WASKADA LOWER AMARANTH UNIT NO. 1

WATERFLOOD PROGRESS REPORT

January 1, through December 31, 2010

PennWest Exploration

Prepared by:

Siros Mahmody, P.Eng.

Senior Waterflood Exploitation Engineer

TABLE OF CONTENTS

INTRODUCTION

The WASKADA LOWER AMARANTH UNIT NO.1 pressure maintenance project commenced water injection into the Lower Amaranth designed and in accordance with Manitoba Energy and Mines Approval No. PM 58.

PRESSURE MAINTENANCE: Governed by Board Order No. PM 58

Unit Information:
UNITIZED ZONE: Lower Amaranth
Original Unit, Jan.1, 1983 Board Order; Voluntary
First Enlargement, July. 1, 1983
POOL: Waskada Lower Amaranth A (03 29A)

This report documents the performance of the Waskada Lower Amaranth pressure maintenance project for the period of January 1 to December 31, 2010.

Lower Amaranth Unit # 1 is part of main Waskada. The Waskada field is situated on the northeast rim of the Williston Basin in southern Manitoba. It comprises a large portion of Township 1 and 2, Ranges 25 and 26 (W1PM).

The Waskada Fields produce light density crude (approximately 36^{o} API), predominantly from the Lower Amaranth formation. The interlaminated, shallow marine to subtidal succession of sandstones, siltones, and shale progressively onlaps the Mississippian unconformity surface from basin center, up dip to the north and eastern basin limits in Saskatchewan and Manitoba. The fine grained reservoir rock has a complex reservoir characterization with 13 to 16 % porosity and permeability on the order of 0.5 to15 md. The lower Amaranth, the oldest Mesozoic unit is a clastic red bed sequence lying directly on the Paleozoic erosional surface. It consists of a series of dolomitic siltstones and sandstones interbedded with argillaceous siltstones and shales. The section is usually subdivided into a lower sandy unit and an overlying shale unit. The lower sequence is the oil production zone. The bulk of pay is founded in the laminated sandstone/siltstone facies.

The Lower Amaranth has been classified into four general lithological types:

1. Interbedded shale/siltstone/sandstone by grain size, color and texture
2. Siltstone – This lithology occurs in distinct intervals up to two or three meters in thickness. It is generally light green in color and dolomitic.
3. Laminated sandstone – This occurs in distinct sandy intervals with a wide range of grain sizes and primary sedimentary structures.
4. Massive sandstone – This lithology occurs in thin intervals and usually associated with the laminated sandstones facies. Beds are usually light grey to reddish grey in color and coarse to medium – grained.

UNIT HISTORY

Waskada Lower Amaranth Unit #1 (Unit History)

Abbreviated Well ID	Date Well Spudded	On Prod YYYY/MM	Org Operator Name	Ground Elevation (m)	TVD (m)
00/09-23-001-26W1/0	7/3/1982	1982/08	Omega Hydcbns Ltd	465.9	953.0
02/10-23-001-26W1/0	5/30/1983	1983/06	Omega Hydcbns Ltd	465.3	948.0
00/15-23-001-26W1/0	1/24/1982	1982/02	Omega Hydcbns Ltd	464.3	940.5
00/16-23-001-26W1/0	9/20/1981	1981/11	Omega Hydcbns Ltd	464.6	965.0
00/09-24-001-26W1/2	11/28/1981	1983/01	NCE Petrofund Corp	468.8	944.0
00/10-24-001-26W1/0	2/7/1982	1982/03	Omega Hydcbns Ltd	466.1	935.0
00/11-24-001-26W1/0	2/12/1982	1982/03	Omega Hydcbns Ltd	465.6	935.0
00/12-24-001-26W1/2	11/3/1981	1983/02	NCE Petrofund Corp	463.9	952.0
02/12-24-001-26W1/0	1/9/2010	2010/05		468	912.0
02/13-24-001-26W1/0	9/12/1982		Omega Hydcbns Ltd	465.6	951.0
03/13-24-001-26W1/0	1/16/2010	2010/05		467.5	910.9
00/14-24-001-26W1/0	11/12/1981	1982/02	Omega Hydcbns Ltd	465.1	951.0
00/15-24-001-26W1/0	9/28/1981	1981/10	Omega Hydcbns Ltd	466.3	961.0
02/16-24-001-26W1/0	2/1/1982	1982/02	Omega Hydcbns Ltd	468.1	956.0

Abbreviated Well ID	Date Well Spudded	On Prod YYYY/MM	Org Operator Name	Ground Elevation (m)	TVD (m)
00/01-25-001-26W1/2	7/2/1981	1990/05	NCE Petrofund Corp	467.3	950.0
02/01-25-001-26W1/0	9/12/1982	1983/01	Omega Hydcbns Ltd	467.2	947.0
00/02-25-001-26W1/2	8/22/1981	1983/02	Omega Hydcbns Ltd	466.1	950.0
00/03-25-001-26W1/2	7/14/1981	1982/12	Omega Hydcbns Ltd	467	955.0
00/04-25-001-26W1/2	8/17/1981	1982/11	NCE Petrofund Corp	466.6	963.0
00/05-25-001-26W1/2	8/27/1981	1981/10	NCE Petrofund Corp	466.9	953.0
00/06-25-001-26W1/0	1/17/1982	1982/02	Omega Hydcbns Ltd	468.1	936.0
00/07-25-001-26W1/0	3/1/1982	1982/06	Omega Hydcbns Ltd	465.7	937.0
02/08-25-001-26W1/0	1/11/1982	1982/02	Omega Hydcbns Ltd	468.4	945.0
00/09-25-001-26W1/0	1/4/1982	1982/02	Omega Hydcbns Ltd	467	934.0
02/09-25-001-26W1/0	9/17/1994	1994/10	Omega Hydcbns Ltd	466.1	905.5
00/10-25-001-26W1/0	5/14/1982	1982/06	Omega Hydcbns Ltd	468.9	938.0
00/11-25-001-26W1/0	5/19/1982	1982/06	Omega Hydcbns Ltd	469.2	940.0
00/12-25-001-26W1/0	5/25/1982	1982/06	Omega Hydcbns Ltd	466.8	946.0
00/13-25-001-26W1/0	7/29/1982	1982/10	Omega Hydcbns Ltd	465.5	960.0
00/14-25-001-26W1/0	8/4/1982	1982/12	Omega Hydcbns Ltd	466.7	936.0
00/15-25-001-26W1/0	8/9/1982	1982/11	Omega Hydcbns Ltd	466.8	948.0
00/16-25-001-26W1/0	8/13/1982	1982/10	Omega Hydcbns Ltd	467.9	955.0
B0/16-25-001-26W1/0	10/23/1997	1997/11	NCE Rsrcs Grp Inc	469.7	929.0
00/01-26-001-26W1/2	9/14/1981	1982/02	NCE Petrofund Corp	466.1	960.0
00/02-26-001-26W1/0	11/17/1981	1982/02	Omega Hydcbns Ltd	463.1	952.0
00/07-26-001-26W1/0	7/7/1982	1982/10	Omega Hydcbns Ltd	463.6	949.0
00/08-26-001-26W1/0	10/28/1981	1982/01	Omega Hydcbns Ltd	465.4	948.0

Waskada Lower Amaranth Unit #1

Production & Injection History

Abbreviated Well ID	First Prod YYYY/MM	On Inject. YYYY/MM	Last Prod. YYYY/MM	Cumulative OIL Prod. (m3)	Cumulative WTR Prod. (m3)	Last Inject. YYYY/MM
00/09-23-001-26W1/0	1982/08		1990/12	10,673	32,946	
02/10-23-001-26W1/0	1983/06		1992/11	8,665	16,440	
00/15-23-001-26W1/0	1982/02	1983/10	1983/09	2,958	790	2004/05
00/16-23-001-26W1/0	1981/11		2010/12	49,205	43,989	
00/09-24-001-26W1/2	1983/01		2010/09	13,544	18,323	
00/10-24-001-26W1/0	1982/03		2010/12	4,968	1,576	
00/11-24-001-26W1/0	1982/03		1995/10	5,111	740	
00/12-24-001-26W1/2	1983/02		2008/05	24,643	23,213	
02/12-24-001-26W1/0	2010/05		2010/12	999	735	
02/13-24-001-26W1/0		1983/02				2006/11
03/13-24-001-26W1/0	2010/05		2010/12	1,843	1,411	
00/14-24-001-26W1/0	1982/02		2010/12	14,204	10,218	
00/15-24-001-26W1/0	1981/10	1983/02	1983/02	3,403	431	2006/11
02/16-24-001-26W1/0	1982/02		2002/05	12,749	18,034	
00/01-25-001-26W1/2	1990/05		1990/11	0	395	
02/01-25-001-26W1/0	1983/01		1990/12	3,357	15,964	
00/02-25-001-26W1/2	1983/02		2010/12	30,679	5,047	
00/03-25-001-26W1/2	1982/12		2010/12	30,248	11,326	
00/04-25-001-26W1/2	1982/11		2010/12	30,409	5,096	
00/05-25-001-26W1/2	1981/10	1983/02	1983/02	3,741	517	2010/12
00/06-25-001-26W1/0	1982/02		2010/11	45,230	66,022	
00/07-25-001-26W1/0	1982/06	1983/02	1983/02	1,959	608	2010/11
02/08-25-001-26W1/0	1982/02		1995/09	5,790	1,685	
00/09-25-001-26W1/0	1982/02		1991/02	4,928	6,496	
02/09-25-001-26W1/0	1994/10		2010/12	8,823	19,299	
00/10-25-001-26W1/0	1982/06		2010/10	22,037	9,899	
00/11-25-001-26W1/0	1982/06		2010/12	22,617	23,445	
00/12-25-001-26W1/0	1982/06		1992/03	16,862	39,233	

Abbreviated Well ID	First Prod YYYY/MM	On Inject. YYYY/MM	Last Prod. YYYY/MM	Cumulative OIL Prod. (m3)	Cumulative WTR Prod. (m3)	Last Inject. YYYY/MM
00/13-25-001-26W1/0	1982/10	1983/12	1983/12	344	242	2007/12
00/14-25-001-26W1/0	1982/12		1989/08	439	252	
00/15-25-001-26W1/0	1982/11	1983/12	1983/09	467	136	2010/11
00/16-25-001-26W1/0	1982/10		2008/09	3,667	1,630	
B0/16-25-001-26W1/0	1997/11		2010/12	1,242	203	
00/01-26-001-26W1/2	1982/02		2010/12	31,858	27,057	
00/02-26-001-26W1/0	1982/02		2010/12	26,486	21,885	
00/07-26-001-26W1/0	1982/10	1984/01	1983/12	2,446	306	2010/12
00/08-26-001-26W1/0	1982/01		2010/12	36,586	38,852	

DISCUSSION

Production Performance

Production Response versus Injection: Since injection began, more or less at the same time and the fact that injection rates fluctuated to some degree amongst the injectors, it is difficult to link any production responses to any specific injector. Water breakthrough in certain producers could not be directly correlated with over injection in associated injectors. Some wells showed decrease in oil rate when injection was ceased in 1988-89.

Voidage Replacement Ratio Calculation

With what could be described as very limited success, the waterflood was not maintained properly and injection rate dropped year after year in most cases. The cumulative VRR in the pool is about 1.08 and current monthly VRR is about 1.01. This can be misleading, from one hand, as the injection across the pool is quite variable, and from other hand it is unknown how much of this water lost to Mission Canyon Formation, located just below the Amaranth Formation. Almost all of the injectors are shut in currently because of formation damage due to

fines migration or clay swelling, Injection water quality and compatibility with formation water, scale build up or channeling problems (see Appendix C).

To understand the past performance of the Lower Amaranth waterflood, we are doing some reservoir engineering work to come up with potential solutions. One of our plans is to do a pilot program in section 2: The objective of the pilot is to:

1. See if we can continuously inject water into the Lower Amaranth Formation with:-
    i. Particle size less than 1 micron
    ii. Total Suspended Solid (TSS) less than 10 ppm
    iii. Oil less than 10 ppm
2. Inject below the frac pressure
3. Test the simulation model that we have built.

2011 Waskada Lower Amaranth Waterflood Pilot Location

The pilot producer will be 102/12-01-02-26W1/00 (a horizontal well) and the injectors will be two vertical wells; 100/12-01-02-26W1 and 100/11-01-02-26 (need to be converted to injectors).

Corrosion and Scale Prevention Program

We currently inject ScalCor down all the new horizontal wells. Plus, PennWest will be installing cathodic protection on the wells. Also, the new gathering system is Fiberglass and as such is not susceptible to corrosion.

SUMMARY AND RECOMMENDATIONS

Producers

Current Producing Wells

1. 00/16-23-001-26W1/0
2. 00/10-24-001-26W1/0
3. 02/12-24-001-26W1/0
4. 03/13-24-001-26W1/0
5. 00/14-24-001-26W1/0
6. 00/02-25-001-26W1/2
7. 00/03-25-001-26W1/2
8. 02/09-25-001-26W1/0
9. 00/11-25-001-26W1/0
10. B0/16-25-001-26W1/0
11. 00/01-26-001-26W1/2
12. 00/02-26-001-26W1/0
13. 00/08-26-001-26W1/0

Current Suspended Wells

1. 00/09-24-001-26W1/2 (since 2010/10)
2. 00/12-24-001-26W1/2 (since 2008/06)
3. 00/04-25-001-26W1/2 (since 2010/12)
4. 00/06-25-001-26W1/0 (since 2010/12)
5. 00/10-25-001-26W1/0 (since 2010/11)
1. 00/16-25-001-26W1/0 (since 2008/10)

Abandoned Wells

1. 00/09-23-001-26W1/0 (since 1991/01)
2. 02/10-23-001-26W1/0 (since 1992/12)
3. 00/11-24-001-26W1/0 (since 1995/11)

4. 02/16-24-001-26W1/0 (since 2002/06)
5. 00/01-25-001-26W1/2 (since 1990/12)
6. 02/01-25-001-26W1/0 (since 1991/01)
7. 02/08-25-001-26W1/0 (since 1995/10)
8. 00/09-25-001-26W1/0 (since 1991/03)
9. 00/12-25-001-26W1/0 (since 1992/04)
10. 00/14-25-001-26W1/0 (since 1989/09)

Injectors

Current Injecting Wells

None

Current Suspended Wells

1. 00/15-23-001-26W1/0 (since 2004/06)
2. 02/13-24-001-26W1/0 (since 2006/12)
3. 00/15-24-001-26W1/0 (since 2006/12)
4. 00/05-25-001-26W1/2 (since 2011/01)
5. 00/07-25-001-26W1/0 (since 2010/12)
6. 00/13-25-001-26W1/0 (since 2008/01)
7. 00/15-25-001-26W1/0 (since 2010/12)
8. 00/07-26-001-26W1/0 (since 2011/01)

(See Appendix E for individual well profile)

Abandoned Wells

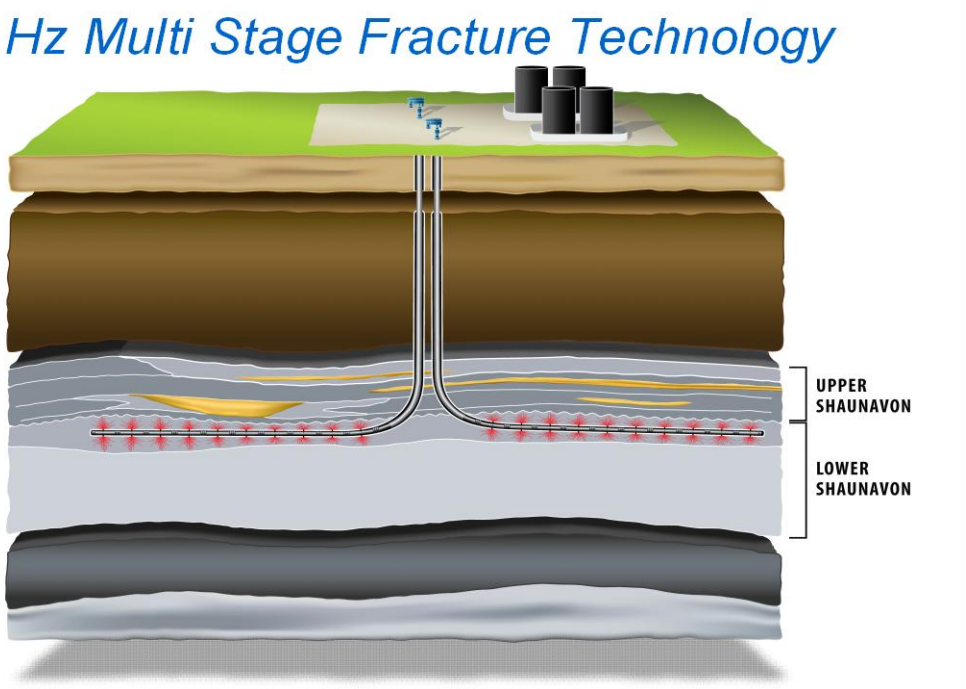
None

The behavior of a Lower Amaranth Unit 1 producers are indicated by examining the oil rate versus time plots (see Appendix B). Waskada Lower Amaranth Unit 1 exhibited relatively high initial oil productivity (most of the wells drilled in the past were vertical), rapidly declining to flat/low decline rates, with almost no discernible water flood response. This behavior can be explained by drop in the reservoir pressure from initial (approximately 8700 kPag) to above in some wells or below in others bubble point pressure (about 4200 kPag) followed by solution gas breakout which adversely affected the relative permeability to oil. (see Table # 2: Pressure Surveys)

Also, it is believed that fracture stimulation treatments, performed on these wells prior to initiation of water injection, "broke" through into the higher productivity Mississippian zone and that majority of injected water to date has entered this zone. This is one of the major explanations for lack of waterflood response to date and the continued decline in oil productivities.

The Waskada Lower Amaranth is becoming a non-conventional tight oil resources play that utilizes horizontal multi-stage frac drilling technology (small multi-stage frac stimulations on newly drilled wells will remain "in zone" within the Lower Amaranth) to re-develop the thick low perm oil zones adjacent to the conventional Amaranth zone that was discovered in the 1980's. PennWest drilled 3 horizontal wells, to increase the Recovery Factor (RF), in year 2010, 102/12-24-001-26W1, 103/13-24-001-26W1 and 103/16-24-001-26W1/00. PennWest plans to drill five more horizontal wells in this Unit in 2011. Penn West's follow up plan once we have drilled more horizontal wells in the Units is to convert some of the recent horizontal producing wells to injection wells to increase the sweep efficiency and ultimately increase the recoverable oil in place.

The following is the HZ Multi Stage Fracture Technology that we are using in our new development



TABLES

Waskada Lower Amaranth Unit #1

Table 1: Rates History

Date	Oil		Water		Injection Water	
Year	m3/year	m3/day	m3/year	m3/day	m3/year	m3/day
1981	1,293	3.54	647	1.77	0	0.00
1982	34,589	94.76	8,564	23.46	0	0.00
1983	63,455	173.85	26,801	73.43	98,755	270.56
1984	55,295	151.49	28,617	78.40	132,955	364.26
1985	41,787	114.48	27,555	75.49	86,897	238.07
1986	37,496	102.73	28,006	76.73	107,802	295.35
1987	32,268	88.41	39,340	107.78	82,230	225.29
1988	28,003	76.72	25,126	68.84	64,867	177.72
1989	23,117	63.33	20,406	55.91	9,366	25.66
1990	19,472	53.35	16,000	43.83	24,156	66.18
1991	13,902	38.09	16,050	43.97	31,802	87.13
1992	12,342	33.81	17,729	48.57	41,247	113.01
1993	10,180	27.89	20,905	57.28	81,517	223.33
1994	11,592	31.76	15,873	43.49	26,062	71.40
1995	11,593	31.76	18,340	50.25	56,183	153.92
1996	11,489	31.48	16,992	46.55	57,114	156.48
1997	8,731	23.92	15,108	41.39	46,833	128.31
1998	7,120	19.51	13,147	36.02	24,871	68.14
1999	5,829	15.97	11,053	30.28	17,130	46.93
2000	5,998	16.43	11,740	32.16	12,856	35.22
2001	6,356	17.41	10,508	28.79	15,584	42.70
2002	5,846	16.02	9,016	24.70	12,815	35.11
2003	5,399	14.79	7,476	20.48	10,947	29.99
2004	4,779	13.09	6,511	17.84	9,381	25.70
2005	4,146	11.36	7,149	19.59	8,353	22.88
2006	4,094	11.22	7,752	21.24	11,382	31.18
2007	3,775	10.34	8,308	22.76	36,593	100.26
2008	3,227	8.84	8,271	22.66	10,750	29.45
2009	4,690	12.85	10,887	29.83	6,697	18.35
2010	5,310	14.55	10,566	28.95	17,244	47.24

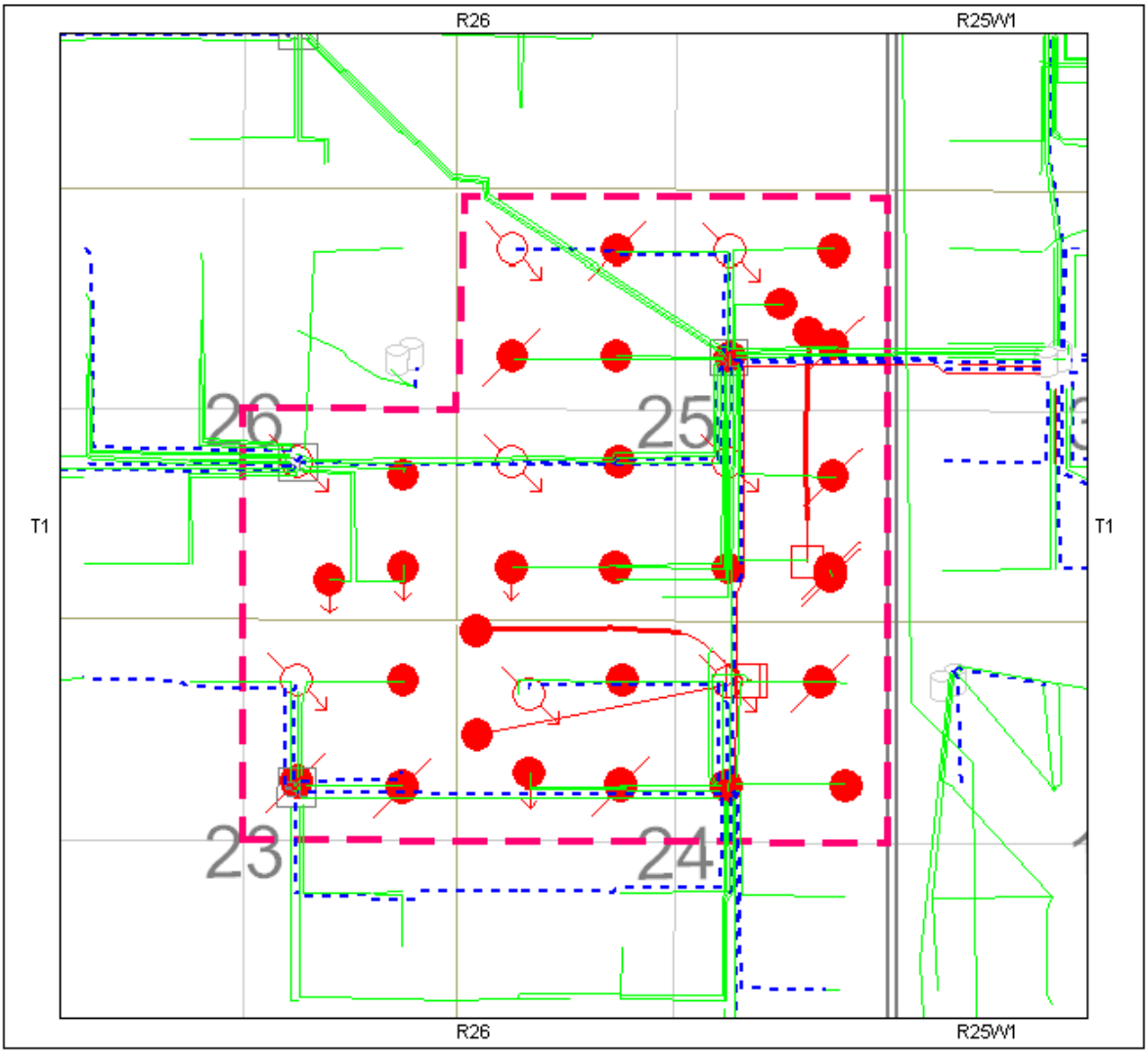
Waskada Lower Amaranth Unit #1

Table 2: Pressure Surveys

Location	Shut In Date	Date of Survey	Type of Survey	Pressure @ Datum Depth (kPa)
02/12-24-001-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	1016
03/13-24-001-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	3179
00/15-24-001-26W1/0	Dec-89	(18 days)	Static Gradient	10482
00/06-25-001-26W1/0	(8 days)	11-Dec-06	Acoustic Build Up	4186
00/09-25-001-26W1/0		2008	BHP, Assuming WC from Last Prod'n	4881
02/09-25-001-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	1743
00/15-25-001-26W1/0	Jan-90	(68 days)	Static Gradient	11144
00/16-25-001-26W1/0		2008	BHP, Assuming WC from Last Prod'n	5765
00/08-26-001-26W1/0		2008	BHP, Assuming WC from Last Prod'n	6267

