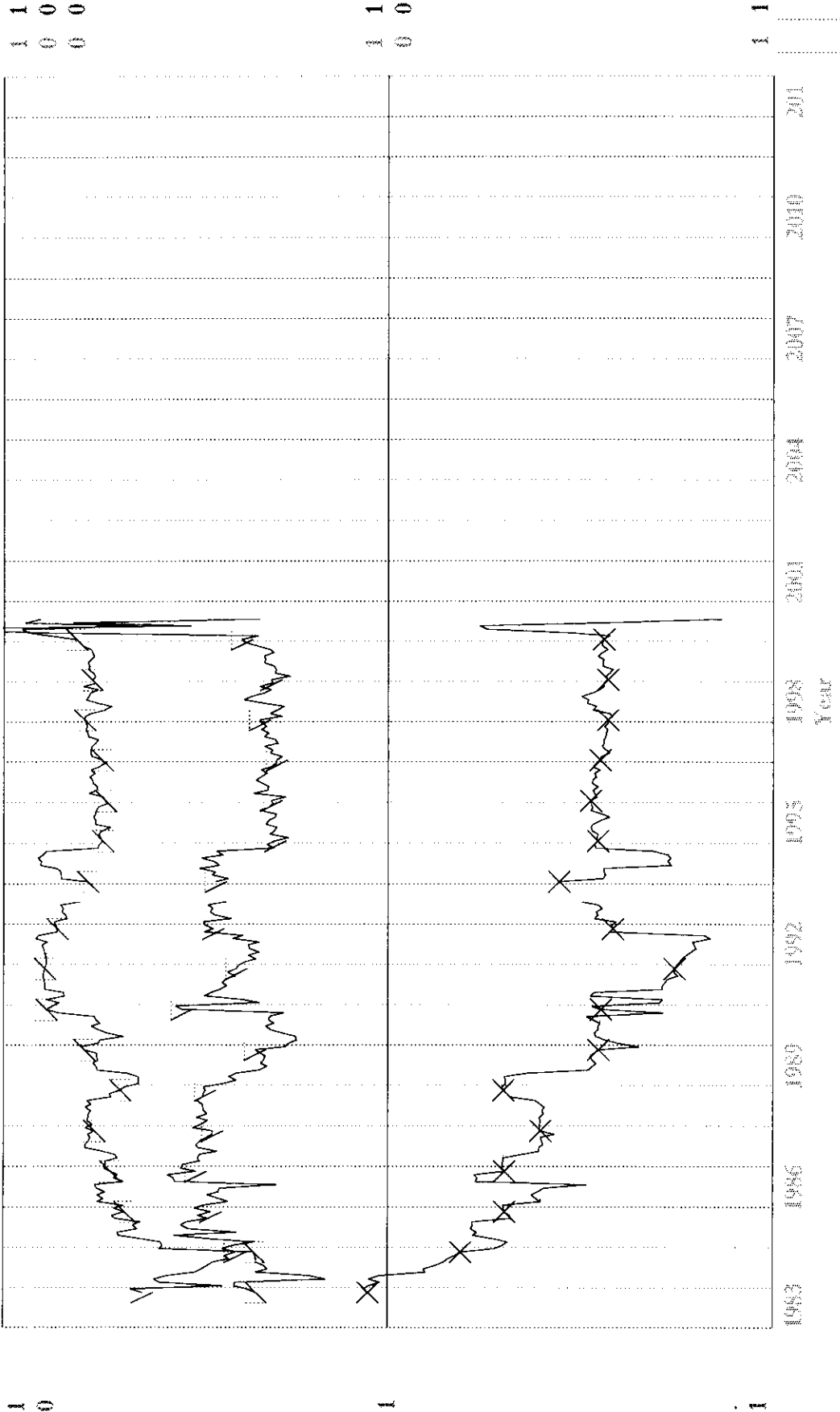
Avg Daily Oil FC 1 - m3/d



02/15/2008-2081/14 (X) Monthly NVST Unit % 2 245-30 (1.20WU) Data 11/23/07/10

Operator:  
Field: 5  
Zone: 50A  
Type: Unknown  
Group: NVST#2

Production Curve  
Oil: 243 m3  
Gas: 0.00 m3  
Water: 3071.4 m3  
Cond: 0 m3



Water Cut - %  
Monthly Fluid - m3



Avg Daily Oil - m3/d

1983 1986 1989 1992 1995 1998 2001

Year

0010-30411-20W1/0 (Alamogordo NV's Core No. 2 10-30-11-20W1) Dm 03/23-07/10

Operator:

Avg Daily Oil FC 1 (Rate-Time)

Production Curve

Field: S

dt: 0.760793 m3/d, Apr, 1991

Oil: 1049.8 m3

Zone: 30A

qt: 0.299789 m3/d, Nov, 2025

Gas: 0.06 m3

Type: Unknown

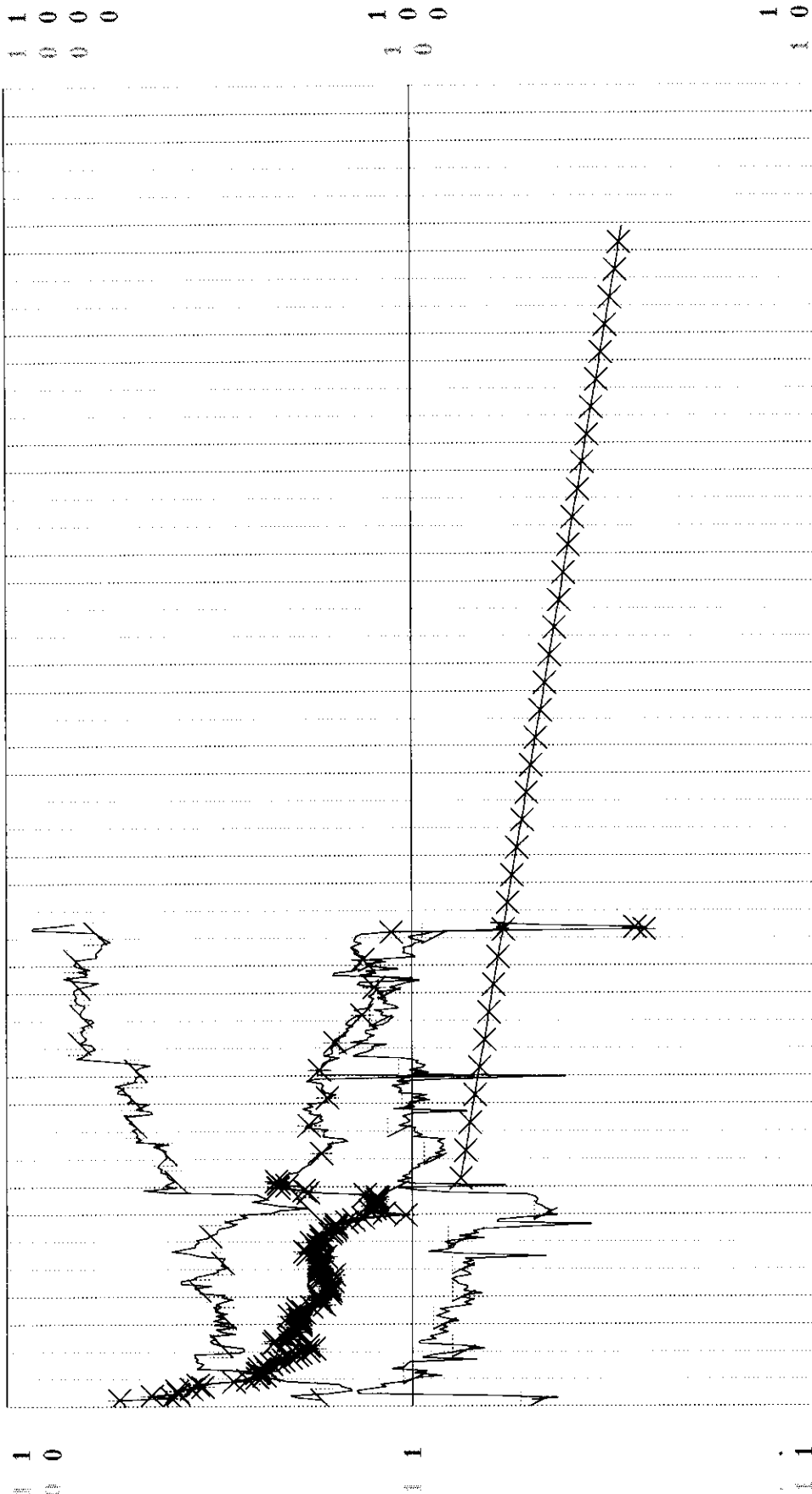
d(Cusp): 2.65062 CTD: 1049.8 m3

Water: 8865.3 m3

Group: NVSL#2

RR: 3936.76 m3 Toe: 14386.0 m3

Cond: 0 m3



Avg Daily Oil - m3/d

Avg Daily Oil FC 1 - m3/d

Water Cut - %

Monthly Fluid - m3



[illegible]
$$\begin{aligned} \frac{\partial}{\partial t} &= \frac{\partial}{\partial t} \\ \frac{\partial}{\partial x} &= \frac{\partial}{\partial x} \\ \frac{\partial}{\partial y} &= \frac{\partial}{\partial y} \\ \frac{\partial}{\partial z} &= \frac{\partial}{\partial z} \\ \frac{\partial}{\partial w} &= \frac{\partial}{\partial w} \\ \frac{\partial}{\partial v} &= \frac{\partial}{\partial v} \\ \frac{\partial}{\partial u} &= \frac{\partial}{\partial u} \\ \frac{\partial}{\partial s} &= \frac{\partial}{\partial s} \\ \frac{\partial}{\partial r} &= \frac{\partial}{\partial r} \\ \frac{\partial}{\partial q} &= \frac{\partial}{\partial q} \\ \frac{\partial}{\partial p} &= \frac{\partial}{\partial p} \\ \frac{\partial}{\partial o} &= \frac{\partial}{\partial o} \\ \frac{\partial}{\partial n} &= \frac{\partial}{\partial n} \\ \frac{\partial}{\partial m} &= \frac{\partial}{\partial m} \\ \frac{\partial}{\partial l} &= \frac{\partial}{\partial l} \\ \frac{\partial}{\partial k} &= \frac{\partial}{\partial k} \\ \frac{\partial}{\partial j} &= \frac{\partial}{\partial j} \\ \frac{\partial}{\partial i} &= \frac{\partial}{\partial i} \\ \frac{\partial}{\partial h} &= \frac{\partial}{\partial h} \\ \frac{\partial}{\partial g} &= \frac{\partial}{\partial g} \\ \frac{\partial}{\partial f} &= \frac{\partial}{\partial f} \\ \frac{\partial}{\partial e} &= \frac{\partial}{\partial e} \\ \frac{\partial}{\partial d} &= \frac{\partial}{\partial d} \\ \frac{\partial}{\partial c} &= \frac{\partial}{\partial c} \\ \frac{\partial}{\partial b} &= \frac{\partial}{\partial b} \\ \frac{\partial}{\partial a} &= \frac{\partial}{\partial a} \end{aligned}$$
[illegible]

**Figure 1**

[illegible][illegible]

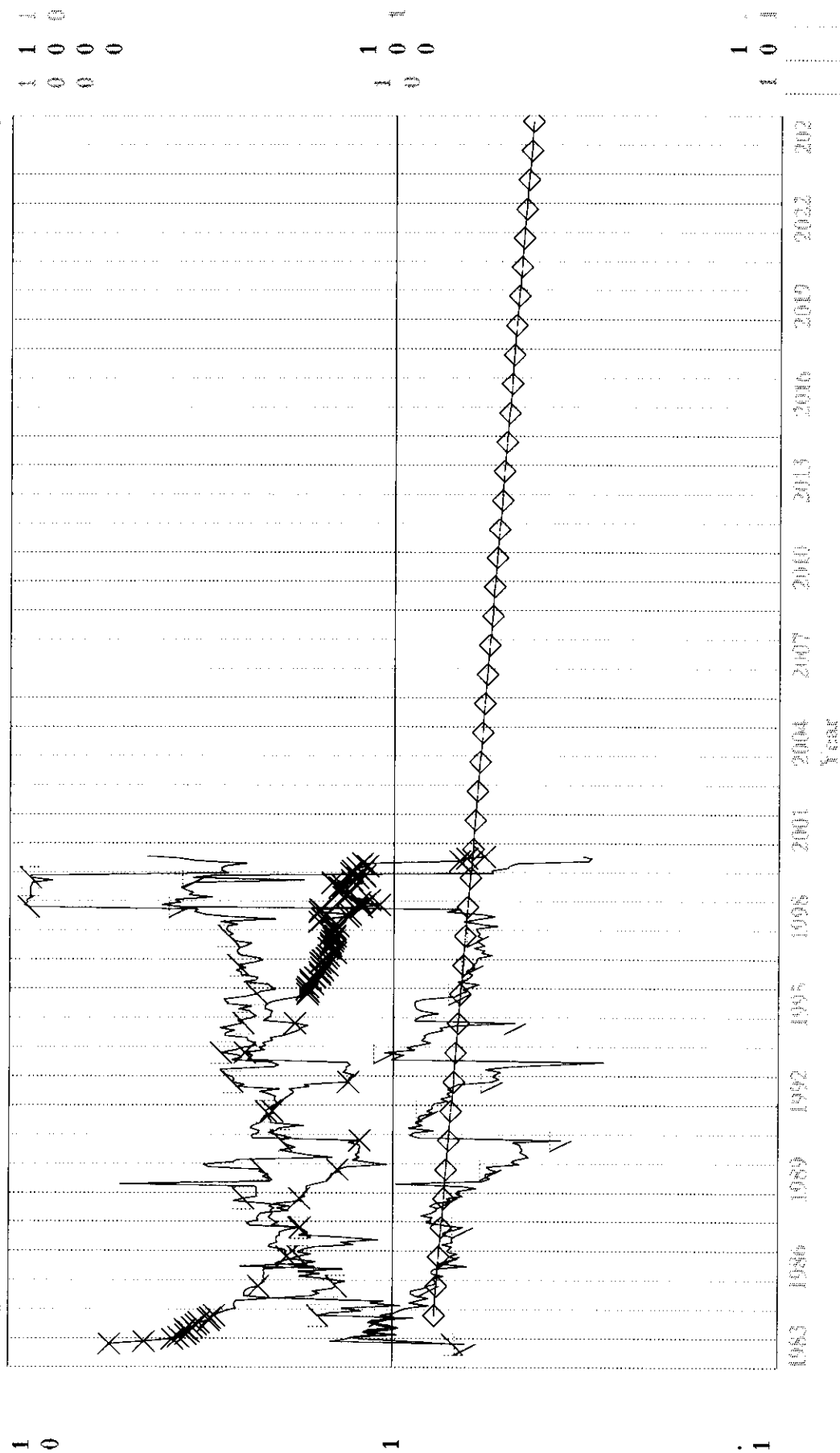
The figure consists of 12 vertically stacked diagrams, each representing a step in the algorithm. The diagrams are labeled 1 through 12. The first diagram shows the initial state with a vector  $x$  and a residual  $r$ . The subsequent diagrams show the iterative process of updating  $x$  and  $r$  using the matrix  $A$  and the vector  $b$ . The final diagram shows the convergence of the solution, with the residual  $r$  approaching zero.

2000-03-23

*[Handwritten notes and sketches related to the first section of the manuscript.]*

[illegible][illegible]

Figure 2 shows a schematic diagram of a two-dimensional lattice structure. The lattice is composed of two types of sites, labeled 'A' and 'B'. Site 'A' is represented by a solid circle, and site 'B' is represented by an open circle. The lattice is arranged in a regular grid. The diagram shows a portion of the lattice with several sites labeled. The caption indicates that the lattice is composed of two types of sites, A and B, and that the lattice is arranged in a regular grid.

[illegible]

Monthly Fluid - m3

**Avg Daily Oil - m3/d**

$$A_{\text{circle}} = \lim_{n \rightarrow \infty} A_{\text{polygon}} = \lim_{n \rightarrow \infty} \frac{1}{2} n r^2 \sin \frac{2\pi}{n}$$

$$= \lim_{n \rightarrow \infty} \frac{1}{2} n r^2 \frac{2\pi}{n} = \pi r^2$$

$$A_{\text{circle}} = \lim_{\theta \rightarrow 0} A_{\text{sector}} = \lim_{\theta \rightarrow 0} \frac{1}{2} r^2 \theta = \pi r^2$$





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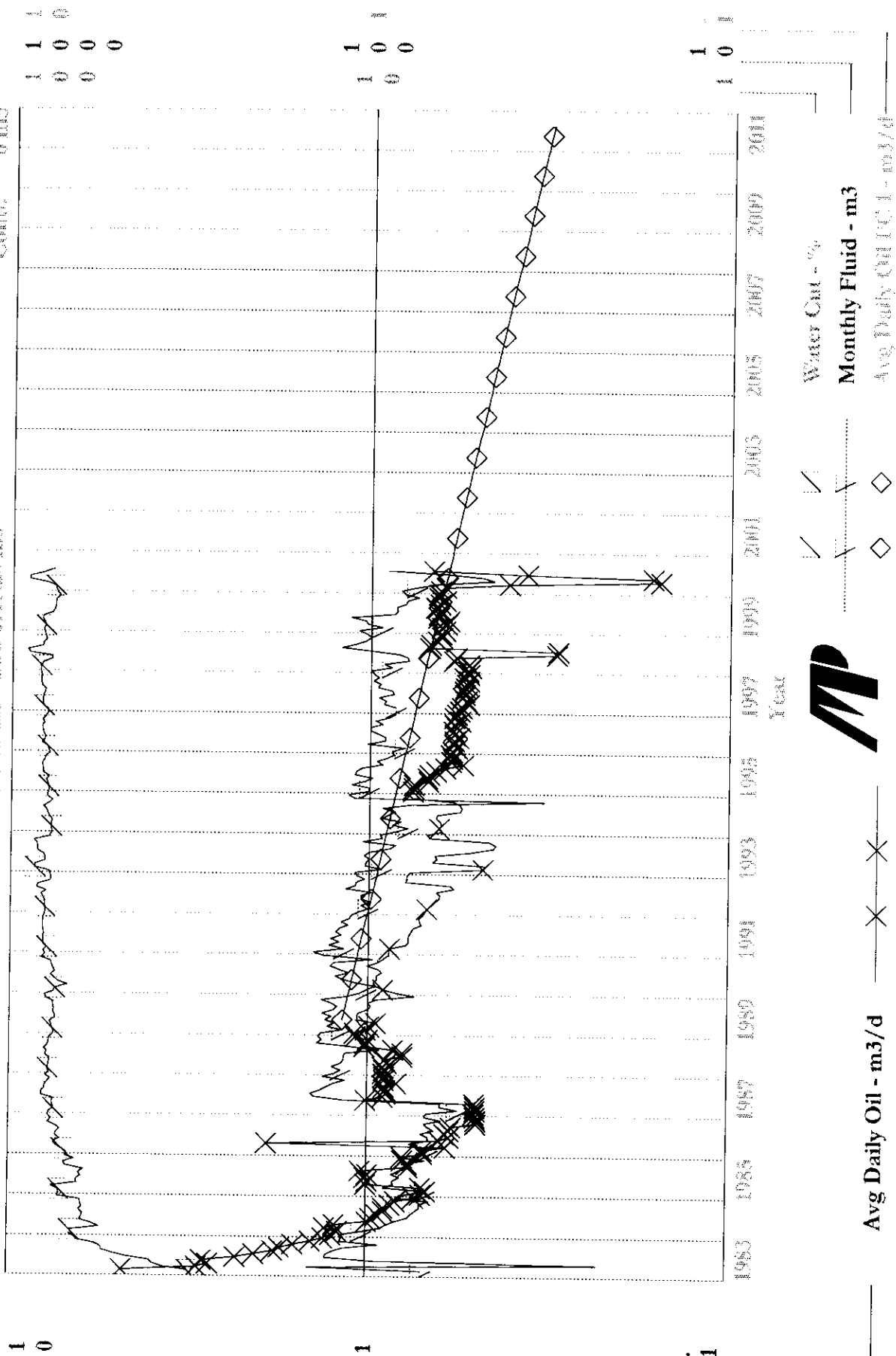
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Figure 1 is a schematic diagram of the experimental setup. It shows a subject seated at a table, looking at a video screen. A camera is positioned above the screen. A target is placed on the table. A ruler is used to measure the distance from the subject's hand to the target. The distance is labeled as 10 cm.

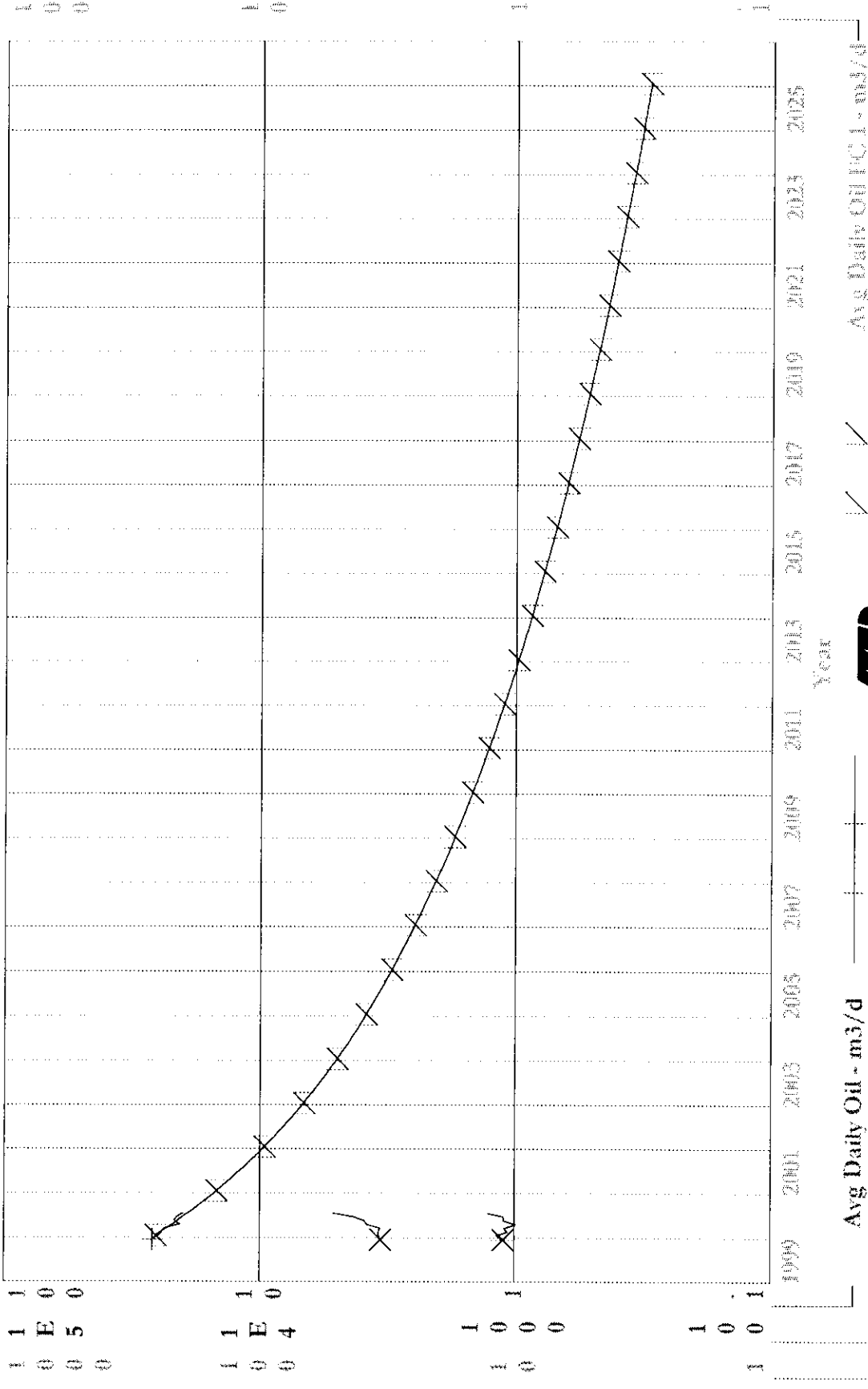
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Operator: NYSEG  
 Field: 5  
 Zone: 59A  
 Type: Unknown  
 Group: NYSEG#2

Well ID: 42-01-32-011-20831/0 (NYS Well No. 21127N11.03-32-11-20831)  
 Avg Daily Oil: 1000 bbl/d (Rate-Time)  
 q: 20,000 m3/d, Jan, 2000  
 d: 4,200,000 m3/d, Jan, 2000  
 d: 4,200,000 m3/d, Jan, 2000  
 RR: 2007.7 m3 Ton: 27430.3 m3

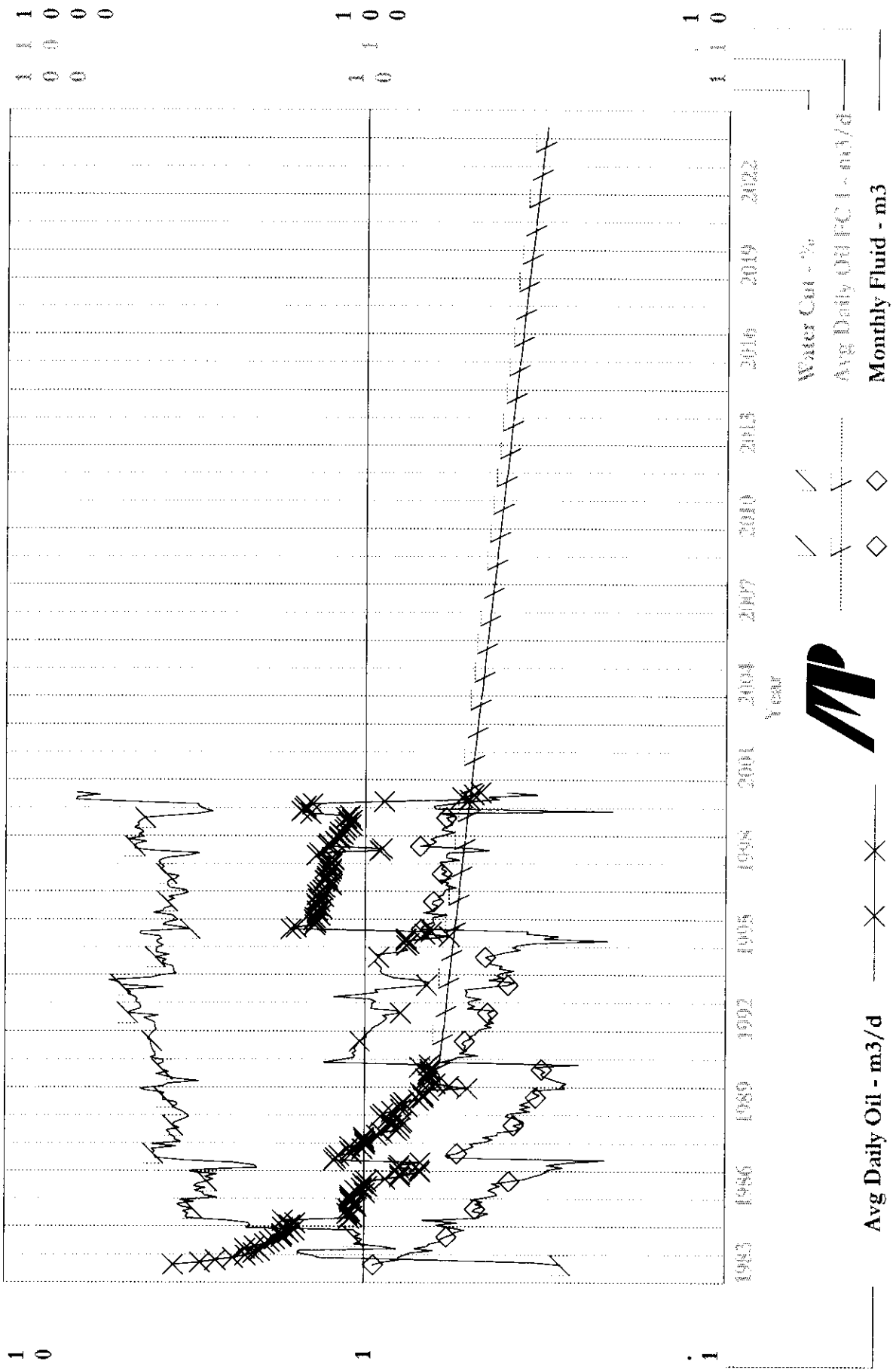
Production Cum:  
 Oil: 5462.6 m3  
 Gas: 0.0 m3  
 Water: 3424.4 m3  
 Cond: 0 m3



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

Avg Daily Oil: 1000 bbl/d

Operator: **0070552 m3/d** (Monitored NPS) (Per No. 20532 (1-24W)) Date in/83-07-00  
 Field: **5** Avg Daily Oil FC (Barrel/Day)  
 Zone: **59A** qd: 663000 m3/d, Nov, 1990  
 Type: **Unknown** qd: 131771 m3/d, May, 2004  
 Group: **NVSU#2** di(Exp): 196314 CID: 67346 m3  
 RR: 354338 m3 To: 10268 m3  
 Prediction Cums:  
 Oil: 57346 m3  
 Gas: 0 Bbl/m3  
 Water: 335 m3  
 Cond: 0 m3



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

The figure consists of 12 vertically stacked diagrams, numbered 1 to 12, illustrating the steps of the proposed algorithm. The diagrams show the iterative construction of a solution, starting from an initial set of nodes and edges, and gradually adding more nodes and edges until a complete solution is reached.

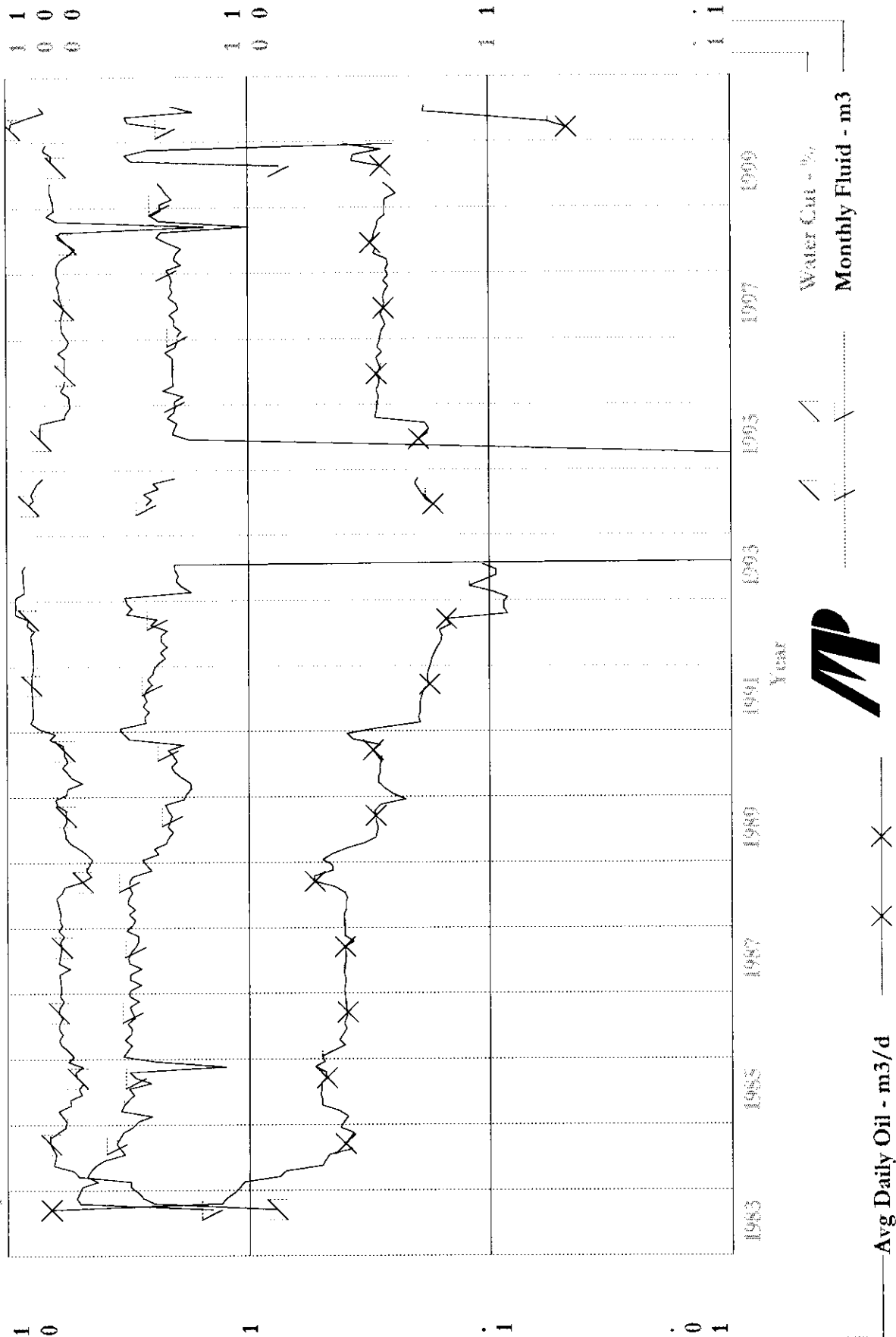
- Diagram 1: A single node labeled 'A'.
- Diagram 2: A single node labeled 'B'.
- Diagram 3: A single node labeled 'C'.
- Diagram 4: A single node labeled 'D'.
- Diagram 5: A single node labeled 'E'.
- Diagram 6: A single node labeled 'F'.
- Diagram 7: A single node labeled 'G'.
- Diagram 8: A single node labeled 'H'.
- Diagram 9: A single node labeled 'I'.
- Diagram 10: A single node labeled 'J'.
- Diagram 11: A single node labeled 'K'.
- Diagram 12: A single node labeled 'L'.

Figure 1 is a schematic diagram of the experimental setup. It shows a participant (S) sitting at a table, viewing a screen. The screen displays a target (T) and a starting point. The participant's hand is positioned at the starting point. The diagram illustrates the movement of the hand from the starting point to the target, with a coordinate system (x, y) and a distance (d) indicated. The participant is labeled 'S' and the target is labeled 'T'.

[illegible][illegible][illegible]

Figure 1 illustrates the steps of the proposed algorithm for solving a linear system. The diagrams show the decomposition of the matrix  $A$  into  $L$  and  $U$ , the forward and backward substitution steps, and the calculation of various norms and residuals.

Figure 1 is a schematic representation of the experimental design. It consists of five panels arranged horizontally. The first panel shows a subject in a laboratory setting, looking at a screen. The second panel is a close-up of the screen, showing a target area. The third panel is a close-up of the screen, showing a target area. The fourth panel is a close-up of the screen, showing a target area. The fifth panel is a close-up of the screen, showing a target area.

[illegible]

## APPENDIX C

### YEAR 2000 INDIVIDUAL WELL PRODUCTION DATA

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

Page: 501

WELL: 06291126W1 NVSC#2 6-29-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 0.83            | 25.6            | 25.0            | 50.6                | 49.41 | 744                   | 1.63              | 0.9               | 0.8  | 24.0 | 1    |
| 02    | 0.8             | 23.3            | 22.8            | 46.1                | 49.46 | 696                   | 1.59              |                   |      |      |      |
| 03    | 0.75            | 23.3            | 22.2            | 45.5                | 48.79 | 744                   | 1.47              |                   |      |      |      |
| 04    | 0.8             | 23.8            | 18.5            | 42.3                | 43.74 | 712                   | 1.43              | 1.74              | 1.86 | 72.0 | 28   |
| 05    | 0.56            | 16.4            | 14.9            | 31.3                | 47.6  | 706                   | 1.06              |                   |      |      |      |
| 06    | 0.54            | 16.1            | 17.2            | 33.3                | 51.65 | 720                   | 1.11              |                   |      |      |      |
| 07    | 0.51            | 15.9            | 24.0            | 39.9                | 60.15 | 742                   | 1.29              |                   |      |      |      |
|       | 0.68            | 144.4           | 144.6           | 289.0               | 50.03 | 5064                  | 1.37              |                   |      |      |      |

WELL: 11291126W1 NVSC#2 11-29-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O          | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|----------------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 1.1             | 34.2            | 37.5            | 71.7                | 52.3           | 744                   | 2.31              | 1.2               | 1.2  | 24.0 | 1    |
| 02    | 1.07            | 30.9            | 34.2            | 65.1                | 52.53          | 693                   | 2.25              |                   |      |      |      |
| 03    | 1.01            | 31.2            | 33.2            | 64.4                | 51.55          | 744                   | 2.08              |                   |      |      |      |
| 04    | 1.12            | 32.8            | 28.2            | 61.0                | 46.23          | 703                   | 2.08              | 3.75              | 3.75 | 72.0 | 28   |
| 05    | 1.2             | 36.5            | 30.9            | 67.4                | 45.85          | 728                   | 2.22              |                   |      |      |      |
| 06    | 1.16            | 34.7            | 34.6            | 69.3                | 49.93          | 718                   | 2.32              |                   |      |      |      |
| 07    | 1.11            | 34.2            | 48.7            | 82.9                | 58.75          | 742                   | 2.68              |                   |      |      |      |
|       | -----<br>1.11   | -----<br>234.5  | -----<br>247.3  | -----<br>481.8      | -----<br>51.33 | -----<br>5072         | -----<br>2.28     |                   |      |      |      |

3.10.2.29 DATE: 08/30/00  
TIME: 15.99

TUNDRA OIL AND GAS LIFT  
Fluid Production Report  
Year: 2000

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WELL: 13291126W1 NVSC#2 13-29-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 0.37            | 11.4            | 15.6            | 27.0                | 57.78 | 744                   | 0.87              | 0.4               | 0.5  | 24.0 | 1    |
| 02    | 0.36            | 10.3            | 14.1            | 24.4                | 57.79 | 690                   | 0.85              |                   |      |      |      |
| 03    | 0.33            | 10.3            | 13.9            | 24.2                | 57.44 | 744                   | 0.78              |                   |      |      |      |
| 04    | 0.37            | 11.1            | 11.9            | 23.0                | 51.74 | 720                   | 0.77              |                   |      |      |      |
| 05    | 0.33            | 10.1            | 10.2            | 20.3                | 50.25 | 744                   | 0.65              | 1.28              | 1.52 | 96.0 | 14   |
| 06    | 0.3             | 8.9             | 10.5            | 19.4                | 54.12 | 720                   | 0.65              |                   |      |      |      |
| 07    | 0.28            | 8.7             | 14.7            | 23.4                | 62.82 | 742                   | 0.76              |                   |      |      |      |
|       | 0.33            | 70.8            | 90.9            | 161.7               | 56.22 | 5104                  | 0.76              |                   |      |      |      |



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

WELL: 14291126W1 NVSC#2 14-29-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR   | HRS   | DATE  |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|-------|-------|-------|
| 01    | 1.1             | 34.1            | 100.0           | 134.1               | 74.57 | 744                   | 4.33              | 1.2               | 3.2   | 24.0  | 1     |
| 02    | 1.07            | 30.9            | 90.9            | 121.8               | 74.63 | 693                   | 4.22              |                   |       |       |       |
| 03    | 1.01            | 31.2            | 88.8            | 120.0               | 74.0  | 744                   | 3.87              |                   |       |       |       |
| 04    | 1.11            | 33.0            | 75.4            | 108.4               | 69.56 | 711                   | 3.66              | 4.8               | 12.8  | 96.0  | 22    |
| 05    | 1.08            | 33.4            | 80.7            | 114.1               | 70.73 | 742                   | 3.69              | 1.1               | 3.2   | 24.0  | 8     |
| 06    | 1.02            | 30.4            | 88.4            | 118.8               | 74.41 | 718                   | 3.97              |                   |       |       |       |
| 07    | 0.97            | 30.1            | 124.3           | 154.4               | 80.51 | 742                   | 4.99              |                   |       |       |       |
|       | -----           | 223.1           | 648.5           | 871.6               | 74.4  | 5094                  | -----             | -----             | ----- | ----- | ----- |
|       | 1.05            |                 |                 |                     |       |                       | 4.11              |                   |       |       |       |

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

WELL: 09301126W1 NVSC#2 9-30-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 0.83            | 25.7            | 53.1            | 78.8                | 67.39 | 744                   | 2.54              | 0.9               | 1.7  | 24.0 | 1    |
| 02    | 0.8             | 23.2            | 48.3            | 71.5                | 67.55 | 693                   | 2.48              |                   |      |      |      |
| 03    | 0.75            | 23.2            | 46.8            | 70.0                | 66.86 | 740                   | 2.27              |                   |      |      |      |
| 04    | 0.34            | 10.2            | 29.3            | 39.5                | 74.18 | 715                   | 1.33              | 1.48              | 4.92 | 96.0 | 1    |
| 05    | 0.35            | 10.7            | 29.4            | 40.1                | 73.32 | 742                   | 1.3               | 1.36              | 4.24 | 96.0 | 20   |
| 06    | 0.31            | 9.4             | 29.3            | 38.7                | 75.71 | 718                   | 1.29              |                   |      |      |      |
| 07    | 0.27            | 8.4             | 37.2            | 45.6                | 81.58 | 742                   | 1.47              | 0.58              | 1.82 | 48.0 | 11   |
|       | 0.52            | 110.8           | 273.4           | 384.2               | 71.16 | 5094                  | 1.81              |                   |      |      |      |

3.10.2.29 DATE: 04/30/00  
TIME: 15.99

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

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WELL: 15301126HZ NVSC NO. 2 HZ 15-30-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR   | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|-------|------|------|
| 01    | NO DATA         |                 |                 |                     |       |                       |                   |                   |       |      |      |
| 02    | 18.71           | 271.3           | 315.8           | 587.1               | 53.79 | 348                   | 40.49             | 65.4              | 58.0  | 72.0 | 25   |
| 03    | 18.38           | 568.3           | 538.6           | 1106.9              | 48.66 | 742                   | 35.8              | 66.0              | 58.53 | 72.0 | 7    |
| 04    | 17.66           | 521.6           | 501.8           | 1023.4              | 49.03 | 709                   | 34.64             | 36.0              | 44.0  | 48.0 | 9    |
| 05    | 15.38           | 471.7           | 606.3           | 1078.0              | 56.24 | 736                   | 35.15             | 16.1              | 24.1  | 24.0 | 3    |
| 06    | 14.7            | 437.3           | 654.5           | 1091.8              | 59.95 | 714                   | 36.7              | 31.0              | 46.6  | 48.0 | 20   |
| 07    | 13.7            | 413.4           | 883.7           | 1297.1              | 68.13 | 724                   | 43.0              |                   |       |      |      |
|       | -----           | -----           | -----           | -----               | ----- | -----                 | -----             |                   |       |      |      |
|       | 16.21           | 2683.6          | 3500.7          | 6184.3              | 56.61 | 3973                  | 37.36             |                   |       |      |      |

WELL: 15301126W1 NVSC#2 15-30-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 0.27            | 8.5             | 15.6            | 24.1                | 64.73 | 744                   | 0.78              | 0.3               | 0.5  | 24.0 | 1    |
| 02    | 0.27            | 7.7             | 14.1            | 21.8                | 64.68 | 693                   | 0.75              |                   |      |      |      |
| 03    | 0.34            | 10.5            | 66.1            | 76.6                | 86.29 | 740                   | 2.48              | 1.2               | 11.8 | 48.0 | 21   |
| 04    | 0.56            | 16.6            | 139.8           | 156.4               | 89.39 | 715                   | 5.25              |                   |      |      |      |
| 05    | 0.58            | 17.9            | 148.8           | 166.7               | 89.26 | 742                   | 5.39              |                   |      |      |      |
| 06    | 0.27            | 8.0             | 57.8            | 65.8                | 87.84 | 718                   | 2.2               | 0.3               | 0.9  | 48.0 | 10   |
| 07    | 0.14            | 4.2             | 17.5            | 21.7                | 80.65 | 742                   | 0.7               |                   |      |      |      |
|       | 0.35            | 73.4            | 459.7           | 533.1               | 86.23 | 5094                  | 2.51              |                   |      |      |      |