APPENDIX A

Appendix A – Area Map



WELL SYMBOLS

OIL	AO	PTN	D&A	WI
LCT	AWI	STN	CMM	DRL
RDR	WD	AWS	AWD	SWI
SO	WSC	J&A	SL	

PennWest Exploration

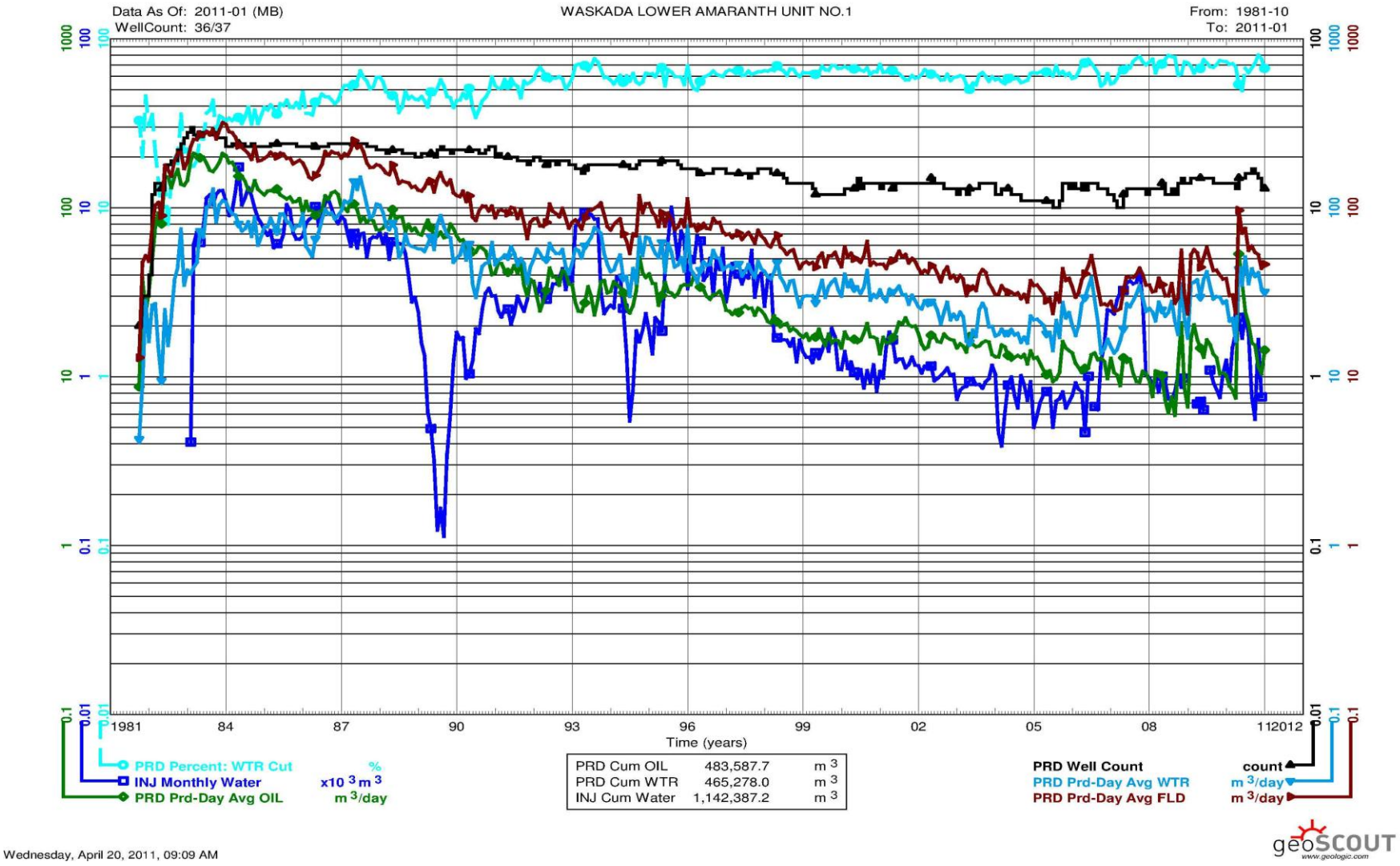
Waskada Lower Amaranth Unit #1

geoSCOUT

	By :	Date : 2011/04/20
	Scale = 1:21401	Project : Waskada

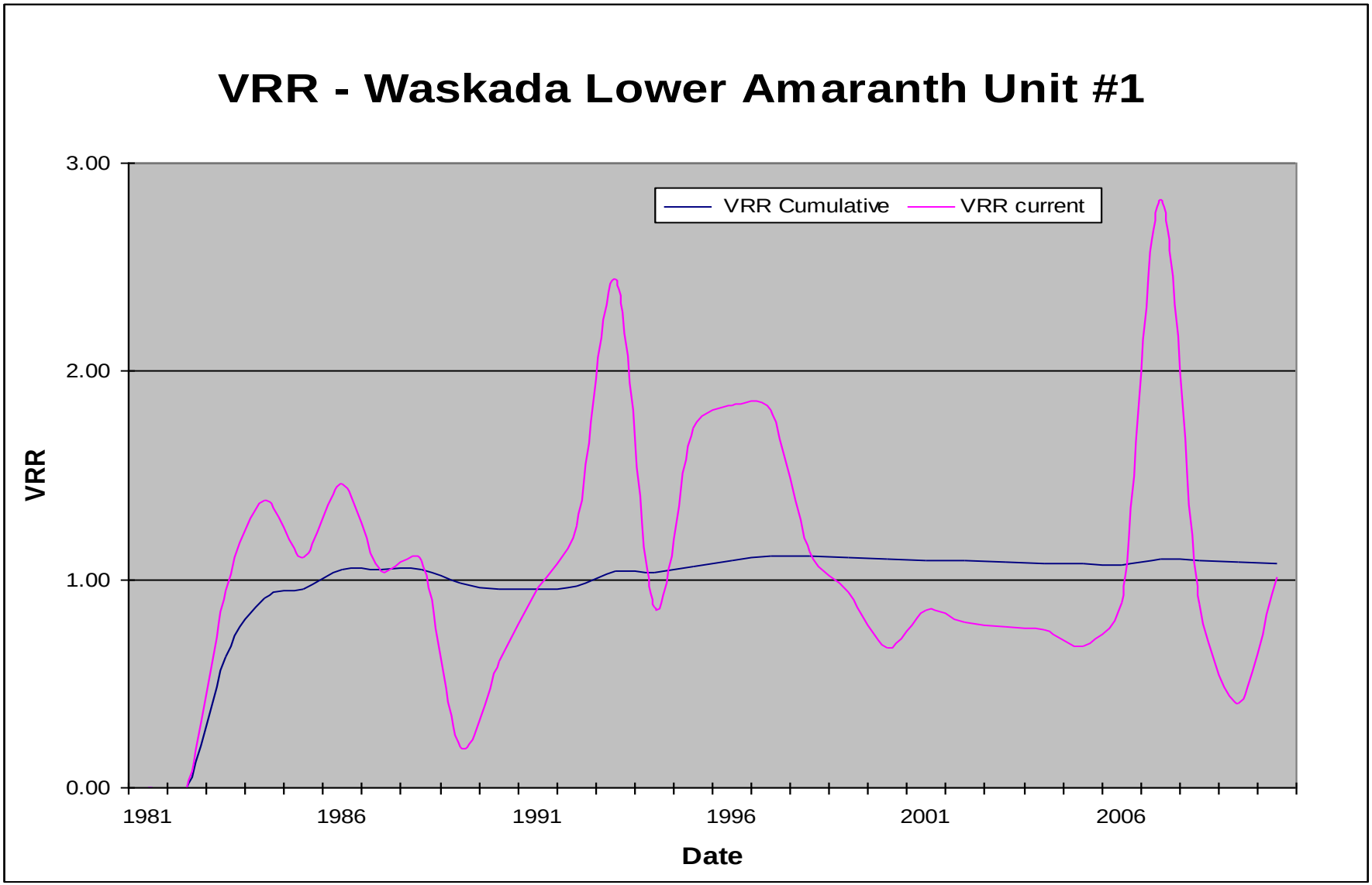
APPENDIX B

Appendix B – Production and Injection History plot



APPENDIX C

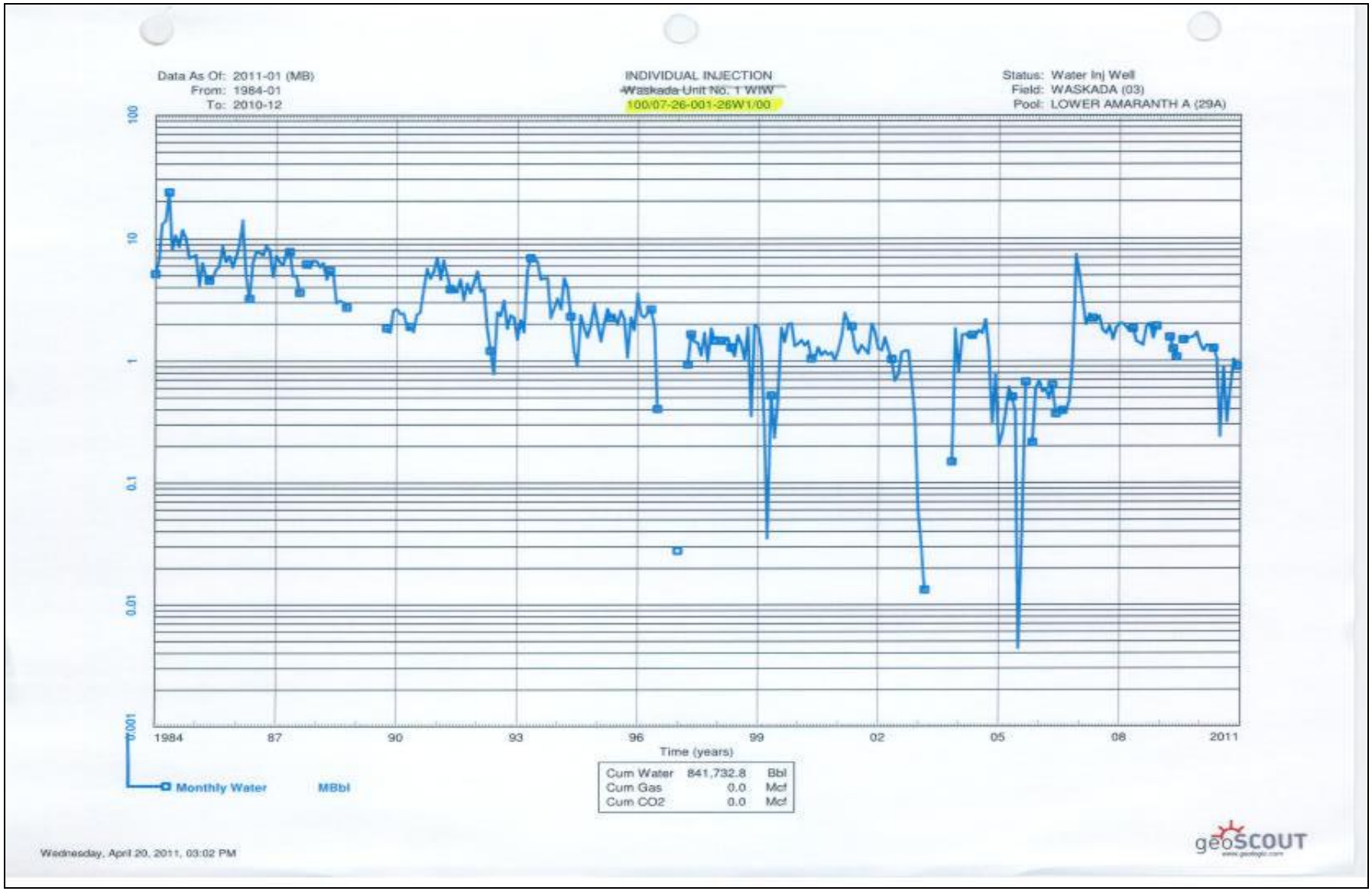
Appendix C – Voidage Replacement Ratio VRR

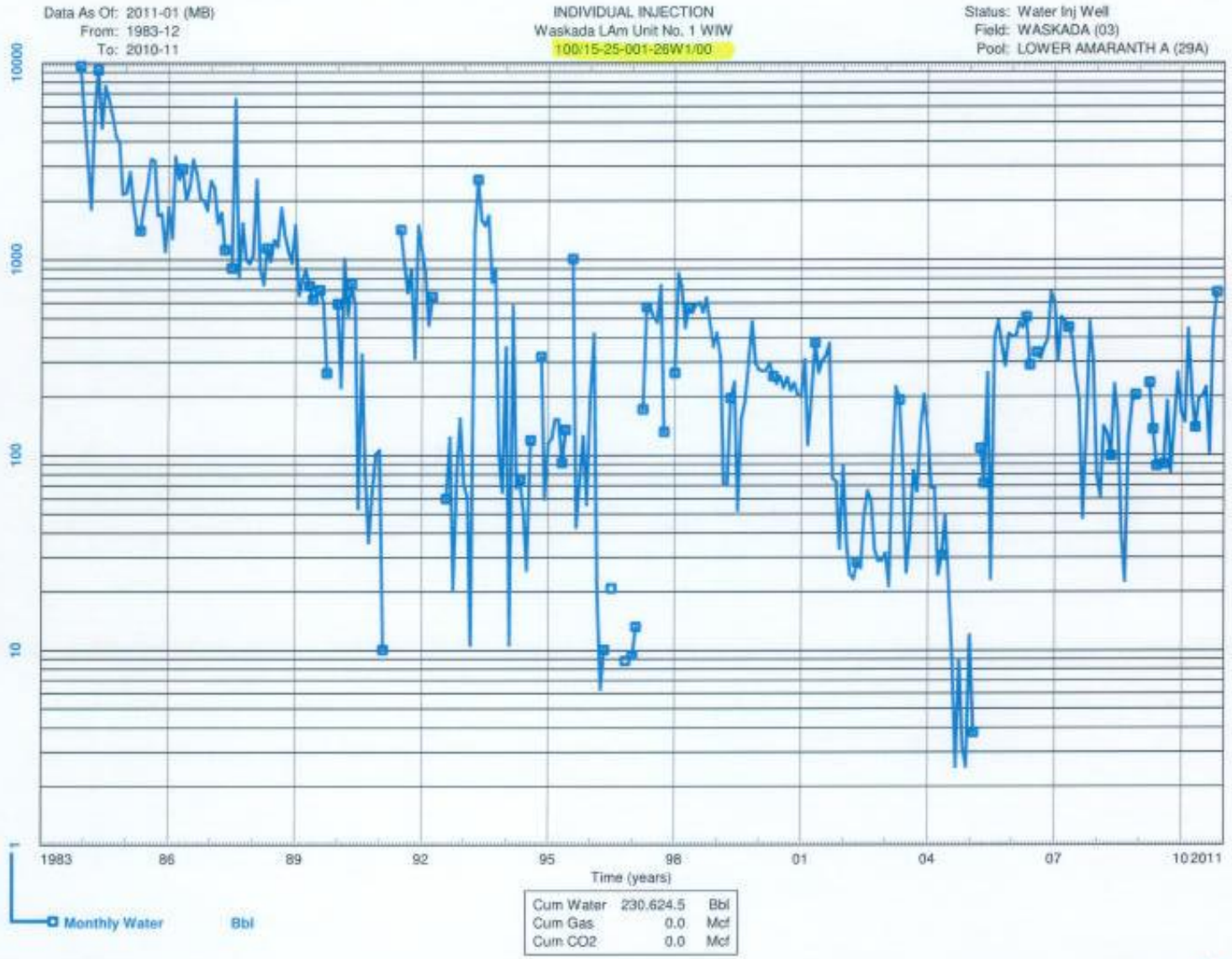


APPENDIX D

Appendix D – Production and Injection Profiles

(Individualwells)

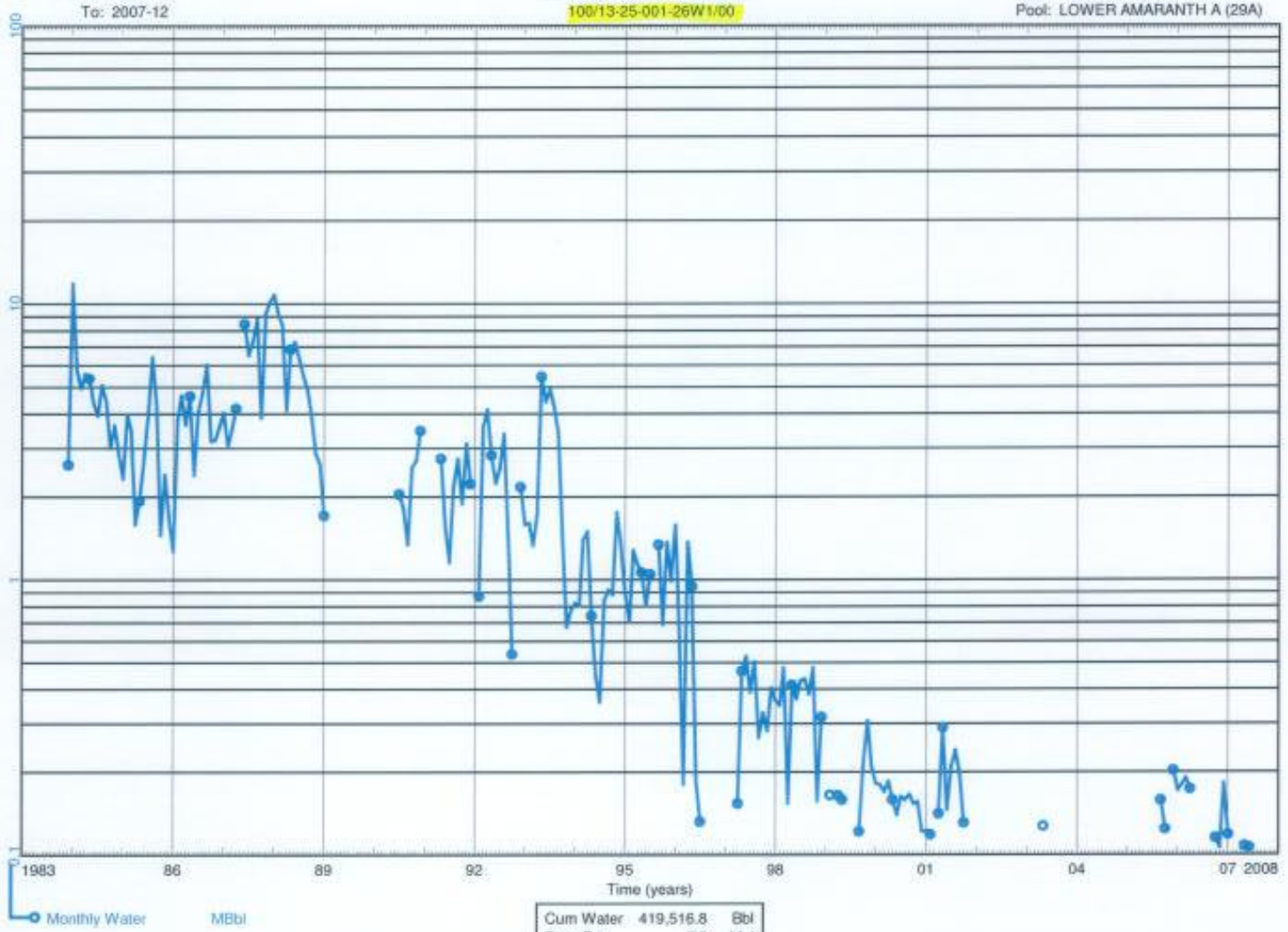



Data As Of: 2011-01 (MB)
From: 1983-12
To: 2010-11
INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/15-25-001-28W1/00
Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
10000
1000
100
10
1
1983
86
89
92
95
98
01
04
07
10 2011
Time (years)
Monthly Water
Bbl
Cum Water 230,624.5 Bbl
Cum Gas 0.0 Mcf
Cum CO2 0.0 Mcf

Data As Of: 2010-11 (MB)
From: 1983-12
To: 2007-12

INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/13-25-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum Water	419,516.8	Bbl
Cum Gas	0.0	Mcf
Cum CO2	0.0	Mcf

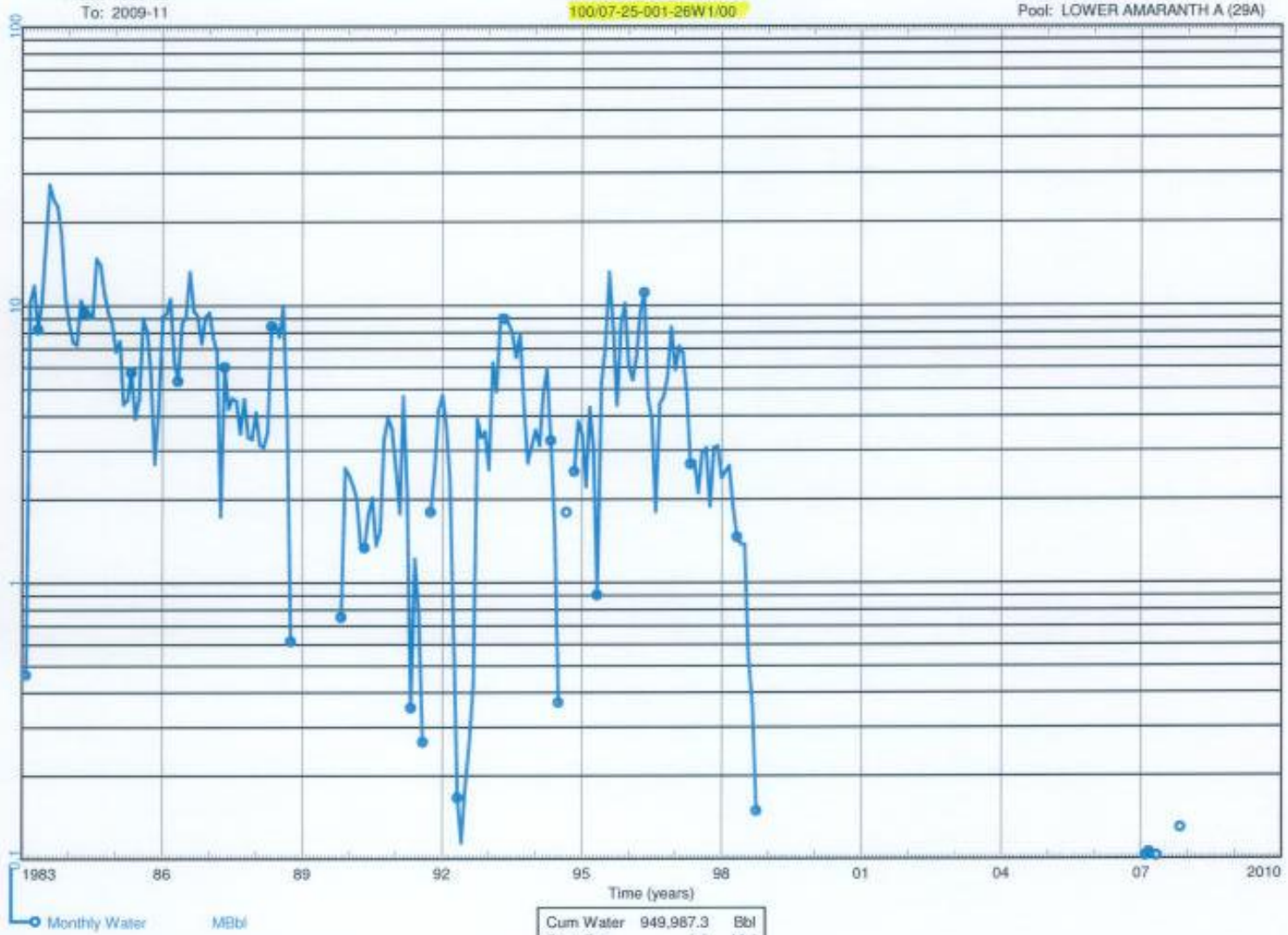
Monday, February 14, 2011, 03:14 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1983-02
To: 2009-11

INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/07-25-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)

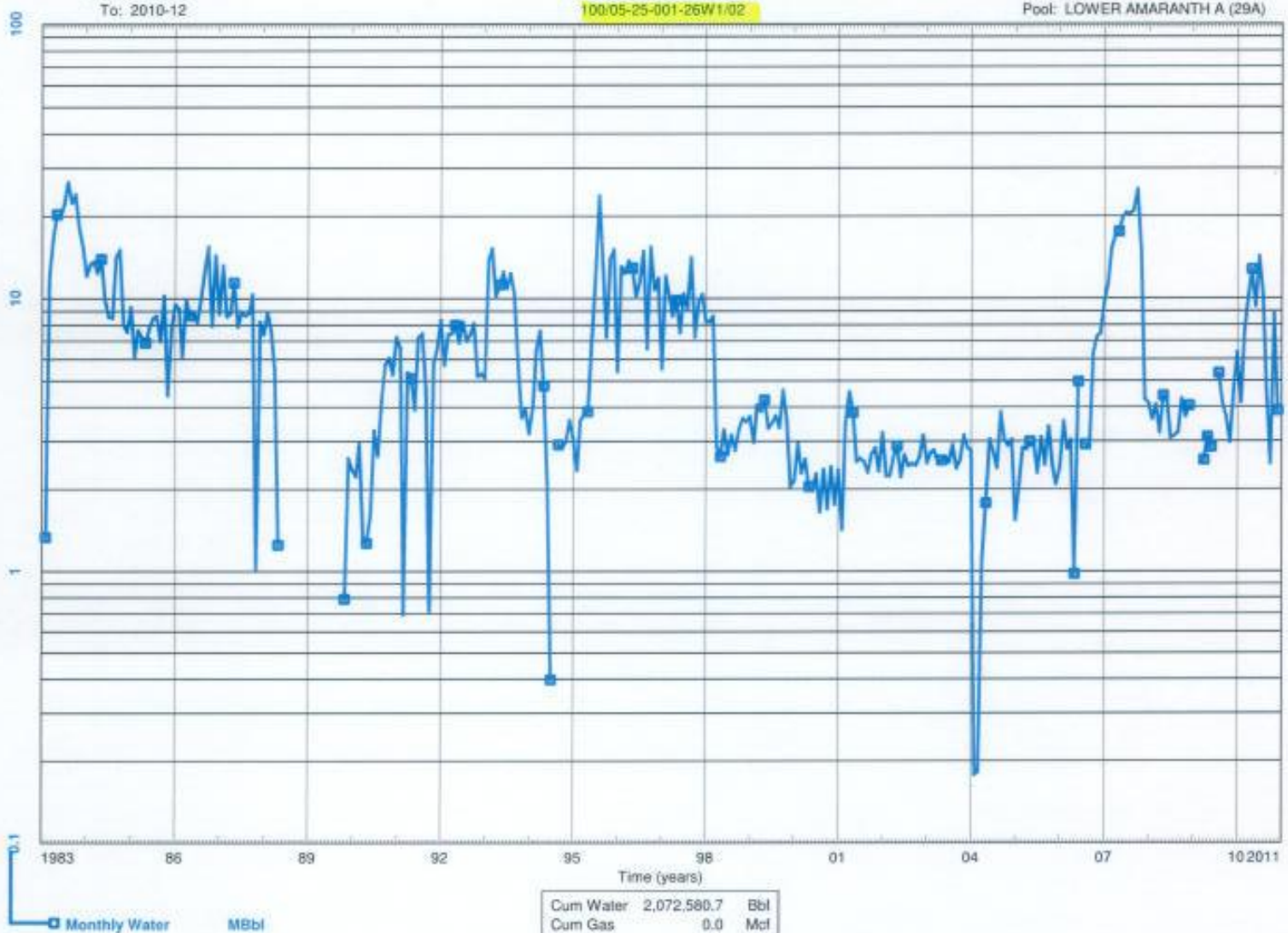


Cum Water	949,987.3	Bbl
Cum Gas	0.0	Mcf
Cum CO2	0.0	Mcf

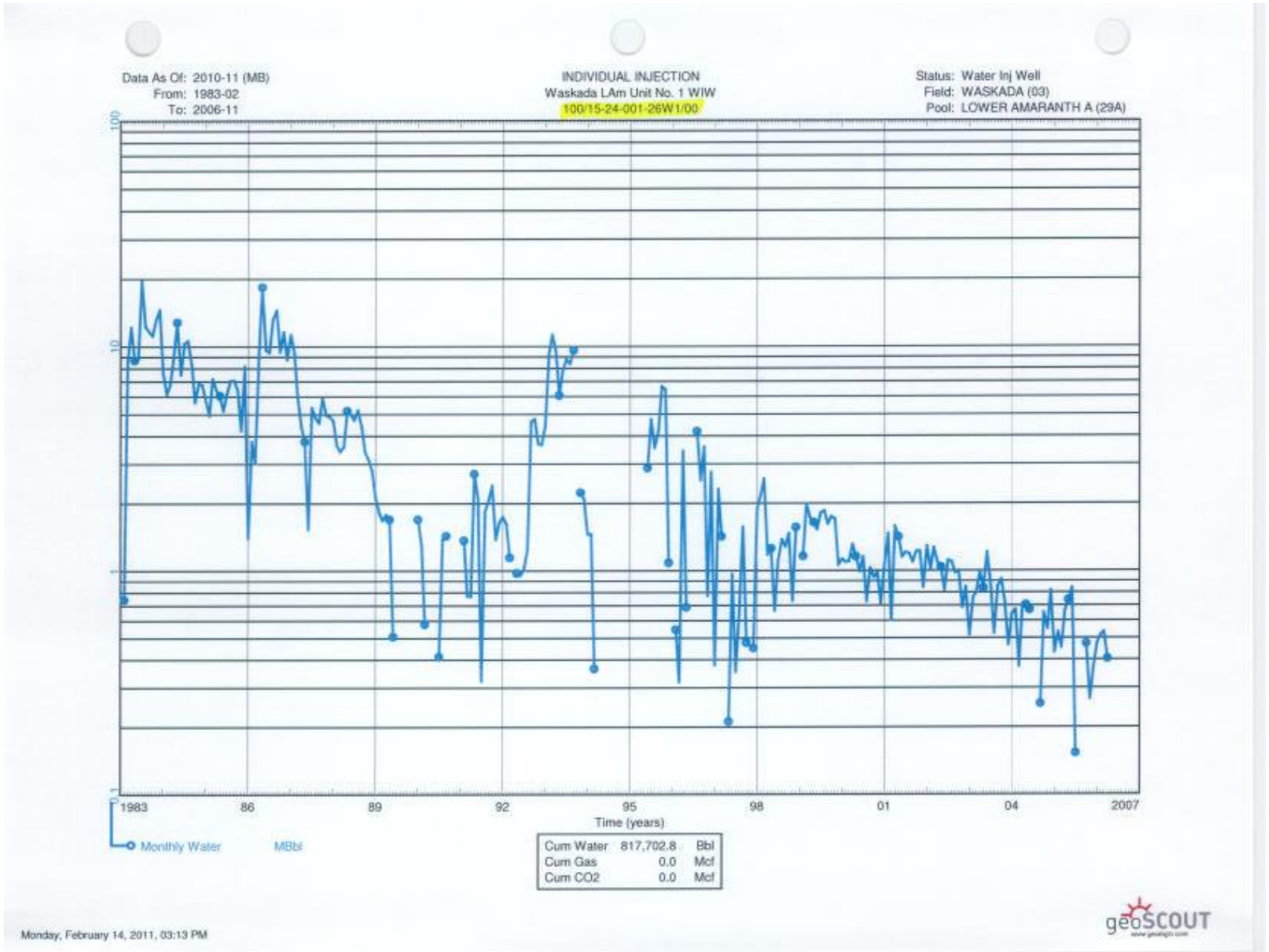
Data As Of: 2011-01 (MB)
From: 1983-02
To: 2010-12

INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/05-25-001-26W1/02

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



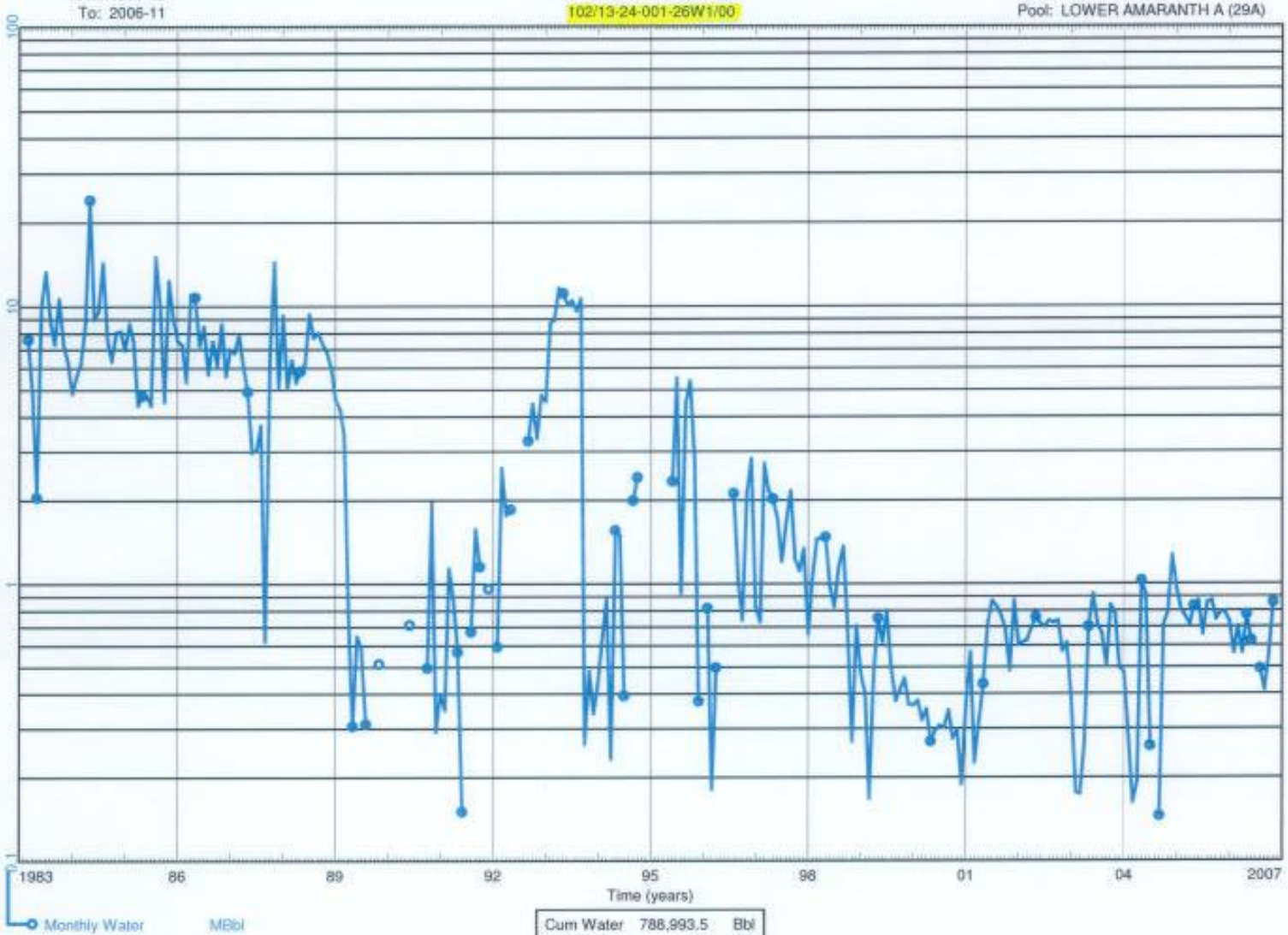
Cum Water	2,072,580.7	Bbl
Cum Gas	0.0	Mcf
Cum CO2	0.0	Mcf


Data As Of: 2010-11 (MB)
From: 1983-02
To: 2006-11
INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/15-24-001-26W1/00
Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
100
10
1
0.1
1983
86
89
92
95
98
01
04
2007
Time (years)
Monthly Water
MBbl
Cum Water 817,702.8 Bbl
Cum Gas 0.0 Mcf
Cum CO2 0.0 Mcf
Monday, February 14, 2011, 03:13 PM
geoSCOUT

Data As Of: 2010-11 (MB)
From: 1983-02
To: 2006-11

INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
102/13-24-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)

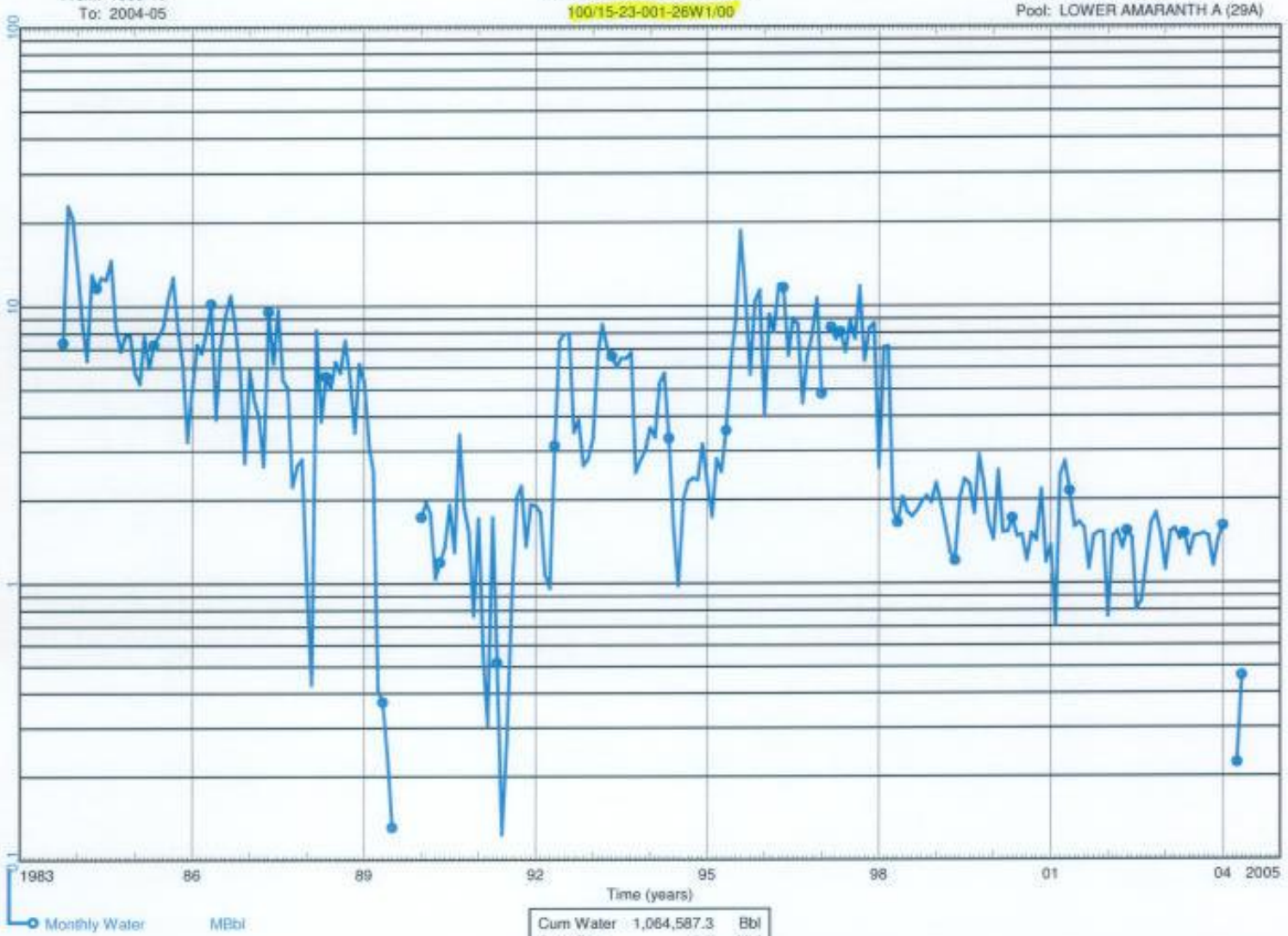


Cum Water	788,993.5	Bbl
Cum Gas	0.0	Mcf
Cum CO2	0.0	Mcf

Data As Of: 2010-11 (MB)
From: 1983-10
To: 2004-05

INDIVIDUAL INJECTION
Waskada LAm Unit No. 1 WIW
100/15-23-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)

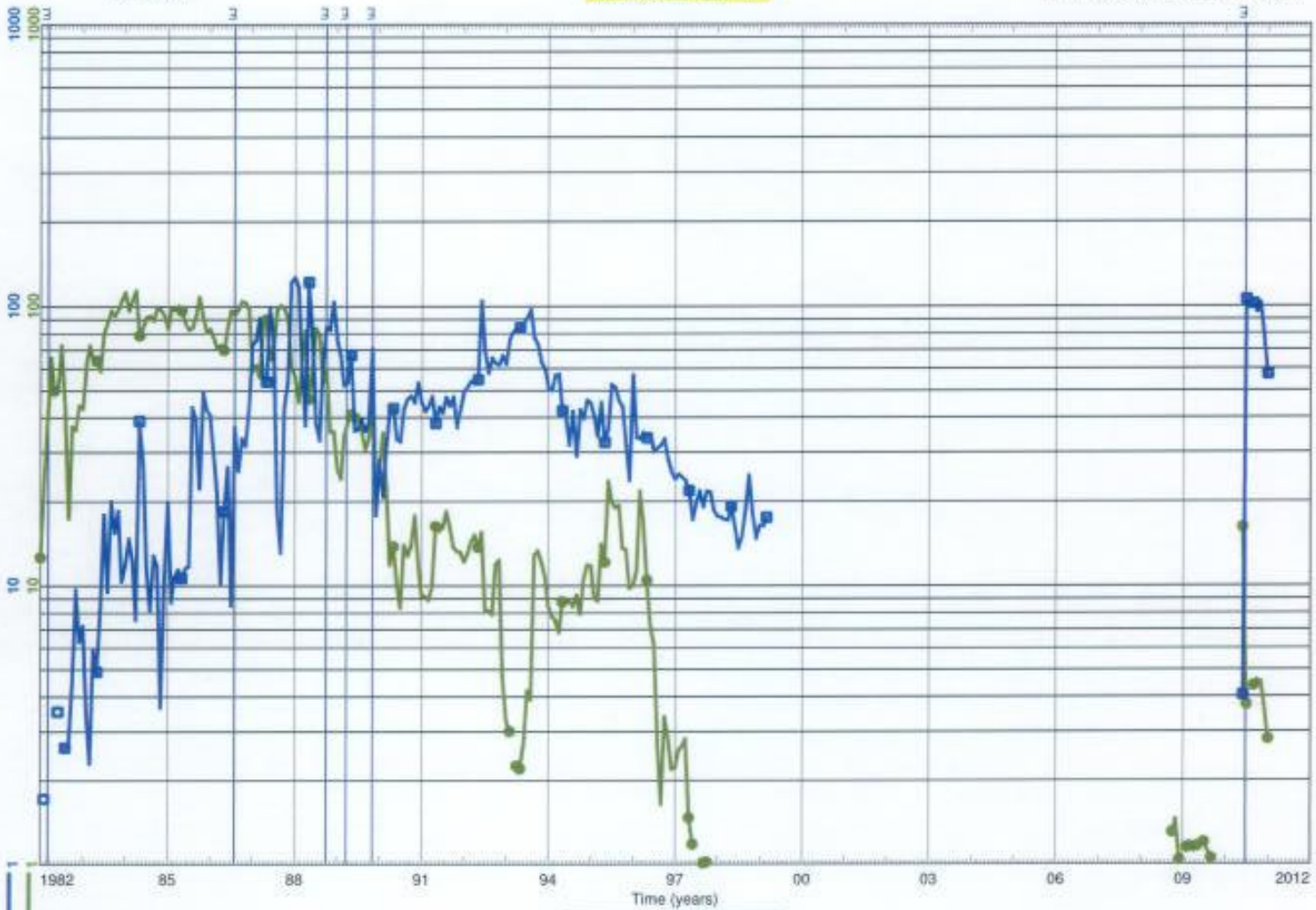


Cum Water	1,064,587.3	Bbl
Cum Gas	0.0	Mcf
Cum CO2	0.0	Mcf

Data As Of: 2011-01 (MB)
From: 1982-01
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/08-26-001-25W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	230,311.4	Bbl
Cum WTR	245,978.0	Bbl

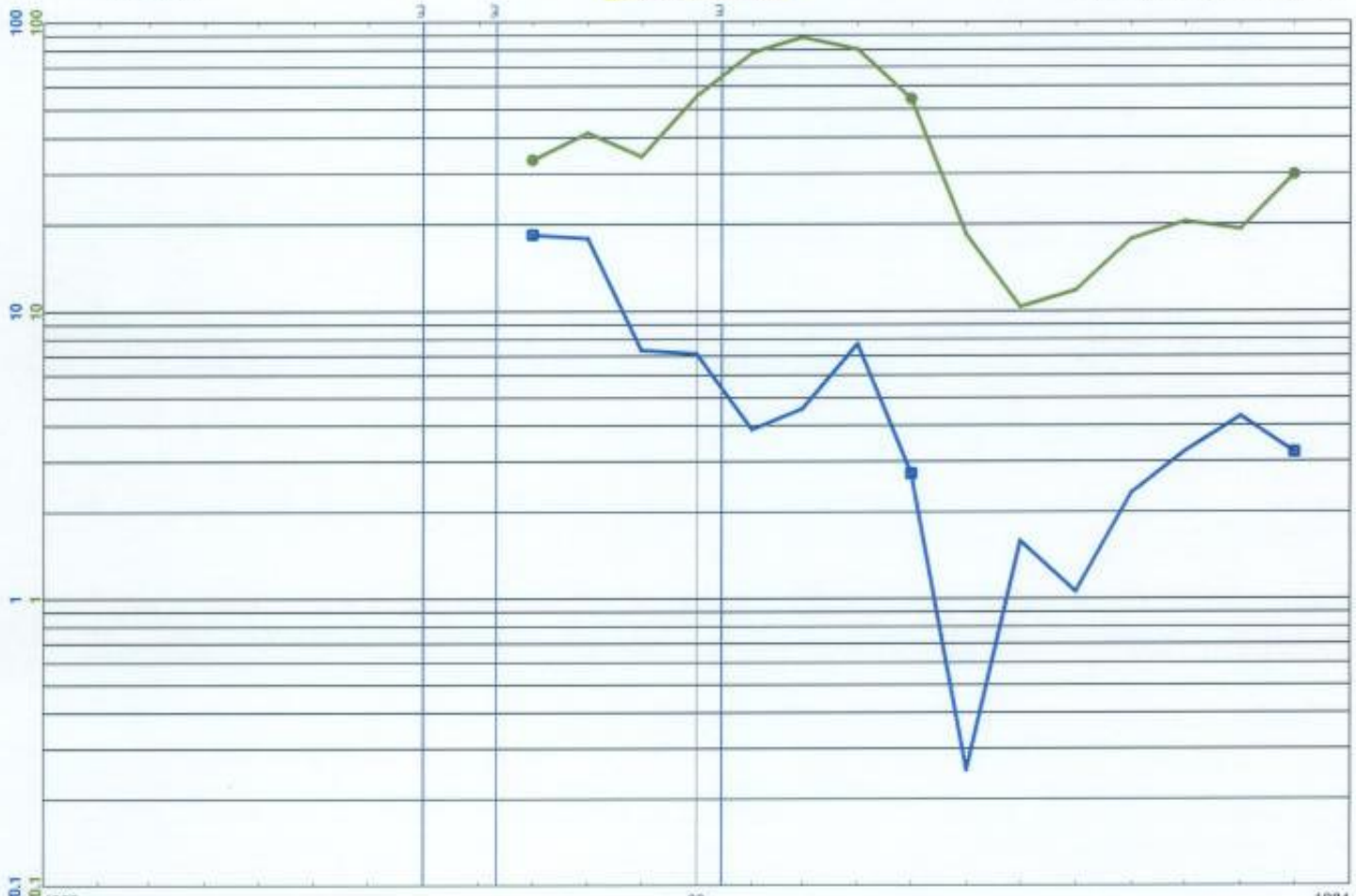
Wednesday, April 20, 2011, 02:40 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-10
To: 1983-12

INDIVIDUAL PRODUCTION
Waskada Unit No. 1 WIW
100/07-26-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	15,394.8	Bbl
Cum WTR	1,925.3	Bbl

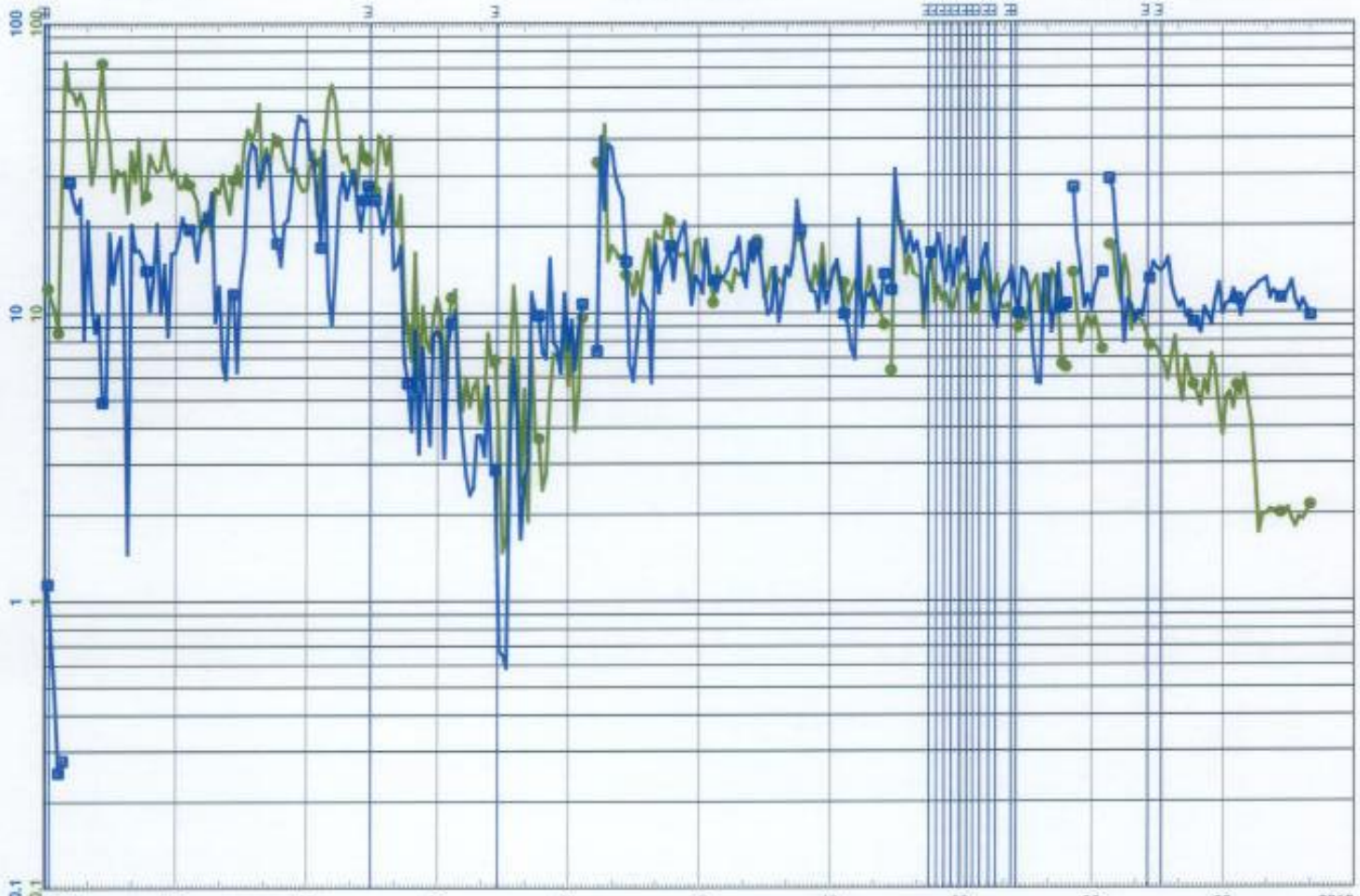
Wednesday, April 20, 2011, 02:39 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-02
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 COM
100/02-26-001-26W1/00

Status: Comingled
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	166,732.1	Bbl
Cum WTR	137,923.6	Bbl