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

WELL: 16301126W1 NVSC#2 16-30-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 1.38            | 42.7            | 59.4            | 102.1               | 58.18 | 744                   | 3.29              | 1.5               | 1.9  | 24.0 | 1    |
| 02    | 1.34            | 38.6            | 54.0            | 92.6                | 58.32 | 693                   | 3.21              |                   |      |      |      |
| 03    | 1.13            | 34.9            | 53.5            | 88.4                | 60.52 | 744                   | 2.85              | 0.87              | 6.33 | 72.0 | 28   |
| 04    | 0.27            | 7.9             | 49.8            | 57.7                | 86.31 | 711                   | 1.95              |                   |      |      |      |
| 05    | 0.28            | 8.7             | 53.2            | 61.9                | 85.95 | 742                   | 2.0               |                   |      |      |      |
| 06    | 0.48            | 14.5            | 43.1            | 57.6                | 74.83 | 718                   | 1.93              | 2.16              | 3.24 | 72.0 | 15   |
| 07    | 0.64            | 19.7            | 42.0            | 61.7                | 68.07 | 742                   | 2.0               |                   |      |      |      |
|       | 0.79            | 167.0           | 355.0           | 522.0               | 68.01 | 5094                  | 2.46              |                   |      |      |      |

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

WELL: 16301126HZ NVSU#2 HZNTL 16-30-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 10.75           | 333.2           | 365.5           | 698.7               | 52.31 | 744                   | 22.54             | 11.7              | 11.7 | 24.0 | 1    |
| 02    | 10.42           | 301.0           | 332.2           | 633.2               | 52.46 | 693                   | 21.93             |                   |      |      |      |
| 03    | 9.64            | 298.0           | 318.5           | 616.5               | 51.66 | 742                   | 19.94             | 46.0              | 46.0 | 96.0 | 3    |
| 04    | 10.65           | 318.7           | 273.9           | 592.6               | 46.22 | 718                   | 19.81             |                   |      |      |      |
| 05    | 11.08           | 341.7           | 289.4           | 631.1               | 45.86 | 740                   | 20.47             |                   |      |      |      |
| 06    | 10.65           | 312.4           | 311.8           | 624.2               | 49.95 | 704                   | 21.28             |                   |      |      |      |
| 07    | 8.05            | 248.1           | 352.7           | 600.8               | 58.71 | 740                   | 19.49             | 36.4              | 36.4 | 96.0 | 1    |
|       | 10.17           | 2153.1          | 2244.0          | 4397.1              | 51.03 | 5081                  | 20.77             |                   |      |      |      |

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

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WELL: 01311126W1 NVSC#2 01-31-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|-----|------|------|
| 01    | 1.29            | 39.9            | 15.6            | 55.5                | 28.11 | 744                   | 1.79              | 1.4               | 0.5 | 24.0 | 1    |
| 02    | 1.25            | 36.2            | 14.2            | 50.4                | 28.17 | 696                   | 1.74              |                   |     |      |      |
| 03    | 1.17            | 36.3            | 13.8            | 50.1                | 27.54 | 744                   | 1.62              |                   |     |      |      |
| 04    | 1.21            | 36.3            | 11.6            | 47.9                | 24.22 | 720                   | 1.6               | 2.1               | 1.2 | 72.0 | 27   |
| 05    | 0.67            | 20.9            | 10.2            | 31.1                | 32.8  | 744                   | 1.0               |                   |     |      |      |
| 06    | 0.65            | 19.4            | 11.1            | 30.5                | 36.39 | 720                   | 1.02              |                   |     |      |      |
| 07    | 0.58            | 18.0            | 14.1            | 32.1                | 43.93 | 742                   | 1.04              | 1.3               | 0.7 | 48.0 | 7    |
|       | 0.97            | 207.0           | 90.6            | 297.6               | 30.44 | 5110                  | 1.4               |                   |     |      |      |

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

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WELL: 03321126W1 NVSC#2 3-32-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS   | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|-------|------|
| 01    | 0.64            | 19.9            | 62.5            | 82.4                | 75.85 | 744                   | 2.66              | 0.7               | 2.0  | 24.0  | 1    |
| 02    | 0.62            | 18.0            | 56.8            | 74.8                | 75.94 | 693                   | 2.59              |                   |      |       |      |
| 03    | 0.41            | 12.8            | 52.6            | 65.4                | 80.43 | 744                   | 2.11              | 0.34              | 3.46 | 48.0  | 20   |
| 04    | 0.16            | 4.7             | 40.8            | 45.5                | 89.67 | 711                   | 1.54              |                   |      |       |      |
| 05    | 0.16            | 5.1             | 43.6            | 48.7                | 89.53 | 742                   | 1.58              |                   |      |       |      |
| 06    | 0.37            | 11.0            | 49.5            | 60.5                | 81.82 | 718                   | 2.02              | 3.8               | 8.9  | 120.0 | 23   |
| 07    | 0.67            | 20.8            | 69.2            | 90.0                | 76.89 | 742                   | 2.91              |                   |      |       |      |
|       | 0.43            | 92.3            | 375.0           | 467.3               | 80.25 | 5094                  | 2.2               |                   |      |       |      |



3.10.2.29 DATE: 08/30/00  
TIME: 15.99

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

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WELL: 03321126HZ NVSU#2 H2NTL 03-32-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR   | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|-------|------|------|
| 01    | 24.91           | 772.3           | 398.6           | 1170.9              | 34.04 | 744                   | 37.77             | 54.61             | 25.69 | 48.0 | 30   |
| 02    | 24.33           | 698.6           | 362.6           | 1061.2              | 34.17 | 689                   | 36.96             |                   |       |      |      |
| 03    | 23.5            | 726.6           | 365.6           | 1092.2              | 33.47 | 742                   | 35.33             | 56.16             | 26.44 | 48.0 | 1    |
| 04    | 20.55           | 614.7           | 372.7           | 987.4               | 37.75 | 718                   | 33.01             | 42.54             | 32.06 | 48.0 | 5    |
| 05    | 21.73           | 670.0           | 425.9           | 1095.9              | 38.86 | 740                   | 35.54             | 45.6              | 34.2  | 48.0 | 6    |
| 06    | 21.11           | 629.7           | 471.4           | 1101.1              | 42.81 | 716                   | 36.91             |                   |       |      |      |
| 07    | 20.16           | 614.9           | 655.8           | 1270.7              | 51.61 | 732                   | 41.66             |                   |       |      |      |
|       | 22.33           | 4726.8          | 3052.6          | 7779.4              | 39.24 | 5081                  | 36.75             |                   |       |      |      |

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

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WELL: 05321126W1 NVSC#2 5-32-11-26

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|-------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | 1.47            | 45.6            | 18.7            | 64.3                | 29.08 | 744                   | 2.07              | 1.6               | 0.6  | 24.0 | 1    |
| 02    | 1.43            | 40.8            | 16.9            | 57.7                | 29.29 | 687                   | 2.02              |                   |      |      |      |
| 03    | 0.89            | 27.5            | 24.2            | 51.7                | 46.81 | 738                   | 1.68              | 1.68              | 3.42 | 72.0 | 16   |
| 04    | 0.52            | 15.4            | 27.1            | 42.5                | 63.76 | 715                   | 1.43              |                   |      |      |      |
| 05    | 0.54            | 16.7            | 28.7            | 45.4                | 63.22 | 742                   | 1.47              |                   |      |      |      |
| 06    | 0.5             | 15.0            | 18.2            | 33.2                | 54.82 | 718                   | 1.11              | 1.62              | 1.98 | 72.0 | 1    |
| 07    | 0.48            | 14.8            | 25.7            | 40.5                | 63.46 | 742                   | 1.31              |                   |      |      |      |
|       | 0.83            | 175.8           | 159.5           | 335.3               | 47.57 | 5086                  | 1.58              |                   |      |      |      |

3.10.2.29 DATE: 06/30/00  
TIME: 15.99

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

Page: 524

WELL: 06321126W1 NVSC#2 6-32-11-26 WPM

| MONTH | M3 OIL<br>/ DAY | M3 OIL<br>/ MTH | M3 H2O<br>/ MTH | M3 FLUID<br>/ MONTH | % H2O          | HOURS ON<br>PROD./MTH | M3 FLUID<br>/ DAY | PROD. TEST<br>OIL | WTR  | HRS  | DATE |
|-------|-----------------|-----------------|-----------------|---------------------|----------------|-----------------------|-------------------|-------------------|------|------|------|
| 01    | SHUT IN         |                 |                 |                     |                |                       |                   |                   |      |      |      |
| 02    | SHUT IN         |                 |                 |                     |                |                       |                   |                   |      |      |      |
| 03    | 0.05            | 0.9             | 20.9            | 21.8                | 95.87          | 452                   | 1.16              | 0.12              | 2.48 | 48.0 | 13   |
| 04    | 0.06            | 1.7             | 29.5            | 31.2                | 94.55          | 718                   | 1.04              |                   |      |      |      |
| 05    | 0.06            | 1.7             | 30.4            | 32.1                | 94.7           | 720                   | 1.07              |                   |      |      |      |
| 06    | 0.19            | 5.2             | 11.7            | 16.9                | 69.23          | 670                   | 0.61              | 0.42              | 0.78 | 48.0 | 4    |
| 07    | 0.18            | 5.7             | 15.2            | 20.9                | 72.73          | 742                   | 0.68              |                   |      |      |      |
|       | -----<br>0.11   | -----<br>15.2   | -----<br>107.7  | -----<br>122.9      | -----<br>87.63 | -----<br>3302         | -----<br>0.89     |                   |      |      |      |

## APPENDIX D

### WATER INJECTOR HISTORICAL PLOTS

Oil/12-29-04-2005/14 (Abandoned) KYB Unit No. 2, Park, WY 82-21-11) Perm N/83-46/W

Operator

Field:

Zone: 50A

Type: Unknown

Group: NVSE#2

Production (Units

Oil: 212.3 m3

Gas: 0.00 m3

Water: 137.29 m3

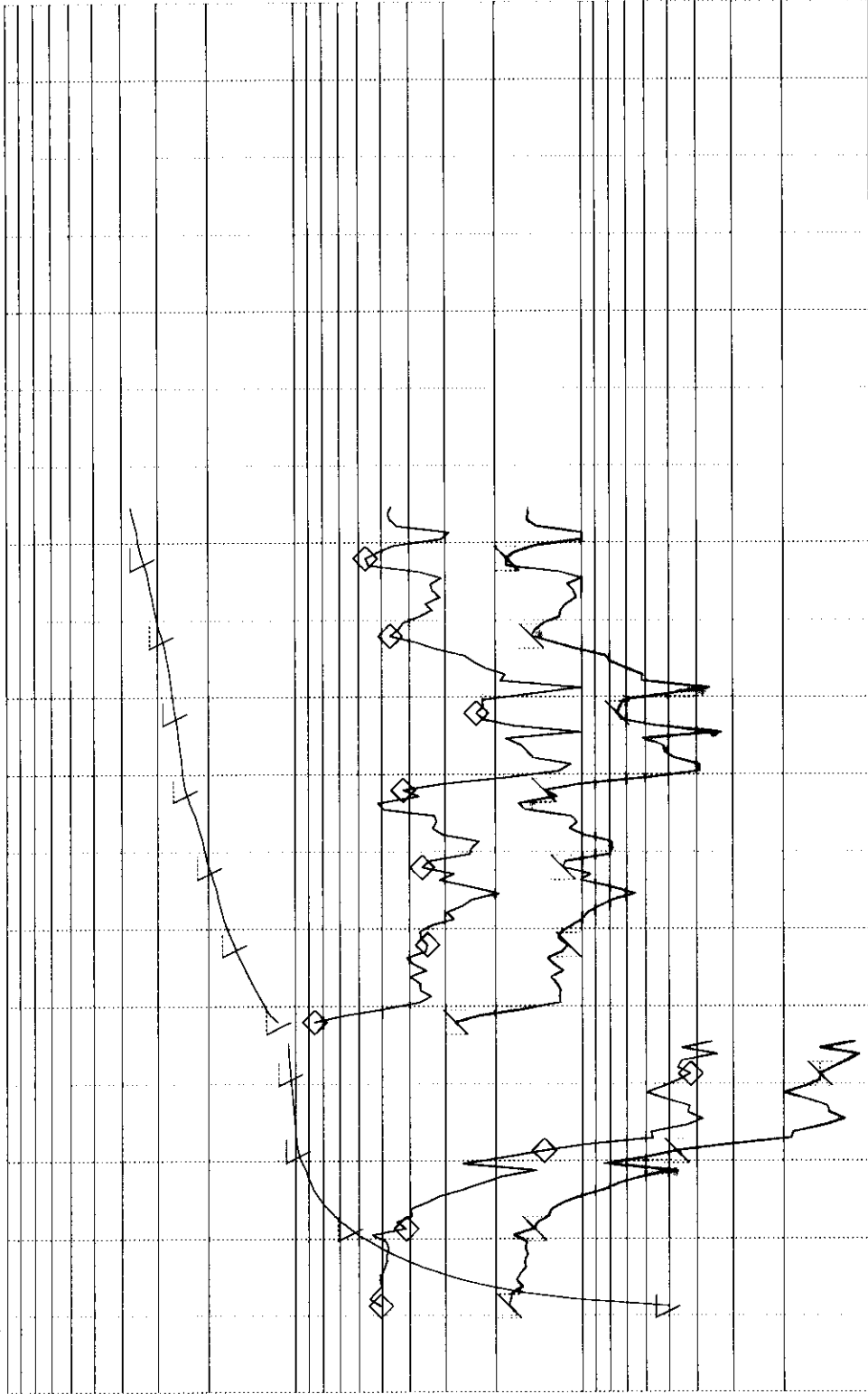
Cond: 0 m3

1 1 1  
0 E E  
0 5 4  
0

1 1 0  
0 E 0  
0 4 0

1 1  
1 0 0  
0 0 0  
0

1  
0 1  
1 0 0



42/14-30-01-2007/0 (Alconchil 3A) in No. 2 NW 36.00-01-2007/0 Perm 12/50-50/10

Operator:

Field: 3

Zone: 30A

Type: Unknown

Group: NYS1#2

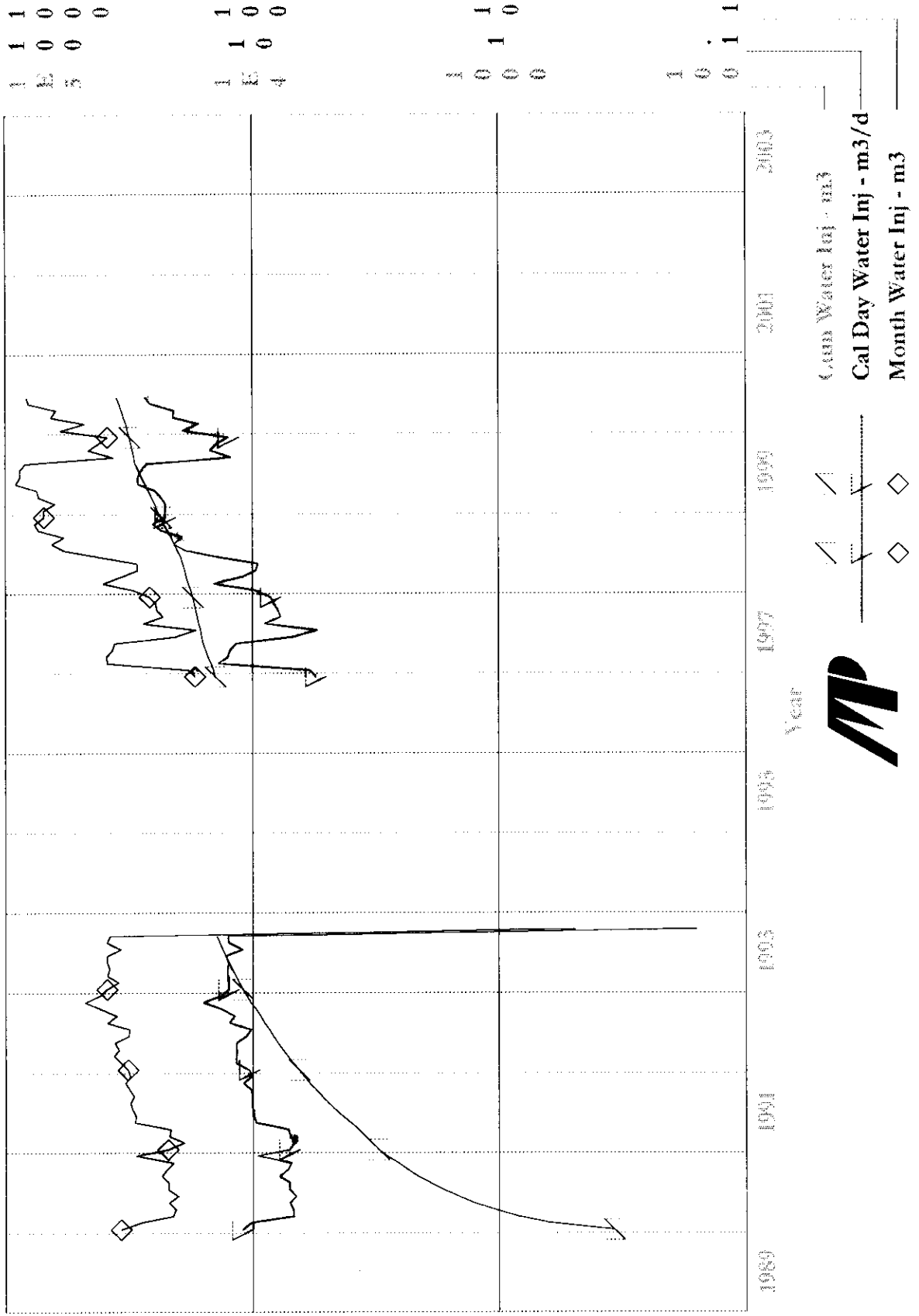
Production Cons

Oil: 2888.7 m3

Gas: 0 EBbl

Water: 266.0 m3

Cond: 0 m3



01/04-12-01-24W1/A (Alameda NW 2 W 1/4 (N 35 E - 24 N)) 142541/3446/10

Operator

Field: S

Zone: 50A

Type: Unknown

Group: NVST#2

Production Cumulative

Oil: 374509 m3

Gas: 0.00 m3

Water: 1442.8 m3

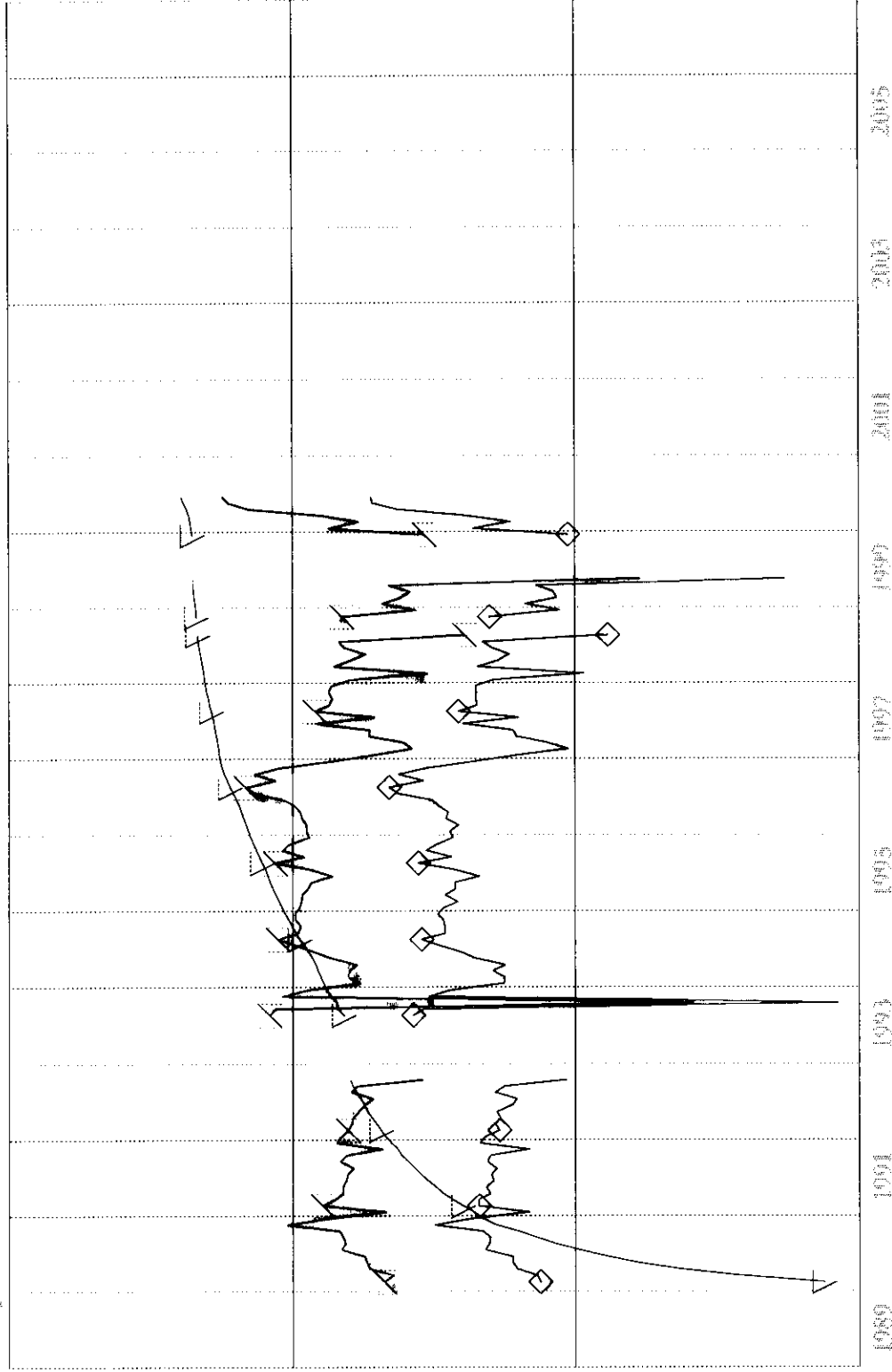
Cond: 0 m3

1 1 1  
0 E E  
0 5 4

1 0 0  
1 E 0  
0 4 0

1 1  
0 0  
0 0  
0 0

1 1  
0 0  
0 0



Year



Cal Day Water Inj - m3/d

Cum Water Inj - m3

Month Water Inj - m3

## APPENDIX E

### WATER INJECTOR HISTORICAL INJECTION DATA



## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                                      | Date : March 1, 2006 9:21:23 am |
| Well : Mountcliff NVS Unit No. 2 Prov. WIW 12-29-11 | User : George                   |
| : 00/12-29-011-26W1/0                               |                                 |
| Hist.Data : 01/83-06/00                             | On Prod : 02/09                 |
| Operator :  | Status : Unknown                |
| Field : 5   | Zone : 59A                      |