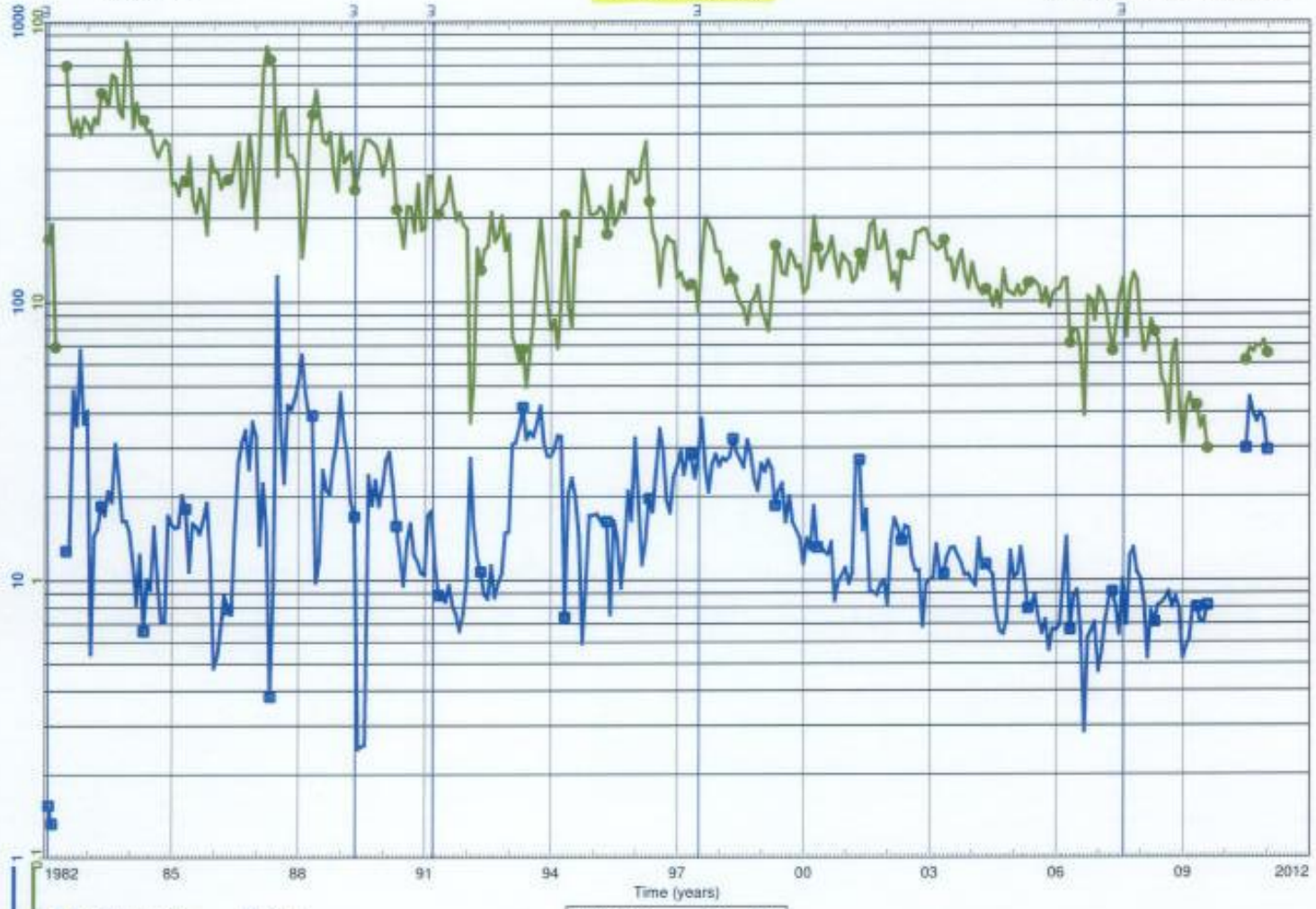
Wednesday, April 20, 2011, 02:39 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-02
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/01-26-001-26W1/02

Status: Comingled
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	200,516.0	Bbl
Cum WTR	170,364.8	Bbl

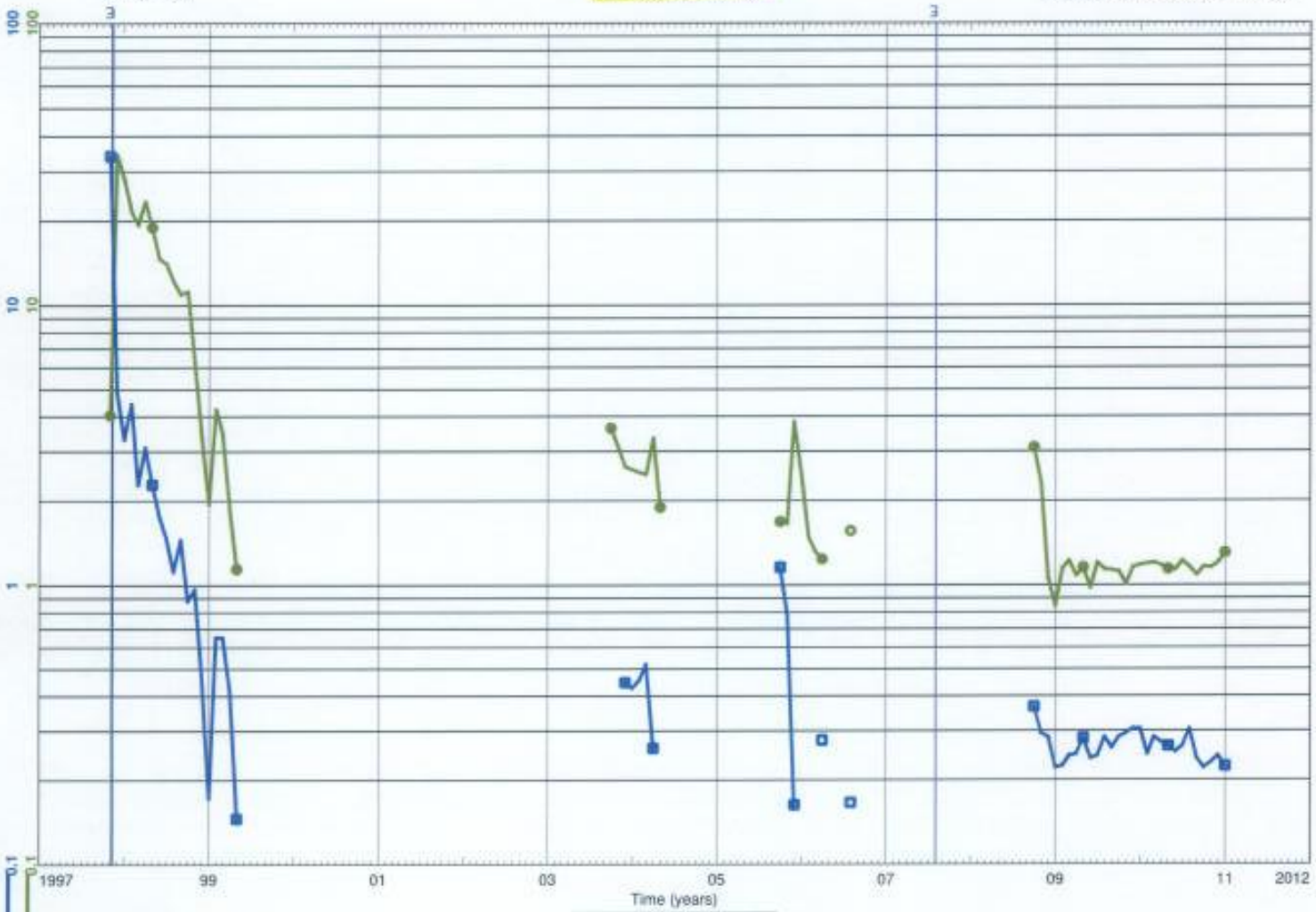
Wednesday, April 20, 2011, 02:39 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1997-11
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
1B0/16-25-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	7,857.2	Bbl
Cum WTR	1,282.5	Bbl

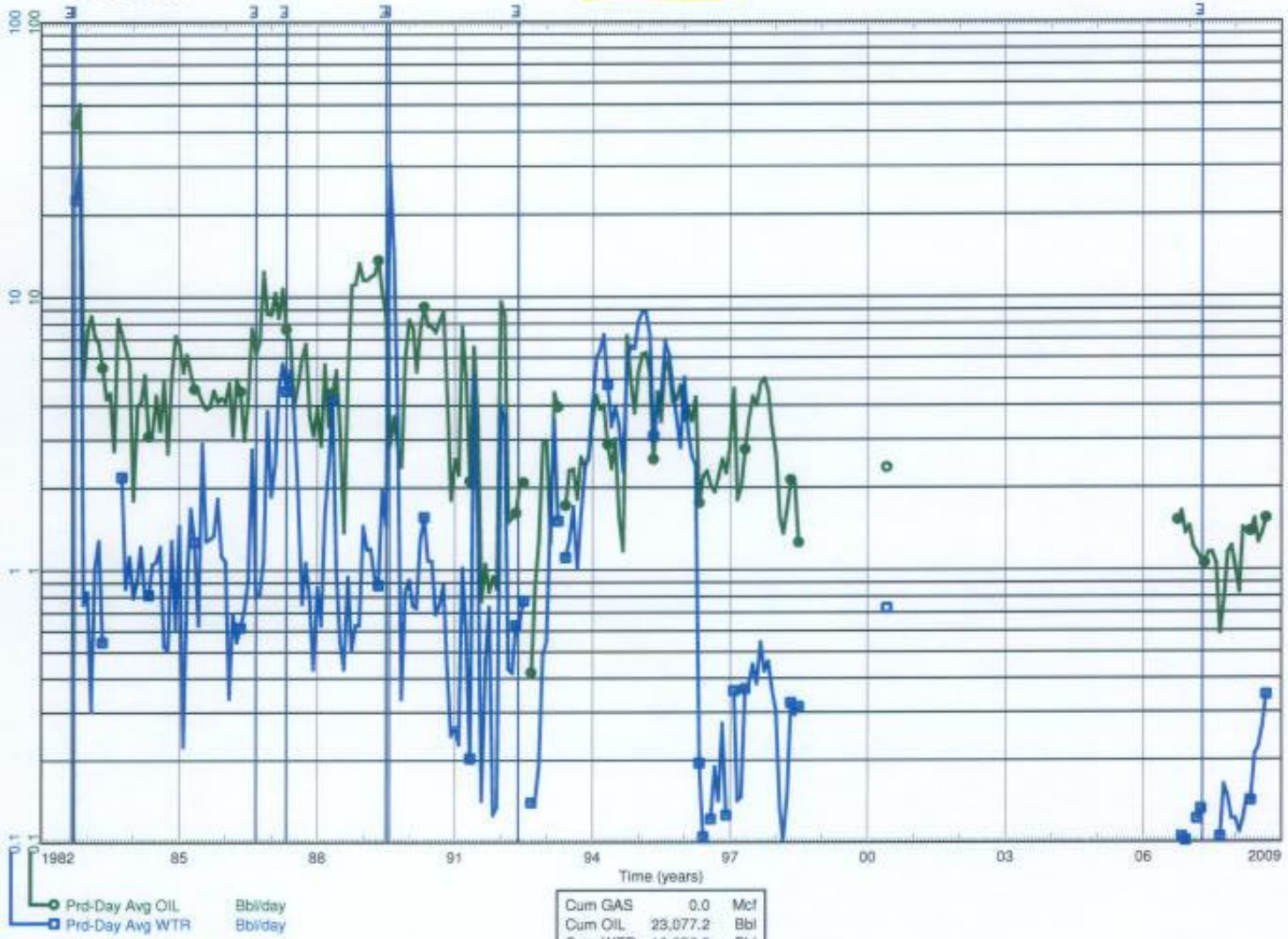
Wednesday, April 20, 2011, 02:38 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-10
To: 2008-09

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/16-25-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	23,077.2	Bbl
Cum WTR	10,252.8	Bbl

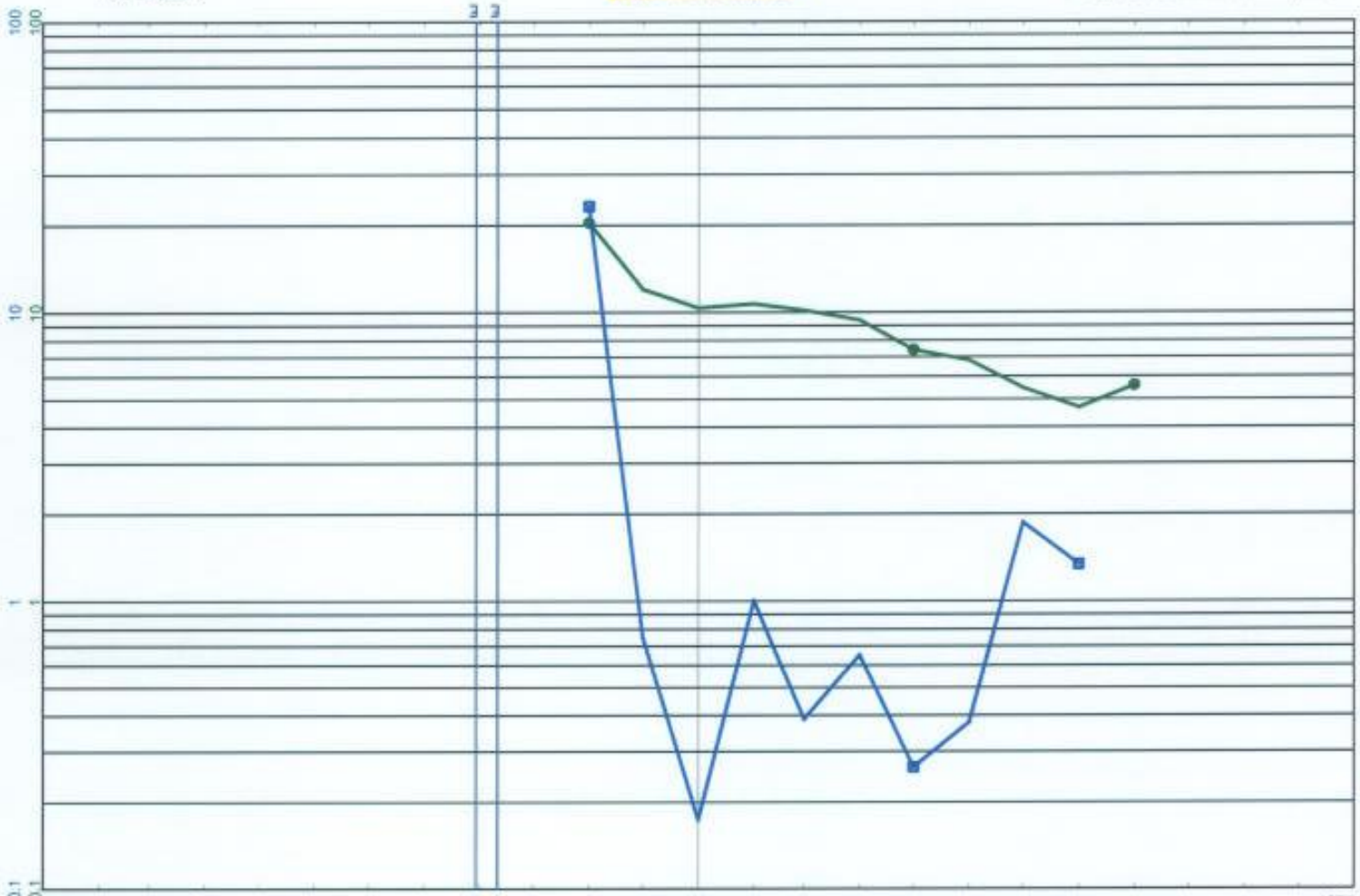
Friday, February 11, 2011, 03:36 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-11
To: 1983-09

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/15-25-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

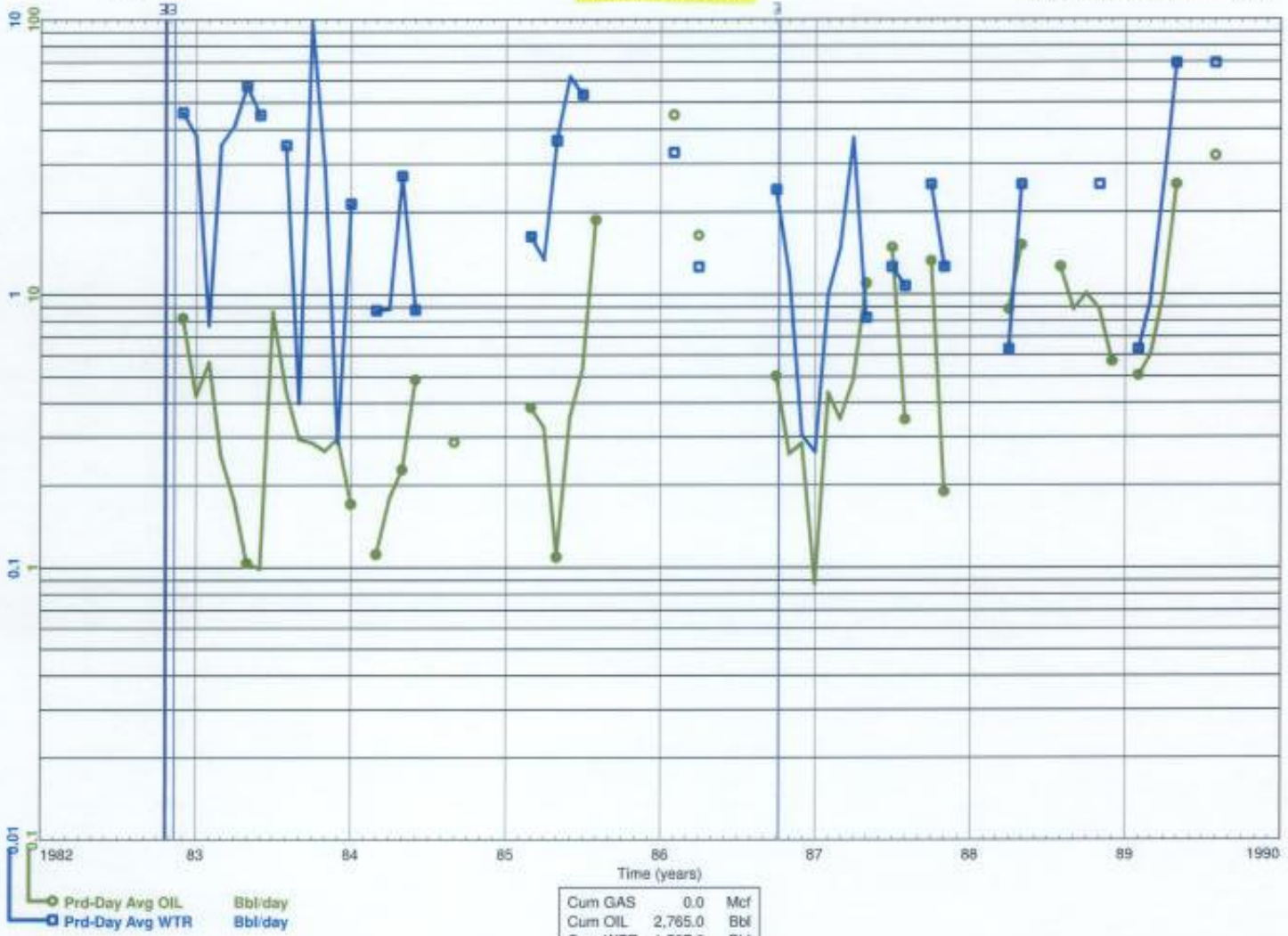
Cum GAS	0.0	Mcf
Cum OIL	2,940.0	Bbl
Cum WTR	656.7	Bbl

Friday, February 11, 2011, 03:36 PM

Data As Of: 2011-01 (MB)
From: 1982-12
To: 1989-08

INDIVIDUAL PRODUCTION
~~Omega Waskada~~
100/14-25-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	2,765.0	Bbl
Cum WTR	1,587.6	Bbl

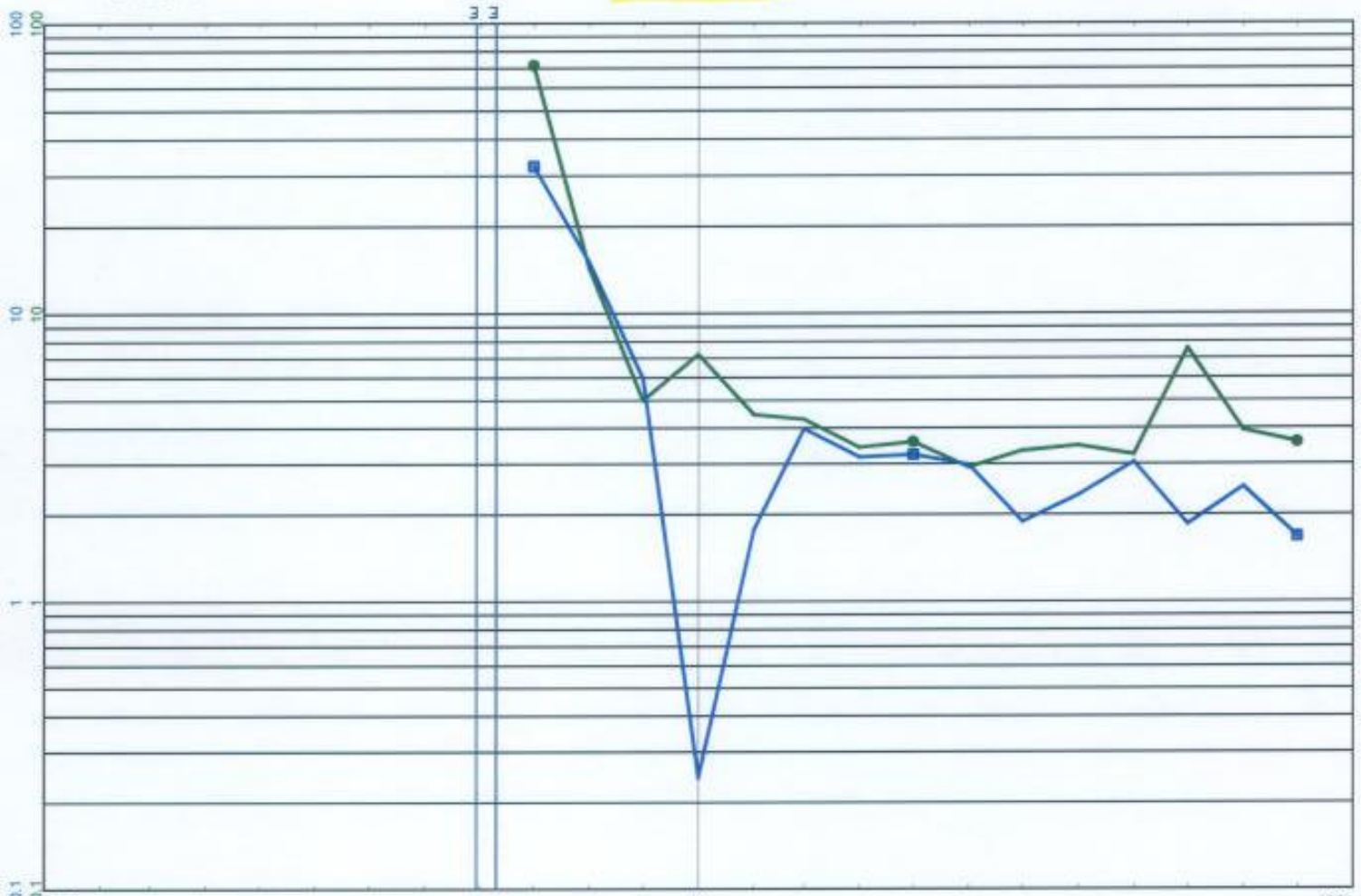
Wednesday, April 20, 2011, 02:34 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-10
To: 1983-12

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/13-25-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	2,162.2	Bbl
Cum WTR	1,520.9	Bbl

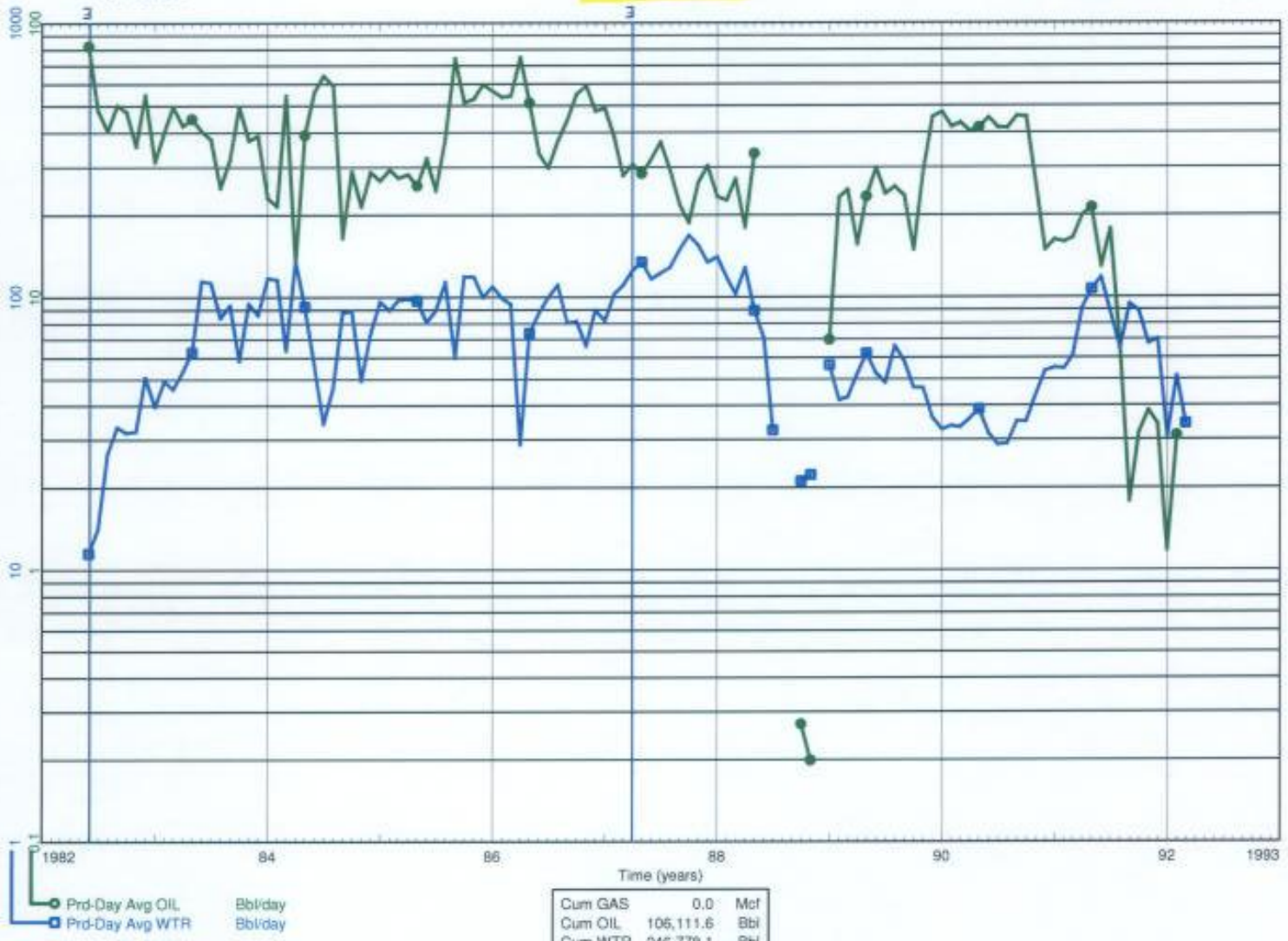
Friday, February 11, 2011, 03:35 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-06
To: 1992-03

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/12-25-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (28A)



Cum GAS	0.0	Mcf
Cum OIL	106,111.6	Bbl
Cum WTR	246,778.1	Bbl

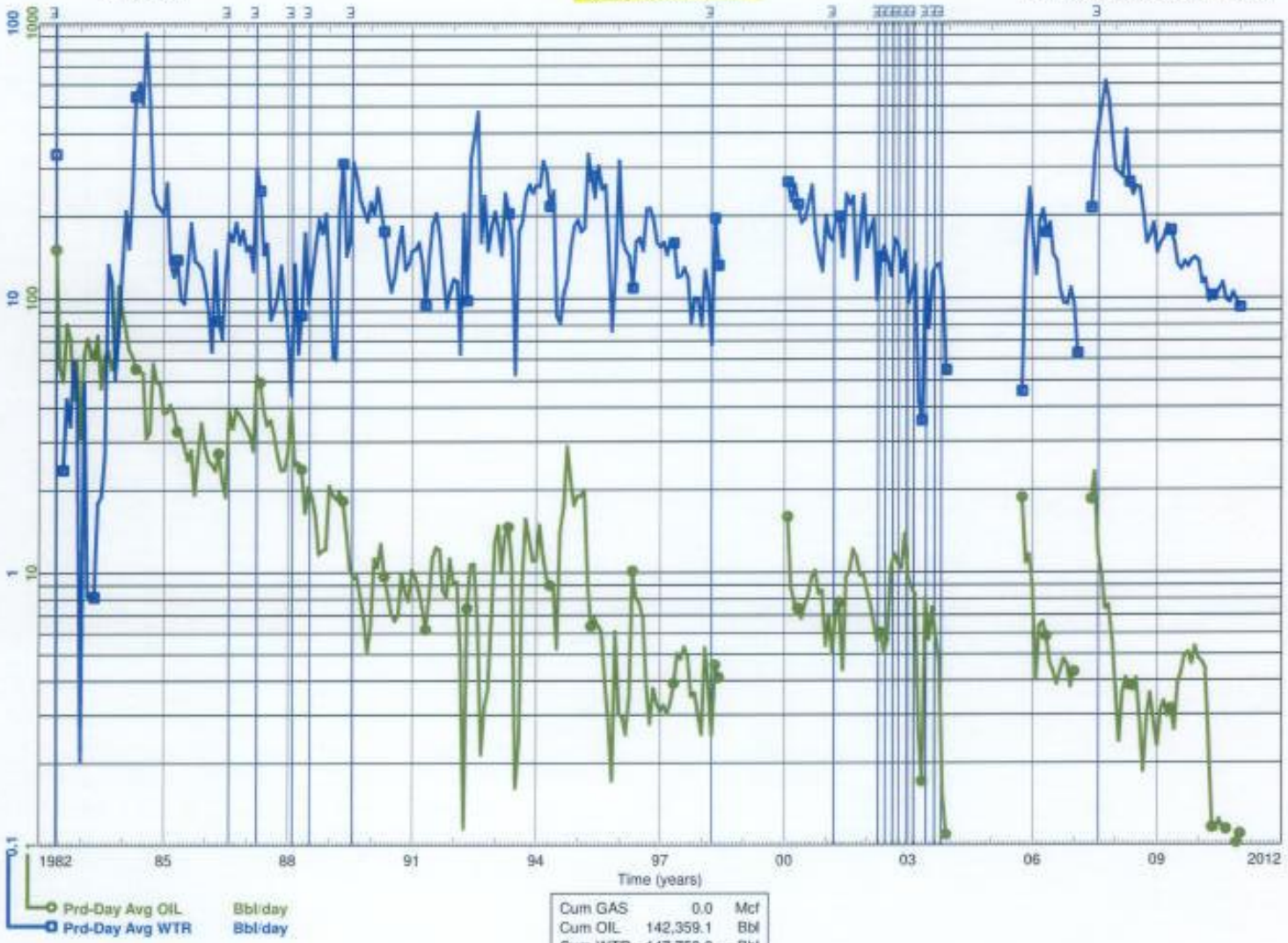
Friday, February 11, 2011, 03:35 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-06
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/11-25-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	142,359.1	Bbl
Cum WTR	147,758.8	Bbl

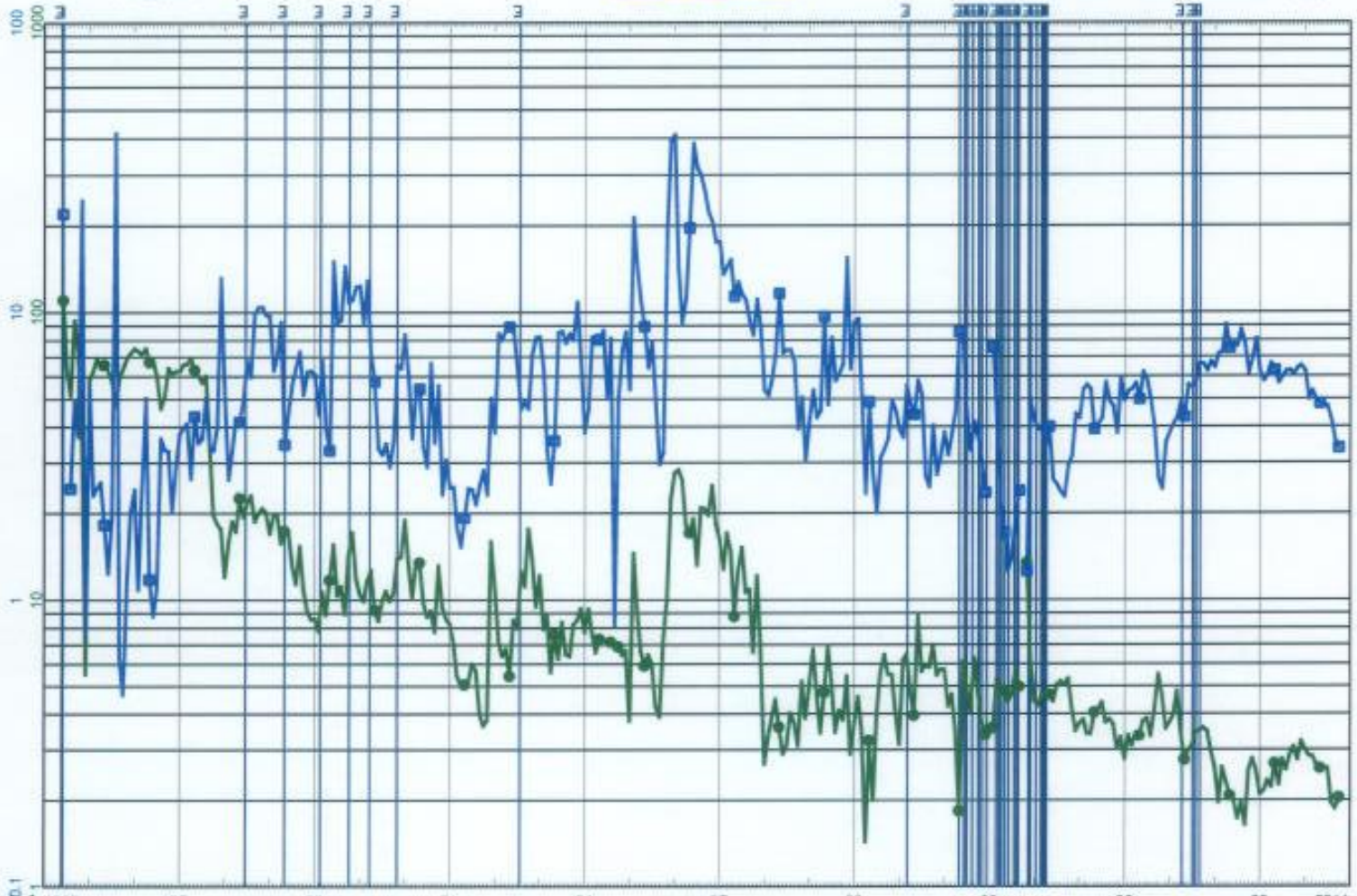
Wednesday, April 20, 2011, 02:31 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-06
To: 2010-10

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/10-25-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	138,675.3	Bbl
Cum WTR	62,266.3	Bbl

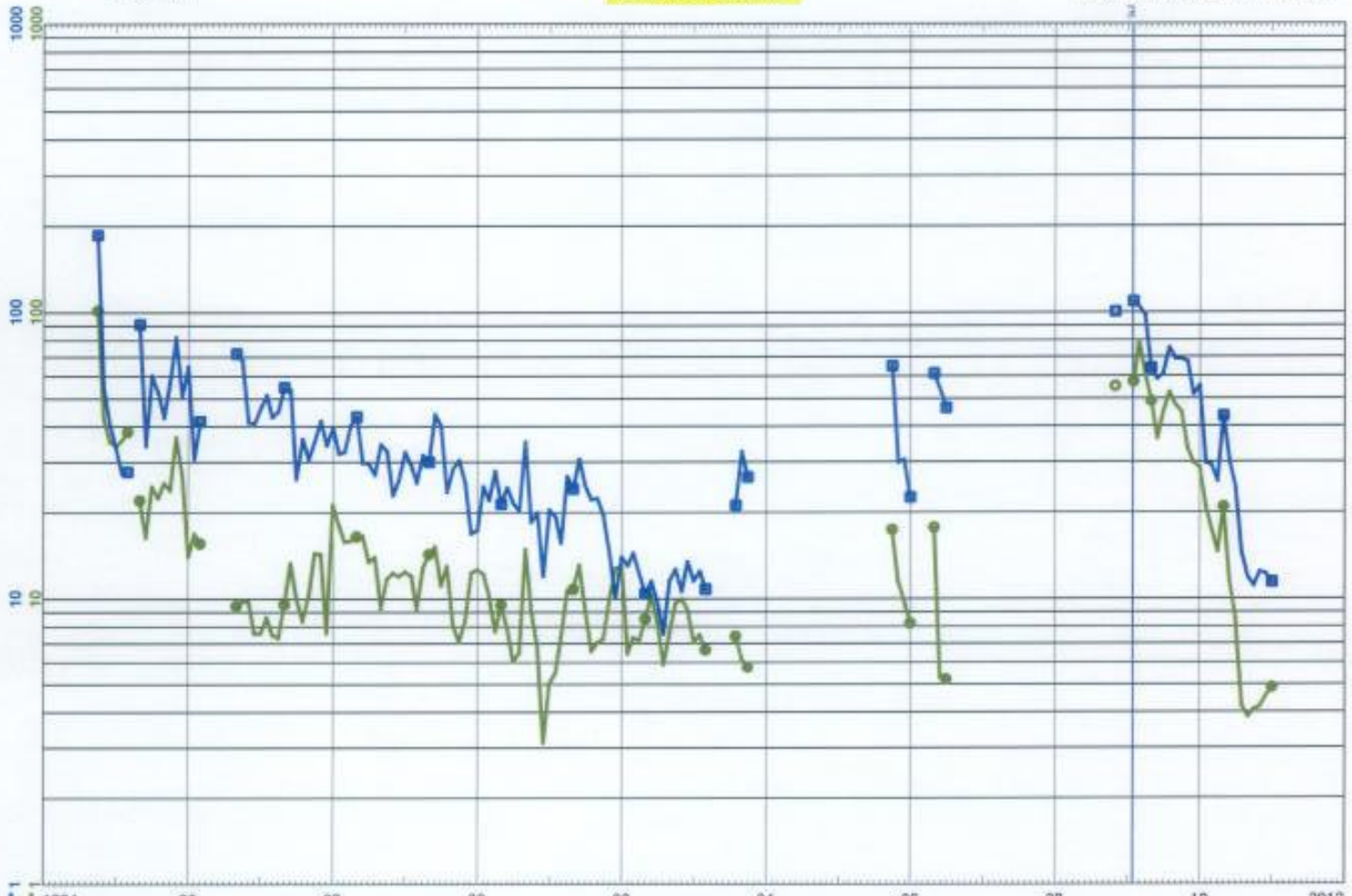
Friday, February 11, 2011, 03:35 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1994-10
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 HZNTL
102/09-25-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	55,670.5	Bbl
Cum WTR	121,745.4	Bbl

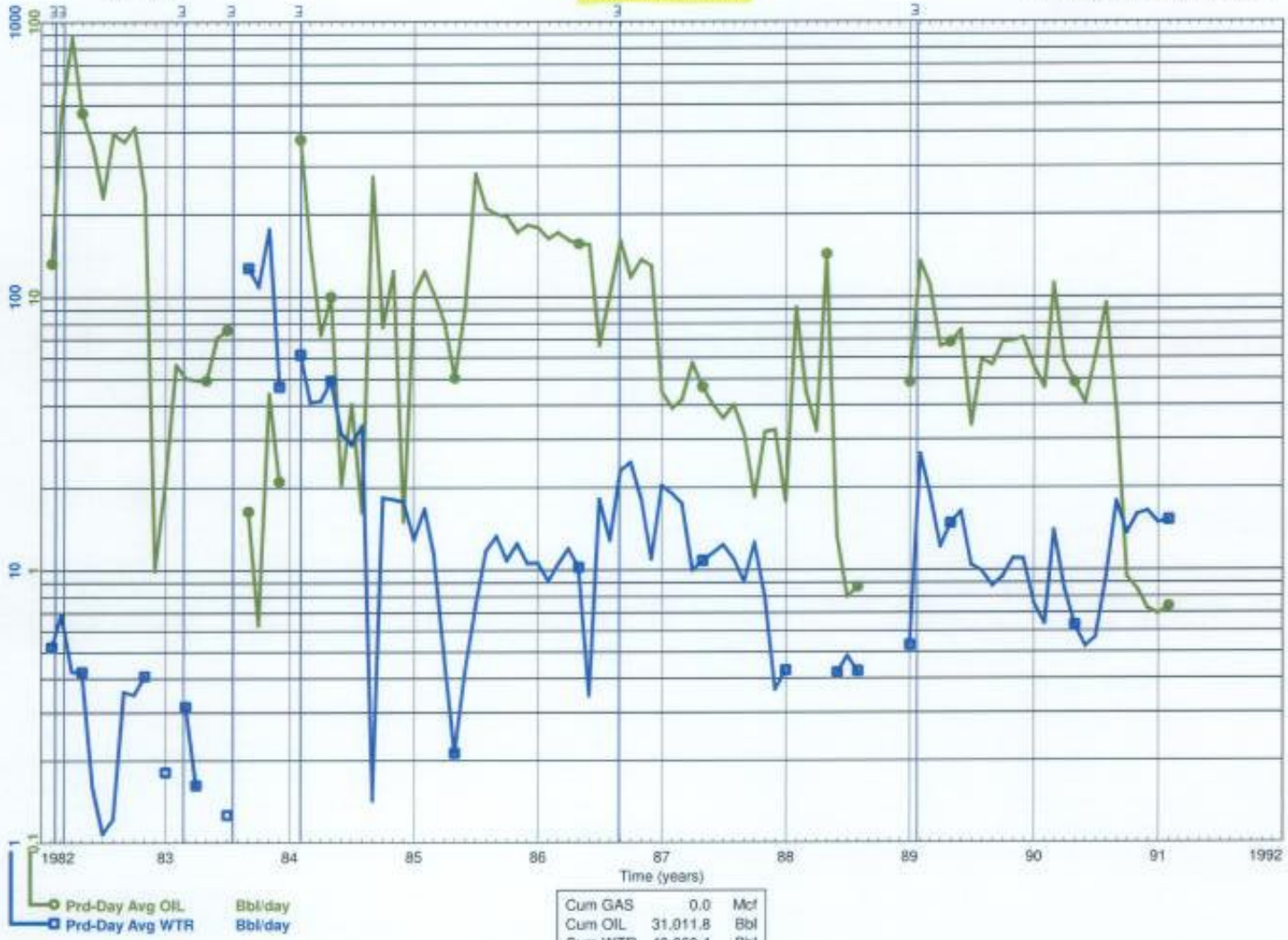
Wednesday, April 20, 2011, 02:27 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-02
To: 1991-02

INDIVIDUAL PRODUCTION
~~Waskada Unit No. 1~~
100/09-25-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	31,011.8	Bbl
Cum WTR	40,860.4	Bbl

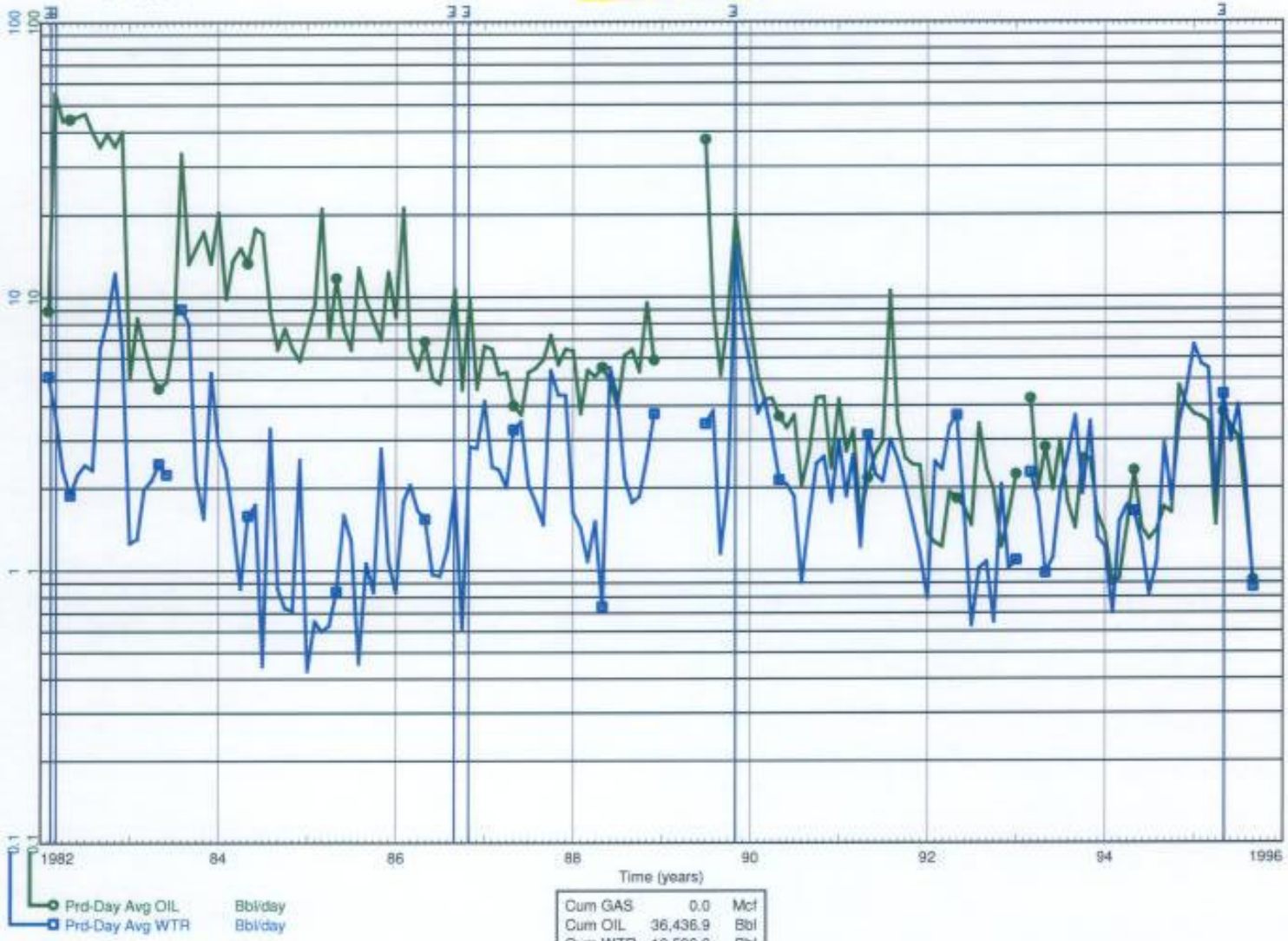
Wednesday, April 20, 2011, 02:25 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-02
To: 1995-09

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
102/08-25-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	36,436.9	Bbl
Cum WTR	10,596.9	Bbl

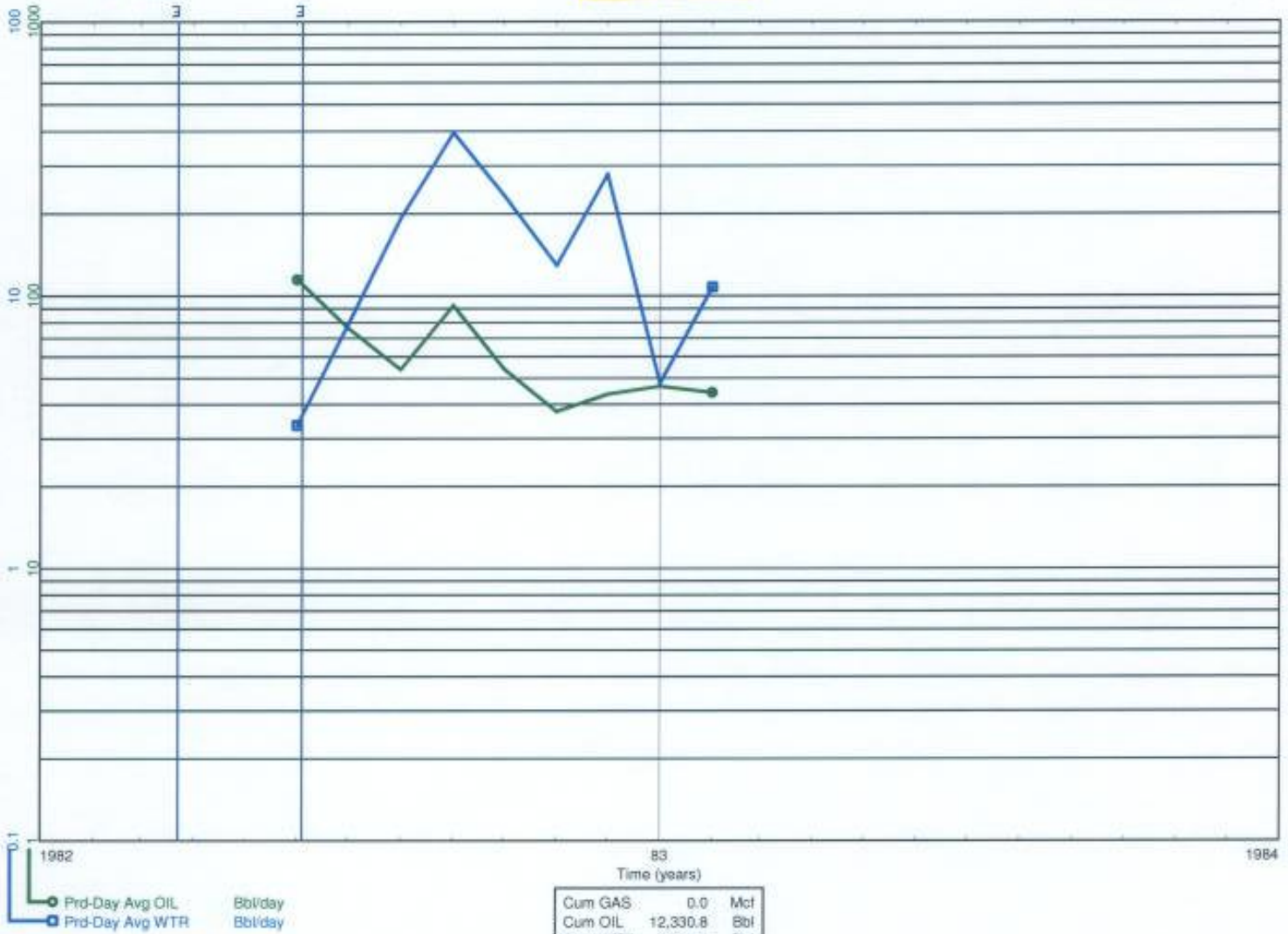
Friday, February 11, 2011, 03:34 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-06
To: 1983-02

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/07-25-001-26W1/00

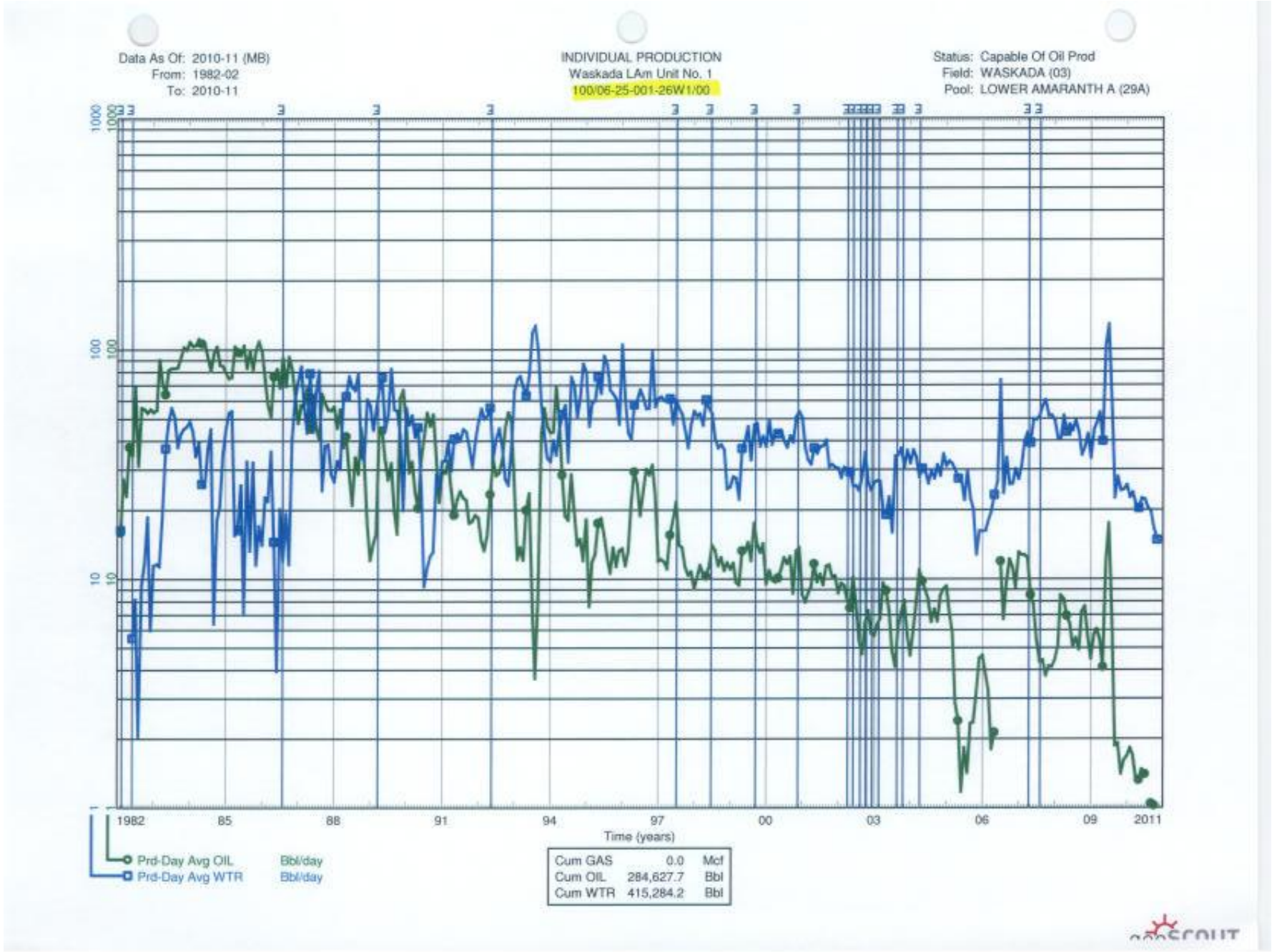
Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	12,330.8	Bbl
Cum WTR	3,825.6	Bbl