### Production Data from January, 1989 to June, 2000

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Jan., 1989 |                           |                     |                       |
| Feb., 1989 |                           |                     |                       |
| Mar., 1989 |                           |                     |                       |
| Apr., 1989 |                           |                     |                       |
| May., 1989 |                           |                     |                       |
| Jun., 1989 |                           |                     |                       |
| Jul., 1989 |                           |                     |                       |
| Aug., 1989 |                           |                     |                       |
| Sep., 1989 |                           |                     |                       |
| Oct., 1989 |                           |                     |                       |
| Nov., 1989 |                           |                     |                       |
| Dec., 1989 |                           |                     |                       |
| Jan., 1990 |                           |                     |                       |
| Feb., 1990 | 17.9822                   | 503.501             | 503.501               |
| Mar., 1990 | 17.7451                   | 1053.6              | 550.099               |
| Apr., 1990 | 17.6067                   | 1581.8              | 528.2                 |
| May., 1990 | 16.1323                   | 2081.9              | 500.1                 |
| Jun., 1990 | 16.96                     | 2590.7              | 508.8                 |
| Jul., 1990 | 16.3903                   | 3098.8              | 508.1                 |
| Aug., 1990 | 15.758                    | 3587.3              | 488.499               |
| Sep., 1990 | 15.9267                   | 4065.1              | 477.8                 |
| Oct., 1990 | 15.4903                   | 4545.3              | 480.201               |
| Nov., 1990 | 15.7333                   | 5017.3              | 472                   |
| Dec., 1990 | 15.5742                   | 5500.1              | 482.8                 |
| Jan., 1991 | 17.3807                   | 6038.9              | 538.801               |
| Feb., 1991 | 14.6893                   | 6450.2              | 411.3                 |
| Mar., 1991 | 14.3129                   | 6893.9              | 443.7                 |
| Apr., 1991 | 13.06                     | 7285.7              | 391.8                 |
| May., 1991 | 12.771                    | 7681.6              | 395.9                 |
| Jun., 1991 | 11.67                     | 8031.7              | 350.099               |
| Jul., 1991 | 10.0935                   | 8344.6              | 312.9                 |
| Aug., 1991 | 8.42261                   | 8605.7              | 261.101               |
| Sep., 1991 | 7.39331                   | 8827.5              | 221.799               |
| Oct., 1991 | 6.15483                   | 9018.3              | 190.8                 |
| Nov., 1991 | 4.80999                   | 9162.6              | 144.3                 |
| Dec., 1991 | 8.43225                   | 9424                | 261.4                 |
| Jan., 1992 | 6.12904                   | 9614                | 190                   |

## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                                      | Date : March 1, 2006 9:21:23 am |
| Well : Mountcliff NVS Unit No. 2 Prov. WIW 12-29-11 | User : George                   |
| : 00/12-29-011-26W1/0                               |                                 |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Feb., 1992 | 4.68964                   | 9750                | 135.999               |
| Mar., 1992 | 3.1097                    | 9846.4              | 96.4007               |
| Apr., 1992 | 1.89001                   | 9903.1              | 56.7002               |
| May., 1992 | 1.85483                   | 9960.6              | 57.4999               |
| Jun., 1992 | 1.43665                   | 10003.7             | 43.0995               |
| Jul., 1992 | 1.22902                   | 10041.8             | 38.0996               |
| Aug., 1992 | 1.38707                   | 10084.8             | 42.9993               |
| Sep., 1992 | 1.40999                   | 10127.1             | 42.2998               |
| Oct., 1992 | 1.63226                   | 10177.7             | 50.6002               |
| Nov., 1992 | 1.99668                   | 10237.6             | 59.9005               |
| Dec., 1992 | 1.68709                   | 10289.9             | 52.2996               |
| Jan., 1993 | 1.5                       | 10336.4             | 46.5001               |
| Feb., 1993 | 1.49998                   | 10378.4             | 41.9993               |
| Mar., 1993 | 1.5                       | 10424.9             | 46.5001               |
| Apr., 1993 | 1.49998                   | 10469.9             | 44.9993               |
| May., 1993 | 1.09676                   | 10503.9             | 33.9995               |
| Jun., 1993 | 1.49998                   | 10548.9             | 44.9993               |
| Jul., 1993 | 1.13548                   | 10584.1             | 35.1998               |
| Aug., 1993 |                           |                     |                       |
| Sep., 1993 |                           |                     |                       |
| Oct., 1993 | 27.671                    | 11441.9             | 857.8                 |
| Nov., 1993 | 22.7833                   | 12125.4             | 683.5                 |
| Dec., 1993 | 16.0226                   | 12622.1             | 496.7                 |
| Jan., 1994 | 11.8484                   | 12989.4             | 367.299               |
| Feb., 1994 | 11.9678                   | 13324.5             | 335.1                 |
| Mar., 1994 | 11.8839                   | 13692.9             | 368.4                 |
| Apr., 1994 | 12.22                     | 14059.5             | 366.6                 |
| May., 1994 | 12.8452                   | 14457.7             | 398.2                 |
| Jun., 1994 | 11.59                     | 14805.4             | 347.7                 |
| Jul., 1994 | 12.4839                   | 15192.4             | 387                   |
| Aug., 1994 | 13.1935                   | 15601.4             | 409                   |
| Sep., 1994 | 11.6967                   | 15952.3             | 350.901               |
| Oct., 1994 | 11.1742                   | 16298.7             | 346.4                 |
| Nov., 1994 | 12.08                     | 16661.1             | 362.4                 |
| Dec., 1994 | 11.8355                   | 17028               | 366.9                 |
| Jan., 1995 | 10.8516                   | 17364.4             | 336.4                 |
| Feb., 1995 | 10.0036                   | 17644.5             | 280.1                 |
| Mar., 1995 | 9.55162                   | 17940.6             | 296.1                 |
| Apr., 1995 | 8.69001                   | 18201.3             | 260.7                 |
| May., 1995 | 7.81612                   | 18443.6             | 242.3                 |
| Jun., 1995 | 6.50668                   | 18638.8             | 195.2                 |

## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                                      | Date : March 1, 2006 9:21:23 am |
| Well : Mountcliff NVS Unit No. 2 Prov. WIW 12-29-11 | User : George                   |
| : 00/12-29-011-26W1/0                               |                                 |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Jul., 1995 | 7.96131                   | 18885.6             | 246.801               |
| Aug., 1995 | 10.1387                   | 19199.9             | 314.3                 |
| Sep., 1995 | 9.32667                   | 19479.7             | 279.8                 |
| Oct., 1995 | 11.6548                   | 19841               | 361.3                 |
| Nov., 1995 | 11.4333                   | 20184               | 342.999               |
| Dec., 1995 | 7.95162                   | 20430.5             | 246.5                 |
| Jan., 1996 | 7.82905                   | 20673.2             | 242.7                 |
| Feb., 1996 | 7.84829                   | 20900.8             | 227.601               |
| Mar., 1996 | 9.75809                   | 21203.3             | 302.501               |
| Apr., 1996 | 11.0767                   | 21535.6             | 332.3                 |
| May., 1996 | 10.3839                   | 21857.5             | 321.9                 |
| Jun., 1996 | 10.85                     | 22183               | 325.5                 |
| Jul., 1996 | 15.7194                   | 22670.3             | 487.301               |
| Aug., 1996 | 16.6387                   | 23186.1             | 515.799               |
| Sep., 1996 | 12.2867                   | 23554.7             | 368.6                 |
| Oct., 1996 | 13.5742                   | 23975.5             | 420.799               |
| Nov., 1996 | 10.17                     | 24280.6             | 305.1                 |
| Dec., 1996 | 5.85805                   | 24462.2             | 181.6                 |
| Jan., 1997 | 3.87742                   | 24582.4             | 120.2                 |
| Feb., 1997 | 3.90358                   | 24691.7             | 109.3                 |
| Mar., 1997 | 4.75807                   | 24839.2             | 147.5                 |
| Apr., 1997 | 5.15                      | 24993.7             | 154.5                 |
| May., 1997 | 5.22583                   | 25155.7             | 162.001               |
| Jun., 1997 | 6.15332                   | 25340.3             | 184.6                 |
| Jul., 1997 | 3.27099                   | 25441.7             | 101.401               |
| Aug., 1997 | 5.55163                   | 25613.8             | 172.101               |
| Sep., 1997 | 7.31334                   | 25833.2             | 219.4                 |
| Oct., 1997 | 7.54837                   | 26067.2             | 233.999               |
| Nov., 1997 | 7.35335                   | 26287.8             | 220.601               |
| Dec., 1997 | 7.16774                   | 26510               | 222.2                 |
| Jan., 1998 | 7.15805                   | 26731.9             | 221.9                 |
| Feb., 1998 | 3.59283                   | 26832.5             | 100.599               |
| Mar., 1998 | 6.19355                   | 27024.5             | 192                   |
| Apr., 1998 | 6.14664                   | 27208.9             | 184.399               |
| May., 1998 | 6.99999                   | 27425.9             | 217                   |
| Jun., 1998 | 7.91334                   | 27663.3             | 237.4                 |
| Jul., 1998 | 8.25163                   | 27919.1             | 255.8                 |
| Aug., 1998 | 10.4839                   | 28244.1             | 325                   |
| Sep., 1998 | 12.46                     | 28617.9             | 373.8                 |
| Oct., 1998 | 14.9903                   | 29082.6             | 464.7                 |
| Nov., 1998 | 14.55                     | 29519.1             | 436.5                 |

## Production Report

|       |  |      |                            |
|-------|--|------|----------------------------|
| Group | : NVSU#2                                       | Date | : March 1, 2006 9:21:23 am |
| Well  | : Mountcliff NVS Unit No. 2 Prov. WIW 12-29-11 | User | : George                   |
|       | : 00/12-29-011-26W1/0                          |      |                            |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Dec., 1998 | 13.4871                   | 29937.2             | 418.1                 |
| Jan., 1999 | 11.9097                   | 30306.4             | 369.199               |
| Feb., 1999 | 11.8357                   | 30637.8             | 331.4                 |
| Mar., 1999 | 11.3258                   | 30988.9             | 351.099               |
| Apr., 1999 | 10.4067                   | 31301.1             | 312.2                 |
| May., 1999 | 10.6645                   | 31631.7             | 330.6                 |
| Jun., 1999 | 11.2133                   | 31968.1             | 336.4                 |
| Jul., 1999 | 9.96128                   | 32276.9             | 308.8                 |
| Aug., 1999 | 11.9355                   | 32646.9             | 370.001               |
| Sep., 1999 | 18.41                     | 33199.2             | 552.3                 |
| Oct., 1999 | 18.2968                   | 33766.4             | 567.199               |
| Nov., 1999 | 17.09                     | 34279.1             | 512.699               |
| Dec., 1999 | 14.5935                   | 34731.5             | 452.4                 |
| Jan., 2000 | 9.98066                   | 35040.9             | 309.401               |
| Feb., 2000 | 9.94826                   | 35329.4             | 288.499               |
| Mar., 2000 | 14.2935                   | 35772.5             | 443.099               |
| Apr., 2000 | 15.4933                   | 36237.3             | 464.8                 |
| May., 2000 | 15.3291                   | 36712.5             | 475.201               |
| Jun., 2000 | 15.3633                   | 37173.4             | 460.901               |

## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                                      | Date : March 1, 2006 9:53:15 am |
| Well : Mountcliff NVS Unit No. 2 WTW A10-30-11-26W1 | User : George                   |
| : 02/10-30-011-26W1/0                               |                                 |
| Hist.Data : 02/86-06/00                             | On Prod : 02/09                 |
| Operator :  | Status : Unknown                |
| Field : 5   | Zone : 59A                      |

### Production Data from January, 1989 to June, 2000

| Year       | Cum Water Inj<br>m3 | Cal Day Water Inj<br>m3/d | Month Water Inj<br>m3 |
|------------|---------------------|---------------------------|-----------------------|
| Jan., 1989 |                     |                           |                       |
| Feb., 1989 |                     |                           |                       |
| Mar., 1989 |                     |                           |                       |
| Apr., 1989 |                     |                           |                       |
| May., 1989 |                     |                           |                       |
| Jun., 1989 |                     |                           |                       |
| Jul., 1989 |                     |                           |                       |
| Aug., 1989 |                     |                           |                       |
| Sep., 1989 |                     |                           |                       |
| Oct., 1989 |                     |                           |                       |
| Nov., 1989 |                     |                           |                       |
| Dec., 1989 |                     |                           |                       |
| Jan., 1990 | 341.5               | 11.0161                   | 341.5                 |
| Feb., 1990 | 625.5               | 10.1429                   | 284                   |
| Mar., 1990 | 836.5               | 6.80645                   | 211                   |
| Apr., 1990 | 1041.4              | 6.82999                   | 204.9                 |
| May., 1990 | 1260.7              | 7.0742                    | 219.3                 |
| Jun., 1990 | 1460.8              | 6.67001                   | 200.1                 |
| Jul., 1990 | 1680.9              | 7.1                       | 220.1                 |
| Aug., 1990 | 1900                | 7.06774                   | 219.1                 |
| Sep., 1990 | 2133.2              | 7.77333                   | 233.2                 |
| Oct., 1990 | 2355.6              | 7.1742                    | 222.4                 |
| Nov., 1990 | 2565                | 6.98002                   | 209.401               |
| Dec., 1990 | 2861.4              | 9.56131                   | 296.401               |
| Jan., 1991 | 3081.9              | 7.11292                   | 220.5                 |
| Feb., 1991 | 3271.5              | 6.77141                   | 189.6                 |
| Mar., 1991 | 3489.6              | 7.03548                   | 218.1                 |
| Apr., 1991 | 3704.7              | 7.17                      | 215.1                 |
| May., 1991 | 4004.2              | 9.66127                   | 299.499               |
| Jun., 1991 | 4301.9              | 9.92332                   | 297.7                 |
| Jul., 1991 | 4609.1              | 9.90968                   | 307.2                 |
| Aug., 1991 | 4921.3              | 10.071                    | 312.2                 |
| Sep., 1991 | 5223.3              | 10.0667                   | 302                   |
| Oct., 1991 | 5537.3              | 10.129                    | 314                   |
| Nov., 1991 | 5865.2              | 10.93                     | 327.899               |
| Dec., 1991 | 6178                | 10.0903                   | 312.799               |
| Jan., 1992 | 6498.3              | 10.3323                   | 320.3                 |

## Production Report

Group : NVSU#2 Date : March 1, 2006 9:53:15 am  
 Well : Mountcliff NVS Unit No. 2 WIW A10-30-11-26W1 User : George  
 : 02/10-30-011-26W1/0

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cum Water Inj<br>m3 | Cal Day Water Inj<br>m3/d | Month Water Inj<br>m3 |
|------------|---------------------|---------------------------|-----------------------|
| Feb., 1992 | 6837.3              | 11.6896                   | 338.999               |
| Mar., 1992 | 7200.9              | 11.729                    | 363.6                 |
| Apr., 1992 | 7548.5              | 11.5867                   | 347.6                 |
| May., 1992 | 7909.3              | 11.6387                   | 360.8                 |
| Jun., 1992 | 8227.2              | 10.5967                   | 317.9                 |
| Jul., 1992 | 8541.5              | 10.1387                   | 314.3                 |
| Aug., 1992 | 8927.7              | 12.4581                   | 386.201               |
| Sep., 1992 | 9282.1              | 11.8133                   | 354.4                 |
| Oct., 1992 | 9694.5              | 13.3032                   | 412.4                 |
| Nov., 1992 | 10170.4             | 15.8633                   | 475.9                 |
| Dec., 1992 | 10584.9             | 13.371                    | 414.501               |
| Jan., 1993 | 10972.7             | 12.5097                   | 387.8                 |
| Feb., 1993 | 11322.2             | 12.4821                   | 349.5                 |
| Mar., 1993 | 11709.1             | 12.4806                   | 386.9                 |
| Apr., 1993 | 12088.9             | 12.66                     | 379.8                 |
| May., 1993 | 12475.6             | 12.4742                   | 386.7                 |
| Jun., 1993 | 12863.5             | 12.93                     | 387.9                 |
| Jul., 1993 | 13204.1             | 10.9871                   | 340.6                 |
| Aug., 1993 | 13592.2             | 12.5194                   | 388.1                 |
| Sep., 1993 | 13971               | 12.6267                   | 378.8                 |
| Oct., 1993 | 13975.9             | 0.158057                  | 4.89976               |
| Nov., 1993 |                     |                           |                       |
| Dec., 1993 |                     |                           |                       |
| Jan., 1994 |                     |                           |                       |
| Feb., 1994 |                     |                           |                       |
| Mar., 1994 |                     |                           |                       |
| Apr., 1994 |                     |                           |                       |
| May., 1994 |                     |                           |                       |
| Jun., 1994 |                     |                           |                       |
| Jul., 1994 |                     |                           |                       |
| Aug., 1994 |                     |                           |                       |
| Sep., 1994 |                     |                           |                       |
| Oct., 1994 |                     |                           |                       |
| Nov., 1994 |                     |                           |                       |
| Dec., 1994 |                     |                           |                       |
| Jan., 1995 |                     |                           |                       |
| Feb., 1995 |                     |                           |                       |
| Mar., 1995 |                     |                           |                       |
| Apr., 1995 |                     |                           |                       |
| May., 1995 |                     |                           |                       |
| Jun., 1995 |                     |                           |                       |

## Production Report

|       |  |      |                            |
|-------|--|------|----------------------------|
| Group | : NVSU#2                                       | Date | : March 1, 2006 9:53:15 am |
| Well  | : Mountcliff NVS Unit No. 2 WIW A10-30-11-26W1 | User | : George                   |
|       | : 02/10-30-011-26W1/0                          |      |                            |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cum Water Inj<br>m3 | Cal Day Water Inj<br>m3/d | Month Water Inj<br>m3 |
|------------|---------------------|---------------------------|-----------------------|
| Jul., 1995 |                     |                           |                       |
| Aug., 1995 |                     |                           |                       |
| Sep., 1995 |                     |                           |                       |
| Oct., 1995 |                     |                           |                       |
| Nov., 1995 |                     |                           |                       |
| Dec., 1995 |                     |                           |                       |
| Jan., 1996 |                     |                           |                       |
| Feb., 1996 |                     |                           |                       |
| Mar., 1996 |                     |                           |                       |
| Apr., 1996 |                     |                           |                       |
| May., 1996 |                     |                           |                       |
| Jun., 1996 |                     |                           |                       |
| Jul., 1996 |                     |                           |                       |
| Aug., 1996 |                     |                           |                       |
| Sep., 1996 |                     |                           |                       |
| Oct., 1996 |                     |                           |                       |
| Nov., 1996 |                     |                           |                       |
| Dec., 1996 | 14147.4             | 5.53225                   | 171.5                 |
| Jan., 1997 | 14328.5             | 5.84195                   | 181.1                 |
| Feb., 1997 | 14714               | 13.7678                   | 385.499               |
| Mar., 1997 | 15104.6             | 12.6                      | 390.6                 |
| Apr., 1997 | 15474.5             | 12.33                     | 369.9                 |
| May., 1997 | 15835.8             | 11.6548                   | 361.3                 |
| Jun., 1997 | 16041.4             | 6.85331                   | 205.599               |
| Jul., 1997 | 16210.4             | 5.45163                   | 169.001               |
| Aug., 1997 | 16487.2             | 8.92903                   | 276.8                 |
| Sep., 1997 | 16717.6             | 7.68001                   | 230.4                 |
| Oct., 1997 | 16961.5             | 7.86777                   | 243.901               |
| Nov., 1997 | 17207.8             | 8.20999                   | 246.3                 |
| Dec., 1997 | 17468.6             | 8.41291                   | 260.8                 |
| Jan., 1998 | 17773               | 9.81937                   | 304.401               |
| Feb., 1998 | 18175.3             | 14.3679                   | 402.3                 |
| Mar., 1998 | 18515.2             | 10.9645                   | 339.899               |
| Apr., 1998 | 18806.3             | 9.70334                   | 291.1                 |
| May., 1998 | 19099.8             | 9.46772                   | 293.499               |
| Jun., 1998 | 19509.6             | 13.66                     | 409.8                 |
| Jul., 1998 | 20087.9             | 18.6548                   | 578.299               |
| Aug., 1998 | 20733.6             | 20.829                    | 645.7                 |
| Sep., 1998 | 21313.6             | 19.3333                   | 580                   |
| Oct., 1998 | 22042.1             | 23.5                      | 728.5                 |
| Nov., 1998 | 22803.5             | 25.38                     | 761.4                 |

## Production Report

Group : NVSU#2 Date : March 1, 2006 9:53:15 am  
 Well : Mountcliff NVS Unit No. 2 WIW A10-30-11-26W1 User : George  
 : 02/10-30-011-26W1/0

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cum Water Inj<br>m3 | Cal Day Water Inj<br>m3/d | Month Water Inj<br>m3 |
|------------|---------------------|---------------------------|-----------------------|
| Dec., 1998 | 23500               | 22.4677                   | 696.499               |
| Jan., 1999 | 24201.4             | 22.6258                   | 701.401               |
| Feb., 1999 | 24831.3             | 22.4964                   | 629.899               |
| Mar., 1999 | 25559.5             | 23.4903                   | 728.2                 |
| Apr., 1999 | 26301.7             | 24.74                     | 742.2                 |
| May., 1999 | 27207.4             | 29.2161                   | 905.7                 |
| Jun., 1999 | 28076.2             | 28.96                     | 868.8                 |
| Jul., 1999 | 28951               | 28.2194                   | 874.8                 |
| Aug., 1999 | 29781.1             | 26.7774                   | 830.1                 |
| Sep., 1999 | 30146.9             | 12.1933                   | 365.8                 |
| Oct., 1999 | 30608.8             | 14.9                      | 461.9                 |
| Nov., 1999 | 31030               | 14.04                     | 421.2                 |
| Dec., 1999 | 31416.8             | 12.4774                   | 386.8                 |
| Jan., 2000 | 32013.8             | 19.2581                   | 597                   |
| Feb., 2000 | 32491.1             | 16.4586                   | 477.299               |
| Mar., 2000 | 33142.9             | 21.0258                   | 651.801               |
| Apr., 2000 | 33767.1             | 20.8067                   | 624.2                 |
| May., 2000 | 34571.5             | 25.9484                   | 804.401               |
| Jun., 2000 | 35389.3             | 27.26                     | 817.799               |



## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                     | Date : March 1, 2006 9:46:58 am |
| Well : Mountcliff NVS Unit No. 2 WIW 04-32-11-26W1 | User : George                   |
| : 00/04-32-011-26W1/0                              |                                 |
| Hist.Data : 01/83-06/00                            | On Prod : 02/09                 |
| Operator :   | Status : Unknown                |
| Field : 5  | Zone : 59A                      |

### Production Data from January, 1989 to June, 2000

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Jan., 1989 |                           |                     |                       |
| Feb., 1989 |                           |                     |                       |
| Mar., 1989 |                           |                     |                       |
| Apr., 1989 |                           |                     |                       |
| May., 1989 |                           |                     |                       |
| Jun., 1989 |                           |                     |                       |
| Jul., 1989 |                           |                     |                       |
| Aug., 1989 |                           |                     |                       |
| Sep., 1989 |                           |                     |                       |
| Oct., 1989 |                           |                     |                       |
| Nov., 1989 |                           |                     |                       |
| Dec., 1989 |                           |                     |                       |
| Jan., 1990 |                           |                     |                       |
| Feb., 1990 | 4.73573                   | 132.6               | 132.6                 |
| Mar., 1990 | 4.39031                   | 268.7               | 136.1                 |
| Apr., 1990 | 5.34666                   | 429.1               | 160.4                 |
| May., 1990 | 5.35163                   | 595                 | 165.9                 |
| Jun., 1990 | 5.55333                   | 761.6               | 166.6                 |
| Jul., 1990 | 6.71937                   | 969.9               | 208.3                 |
| Aug., 1990 | 6.4871                    | 1171                | 201.1                 |
| Sep., 1990 | 6.63333                   | 1370                | 199                   |
| Oct., 1990 | 6.8226                    | 1581.5              | 211.501               |
| Nov., 1990 | 10.48                     | 1895.9              | 314.4                 |
| Dec., 1990 | 7.43872                   | 2126.5              | 230.6                 |
| Jan., 1991 | 4.66776                   | 2271.2              | 144.7                 |
| Feb., 1991 | 7.82857                   | 2490.4              | 219.2                 |
| Mar., 1991 | 7.10646                   | 2710.7              | 220.3                 |
| Apr., 1991 | 6.63333                   | 2909.7              | 199                   |
| May., 1991 | 6.64839                   | 3115.8              | 206.1                 |
| Jun., 1991 | 6.46333                   | 3309.7              | 193.9                 |
| Jul., 1991 | 6.37741                   | 3507.4              | 197.7                 |
| Aug., 1991 | 6.10001                   | 3696.5              | 189.1                 |
| Sep., 1991 | 6.79666                   | 3900.4              | 203.9                 |
| Oct., 1991 | 6.42582                   | 4099.6              | 199.2                 |
| Nov., 1991 | 4.82001                   | 4244.2              | 144.6                 |
| Dec., 1991 | 6.98712                   | 4460.8              | 216.601               |
| Jan., 1992 | 6.74516                   | 4669.9              | 209.1                 |

## Production Report

|       |   |      |                            |
|-------|---|------|----------------------------|
| Group | : NVSU#2                                      | Date | : March 1, 2006 9:46:58 am |
| Well  | : Mountcliff NVS Unit No. 2 WIW 04-32-11-26W1 | User | : George                   |
|       | : 00/04-32-011-26W1/0                         |      |                            |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Feb., 1992 | 6.38277                   | 4855                | 185.1                 |
| Mar., 1992 | 6.17099                   | 5046.31             | 191.301               |
| Apr., 1992 | 6.11999                   | 5229.91             | 183.6                 |
| May., 1992 | 6.11288                   | 5419.4              | 189.499               |
| Jun., 1992 | 5.56001                   | 5586.21             | 166.8                 |
| Jul., 1992 | 5.18064                   | 5746.81             | 160.6                 |
| Aug., 1992 | 6.20325                   | 5939.11             | 192.301               |
| Sep., 1992 | 5.91665                   | 6116.6              | 177.5                 |
| Oct., 1992 | 3.48064                   | 6224.5              | 107.9                 |
| Nov., 1992 |                           |                     |                       |
| Dec., 1992 |                           |                     |                       |
| Jan., 1993 |                           |                     |                       |
| Feb., 1993 |                           |                     |                       |
| Mar., 1993 |                           |                     |                       |
| Apr., 1993 |                           |                     |                       |
| May., 1993 |                           |                     |                       |
| Jun., 1993 |                           |                     |                       |
| Jul., 1993 |                           |                     |                       |
| Aug., 1993 | 12.1064                   | 6599.8              | 375.299               |
| Sep., 1993 | 11.4767                   | 6944.1              | 344.3                 |
| Oct., 1993 | 0.38386                   | 6956                | 11.8997               |
| Nov., 1993 | 10.9433                   | 7284.3              | 328.3                 |
| Dec., 1993 | 8.91934                   | 7560.8              | 276.5                 |
| Jan., 1994 | 5.76128                   | 7739.4              | 178.6                 |
| Feb., 1994 | 6.34642                   | 7917.1              | 177.7                 |
| Mar., 1994 | 6.28386                   | 8111.9              | 194.8                 |
| Apr., 1994 | 5.90001                   | 8288.9              | 177                   |
| May., 1994 | 7.33226                   | 8516.2              | 227.3                 |
| Jun., 1994 | 8.43998                   | 8769.4              | 253.199               |
| Jul., 1994 | 9.73224                   | 9071.1              | 301.7                 |
| Aug., 1994 | 11.2613                   | 9420.2              | 349.099               |
| Sep., 1994 | 9.59667                   | 9708.1              | 287.9                 |
| Oct., 1994 | 9.31289                   | 9996.8              | 288.7                 |
| Nov., 1994 | 9.71998                   | 10288.4             | 291.6                 |
| Dec., 1994 | 9.83225                   | 10593.2             | 304.8                 |
| Jan., 1995 | 9.47095                   | 10886.8             | 293.599               |
| Feb., 1995 | 9.29641                   | 11147.1             | 260.3                 |
| Mar., 1995 | 9.2613                    | 11434.2             | 287.1                 |
| Apr., 1995 | 8.83335                   | 11699.2             | 265.001               |
| May., 1995 | 8.58389                   | 11965.3             | 266.101               |
| Jun., 1995 | 7.24668                   | 12182.7             | 217.4                 |

## Production Report

|       |   |      |                            |
|-------|---|------|----------------------------|
| Group | : NVSU#2                                      | Date | : March 1, 2006 9:46:58 am |
| Well  | : Mountcliff NVS Unit No. 2 WIW 04-32-11-26W1 | User | : George                   |
|       | : 00/04-32-011-26W1/0                         |      |                            |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Jul., 1995 | 8.66128                   | 12451.2             | 268.5                 |
| Aug., 1995 | 11.5645                   | 12809.7             | 358.5                 |
| Sep., 1995 | 9.10669                   | 13082.9             | 273.201               |
| Oct., 1995 | 10.8839                   | 13420.3             | 337.4                 |
| Nov., 1995 | 10.2767                   | 13728.6             | 308.3                 |
| Dec., 1995 | 8.69677                   | 13998.2             | 269.6                 |
| Jan., 1996 | 8.95483                   | 14275.8             | 277.6                 |
| Feb., 1996 | 8.91379                   | 14534.3             | 258.5                 |
| Mar., 1996 | 9.25484                   | 14821.2             | 286.9                 |
| Apr., 1996 | 9.35666                   | 15101.9             | 280.7                 |
| May., 1996 | 9.77419                   | 15404.9             | 303                   |
| Jun., 1996 | 10.72                     | 15726.5             | 321.601               |
| Jul., 1996 | 13.6                      | 16148.1             | 421.601               |
| Aug., 1996 | 14.6516                   | 16602.3             | 454.199               |
| Sep., 1996 | 11.4967                   | 16947.2             | 344.901               |
| Oct., 1996 | 13.6387                   | 17370               | 422.799               |
| Nov., 1996 | 11.1733                   | 17705.2             | 335.2                 |
| Dec., 1996 | 7.4258                    | 17935.4             | 230.2                 |
| Jan., 1997 | 5.25162                   | 18098.2             | 162.8                 |
| Feb., 1997 | 3.75715                   | 18203.4             | 105.2                 |
| Mar., 1997 | 4.04194                   | 18328.7             | 125.3                 |
| Apr., 1997 | 5.33998                   | 18488.9             | 160.199               |
| May., 1997 | 5.31614                   | 18653.7             | 164.8                 |
| Jun., 1997 | 8.31667                   | 18903.2             | 249.5                 |
| Jul., 1997 | 5.10644                   | 19061.5             | 158.3                 |
| Aug., 1997 | 8.34517                   | 19320.2             | 258.7                 |
| Sep., 1997 | 7.40667                   | 19542.4             | 222.2                 |
| Oct., 1997 | 7.23872                   | 19766.8             | 224.4                 |
| Nov., 1997 | 7.44668                   | 19990.2             | 223.4                 |
| Dec., 1997 | 7.27098                   | 20215.6             | 225.4                 |
| Jan., 1998 | 6.24838                   | 20409.3             | 193.7                 |
| Feb., 1998 | 3.32143                   | 20502.3             | 93.0001               |
| Mar., 1998 | 7.13225                   | 20723.4             | 221.1                 |
| Apr., 1998 | 6.23                      | 20910.3             | 186.9                 |
| May., 1998 | 5.49676                   | 21080.7             | 170.4                 |
| Jun., 1998 | 6.52332                   | 21276.4             | 195.7                 |
| Jul., 1998 | 6.84517                   | 21488.6             | 212.2                 |
| Aug., 1998 | 2.46127                   | 21564.9             | 76.2993               |
| Sep., 1998 |                           |                     |                       |
| Oct., 1998 |                           |                     |                       |
| Nov., 1998 | 6.69332                   | 21765.7             | 200.8                 |

## Production Report

|       |   |      |                            |
|-------|---|------|----------------------------|
| Group | : NVSU#2                                      | Date | : March 1, 2006 9:46:58 am |
| Well  | : Mountcliff NVS Unit No. 2 WIW 04-32-11-26W1 | User | : George                   |
|       | : 00/04-32-011-26W1/0                         |      |                            |

### Production Data from January, 1989 to June, 2000 (cont.)

| Year       | Cal Day Water Inj<br>m3/d | Cum Water Inj<br>m3 | Month Water Inj<br>m3 |
|------------|---------------------------|---------------------|-----------------------|
| Dec., 1998 | 3.64839                   | 21878.8             | 113.1                 |
| Jan., 1999 | 4.81612                   | 22028.1             | 149.3                 |
| Feb., 1999 | 4.14285                   | 22144.1             | 116                   |
| Mar., 1999 | 3.82583                   | 22262.7             | 118.601               |
| Apr., 1999 | 4.57332                   | 22399.9             | 137.2                 |
| May., 1999 | 0.590329                  | 22418.2             | 18.3002               |
| Jun., 1999 |                           |                     |                       |
| Jul., 1999 |                           |                     |                       |
| Aug., 1999 |                           |                     |                       |
| Sep., 1999 |                           |                     |                       |
| Oct., 1999 |                           |                     |                       |
| Nov., 1999 |                           |                     |                       |
| Dec., 1999 | 3.41612                   | 22524.1             | 105.9                 |
| Jan., 2000 | 7.38385                   | 22753               | 228.899               |
| Feb., 2000 | 5.83106                   | 22922.1             | 169.101               |
| Mar., 2000 | 7.97418                   | 23169.3             | 247.2                 |
| Apr., 2000 | 14.23                     | 23596.2             | 426.899               |
| May., 2000 | 16.7806                   | 24116.4             | 520.2                 |
| Jun., 2000 | 17.6067                   | 24644.6             | 528.2                 |

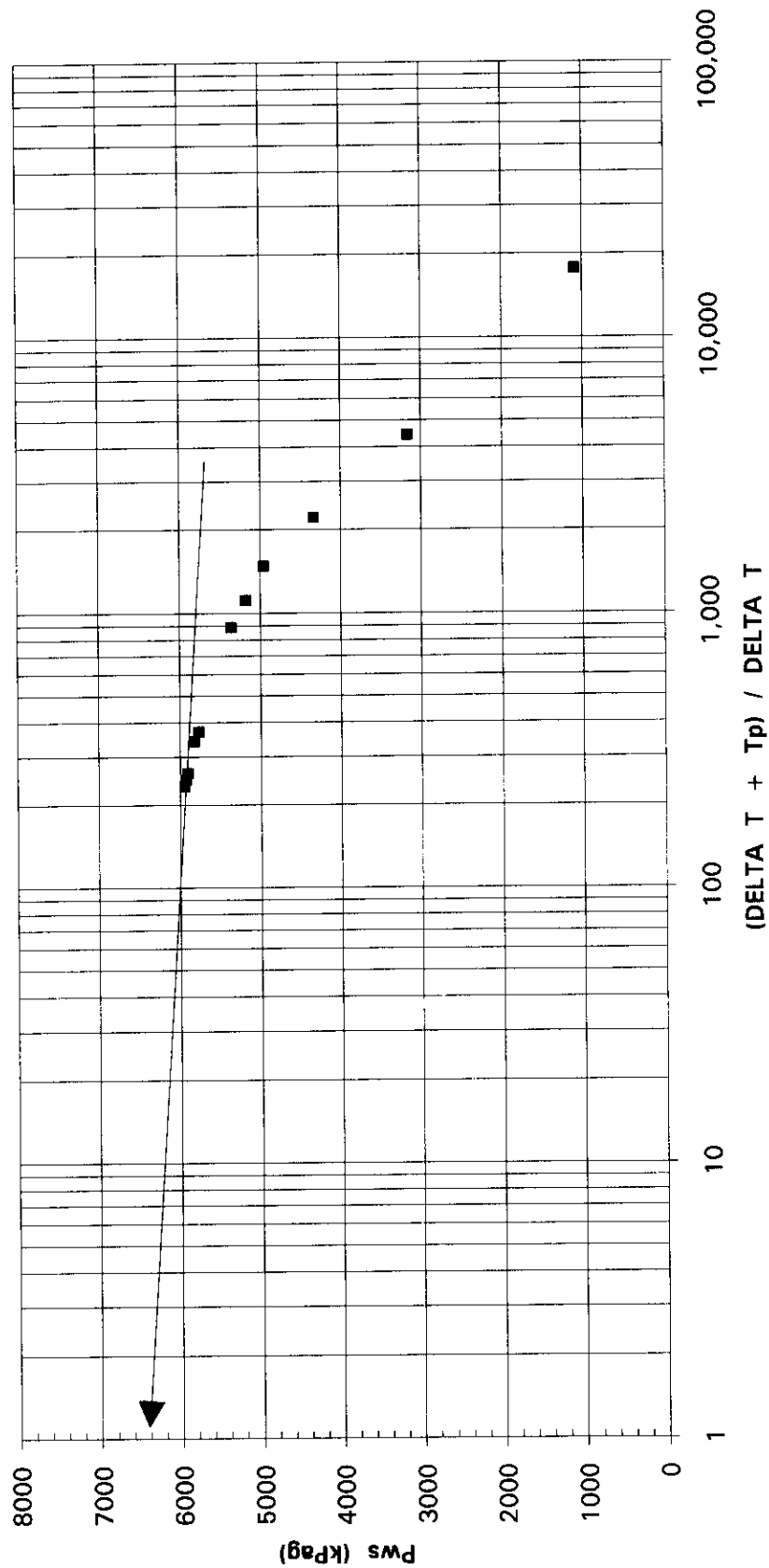
## APPENDIX F

### HISTORICAL PRESSURE SURVEYS

[illegible]

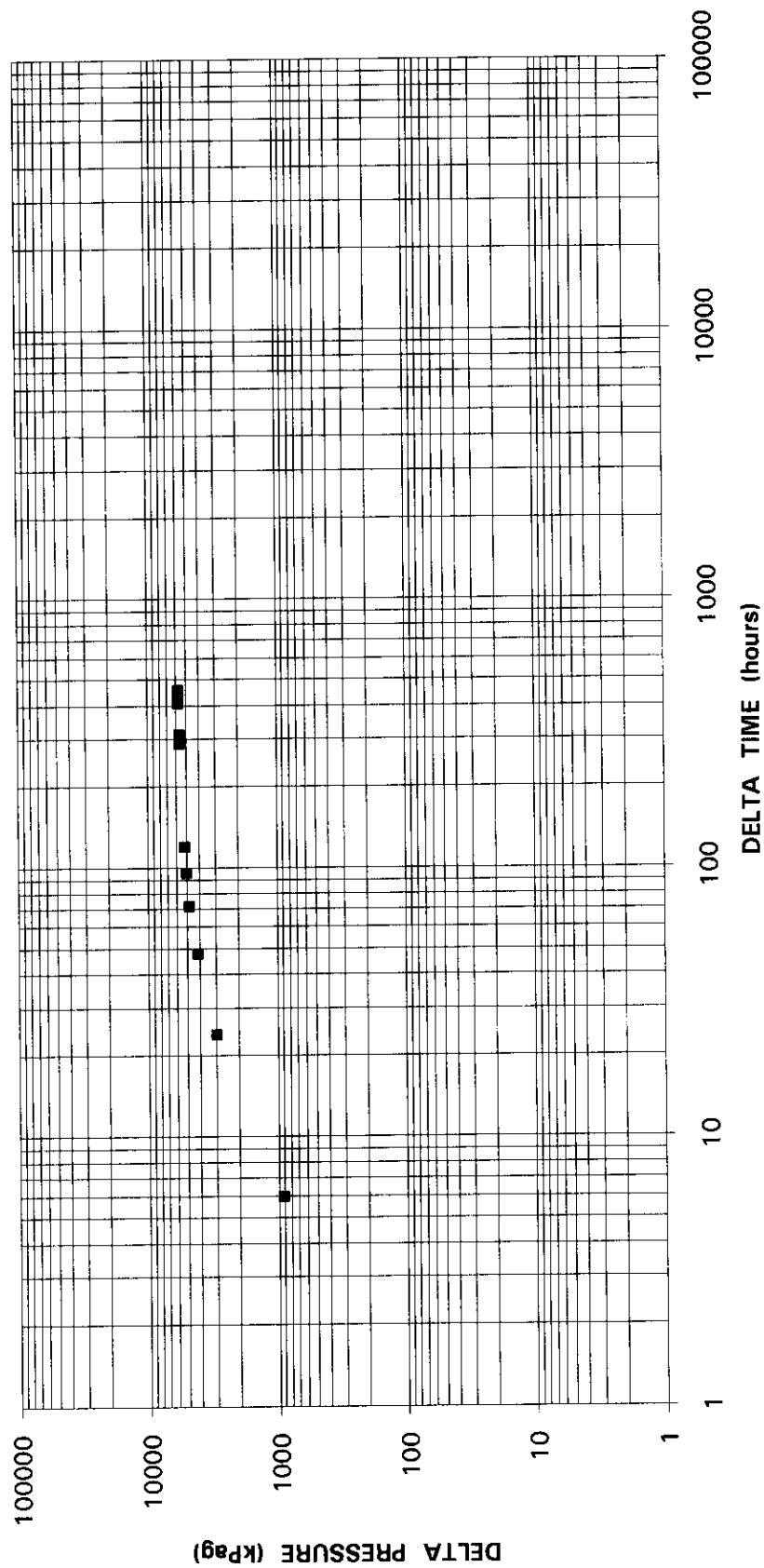
# HORNER PLOT PRESSURE BUILDUP TEST 11-29-11-26

Shut-in time = 19 days



# LOG - LOG PLOT WELL 11-29-11-26 PRESSURE BUILDUP TEST

Shut-in time = 19 days





[illegible]