Friday, February 11, 2011, 03:34 PM

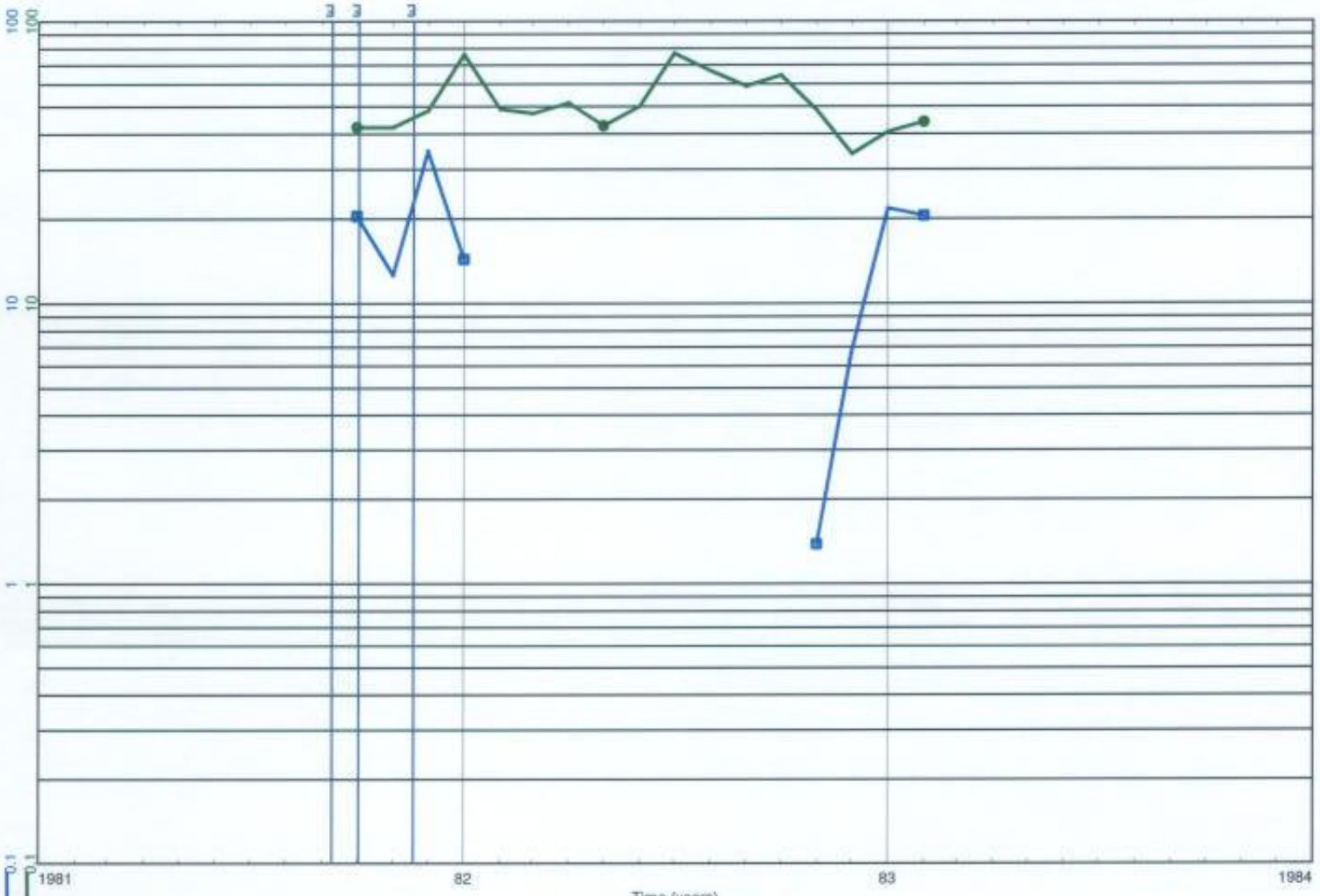
geoSCOUT


Data As Of: 2010-11 (MB)
From: 1982-02
To: 2010-11
INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/06-25-001-26W1/00
Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
1000
100
10
1
1982
85
88
91
94
97
00
03
06
09
2011
Time (years)
Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day
Cum GAS 0.0 Mcf
Cum OIL 284,627.7 Bbl
Cum WTR 415,284.2 Bbl

Data As Of: 2010-11 (MB)
From: 1981-10
To: 1983-02

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/05-25-001-26W1/02

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



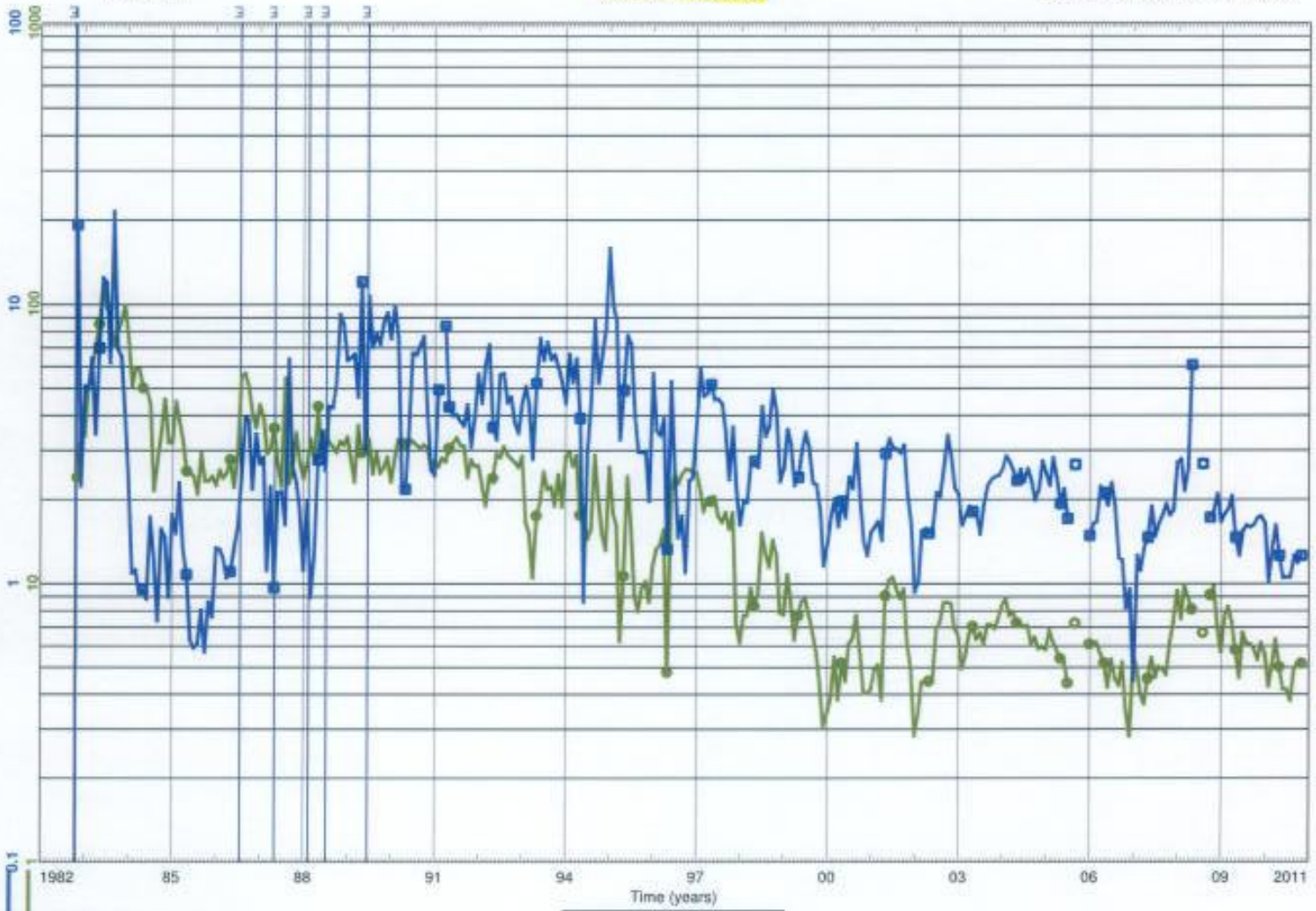
Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	23,539.7	Bbl
Cum WTR	3,254.4	Bbl

Data As Of: 2011-01 (MB)
From: 1982-11
To: 2010-11

INDIVIDUAL PRODUCTION
~~Waskada Unit No. 12 COM~~
100/04-25-001-26W1/02

Status: Comingled
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	191,361.7	Bbl
Cum WTR	32,054.9	Bbl

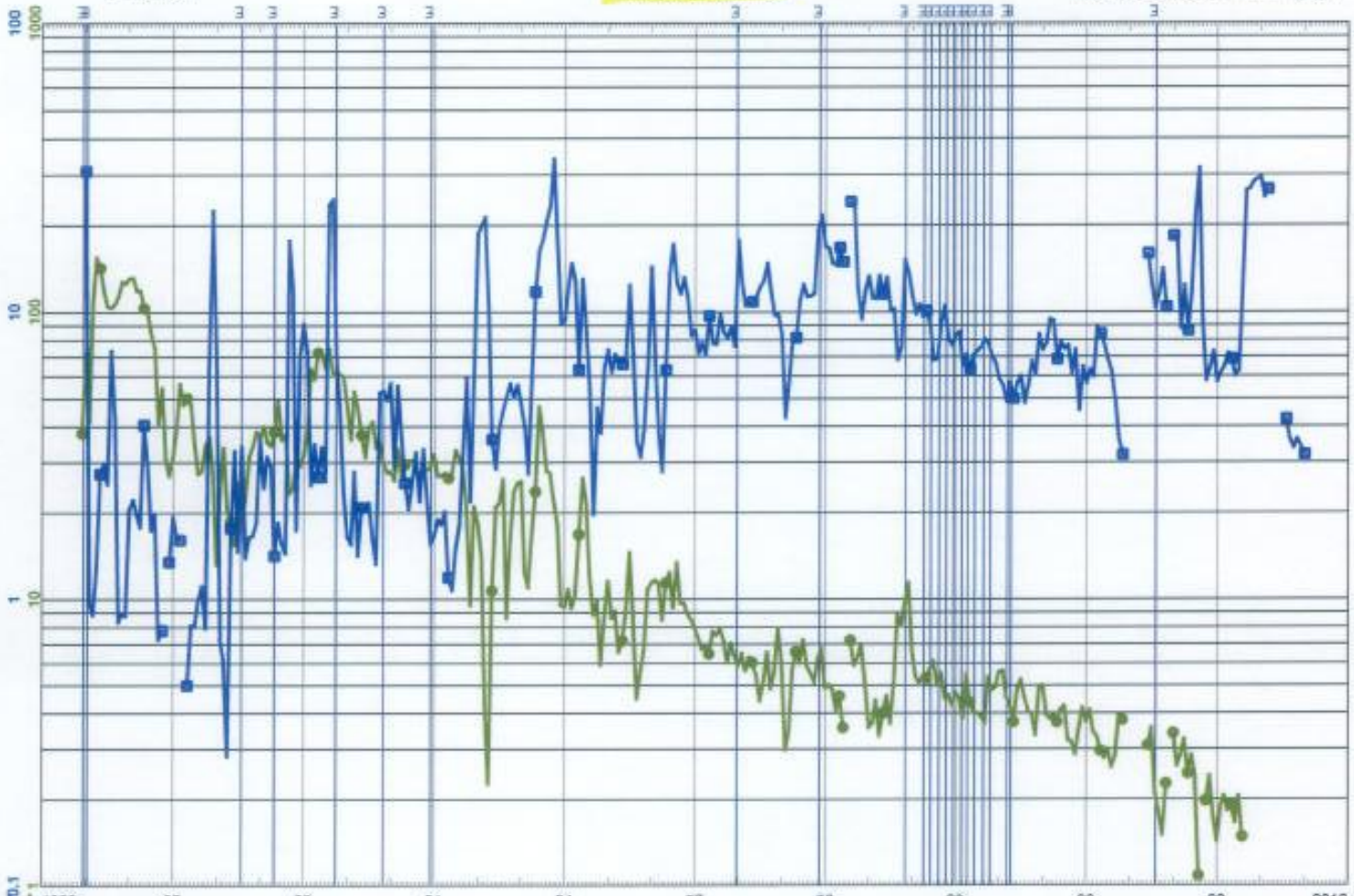
Wednesday, April 20, 2011, 02:21 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-12
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/03-25-001-26W1/02

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	190,356.1	Bbl
Cum WTR	71,342.3	Bbl

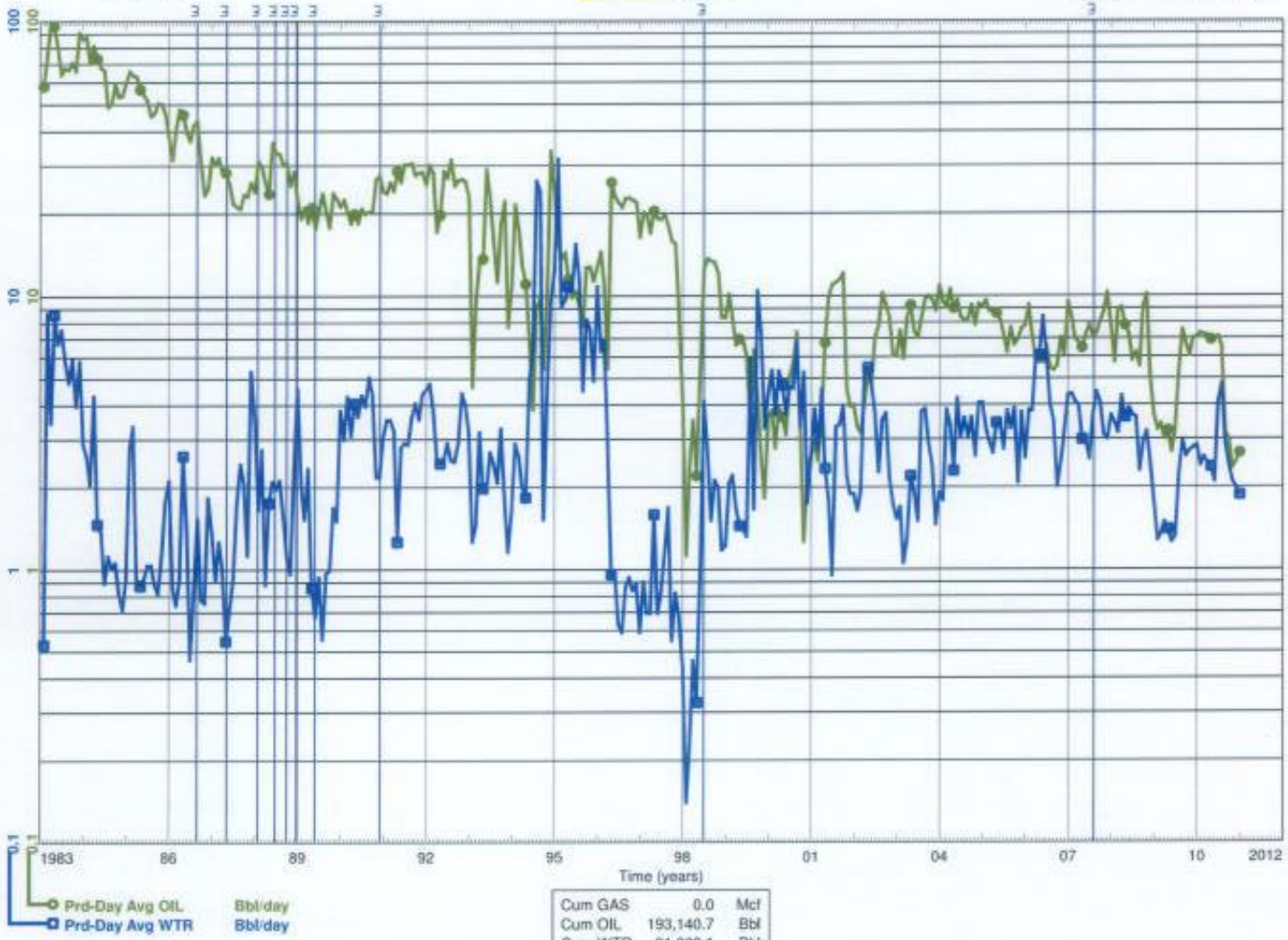
Wednesday, April 20, 2011, 02:19 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1983-02
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/02-25-001-26W1/02

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	193,140.7	Bbl
Cum WTR	31,802.1	Bbl

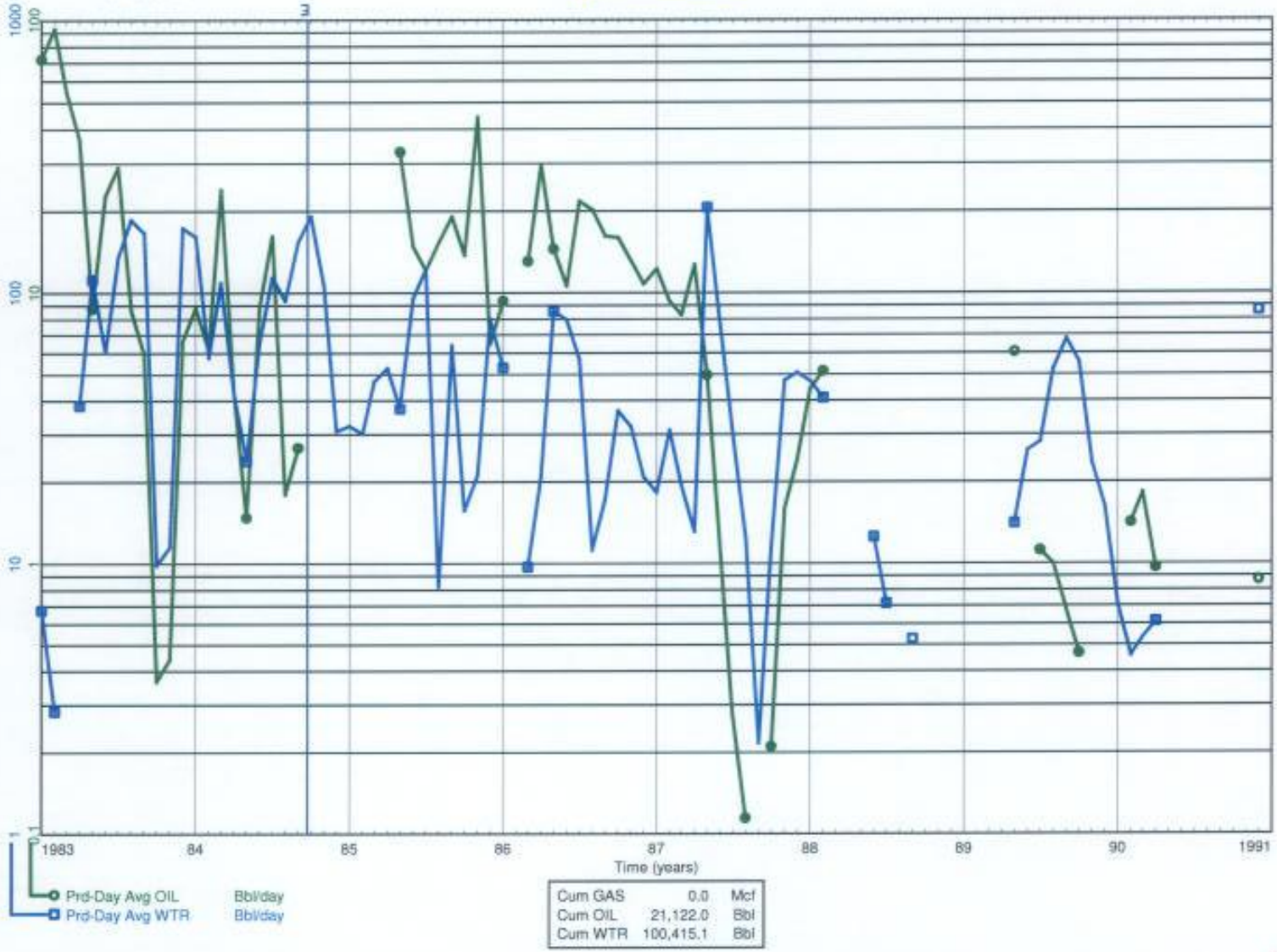
Wednesday, April 20, 2011, 02:16 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1983-01
To: 1990-12

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
102/01-25-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	21,122.0	Bbl
Cum WTR	100,415.1	Bbl

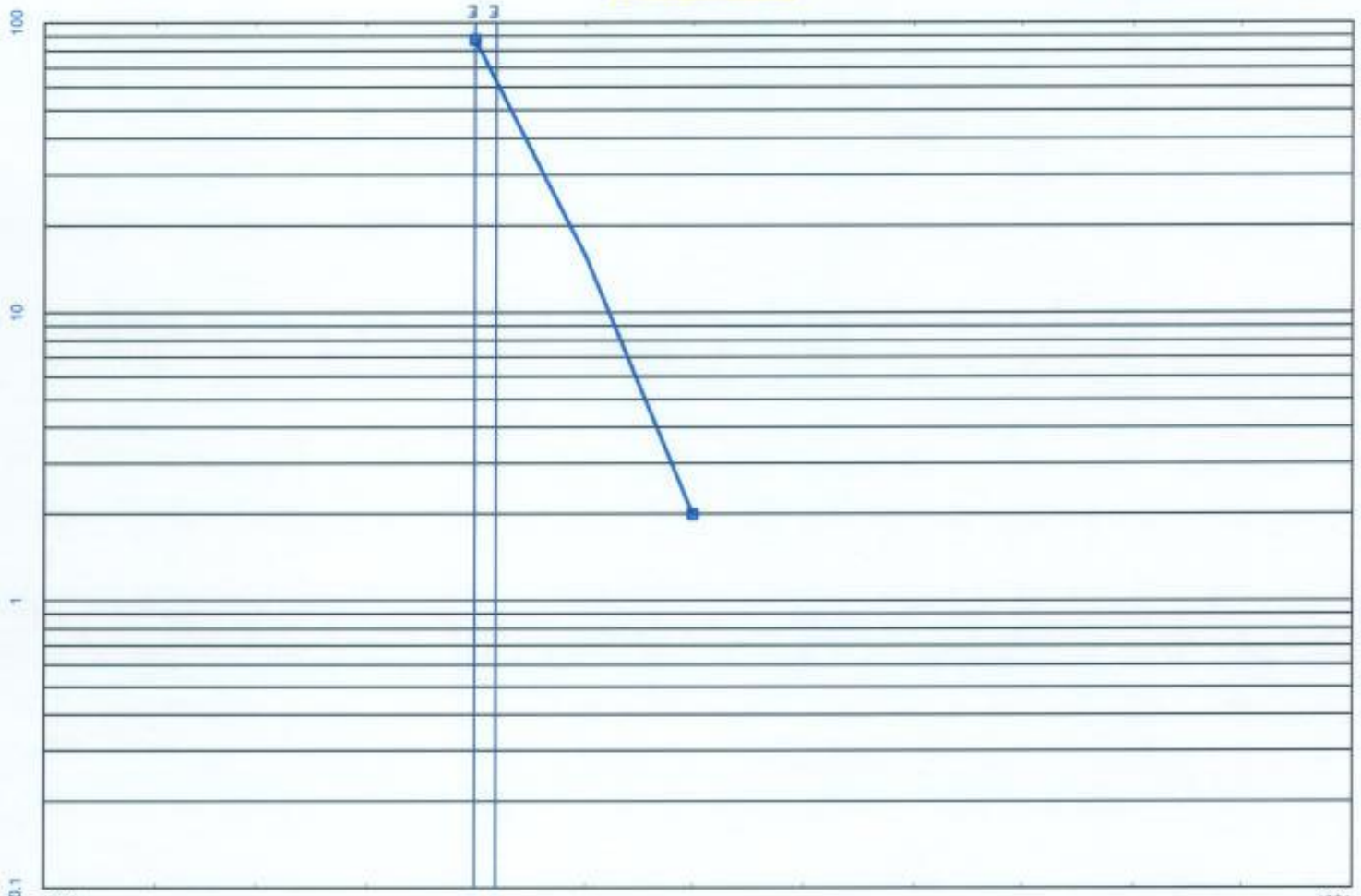
Friday, February 11, 2011, 03:32 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1990-05
To: 1990-11

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/01-25-001-26W1/02

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Prd-Day Avg OIL [No Data]
Prd-Day Avg WTR Bbl/day

Cum GAS	0.0	Mcf
Cum OIL	1.2	Bbl
Cum WTR	2,482.7	Bbl

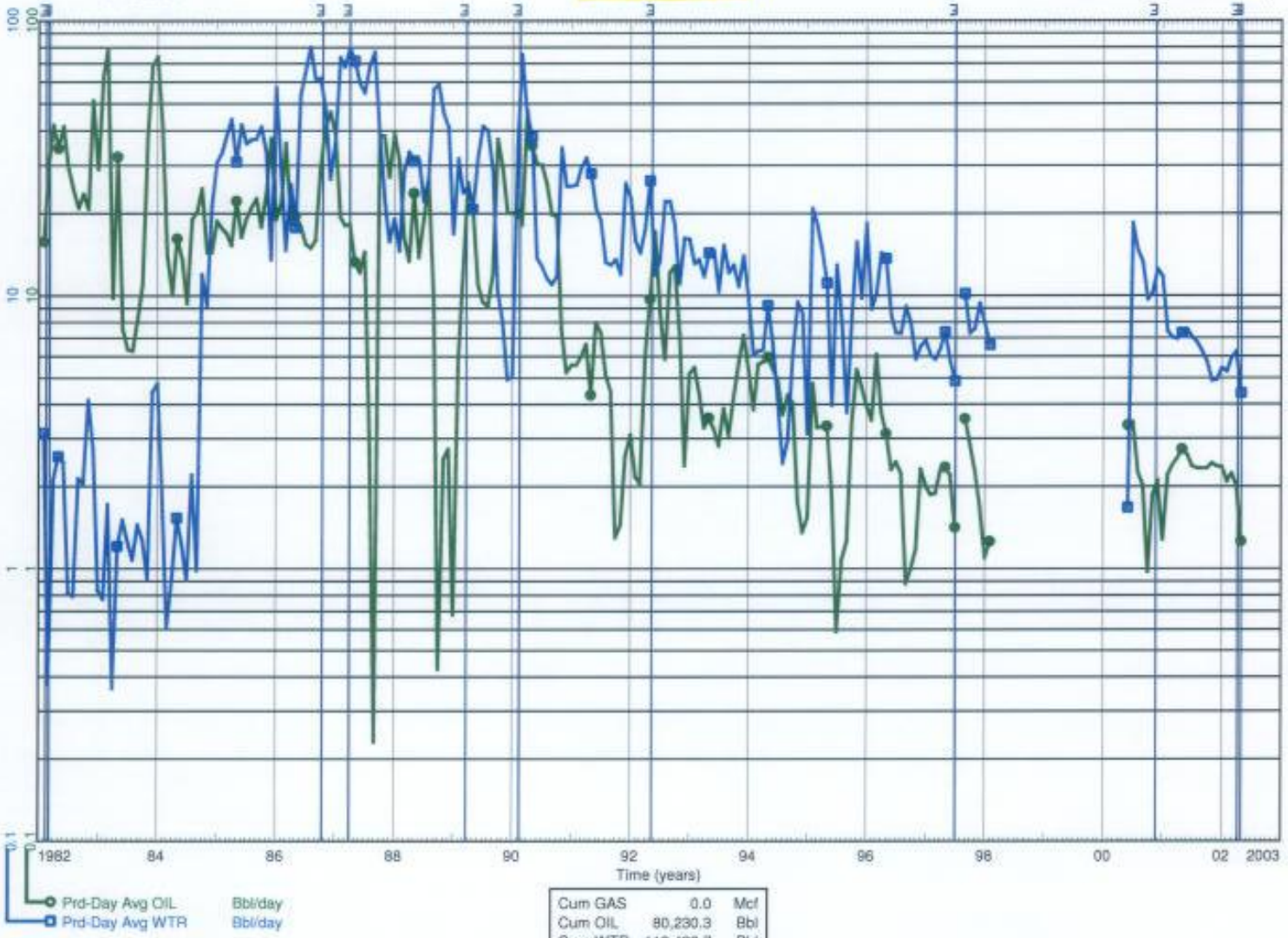
Friday, February 11, 2011, 03:32 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-02
To: 2002-05

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
102/16-24-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	80,230.3	Bbl
Cum WTR	113,433.7	Bbl

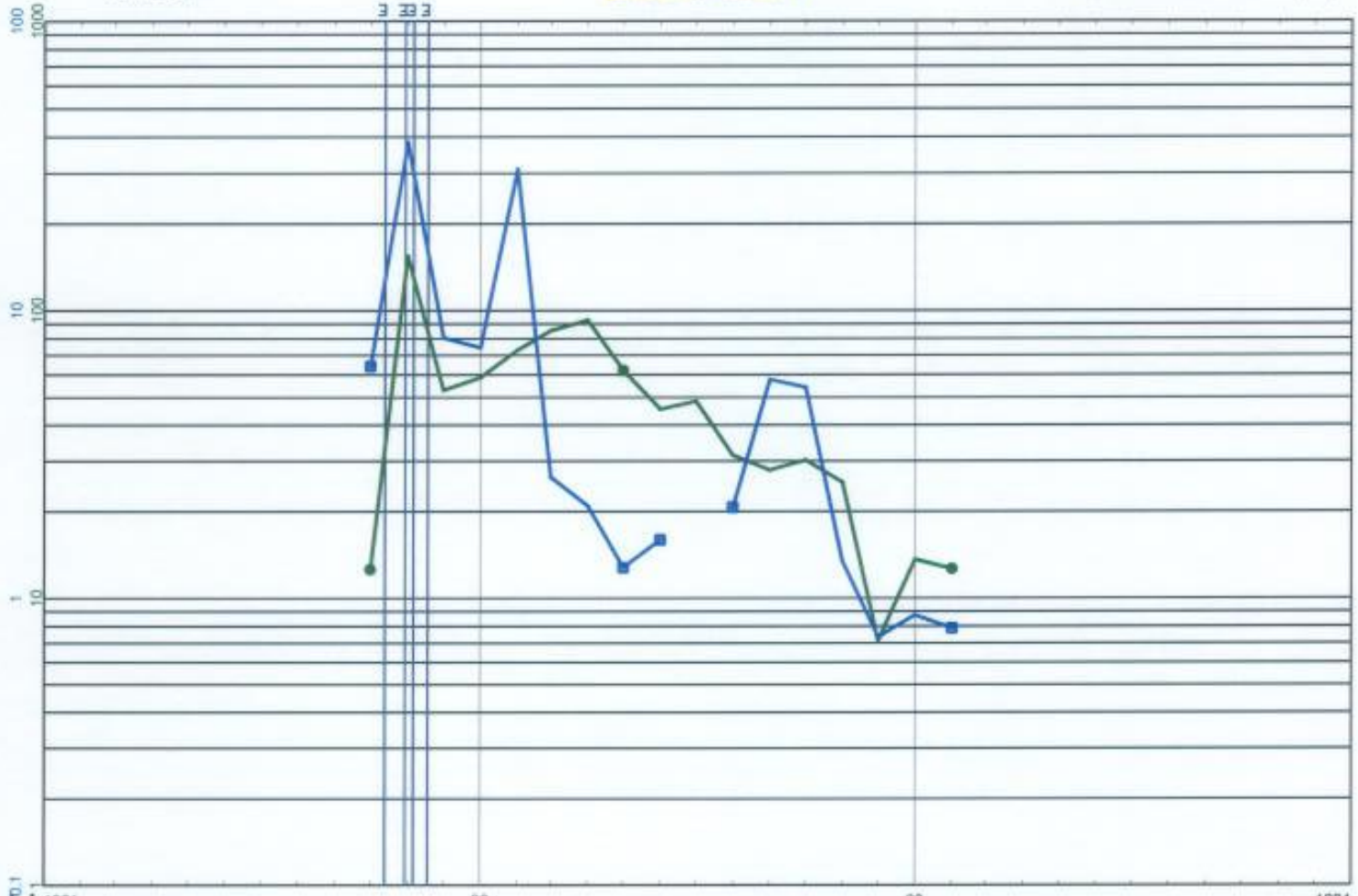
Friday, February 11, 2011, 03:32 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1981-10
To: 1983-02

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/15-24-001-26W1/00

Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	21,412.1	Bbl
Cum WTR	2,712.2	Bbl

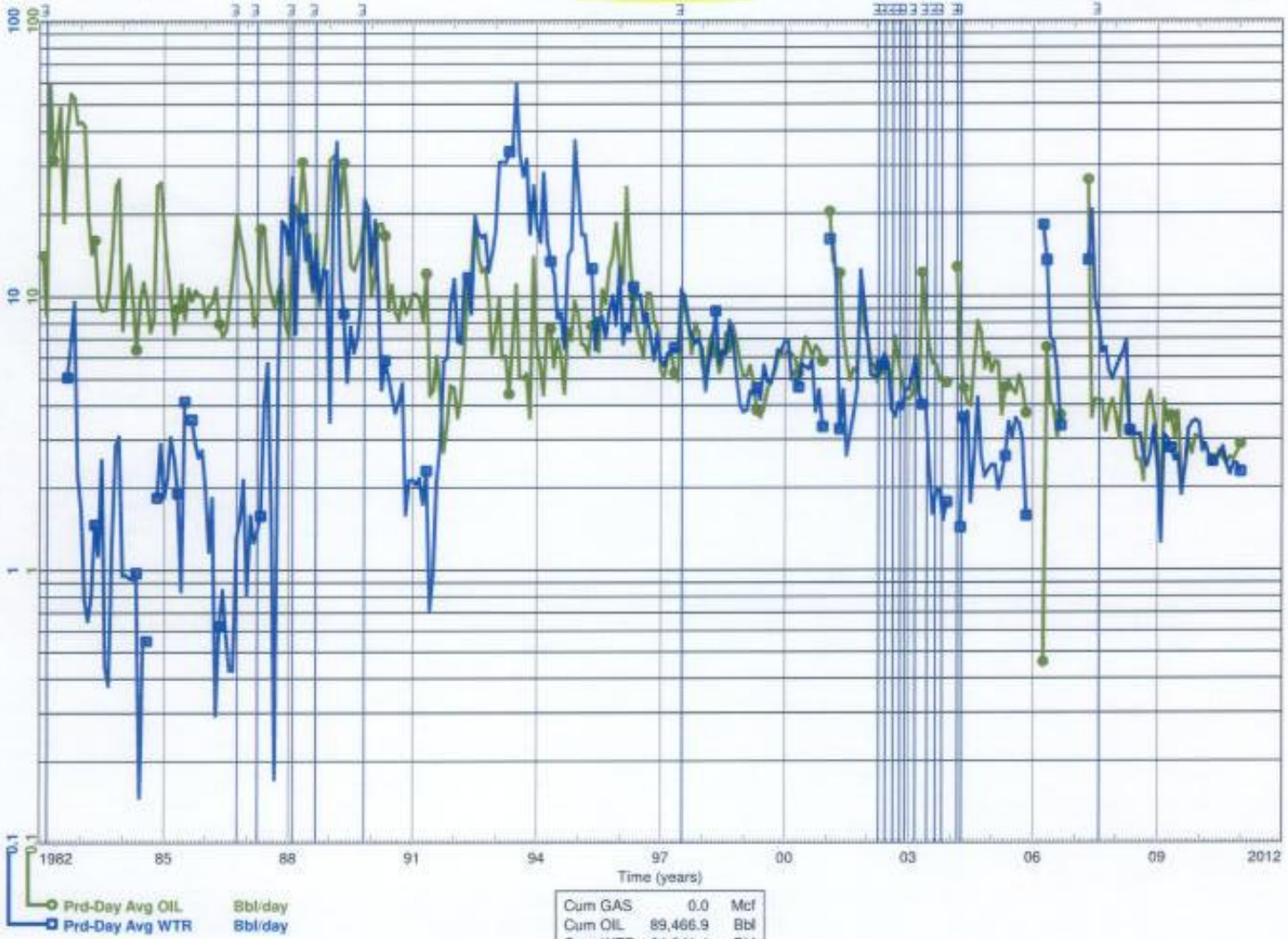
Friday, February 11, 2011, 03:32 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-02
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/14-24-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	89,466.9	Bbl
Cum WTR	64,341.4	Bbl

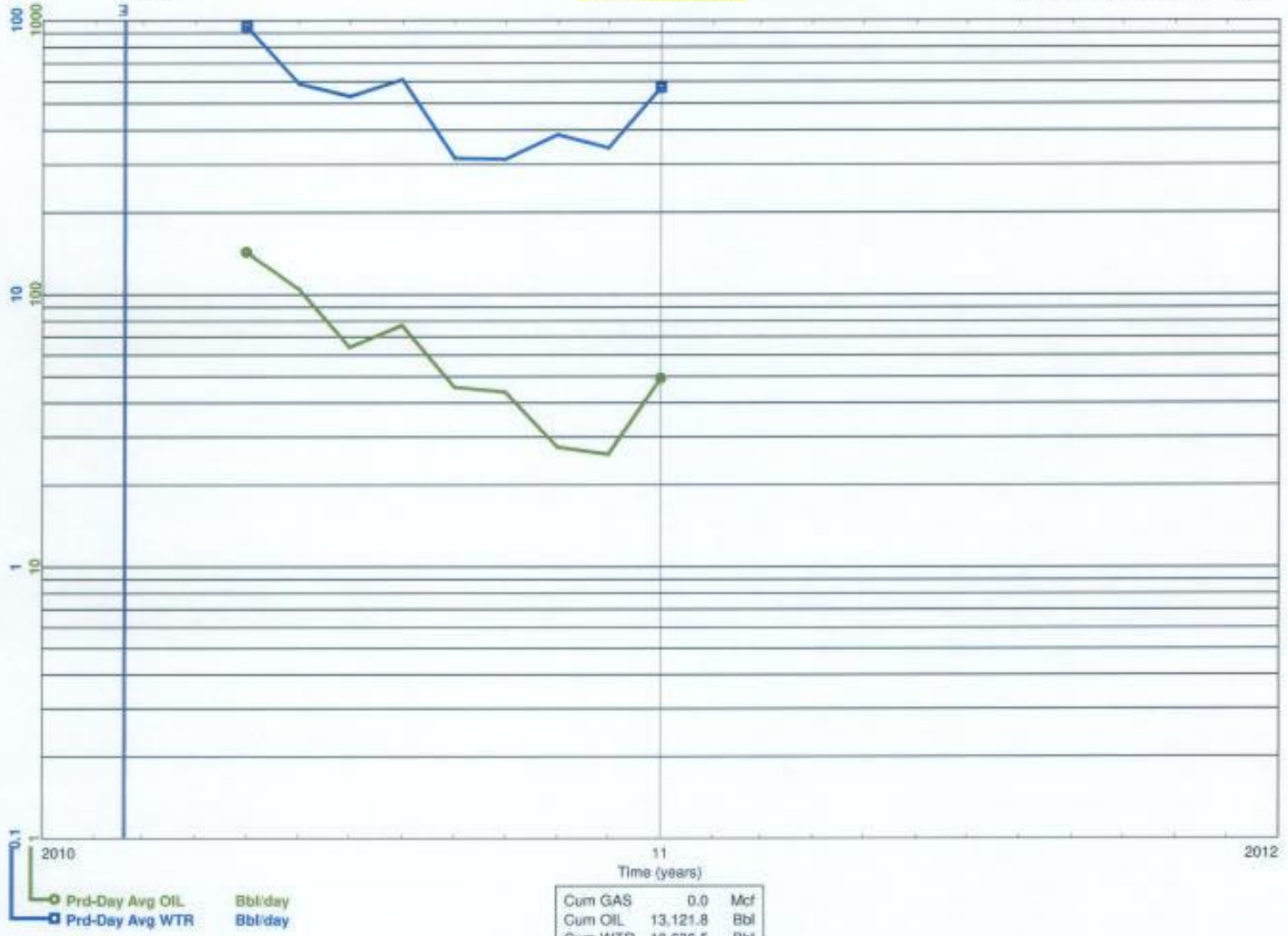
Wednesday, April 20, 2011, 02:11 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 2010-05
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 HZNTL
103/13-24-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	13,121.8	Bbl
Cum WTR	10,636.5	Bbl

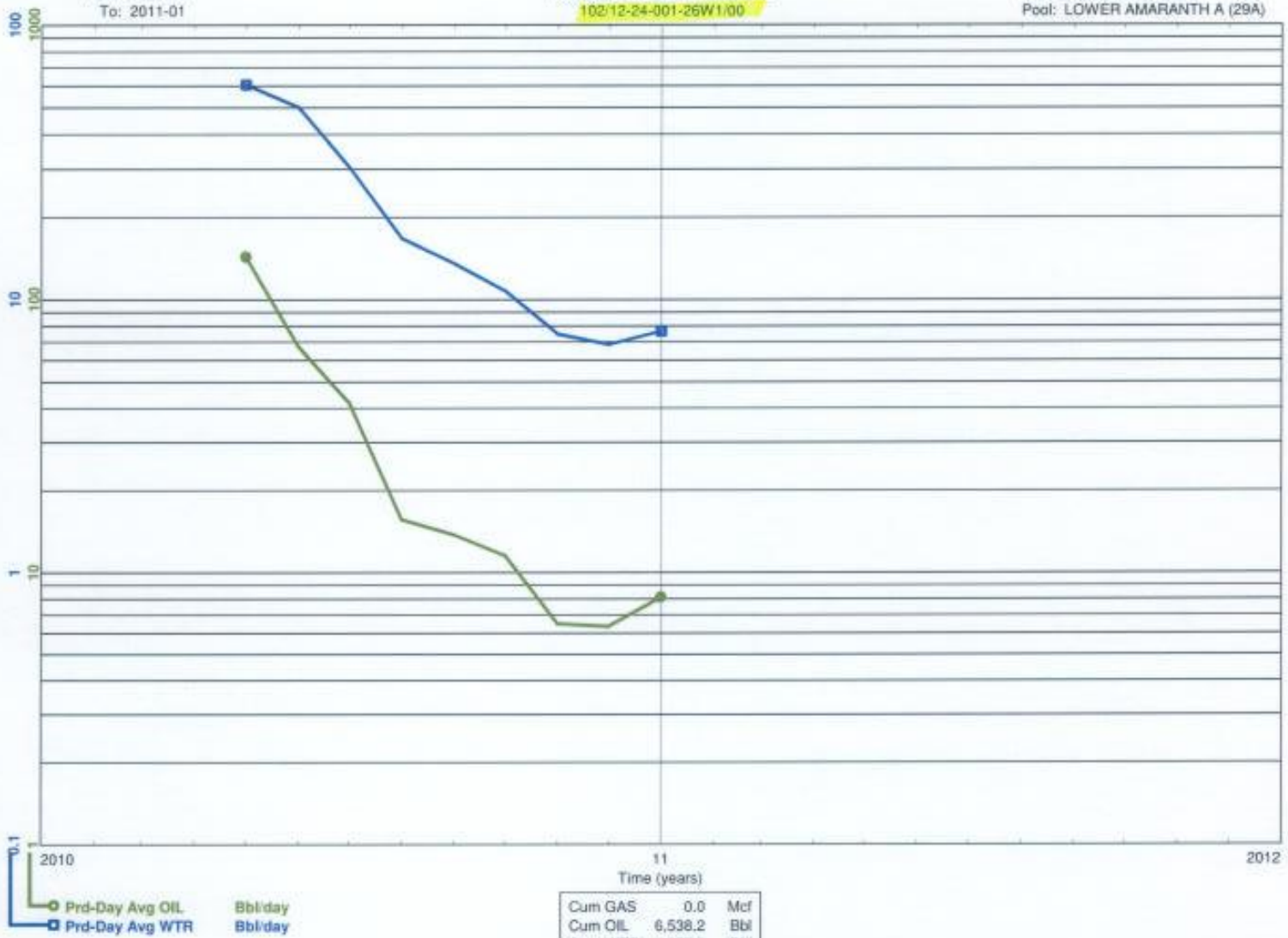
Wednesday, April 20, 2011, 02:09 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 2010-05
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 HZNTL
102/12-24-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	6,538.2	Bbl
Cum WTR	4,857.2	Bbl

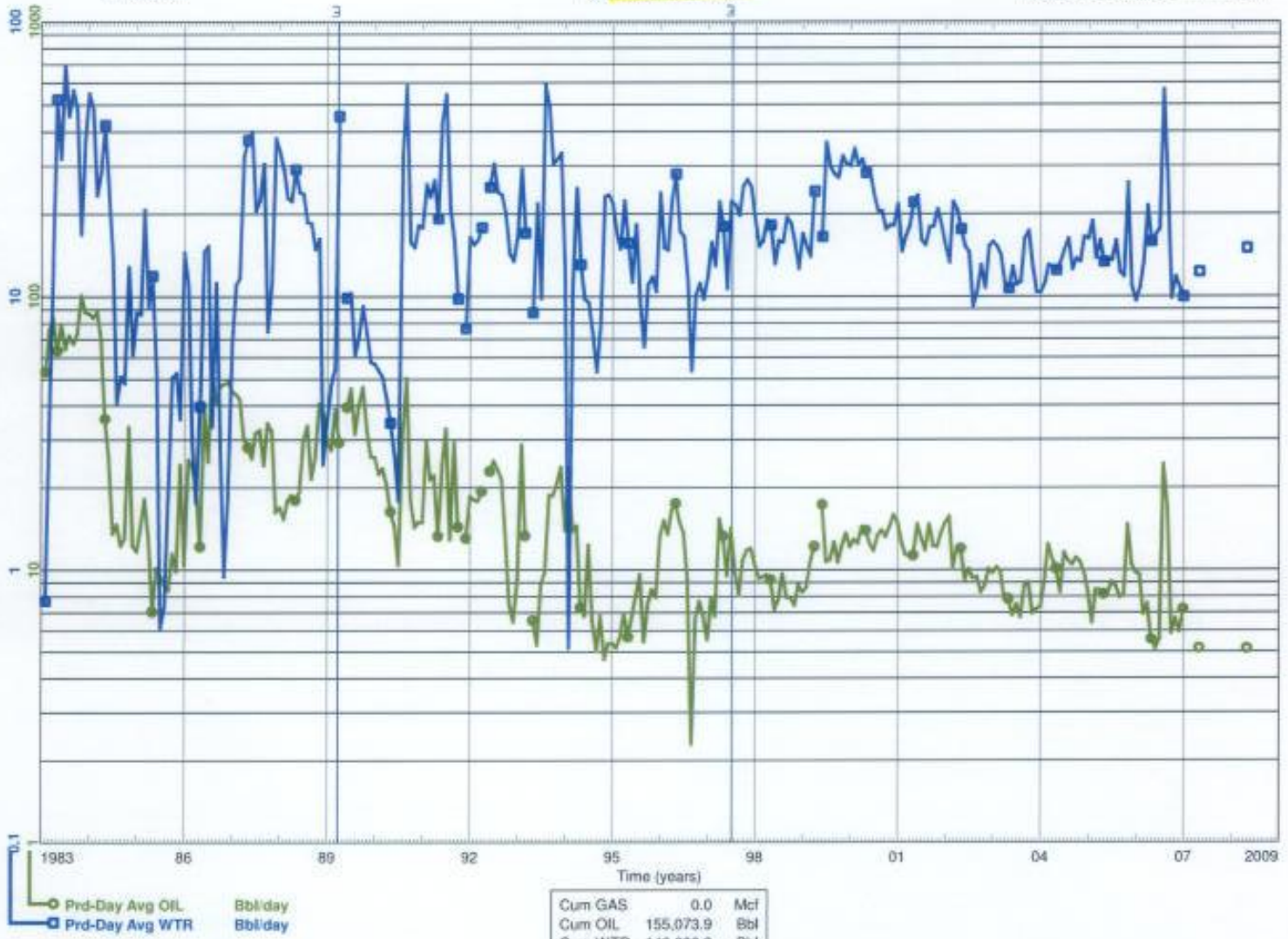
Wednesday, April 20, 2011, 02:07 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1983-02
To: 2008-05

INDIVIDUAL PRODUCTION
~~Waskada Unit No. 12 COM~~
100/12-24-001-26W1/02

Status: Comingled
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	155,073.9	Bbl
Cum WTR	146,008.9	Bbl

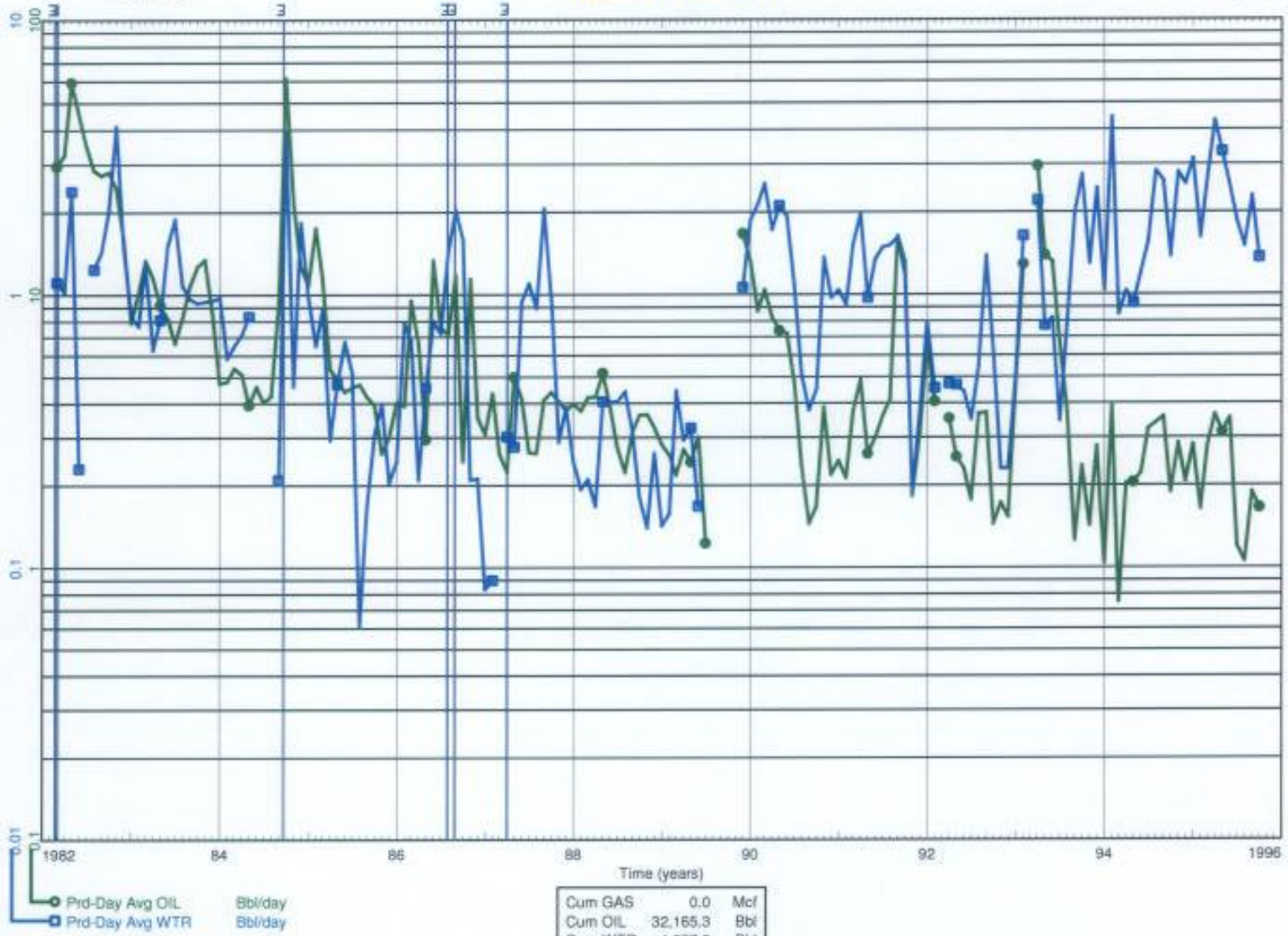
Wednesday, April 20, 2011, 01:54 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1982-03
To: 1995-10