# PRESSURE BUILDUP WELL 16-30-11-26 HORNER PLOT

SHUT-IN PERIOD = 22 days

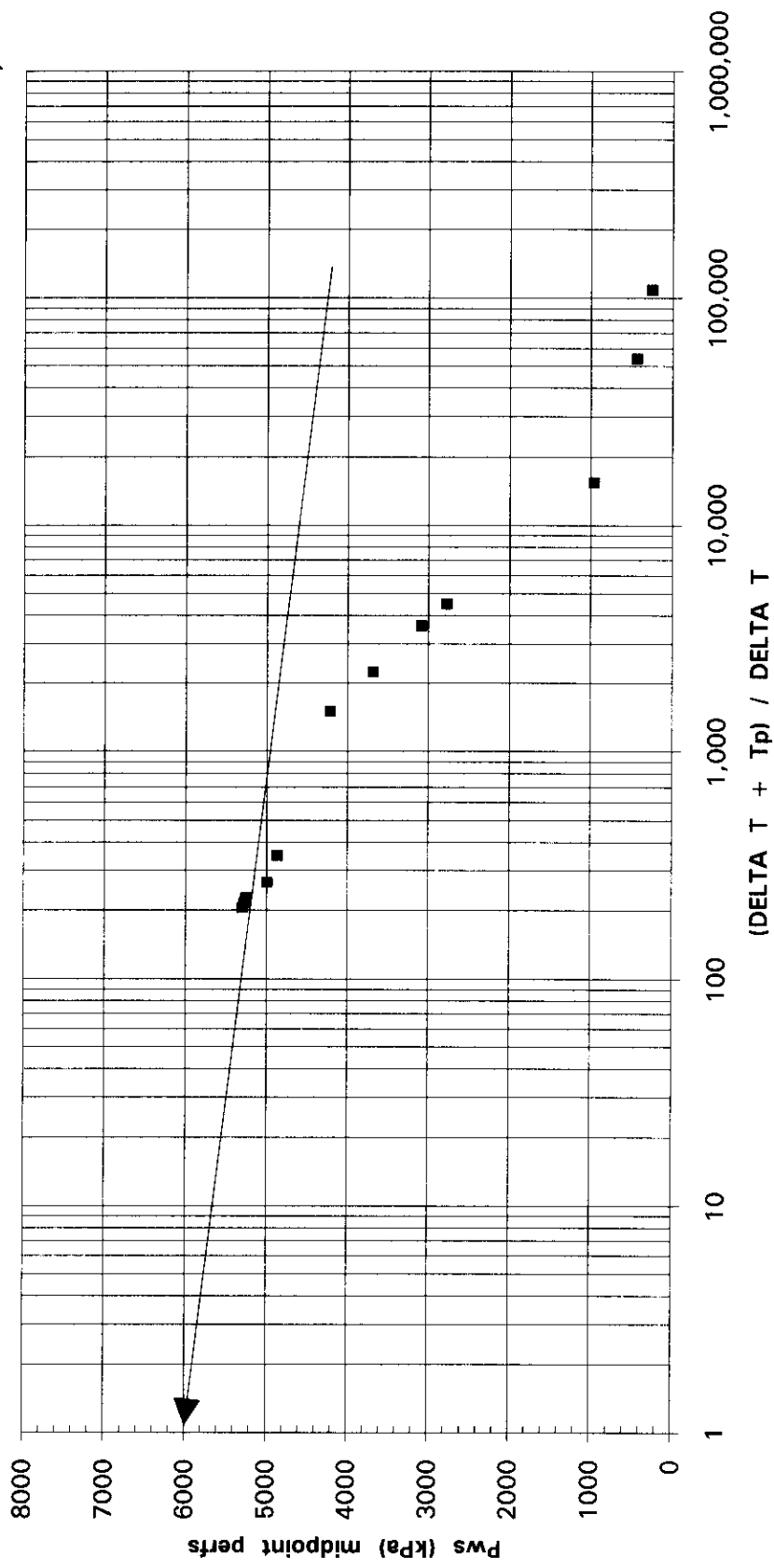
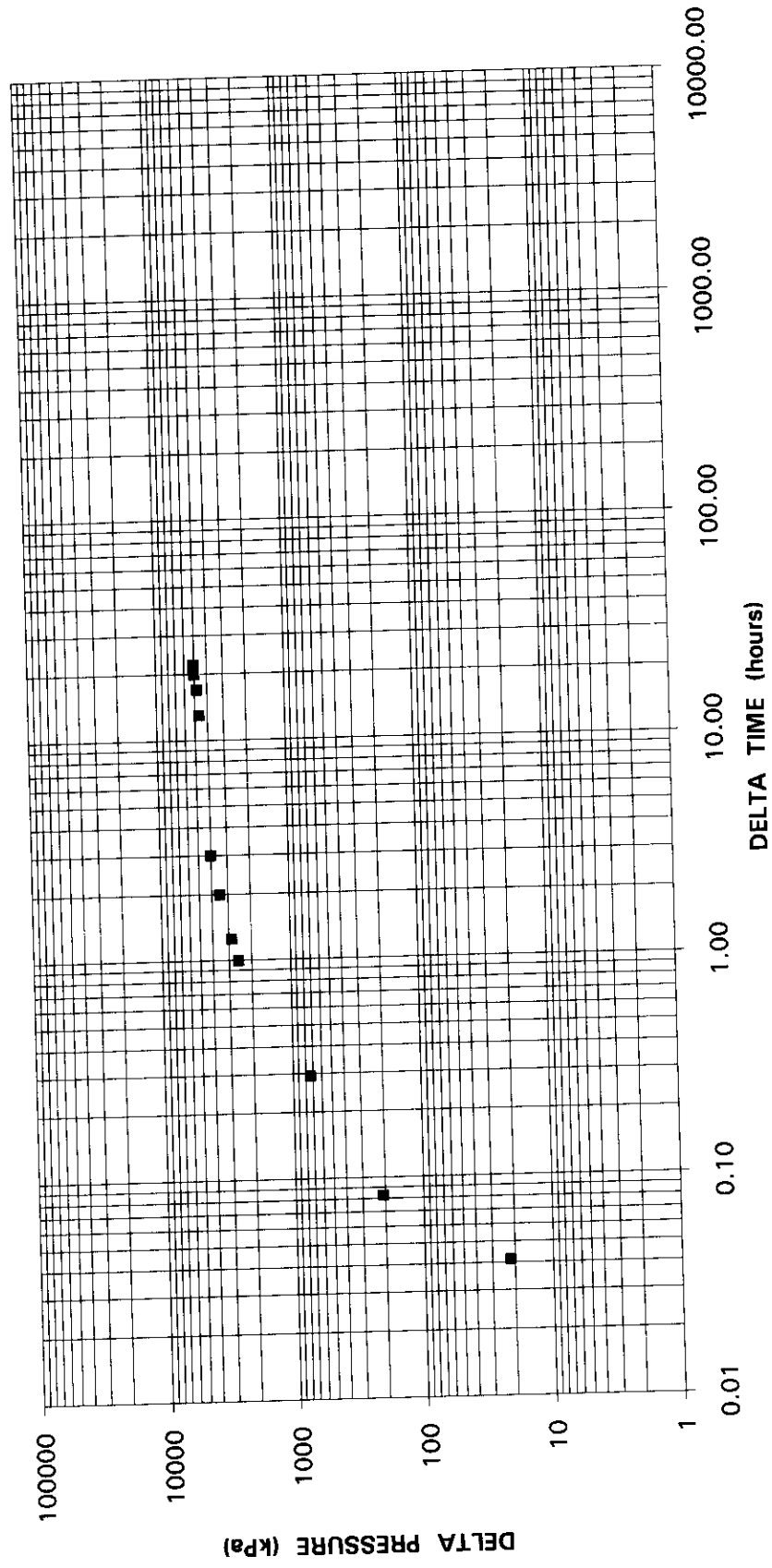


FIGURE NO.1

LOG - LOG PLOT 16-30-11-26

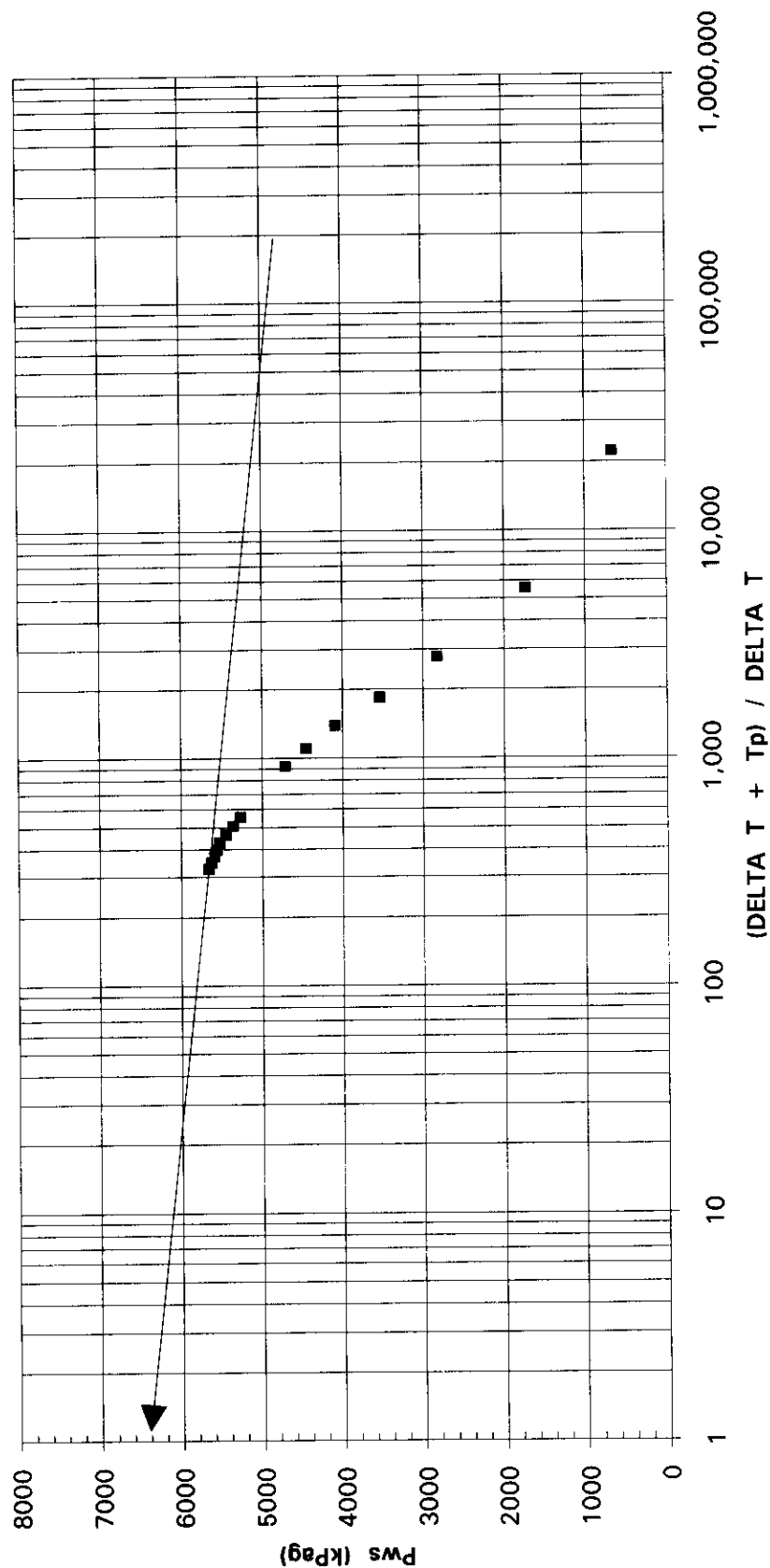
SHUT-IN PERIOD = 22 days



[illegible]

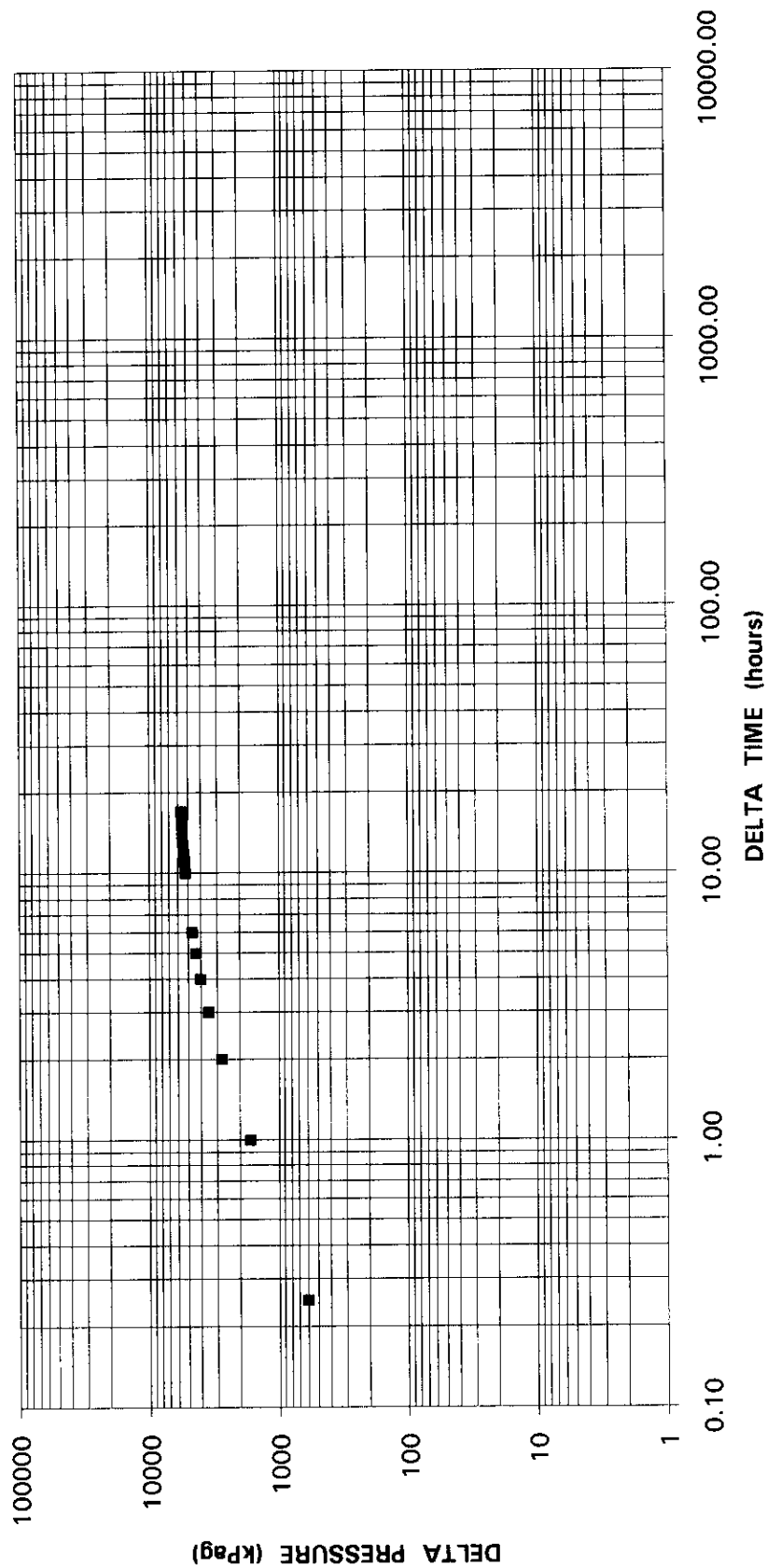
# HORNER PLOT PRESSURE BUILDUP TEST WELL 5-32-11-26

Shut-in period = 17 days



# LOG - LOG PLOT WELL 5-32-11-26 PRESSURE BUILDUP PLOT

Shut-in time = 17 days



## **APPENDIX G**

### **HISTORICAL WELL PRODUCTION DATA**

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                     | Date : March 8, 2006 8:26:14 am |
| Well : Mountcliff NVS Unit No. 2 Prov. 06-29-11-26 | User : George                   |
| : 00/06-29-011-26W1/0                              |                                 |
| Hist.Data : 03/85-07/00                            | On Prod : 02/09                 |
| Operator :   | Status : Unknown                |
| Field : 5  | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 27.6              | 5342.2        | 0.890323              | 82.0481        | 126.2               | 4.96168                 |
| Feb., 1998 | 24.5              | 5366.7        | 0.875                 | 81.8319        | 110.4               | 4.81824                 |
| Mar., 1998 | 27.4              | 5394.1        | 0.883871              | 80.7109        | 114.7               | 4.58426                 |
| Apr., 1998 | 29.4              | 5423.5        | 0.98                  | 77.3769        | 100.6               | 4.33377                 |
| May., 1998 | 29.8              | 5453.3        | 0.96129               | 75.6852        | 92.8                | 3.95526                 |
| Jun., 1998 | 30.5              | 5483.8        | 1.01667               | 78.7531        | 113.1               | 4.78711                 |
| Jul., 1998 | 31                | 5514.8        | 1                     | 81.6719        | 138.2               | 5.45851                 |
| Aug., 1998 | 24.3              | 5539.1        | 0.783871              | 89.4352        | 205.8               | 7.42293                 |
| Sep., 1998 | 22.6              | 5561.7        | 0.77931               | 89.2185        | 187.1               | 7.23138                 |
| Oct., 1998 | 23.2              | 5584.9        | 0.748387              | 88.1284        | 172.3               | 6.30678                 |
| Nov., 1998 | 21.9              | 5606.8        | 0.73                  | 91.4752        | 235.1               | 8.56699                 |
| Dec., 1998 | 22.7              | 5629.5        | 0.756667              | 89.8439        | 200.9               | 7.45367                 |
| Jan., 1999 | 33.1              | 5662.6        | 1.06774               | 83.8477        | 171.9               | 6.61337                 |
| Feb., 1999 | 25.4              | 5688          | 0.907143              | 87.1082        | 171.7               | 7.03968                 |
| Mar., 1999 | 27.3              | 5715.3        | 0.880645              | 87.3796        | 189.1               | 6.98103                 |
| Apr., 1999 | 26.1              | 5741.4        | 0.87                  | 88.1855        | 194.9               | 7.36705                 |
| May., 1999 | 28.9              | 5770.3        | 0.932258              | 88.068         | 213.4               | 7.81654                 |
| Jun., 1999 | 27.8              | 5798.1        | 0.926667              | 88.2754        | 209.4               | 7.90707                 |
| Jul., 1999 | 28.3              | 5826.4        | 0.912903              | 87.8023        | 203.8               | 7.4875                  |
| Aug., 1999 | 29.3              | 5855.7        | 0.945161              | 87.3385        | 202.2               | 7.46816                 |
| Sep., 1999 | 24                | 5879.7        | 0.827586              | 80.337         | 98.1                | 4.21071                 |
| Oct., 1999 | 24.8              | 5904.5        | 0.8                   | 49.2732        | 24.1                | 1.57777                 |
| Nov., 1999 | 25                | 5929.5        | 0.833333              | 46.5702        | 21.8                | 1.56037                 |
| Dec., 1999 | 25.8              | 5955.3        | 0.832258              | 48.2856        | 24.1                | 1.61004                 |
| Jan., 2000 | 25.6              | 5980.9        | 0.825806              | 49.3961        | 25                  | 1.63262                 |
| Feb., 2000 | 23.3              | 6004.2        | 0.803448              | 49.4467        | 22.8                | 1.59001                 |
| Mar., 2000 | 23.3              | 6027.5        | 0.751613              | 48.7802        | 22.2                | 1.46807                 |
| Apr., 2000 | 23.8              | 6051.3        | 0.793333              | 43.7244        | 18.5                | 1.41035                 |
| May., 2000 | 16.4              | 6067.7        | 0.546667              | 47.5928        | 14.9                | 1.04357                 |
| Jun., 2000 | 16.1              | 6083.8        | 0.536667              | 51.6407        | 17.2                | 1.11024                 |
| Jul., 2000 | 15.9              | 6099.7        | 0.514286              | 60.1398        | 24                  | 1.29079                 |



## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                     | Date : March 8, 2006 8:28:22 am |
| Well : Mountcliff NVS Unit No. 2 Prov. 11-29-11-26 | User : George                   |
| : 00/11-29-011-26W1/0                              |                                 |
| Hist.Data : 03/85-07/00                            | On Prod : 02/09                 |
| Operator :   | Status : Unknown                |
| Field : 5  | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 38.7              | 8540.4        | 1.24839               | 61.9739        | 63.1                | 3.28442                 |
| Feb., 1998 | 34.3              | 8574.7        | 1.225                 | 61.6656        | 55.2                | 3.19697                 |
| Mar., 1998 | 38.4              | 8613.1        | 1.23871               | 59.864         | 57.3                | 3.08764                 |
| Apr., 1998 | 41.4              | 8654.5        | 1.38                  | 54.8419        | 50.3                | 3.05727                 |
| May., 1998 | 41.7              | 8696.2        | 1.34516               | 52.6564        | 46.4                | 2.84253                 |
| Jun., 1998 | 36.6              | 8732.8        | 1.22                  | 59.4129        | 53.6                | 3.0072                  |
| Jul., 1998 | 37.2              | 8770          | 1.2                   | 63.7678        | 65.5                | 3.31343                 |
| Aug., 1998 | 33.4              | 8803.4        | 1.07742               | 62.0782        | 54.7                | 2.84241                 |
| Sep., 1998 | 31.1              | 8834.5        | 1.07241               | 61.5945        | 49.9                | 2.79358                 |
| Oct., 1998 | 31.9              | 8866.4        | 1.02903               | 59.0394        | 46                  | 2.51336                 |
| Nov., 1998 | 30.1              | 8896.5        | 1.00333               | 64.071         | 53.7                | 2.79378                 |
| Dec., 1998 | 31.2              | 8927.7        | 1.00645               | 59.5225        | 45.9                | 2.48754                 |
| Jan., 1999 | 30.4              | 8958.1        | 0.980645              | 60.915         | 47.4                | 2.51011                 |
| Feb., 1999 | 27.9              | 8986          | 0.996429              | 59.8455        | 41.6                | 2.48258                 |
| Mar., 1999 | 30.1              | 9016.1        | 0.970968              | 60.332         | 45.8                | 2.44881                 |
| Apr., 1999 | 23.5              | 9039.6        | 0.783333              | 65.3293        | 44.3                | 2.26034                 |
| May., 1999 | 26                | 9065.6        | 0.83871               | 65.0907        | 48.5                | 2.4036                  |
| Jun., 1999 | 25                | 9090.6        | 0.833333              | 65.5548        | 47.6                | 2.42037                 |
| Jul., 1999 | 25.4              | 9116          | 0.819355              | 64.5645        | 46.3                | 2.31326                 |
| Aug., 1999 | 26.3              | 9142.3        | 0.848387              | 63.5632        | 45.9                | 2.32941                 |
| Sep., 1999 | 33.2              | 9175.5        | 1.10667               | 51.1655        | 34.8                | 2.26715                 |
| Oct., 1999 | 33.1              | 9208.6        | 1.06774               | 52.1566        | 36.1                | 2.23273                 |
| Nov., 1999 | 33.4              | 9242          | 1.11333               | 49.4595        | 32.7                | 2.20382                 |
| Dec., 1999 | 34.4              | 9276.4        | 1.10968               | 51.1947        | 36.1                | 2.27468                 |
| Jan., 2000 | 34.2              | 9310.6        | 1.10323               | 52.2903        | 37.5                | 2.31339                 |
| Feb., 2000 | 30.9              | 9341.5        | 1.06552               | 52.5236        | 34.2                | 2.2453                  |
| Mar., 2000 | 31.2              | 9372.7        | 1.00645               | 51.5418        | 33.2                | 2.07786                 |
| Apr., 2000 | 32.8              | 9405.5        | 1.09333               | 46.2186        | 28.2                | 2.03381                 |
| May., 2000 | 36.5              | 9442          | 1.17742               | 45.8348        | 30.9                | 2.17471                 |
| Jun., 2000 | 34.7              | 9476.7        | 1.15667               | 49.9168        | 34.6                | 2.31051                 |
| Jul., 2000 | 34.2              | 9510.9        | 1.1062                | 58.7348        | 48.7                | 2.68189                 |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                     | Date : March 8, 2006 8:44:43 am |
| Well : Mountcliff NVS Unit No. 2 Prov. 13-29-11-26 | User : George                   |
| : 00/13-29-011-26W1/0                              |                                 |
| Hist.Data : 11/82-07/00                            | On Prod : 02/09                 |
| Operator :   | Status : Unknown                |
| Field : 5  | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 24.8              | 5607.5        | 0.8                   | 57.2306        | 33.2                | 1.87132                 |
| Feb., 1998 | 22                | 5629.5        | 0.785714              | 56.9364        | 29.1                | 1.82535                 |
| Mar., 1998 | 24.7              | 5654.2        | 0.796774              | 54.9982        | 30.2                | 1.77132                 |
| Apr., 1998 | 26.4              | 5680.6        | 0.88                  | 50.0835        | 26.5                | 1.76372                 |
| May., 1998 | 26.8              | 5707.4        | 0.864516              | 47.6453        | 24.4                | 1.65199                 |
| Jun., 1998 | 24.4              | 5731.8        | 0.813333              | 52.3328        | 26.8                | 1.70702                 |
| Jul., 1998 | 24.8              | 5756.6        | 0.8                   | 56.8588        | 32.7                | 1.85519                 |
| Aug., 1998 | 15.2              | 5771.8        | 0.490323              | 47.3939        | 13.7                | 0.932474                |
| Sep., 1998 | 14.1              | 5785.9        | 0.486207              | 46.9815        | 12.5                | 0.917455                |
| Oct., 1998 | 14.5              | 5800.4        | 0.467742              | 44.2199        | 11.5                | 0.838916                |
| Nov., 1998 | 13.7              | 5814.1        | 0.456667              | 49.4355        | 13.4                | 0.903534                |
| Dec., 1998 | 14.2              | 5828.3        | 0.458064              | 44.7362        | 11.5                | 0.829234                |
| Jan., 1999 | 13.8              | 5842.1        | 0.445161              | 46.2926        | 11.9                | 0.829228                |
| Feb., 1999 | 12.7              | 5854.8        | 0.453571              | 45.0107        | 10.4                | 0.8252                  |
| Mar., 1999 | 13.7              | 5868.5        | 0.441935              | 45.624         | 11.5                | 0.813098                |
| Apr., 1999 | 13                | 5881.5        | 0.433333              | 47.5697        | 11.8                | 0.826858                |
| May., 1999 |                   |               |                       |                |                     |                         |
| Jun., 1999 |                   |               |                       |                |                     |                         |
| Jul., 1999 |                   |               |                       |                |                     |                         |
| Aug., 1999 |                   |               |                       |                |                     |                         |
| Sep., 1999 | 5.5               | 5887          | 0.366667              | 56.6821        | 7.2                 | 0.846828                |
| Oct., 1999 | 11                | 5898          | 0.354839              | 57.8437        | 15.1                | 0.842092                |
| Nov., 1999 | 11.1              | 5909.1        | 0.37                  | 55.0498        | 13.6                | 0.823496                |
| Dec., 1999 | 11.5              | 5920.6        | 0.370968              | 56.593         | 15                  | 0.855002                |
| Jan., 2000 | 11.4              | 5932          | 0.367742              | 57.767         | 15.6                | 0.87113                 |
| Feb., 2000 | 10.3              | 5942.3        | 0.355172              | 57.7761        | 14.1                | 0.841536                |
| Mar., 2000 | 10.3              | 5952.6        | 0.332258              | 57.4272        | 13.9                | 0.780791                |
| Apr., 2000 | 11.1              | 5963.7        | 0.37                  | 51.7281        | 11.9                | 0.76683                 |
| May., 2000 | 10.1              | 5973.8        | 0.325806              | 50.2353        | 10.2                | 0.654982                |
| Jun., 2000 | 8.9               | 5982.7        | 0.296667              | 54.1128        | 10.5                | 0.646797                |
| Jul., 2000 | 8.7               | 5991.4        | 0.281402              | 62.8102        | 14.7                | 0.756997                |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                     | Date : March 8, 2006 8:46:21 am |
| Well : Mountcliff NVS Unit No. 2 Prov. 14-29-11-26 | User : George                   |
| 00/14-29-011-26W1/0                                |                                 |
| Hist.Data : 03/83-07/00                            | On Prod : 02/09                 |
| Operator :   | Status : Unknown                |
| Field : 5  | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 44.2              | 11348.8       | 1.42581               | 75.4907        | 136.2               | 5.81998                 |
| Feb., 1998 | 39.1              | 11387.9       | 1.39643               | 75.2919        | 119.2               | 5.65419                 |
| Mar., 1998 | 7                 | 11394.9       | 1.4                   | 74.0656        | 20                  | 5.40062                 |
| Apr., 1998 |                   |               |                       |                |                     |                         |
| May., 1998 | 26.9              | 11421.8       | 1.79333               | 67.7748        | 56.6                | 5.56746                 |
| Jun., 1998 | 39.6              | 11461.4       | 1.32                  | 74.5581        | 116.1               | 5.19058                 |
| Jul., 1998 | 40.3              | 11501.7       | 1.3                   | 77.8617        | 141.8               | 5.87477                 |
| Aug., 1998 | 45.6              | 11547.3       | 1.47097               | 74.5736        | 133.8               | 5.78774                 |
| Sep., 1998 | 42.3              | 11589.6       | 1.45862               | 74.1832        | 121.6               | 5.65237                 |
| Oct., 1998 | 43.5              | 11633.1       | 1.40323               | 70.3788        | 103.4               | 4.73933                 |
| Nov., 1998 | 41                | 11674.1       | 1.36667               | 74.6674        | 120.9               | 5.39727                 |
| Dec., 1998 | 42.5              | 11716.6       | 1.37097               | 70.8414        | 103.3               | 4.70383                 |
| Jan., 1999 | 41.4              | 11758         | 1.33548               | 72.037         | 106.7               | 4.77801                 |
| Feb., 1999 | 38                | 11796         | 1.35714               | 71.1156        | 93.6                | 4.7006                  |
| Mar., 1999 | 35.5              | 11831.5       | 1.14516               | 72.0823        | 91.7                | 4.10373                 |
| Apr., 1999 | 33.9              | 11865.4       | 1.13                  | 73.5896        | 94.5                | 4.2805                  |
| May., 1999 | 35.8              | 11901.2       | 1.19333               | 73.3347        | 98.5                | 4.47719                 |
| Jun., 1999 | 25.3              | 11926.5       | 1.20476               | 73.7467        | 71.1                | 4.59101                 |
| Jul., 1999 | 32                | 11958.5       | 1.18519               | 72.9185        | 86.2                | 4.3783                  |
| Aug., 1999 | 33.1              | 11991.6       | 1.22593               | 72.035         | 85.3                | 4.38573                 |
| Sep., 1999 | 33.2              | 12024.8       | 1.10667               | 73.6423        | 92.8                | 4.20049                 |
| Oct., 1999 | 33.1              | 12057.9       | 1.06774               | 74.412         | 96.3                | 4.17466                 |
| Nov., 1999 | 33.4              | 12091.3       | 1.11333               | 72.3193        | 87.3                | 4.02382                 |
| Dec., 1999 | 34.4              | 12125.7       | 1.10968               | 73.6716        | 96.3                | 4.21662                 |
| Jan., 2000 | 34.1              | 12159.8       | 1.1                   | 74.5629        | 100                 | 4.32629                 |
| Feb., 2000 | 30.9              | 12190.7       | 1.06552               | 74.6222        | 90.9                | 4.20047                 |
| Mar., 2000 | 31.2              | 12221.9       | 1.00645               | 73.9915        | 88.8                | 3.87141                 |
| Apr., 2000 | 33                | 12254.9       | 1.1                   | 69.5479        | 75.4                | 3.61382                 |
| May., 2000 | 33.4              | 12288.3       | 1.07742               | 70.7183        | 80.7                | 3.68112                 |
| Jun., 2000 | 30.4              | 12318.7       | 1.01333               | 74.4024        | 88.4                | 3.96045                 |
| Jul., 2000 | 30.1              | 12348.8       | 0.973585              | 80.4983        | 124.3               | 4.9945                  |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:48:13 am |
| Well : Mountcliff NVS Unit No. 2 09-30-11-26W1 | User : George                   |
| : 00/09-30-011-26W1/0                          |                                 |
| Hist.Data : 09/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 35.9              | 8182.5        | 1.15806               | 78.7122        | 132.8               | 5.44245                 |
| Feb., 1998 | 31.8              | 8214.3        | 1.13571               | 78.5206        | 116.3               | 5.28979                 |
| Mar., 1998 | 35.6              | 8249.9        | 1.14839               | 77.2155        | 120.7               | 5.04244                 |
| Apr., 1998 | 38.2              | 8288.1        | 1.27333               | 73.482         | 105.9               | 4.80389                 |
| May., 1998 | 38.8              | 8326.9        | 1.25161               | 71.5661        | 97.7                | 4.40378                 |
| Jun., 1998 | 27.4              | 8354.3        | 0.913333              | 81.2902        | 119.1               | 4.88374                 |
| Jul., 1998 | 27.9              | 8382.2        | 0.9                   | 83.9041        | 145.5               | 5.59395                 |
| Aug., 1998 | 18.2              | 8400.4        | 0.587097              | 81.884         | 82.3                | 3.24219                 |
| Sep., 1998 | 16.9              | 8417.3        | 0.582759              | 81.5637        | 74.8                | 3.16233                 |
| Oct., 1998 | 17.4              | 8434.7        | 0.56129               | 79.8307        | 68.9                | 2.78412                 |
| Nov., 1998 | 24.6              | 8459.3        | 0.82                  | 73.194         | 67.2                | 3.06036                 |
| Dec., 1998 | 25.5              | 8484.8        | 0.822581              | 69.2307        | 57.4                | 2.67456                 |
| Jan., 1999 | 24.9              | 8509.7        | 0.803226              | 70.4184        | 59.3                | 2.71648                 |
| Feb., 1999 | 25.4              | 8535.1        | 0.907143              | 64.8099        | 46.8                | 2.57897                 |
| Mar., 1999 | 27.3              | 8562.4        | 0.880645              | 65.3893        | 51.6                | 2.54555                 |
| Apr., 1999 | 26.1              | 8588.5        | 0.87                  | 67.0773        | 53.2                | 2.64372                 |
| May., 1999 | 22                | 8610.5        | 0.733333              | 73.6441        | 61.5                | 2.78366                 |
| Jun., 1999 | 22.3              | 8632.8        | 0.743333              | 74.0009        | 63.5                | 2.86033                 |
| Jul., 1999 | 22.6              | 8655.4        | 0.729032              | 73.2141        | 61.8                | 2.7229                  |
| Aug., 1999 | 23.4              | 8678.8        | 0.754839              | 72.3643        | 61.3                | 2.73259                 |
| Sep., 1999 | 24.9              | 8703.7        | 0.83                  | 66.4322        | 49.3                | 2.4737                  |
| Oct., 1999 | 24.8              | 8728.5        | 0.8                   | 67.3587        | 51.2                | 2.45197                 |
| Nov., 1999 | 25                | 8753.5        | 0.833333              | 64.976         | 46.4                | 2.38037                 |
| Dec., 1999 | 25.8              | 8779.3        | 0.832258              | 66.4401        | 51.1                | 2.48101                 |
| Jan., 2000 | 25.7              | 8805          | 0.829032              | 67.3761        | 53.1                | 2.5423                  |
| Feb., 2000 | 23.2              | 8828.2        | 0.8                   | 67.5428        | 48.3                | 2.46587                 |
| Mar., 2000 | 23.2              | 8851.4        | 0.748387              | 66.8474        | 46.8                | 2.25839                 |
| Apr., 2000 | 10.2              | 8861.6        | 0.34                  | 74.1688        | 29.3                | 1.31682                 |
| May., 2000 | 10.7              | 8872.3        | 0.345161              | 73.3081        | 29.4                | 1.2937                  |
| Jun., 2000 | 9.4               | 8881.7        | 0.313333              | 75.7025        | 29.3                | 1.29014                 |
| Jul., 2000 | 8.4               | 8890.1        | 0.271698              | 81.5723        | 37.2                | 1.47505                 |

## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                                  | Date : March 8, 2006 8:49:16 am |
| Well : Mountcliff NVS Unit No. 2 A15-30-11-26W1 | User : George                   |
| : 02/15-30-011-26W1/0                           |                                 |
| Hist.Data : 11/83-07/00                         | On Prod : 02/09                 |
| Operator :                                      | Status : Unknown                |
| Field : 5                                       | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 8.3               | 1866          | 0.267742              | 61.5637        | 13.3                | 0.696892                |
| Feb., 1998 | 7.3               | 1873.3        | 0.260714              | 61.3652        | 11.6                | 0.675115                |
| Mar., 1998 | 8.2               | 1881.5        | 0.264516              | 59.5953        | 12.1                | 0.654955                |
| Apr., 1998 | 8.8               | 1890.3        | 0.293333              | 54.6283        | 10.6                | 0.646796                |
| May., 1998 | 8.9               | 1899.2        | 0.287097              | 52.3954        | 9.8                 | 0.603352                |
| Jun., 1998 | 9.1               | 1908.3        | 0.303333              | 56.6559        | 11.9                | 0.700134                |
| Jul., 1998 | 9.3               | 1917.6        | 0.3                   | 60.9139        | 14.5                | 0.767874                |
| Aug., 1998 | 9.1               | 1926.7        | 0.313793              | 60.0772        | 13.7                | 0.786345                |
| Sep., 1998 | 8.5               | 1935.2        | 0.293103              | 59.5132        | 12.5                | 0.724267                |
| Oct., 1998 | 8.7               | 1943.9        | 0.280645              | 56.9199        | 11.5                | 0.651736                |
| Nov., 1998 | 8.2               | 1952.1        | 0.273333              | 62.0267        | 13.4                | 0.72012                 |
| Dec., 1998 | 8.5               | 1960.6        | 0.274194              | 57.4892        | 11.5                | 0.645282                |
| Jan., 1999 | 8.3               | 1968.9        | 0.267742              | 58.9002        | 11.9                | 0.651731                |
| Feb., 1999 | 7.6               | 1976.5        | 0.271429              | 57.767         | 10.4                | 0.642977                |
| Mar., 1999 | 8.2               | 1984.7        | 0.264516              | 58.3649        | 11.5                | 0.6356                  |
| Apr., 1999 | 7.8               | 1992.5        | 0.26                  | 60.1935        | 11.8                | 0.653448                |
| May., 1999 | 8                 | 2000.5        | 0.275862              | 59.7884        | 11.9                | 0.686328                |
| Jun., 1999 | 8.3               | 2008.8        | 0.276667              | 60.4657        | 12.7                | 0.700122                |
| Jul., 1999 | 8.5               | 2017.3        | 0.274194              | 59.3195        | 12.4                | 0.674314                |
| Aug., 1999 | 8.8               | 2026.1        | 0.283871              | 58.2831        | 12.3                | 0.68077                 |
| Sep., 1999 | 8.3               | 2034.4        | 0.276667              | 58.2808        | 11.6                | 0.663455                |
| Oct., 1999 | 8.3               | 2042.7        | 0.267742              | 59.1027        | 12                  | 0.654957                |
| Nov., 1999 | 8.3               | 2051          | 0.276667              | 62.0901        | 13.6                | 0.730122                |
| Dec., 1999 | 8.6               | 2059.6        | 0.277419              | 63.5491        | 15                  | 0.761413                |
| Jan., 2000 | 8.5               | 2068.1        | 0.274194              | 64.7202        | 15.6                | 0.77754                 |
| Feb., 2000 | 7.7               | 2075.8        | 0.265517              | 64.6688        | 14.1                | 0.751841                |
| Mar., 2000 | 10.5              | 2086.3        | 0.33871               | 86.2872        | 66.1                | 2.47112                 |
| Apr., 2000 | 16.6              | 2102.9        | 0.553333              | 89.382         | 139.8               | 5.21358                 |
| May., 2000 | 17.9              | 2120.8        | 0.577419              | 45.249         | 14.8                | 1.05509                 |
| Jun., 2000 | 8                 | 2128.8        | 0.266667              | 87.8372        | 57.8                | 2.19345                 |
| Jul., 2000 | 4.2               | 2133          | 0.135849              | 80.6383        | 17.5                | 0.701947                |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:51:09 am |
| Well : Mountcliff NVS Unit No. 2 16-30-11-26W1 | User : George                   |
| : 00/16-30-011-26W1/0                          |                                 |
| Hist.Data : 03/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Avg Daily Oil<br>m3/d | Cum Oil<br>m3 | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|-----------------------|---------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 38.6              | 1.24516               | 9350.1        | 68.247         | 83                  | 3.92313                 |
| Feb., 1998 | 34.3              | 1.225                 | 9384.4        | 67.9343        | 72.7                | 3.82197                 |
| Mar., 1998 | 38.4              | 1.23871               | 9422.8        | 66.2467        | 75.4                | 3.67151                 |
| Apr., 1998 | 41.1              | 1.37                  | 9463.9        | 61.6858        | 66.2                | 3.57727                 |
| May., 1998 | 41.7              | 1.34516               | 9505.6        | 59.4252        | 61.1                | 3.31672                 |
| Jun., 1998 | 30.5              | 1.01667               | 9536.1        | 68.2196        | 65.5                | 3.20045                 |
| Jul., 1998 | 31                | 1                     | 9567.1        | 72.0632        | 80                  | 3.58109                 |
| Aug., 1998 | 48.6              | 1.56774               | 9615.7        | 63.8022        | 85.7                | 4.33295                 |
| Sep., 1998 | 45.2              | 1.55862               | 9660.9        | 63.3015        | 78                  | 4.24896                 |
| Oct., 1998 | 43.5              | 1.40323               | 9704.4        | 66.4512        | 86.2                | 4.18449                 |
| Nov., 1998 | 41                | 1.36667               | 9745.4        | 62.0968        | 67.2                | 3.60727                 |
| Dec., 1998 | 42.5              | 1.37097               | 9787.9        | 66.942         | 86.1                | 4.14899                 |
| Jan., 1999 | 41.4              | 1.33548               | 9829.3        | 68.2176        | 88.9                | 4.20381                 |
| Feb., 1999 | 38                | 1.35714               | 9867.3        | 67.2317        | 78                  | 4.14346                 |
| Mar., 1999 | 41                | 1.32258               | 9908.3        | 67.7069        | 86                  | 4.09736                 |
| Apr., 1999 | 39.1              | 1.30333               | 9947.4        | 60.1727        | 59.1                | 3.27391                 |
| May., 1999 | 39.9              | 1.37586               | 9987.3        | 59.8486        | 59.5                | 3.42819                 |
| Jun., 1999 | 41.7              | 1.39                  | 10029         | 60.3507        | 63.5                | 3.50728                 |
| Jul., 1999 | 42.3              | 1.36452               | 10071.3       | 59.3554        | 61.8                | 3.35867                 |
| Aug., 1999 | 43.9              | 1.41613               | 10115.2       | 58.2593        | 61.3                | 3.39417                 |
| Sep., 1999 | 41.4              | 1.38                  | 10156.6       | 58.3394        | 58                  | 3.31394                 |
| Oct., 1999 | 41.4              | 1.33548               | 10198         | 58.0014        | 57.2                | 3.18123                 |
| Nov., 1999 | 41.7              | 1.39                  | 10239.7       | 55.3902        | 51.8                | 3.11728                 |
| Dec., 1999 | 43.1              | 1.39032               | 10282.8       | 57.0181        | 57.2                | 3.2361                  |
| Jan., 2000 | 42.7              | 1.37742               | 10325.5       | 58.1675        | 59.4                | 3.29416                 |
| Feb., 2000 | 38.6              | 1.3368                | 10364.1       | 58.3046        | 54                  | 3.20752                 |
| Mar., 2000 | 34.9              | 1.12581               | 10399         | 60.5098        | 53.5                | 2.85211                 |
| Apr., 2000 | 7.9               | 0.266667              | 10406.9       | 86.3033        | 49.8                | 1.9478                  |
| May., 2000 | 8.7               | 0.281402              | 10415.6       | 85.9398        | 53.2                | 2.00228                 |
| Jun., 2000 | 14.5              | 0.48468               | 10430.1       | 74.8181        | 43.1                | 1.92556                 |
| Jul., 2000 | 19.7              | 0.637197              | 10449.8       | 68.0617        | 42                  | 1.99597                 |

# Production Report

|           |   |         |                            |
|-----------|---|---------|----------------------------|
| Group     | : NVSU#2                                      | Date    | : March 8, 2006 8:53:34 am |
| Well      | : Mountcliff NVS Unit No. 2 HZNTL 16D-30-11-2 | User    | : George                   |
|           | : 02/16-30-011-26W1/0                         |         |                            |
| Hist.Data | : 03/98-07/00                                 | On Prod | : 02/09                    |
| Operator  | :   | Status  | : Unknown                  |
| Field     | : 5   | Zone    | : 59A                      |