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/11-24-001-26W1/00

Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	32,165.3	Bbl
Cum WTR	4,657.8	Bbl

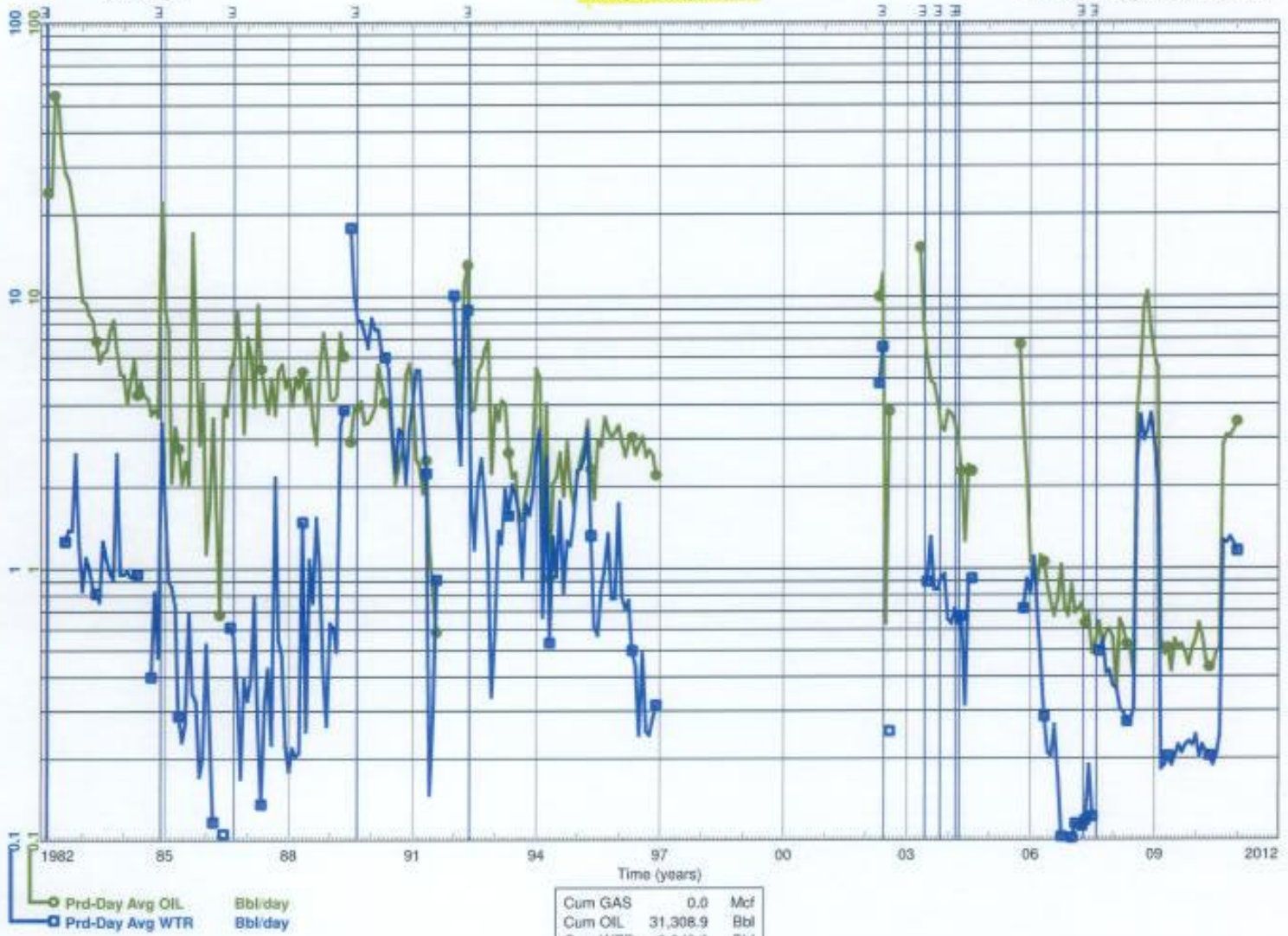
Friday, February 11, 2011, 03:30 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1982-03
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/10-24-001-26W1/00

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	31,308.9	Bbl
Cum WTR	9,949.6	Bbl

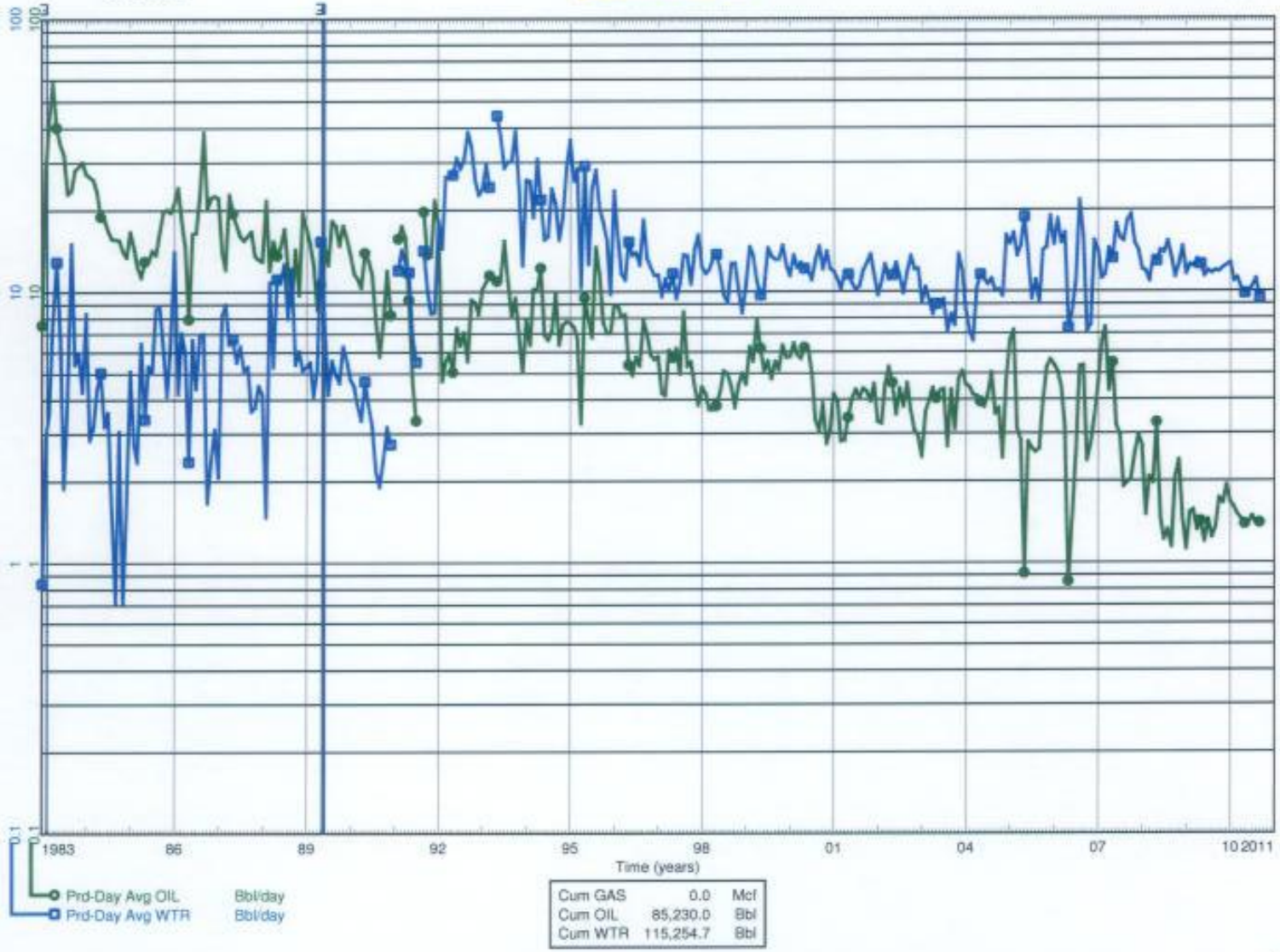
Wednesday, April 20, 2011, 02:04 PM

geoSCOUT

Data As Of: 2010-11 (MB)
From: 1983-01
To: 2010-09

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/09-24-001-26W1/02

Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)



Cum GAS	0.0	Mcf
Cum OIL	85,230.0	Bbl
Cum WTR	115,254.7	Bbl

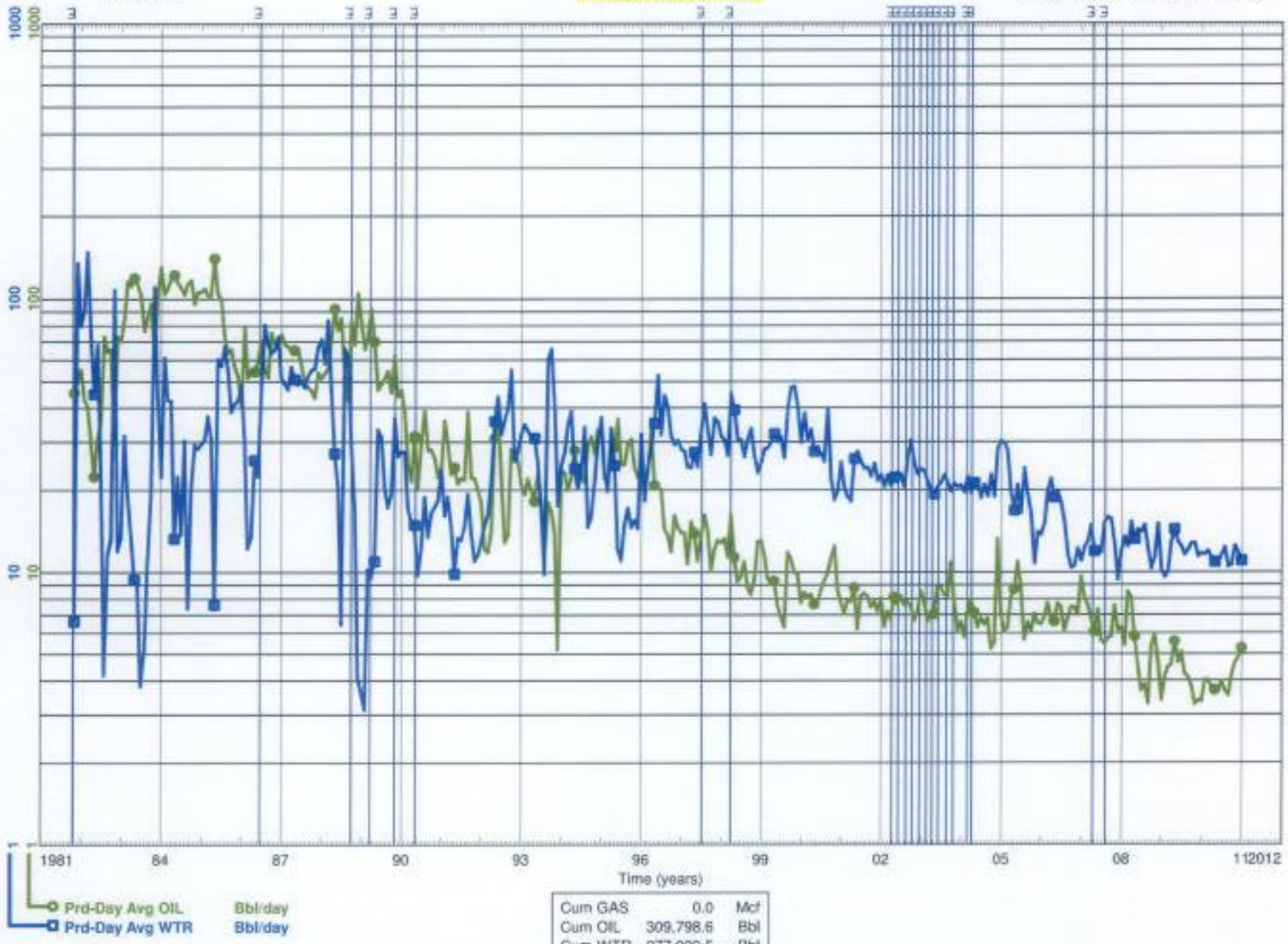
Friday, February 11, 2011, 03:30 PM

geoSCOUT

Data As Of: 2011-01 (MB)
From: 1981-11
To: 2011-01

INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/16-23-001-26W1/00

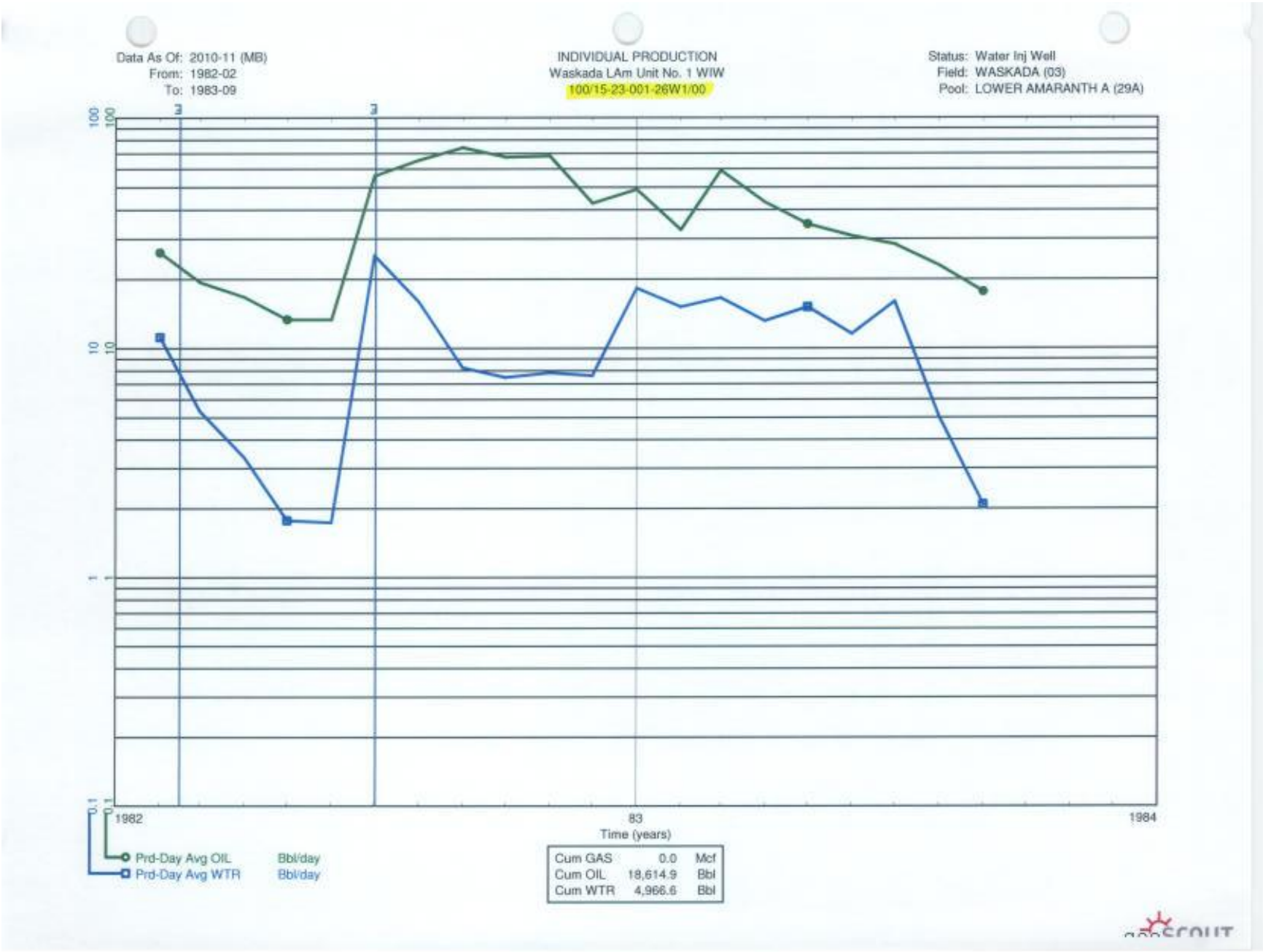
Status: Capable Of Oil Prod
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)

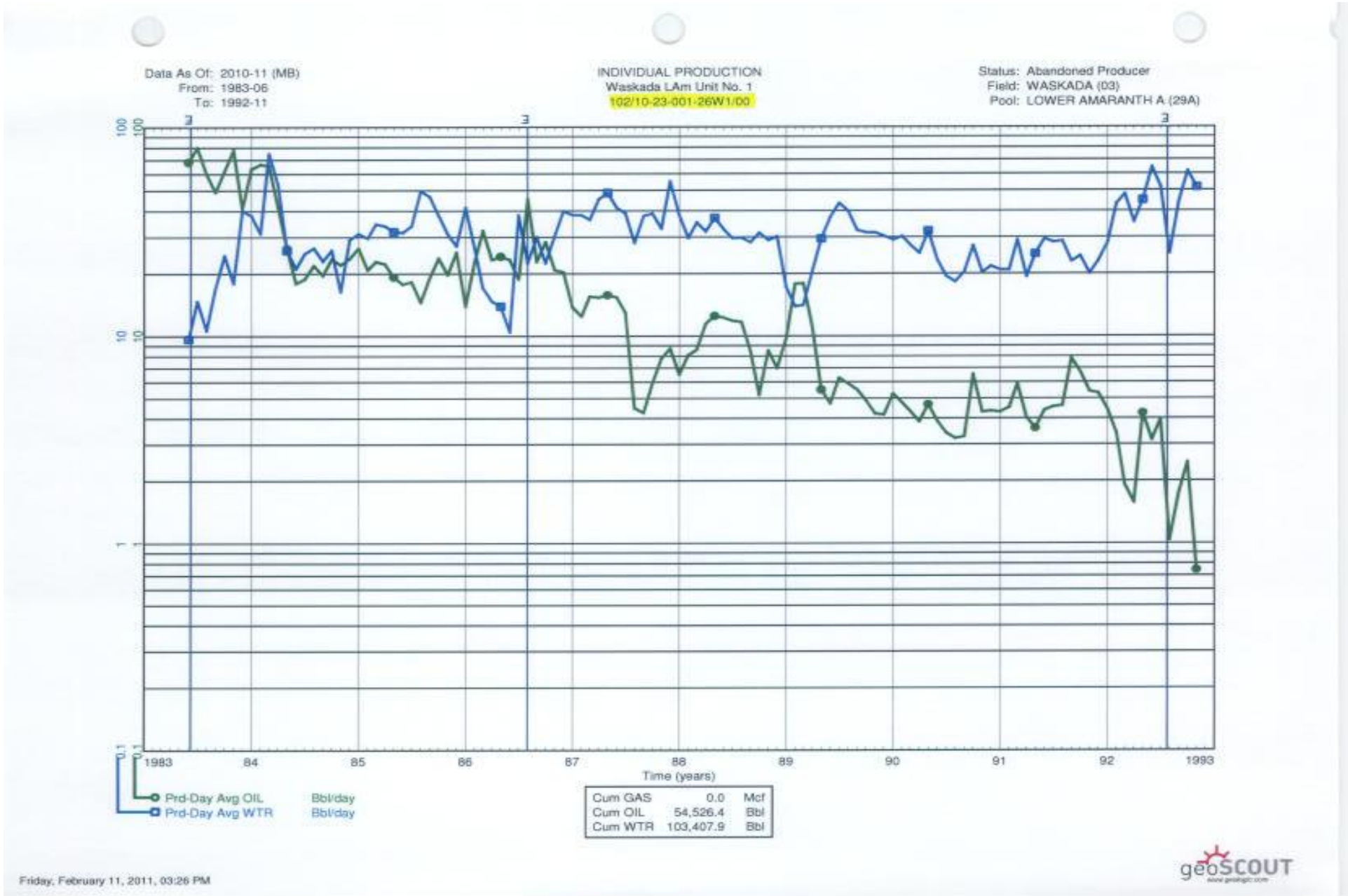


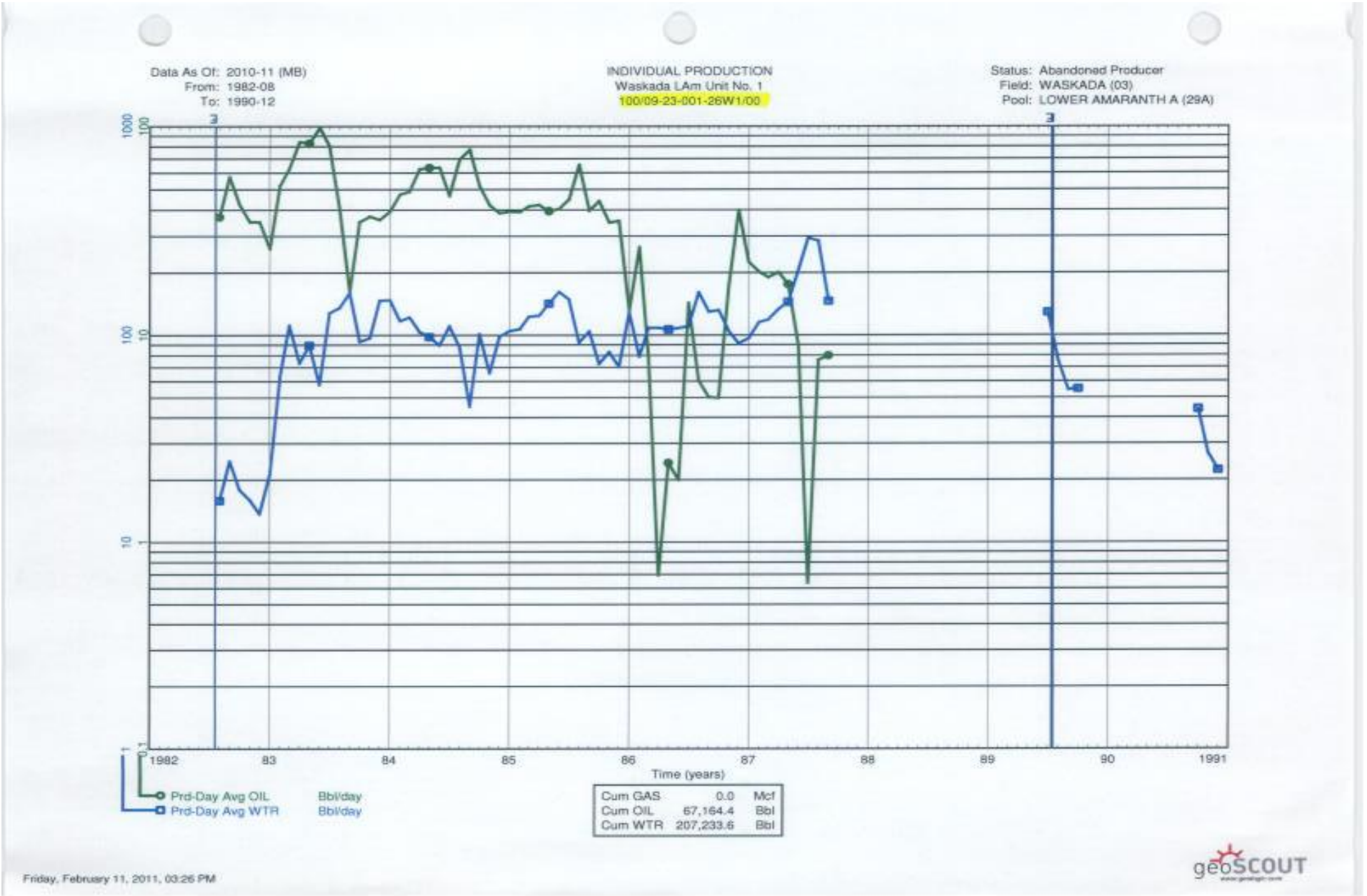
Cum GAS	0.0	Mcf
Cum OIL	309,798.6	Bbl
Cum WTR	277,023.5	Bbl

Wednesday, April 20, 2011, 02:02 PM

geoSCOUT


Data As Of: 2010-11 (MB)
From: 1982-02
To: 1983-09
INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1 WIW
100/15-23-001-26W1/00
Status: Water Inj Well
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
100
10
1
0.1
1982
83
1984
Time (years)
Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day
Cum GAS 0.0 Mcf
Cum OIL 18,614.9 Bbl
Cum WTR 4,966.6 Bbl


Data As Of: 2010-11 (MB)
From: 1983-06
To: 1992-11
INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
102/10-23-001-26W1/00
Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
100
10
1
0.1
1983
84
85
86
87
88
89
90
91
92
1993
Time (years)
Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day
Cum GAS 0.0 Mcf
Cum OIL 54,526.4 Bbl
Cum WTR 103,407.9 Bbl
Friday, February 11, 2011, 03:26 PM
geoSCOUT


Data As Of: 2010-11 (MB)
From: 1982-08
To: 1990-12
INDIVIDUAL PRODUCTION
Waskada LAm Unit No. 1
100/09-23-001-26W1/00
Status: Abandoned Producer
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
1000
100
10
1
0.1
100
10
1
1982
83
84
85
86
87
88
89
90
1991
Time (years)
Prd-Day Avg OIL Bbl/day
Prd-Day Avg WTR Bbl/day
Cum GAS 0.0 Mcf
Cum OIL 67,164.4 Bbl
Cum WTR 207,233.6 Bbl
Friday, February 11, 2011, 03:26 PM
geoSCOUT