## Production Data from January, 1998 to July, 2000

| Year       | Avg Daily Oil<br>m3/d | Cum Oil<br>m3 | Monthly Oil<br>m3 | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-----------------------|---------------|-------------------|----------------|---------------------|-------------------------|
| Jan., 1998 |                       |               |                   |                |                     |                         |
| Feb., 1998 |                       |               |                   |                |                     |                         |
| Mar., 1998 | 23.35                 | 607.1         | 607.1             | 25.2349        | 205                 | 31.2449                 |
| Apr., 1998 | 21.54                 | 1253.3        | 646.2             | 23.5006        | 198.6               | 28.1695                 |
| May., 1998 | 20.3903               | 1885.4        | 632.1             | 22.0035        | 178.4               | 26.1541                 |
| Jun., 1998 | 21.0333               | 2516.4        | 631               | 26.6449        | 229.3               | 28.6859                 |
| Jul., 1998 | 19.971                | 3135.5        | 619.1             | 31.1405        | 280.1               | 29.0152                 |
| Aug., 1998 | 17.3484               | 3673.3        | 537.8             | 34.8653        | 288                 | 26.6464                 |
| Sep., 1998 | 16.3517               | 4147.5        | 474.2             | 36.1159        | 268.2               | 25.6072                 |
| Oct., 1998 | 15.7258               | 4635          | 487.5             | 33.6185        | 247                 | 23.7005                 |
| Nov., 1998 | 14.3                  | 5064          | 429               | 41.8592        | 309                 | 24.6063                 |
| Dec., 1998 | 14.071                | 5500.2        | 436.2             | 37.4431        | 261.2               | 22.503                  |
| Jan., 1999 | 13.1839               | 5908.9        | 408.7             | 39.162         | 263.2               | 21.68                   |
| Feb., 1999 | 12.8607               | 6269          | 360.1             | 41.6829        | 257.5               | 22.0628                 |
| Mar., 1999 | 12.5484               | 6658          | 389               | 42.1626        | 283.7               | 21.7055                 |
| Apr., 1999 | 12.3367               | 7028.1        | 370.1             | 44.125         | 292.4               | 22.0888                 |
| May., 1999 | 12.84                 | 7413.3        | 385.2             | 44.6443        | 310.8               | 23.2057                 |
| Jun., 1999 | 12.43                 | 7786.2        | 372.9             | 46.2106        | 320.5               | 23.1188                 |
| Jul., 1999 | 11.4839               | 8142.2        | 356               | 48.3574        | 333.5               | 22.247                  |
| Aug., 1999 | 11.4226               | 8496.3        | 354.1             | 48.7444        | 336.9               | 22.2954                 |
| Sep., 1999 | 10.96                 | 8825.1        | 328.8             | 51.1911        | 345                 | 22.4648                 |
| Oct., 1999 | 10.5065               | 9150.8        | 325.7             | 51.0777        | 340.2               | 21.4853                 |
| Nov., 1999 | 11.2033               | 9486.9        | 336.1             | 49.5084        | 329.7               | 22.1983                 |
| Dec., 1999 | 10.8323               | 9822.7        | 335.8             | 51.1667        | 352                 | 22.1919                 |
| Jan., 2000 | 10.7484               | 10155.9       | 333.2             | 52.3004        | 365.5               | 22.5434                 |
| Feb., 2000 | 10.3793               | 10456.9       | 301               | 52.4527        | 332.2               | 21.8391                 |
| Mar., 2000 | 9.6129                | 10754.9       | 298               | 51.6516        | 318.5               | 19.8913                 |
| Apr., 2000 | 10.6233               | 11073.6       | 318.7             | 46.2091        | 273.9               | 19.758                  |
| May., 2000 | 11.0226               | 11415.3       | 341.7             | 45.8455        | 289.4               | 20.3629                 |
| Jun., 2000 | 10.4133               | 11727.7       | 312.4             | 49.9409        | 311.8               | 20.8113                 |
| Jul., 2000 | 8.04649               | 11975.8       | 248.1             | 58.6944        | 352.7               | 19.4889                 |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:54:58 am |
| Well : Mountcliff NVS Unit No. 2 01-31-11-26W1 | User : George                   |
| 00/01-31-011-26W1/0                            |                                 |
| Hist.Data : 10/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 44.2              | 10176.2       | 1.42581               | 27.2939        | 16.6                | 1.96192                 |
| Feb., 1998 | 39.1              | 10215.3       | 1.39643               | 27.0436        | 14.5                | 1.9149                  |
| Mar., 1998 | 43.9              | 10259.2       | 1.41613               | 25.5848        | 15.1                | 1.90385                 |
| Apr., 1998 | 47                | 10306.2       | 1.56667               | 28.2354        | 18.5                | 2.18402                 |
| May., 1998 | 47.7              | 10353.9       | 1.53871               | 20.3601        | 12.2                | 1.93294                 |
| Jun., 1998 | 39.6              | 10393.5       | 1.32                  | 27.3307        | 14.9                | 1.81725                 |
| Jul., 1998 | 40.3              | 10433.8       | 1.3                   | 31.1017        | 18.2                | 1.88767                 |
| Aug., 1998 | 48.6              | 10482.4       | 1.56774               | 33.0481        | 24                  | 2.34263                 |
| Sep., 1998 | 45.2              | 10527.6       | 1.55862               | 32.5276        | 21.8                | 2.31103                 |
| Oct., 1998 | 37.7              | 10565.3       | 1.21613               | 89.5902        | 324.6               | 11.6876                 |
| Nov., 1998 | 32.8              | 10598.1       | 1.09333               | 91.8436        | 369.5               | 13.4105                 |
| Dec., 1998 | 36.8              | 10634.9       | 1.22667               | 89.8077        | 324.4               | 12.0405                 |
| Jan., 1999 | 35.9              | 10670.8       | 1.15806               | 90.3144        | 334.9               | 11.9618                 |
| Feb., 1999 | 38                | 10708.8       | 1.35714               | 87.2477        | 260.1               | 10.647                  |
| Mar., 1999 | 41                | 10749.8       | 1.32258               | 88.0035        | 300.9               | 11.0296                 |
| Apr., 1999 | 39.1              | 10788.9       | 1.30333               | 88.3029        | 295.3               | 11.1472                 |
| May., 1999 | 41.3              | 10830.2       | 1.37667               | 88.1616        | 307.7               | 11.6339                 |
| Jun., 1999 | 41.7              | 10871.9       | 1.39                  | 88.3799        | 317.3               | 11.9673                 |
| Jul., 1999 | 42.3              | 10914.2       | 1.36452               | 87.8401        | 305.7               | 11.2264                 |
| Aug., 1999 | 42.1              | 10956.3       | 1.45172               | 87.3525        | 290.9               | 11.4834                 |
| Sep., 1999 | 38.7              | 10995         | 1.29                  | 77.4923        | 133.3               | 5.7339                  |
| Oct., 1999 | 38.6              | 11033.6       | 1.24516               | 88.4248        | 295                 | 10.7618                 |
| Nov., 1999 | 35.8              | 11069.4       | 1.19333               | 87.9698        | 261.9               | 9.92386                 |
| Dec., 1999 | 40.2              | 11109.6       | 1.29677               | 27.1652        | 15                  | 1.78122                 |
| Jan., 2000 | 39.9              | 11149.5       | 1.2871                | 28.0992        | 15.6                | 1.79089                 |
| Feb., 2000 | 36.2              | 11185.7       | 1.24828               | 28.1657        | 14.2                | 1.73848                 |
| Mar., 2000 | 36.3              | 11222         | 1.17097               | 27.5361        | 13.8                | 1.61664                 |
| Apr., 2000 | 36.3              | 11258.3       | 1.21                  | 24.209         | 11.6                | 1.5972                  |
| May., 2000 | 20.9              | 11279.2       | 0.674194              | 32.7877        | 10.2                | 1.00352                 |
| Jun., 2000 | 19.4              | 11298.6       | 0.646667              | 36.3833        | 11.1                | 1.01695                 |
| Jul., 2000 | 18                | 11316.6       | 0.58221               | 43.9144        | 14.1                | 1.03853                 |



## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:55:52 am |
| Well : Mountcliff NVS Unit No. 2 03-32-11-26W1 | User : George                   |
| : 00/03-32-011-26W1/0                          |                                 |
| Hist.Data : 02/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 16.6              | 4393.9        | 0.535484              | 83.3272        | 83                  | 3.21314                 |
| Feb., 1998 | 14.7              | 4408.6        | 0.525                 | 83.1746        | 72.7                | 3.12166                 |
| Mar., 1998 | 16.5              | 4425.1        | 0.532258              | 82.0392        | 75.4                | 2.96475                 |
| Apr., 1998 | 17.6              | 4442.7        | 0.586667              | 77.572         | 60.9                | 2.61693                 |
| May., 1998 | 17.9              | 4460.6        | 0.577419              | 77.3341        | 61.1                | 2.54864                 |
| Jun., 1998 | 9.1               | 4469.7        | 0.303333              | 89.0975        | 74.4                | 2.78347                 |
| Jul., 1998 | 9.3               | 4479          | 0.3                   | 90.7149        | 90.9                | 3.23239                 |
| Aug., 1998 | 21.3              | 4500.3        | 0.687097              | 82.3612        | 99.5                | 3.89708                 |
| Sep., 1998 | 19.8              | 4520.1        | 0.682759              | 82.0262        | 90.4                | 3.8003                  |
| Oct., 1998 | 20.3              | 4540.4        | 0.654839              | 80.3985        | 83.3                | 3.34222                 |
| Nov., 1998 | 19.1              | 4559.5        | 0.636667              | 80.8357        | 80.6                | 3.32361                 |
| Dec., 1998 | 19.8              | 4579.3        | 0.63871               | 80.7699        | 83.2                | 3.32286                 |
| Jan., 1999 | 19.3              | 4598.6        | 0.622581              | 82.1562        | 88.9                | 3.4906                  |
| Feb., 1999 | 17.8              | 4616.4        | 0.635714              | 80.8945        | 75.4                | 3.32885                 |
| Mar., 1999 | 19.1              | 4635.5        | 0.616129              | 81.3045        | 83.1                | 3.29705                 |
| Apr., 1999 | 18.2              | 4653.7        | 0.606667              | 82.4599        | 85.6                | 3.46027                 |
| May., 1999 | 20.2              | 4673.9        | 0.651613              | 82.2743        | 93.8                | 3.67771                 |
| Jun., 1999 | 19.5              | 4693.4        | 0.65                  | 77.3442        | 66.6                | 2.87029                 |
| Jul., 1999 | 19.8              | 4713.2        | 0.63871               | 76.5324        | 64.6                | 2.72286                 |
| Aug., 1999 | 20.5              | 4733.7        | 0.66129               | 75.9026        | 64.6                | 2.74545                 |
| Sep., 1999 | 19.3              | 4753          | 0.643333              | 75.9271        | 60.9                | 2.67362                 |
| Oct., 1999 | 19.3              | 4772.3        | 0.622581              | 75.7152        | 60.2                | 2.56479                 |
| Nov., 1999 | 19.5              | 4791.8        | 0.65                  | 73.6401        | 54.5                | 2.46695                 |
| Dec., 1999 | 20.1              | 4811.9        | 0.648387              | 74.9606        | 60.2                | 2.59061                 |
| Jan., 2000 | 19.9              | 4831.8        | 0.641935              | 75.8414        | 62.5                | 2.65835                 |
| Feb., 2000 | 18                | 4849.8        | 0.62069               | 75.9278        | 56.8                | 2.57958                 |
| Mar., 2000 | 12.8              | 4862.6        | 0.412903              | 80.4212        | 52.6                | 2.10986                 |
| Apr., 2000 | 4.7               | 4867.3        | 0.156667              | 89.6663        | 40.8                | 1.51674                 |
| May., 2000 | 5.1               | 4872.4        | 0.164516              | 89.5236        | 43.6                | 1.57104                 |
| Jun., 2000 | 11                | 4883.4        | 0.366667              | 81.8116        | 49.5                | 2.01683                 |
| Jul., 2000 | 20.8              | 4904.2        | 0.672776              | 76.8811        | 69.2                | 2.91135                 |

## Production Report

|   |                                 |
|---|---------------------------------|
| Group : NVSU#2                            | Date : March 8, 2006 8:57:05 am |
| Well : NVS Unit No. 2 HZNTL 03-32-11-26W1 | User : George                   |
| : 02/03-32-011-26W1/0                     |                                 |
| Hist.Data : 01/99-07/00                   | On Prod : 02/09                 |
| Operator :                                | Status : Unknown                |
| Field : 5                                 | Zone : 59A                      |

### Production Data from January, 1999 to July, 2000

| Year       | Avg Daily Oil<br>m3/d | Monthly Oil<br>m3 | Cum Oil<br>m3 | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-----------------------|-------------------|---------------|----------------|---------------------|-------------------------|
| Jan., 1999 |                       |                   |               |                |                     |                         |
| Feb., 1999 |                       |                   |               |                |                     |                         |
| Mar., 1999 |                       |                   |               |                |                     |                         |
| Apr., 1999 |                       |                   |               |                |                     |                         |
| May., 1999 |                       |                   |               |                |                     |                         |
| Jun., 1999 |                       |                   |               |                |                     |                         |
| Jul., 1999 |                       |                   |               |                |                     |                         |
| Aug., 1999 |                       |                   |               |                |                     |                         |
| Sep., 1999 |                       |                   |               |                |                     |                         |
| Oct., 1999 |                       |                   |               |                |                     |                         |
| Nov., 1999 |                       |                   |               |                |                     |                         |
| Dec., 1999 | 26.2786               | 735.8             | 735.8         | 33.5583        | 371.8               | 39.5687                 |
| Jan., 2000 | 24.9129               | 772.3             | 1508.1        | 34.0323        | 398.6               | 37.7819                 |
| Feb., 2000 | 24.0897               | 698.6             | 2206.7        | 34.159         | 362.6               | 36.6037                 |
| Mar., 2000 | 23.4387               | 726.6             | 2933.3        | 33.4639        | 365.6               | 35.2426                 |
| Apr., 2000 | 20.49                 | 614.7             | 3548          | 37.7352        | 372.7               | 32.9224                 |
| May., 2000 | 21.6129               | 670               | 4218          | 38.8526        | 425.9               | 35.3611                 |
| Jun., 2000 | 20.99                 | 629.7             | 4847.7        | 42.801         | 471.4               | 36.7126                 |
| Jul., 2000 | 19.8889               | 614.9             | 5462.6        | 51.5984        | 655.8               | 41.1096                 |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:57:53 am |
| Well : Mountcliff NVS Unit No. 2 05-32-11-26W1 | User : George                   |
| : 00/05-32-011-26W1/0                          |                                 |
| Hist.Data : 08/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil | Cum Oil | Avg Daily Oil | Water Cut | Monthly Water | Avg Daily Fluid |
|------------|-------------|---------|---------------|-----------|---------------|-----------------|
|            | m3          | m3      | m3/d          | %         | m3            | m3/d            |
| Jan., 1998 | 38.6        | 5740.6  | 1.24516       | 37.5301   | 23.2          | 1.9941          |
| Feb., 1998 | 34.3        | 5774.9  | 1.225         | 37.1692   | 20.3          | 1.95054         |
| Mar., 1998 | 38.4        | 5813.3  | 1.23871       | 35.4521   | 21.1          | 1.9199          |
| Apr., 1998 | 41.1        | 5854.4  | 1.37          | 31.0308   | 18.5          | 1.98727         |
| May., 1998 | 41.7        | 5896.1  | 1.34516       | 29.0726   | 17.1          | 1.89737         |
| Jun., 1998 | 27.4        | 5923.5  | 0.913333      | 39.5038   | 17.9          | 1.5104          |
| Jul., 1998 | 27.9        | 5951.4  | 0.9           | 43.8523   | 21.8          | 1.60362         |
| Aug., 1998 | 39.5        | 5990.9  | 1.27419       | 43.8812   | 30.9          | 2.27153         |
| Sep., 1998 | 36.7        | 6027.6  | 1.26552       | 43.3534   | 28.1          | 2.23504         |
| Oct., 1998 | 37.7        | 6065.3  | 1.21613       | 40.7126   | 25.9          | 2.05215         |
| Nov., 1998 | 35.5        | 6100.8  | 1.18333       | 45.9556   | 30.2          | 2.19052         |
| Dec., 1998 | 36.8        | 6137.6  | 1.1871        | 41.2034   | 25.8          | 2.01988         |
| Jan., 1999 | 35.9        | 6173.5  | 1.15806       | 42.641    | 26.7          | 2.01987         |
| Feb., 1999 | 33          | 6206.5  | 1.17857       | 41.4787   | 23.4          | 2.0148          |
| Mar., 1999 | 35.5        | 6242    | 1.14516       | 42.0774   | 25.8          | 1.97792         |
| Apr., 1999 | 33.9        | 6275.9  | 1.13          | 43.9561   | 26.6          | 2.01716         |
| May., 1999 | 33          | 6308.9  | 1.1           | 42.6976   | 24.6          | 1.92048         |
| Jun., 1999 | 32.5        | 6341.4  | 1.12069       | 43.0715   | 24.6          | 1.96946         |
| Jul., 1999 | 33.9        | 6375.3  | 1.09355       | 42.1394   | 24.7          | 1.8908          |
| Aug., 1999 | 35.1        | 6410.4  | 1.13226       | 41.0967   | 24.5          | 1.92308         |
| Sep., 1999 | 33.2        | 6443.6  | 1.10667       | 41.1241   | 23.2          | 1.88049         |
| Oct., 1999 | 44.2        | 6487.8  | 1.42581       | 29.0439   | 18.1          | 2.01031         |
| Nov., 1999 | 15.1        | 6502.9  | 1.51          | 26.6904   | 5.5           | 2.06067         |
| Dec., 1999 | 45.9        | 6548.8  | 1.48065       | 28.2723   | 18.1          | 2.06517         |
| Jan., 2000 | 45.6        | 6594.4  | 1.47097       | 29.0733   | 18.7          | 2.07484         |
| Feb., 2000 | 40.8        | 6635.2  | 1.4069        | 29.2803   | 16.9          | 1.99027         |
| Mar., 2000 | 27.5        | 6662.7  | 0.887097      | 46.7975   | 24.2          | 1.66813         |
| Apr., 2000 | 15.4        | 6678.1  | 0.513333      | 63.7545   | 27.1          | 1.41689         |
| May., 2000 | 16.7        | 6694.8  | 0.53871       | 63.2056   | 28.7          | 1.46475         |
| Jun., 2000 | 15          | 6709.8  | 0.5           | 54.8084   | 18.2          | 1.10689         |
| Jul., 2000 | 14.8        | 6724.6  | 0.478706      | 63.4466   | 25.7          | 1.31018         |

## Production Report

|  |                                 |
|--|---------------------------------|
| Group : NVSU#2                                 | Date : March 8, 2006 8:58:33 am |
| Well : Mountcliff NVS Unit No. 2 06-32-11-26W1 | User : George                   |
| : 00/06-32-011-26W1/0                          |                                 |
| Hist.Data : 09/83-07/00                        | On Prod : 02/09                 |
| Operator :                                     | Status : Unknown                |
| Field : 5                                      | Zone : 59A                      |

### Production Data from January, 1998 to July, 2000

| Year       | Monthly Oil<br>m3 | Cum Oil<br>m3 | Avg Daily Oil<br>m3/d | Water Cut<br>% | Monthly Water<br>m3 | Avg Daily Fluid<br>m3/d |
|------------|-------------------|---------------|-----------------------|----------------|---------------------|-------------------------|
| Jan., 1998 | 8.3               | 1611.1        | 0.267742              | 61.7407        | 13.4                | 0.700118                |
| Feb., 1998 | 7.3               | 1618.4        | 0.260714              | 61.3652        | 11.6                | 0.675115                |
| Mar., 1998 | 8.2               | 1626.6        | 0.264516              | 59.3953        | 12                  | 0.651729                |
| Apr., 1998 | 9                 | 1635.6        | 0.3                   | 54.5345        | 10.8                | 0.660132                |
| May., 1998 | 9.1               | 1644.7        | 0.293548              | 51.8409        | 9.8                 | 0.609807                |
| Jun., 1998 | 9.3               | 1654          | 0.31                  | 56.1212        | 11.9                | 0.706803                |
| Jul., 1998 | 9.3               | 1663.3        | 0.3                   | 60.9139        | 14.5                | 0.767874                |
| Aug., 1998 | 9.2               | 1672.5        | 0.296774              | 59.8147        | 13.7                | 0.73884                 |
| Sep., 1998 | 8.4               | 1680.9        | 0.289655              | 15.1459        | 1.5                 | 0.341507                |
| Oct., 1998 | 8.9               | 1689.8        | 0.287097              | 61.6275        | 14.3                | 0.748513                |
| Nov., 1998 | 8.1               | 1697.9        | 0.27                  | 67.7195        | 17                  | 0.836786                |
| Dec., 1998 | 8.4               | 1706.3        | 0.270968              | 63.3086        | 14.5                | 0.738829                |
| Jan., 1999 | 8.4               | 1714.7        | 0.270968              | 63.6262        | 14.7                | 0.745281                |
| Feb., 1999 | 7.5               | 1722.2        | 0.267857              | 63.582         | 13.1                | 0.735832                |
| Mar., 1999 | 7.5               | 1729.7        | 0.241935              | 65.4278        | 14.2                | 0.700107                |
| Apr., 1999 | 7.7               | 1737.4        | 0.256667              | 65.7679        | 14.8                | 0.750113                |
| May., 1999 | 8.2               | 1745.6        | 0.273333              | 65.2443        | 15.4                | 0.786787                |
| Jun., 1999 |                   |               |                       |                |                     |                         |
| Jul., 1999 |                   |               |                       |                |                     |                         |
| Aug., 1999 | 2.8               | 1748.4        | 0.28                  | 62.1518        | 4.6                 | 0.740123                |
| Sep., 1999 | 10.7              | 1759.1        | 0.368966              | 64.5595        | 19.5                | 1.04154                 |
| Oct., 1999 | 11.3              | 1770.4        | 0.364516              | 65.0055        | 21                  | 1.0421                  |
| Nov., 1999 | 7.8               | 1778.2        | 0.278571              | 69.9908        | 18.2                | 0.928694                |
| Dec., 1999 | 0.8               | 1779          | 0.4                   | 67.9904        | 1.7                 | 1.25018                 |
| Jan., 2000 |                   |               |                       |                |                     |                         |
| Feb., 2000 |                   |               |                       |                |                     |                         |
| Mar., 2000 | 0.9               | 1779.9        | 0.0473684             | 95.8698        | 20.9                | 1.14739                 |
| Apr., 2000 | 1.7               | 1781.6        | 0.0566667             | 94.549         | 29.5                | 1.04002                 |
| May., 2000 | 1.7               | 1783.3        | 0.0566667             | 94.7018        | 30.4                | 1.07002                 |
| Jun., 2000 | 5.2               | 1788.5        | 0.185714              | 69.2214        | 11.7                | 0.603653                |
| Jul., 2000 | 5.7               | 1794.2        | 0.184367              | 72.7185        | 15.2                | 0.676092                |