

WASKADA UNIT NO. 5

WATERFLOOD PROGRESS REPORT

January 1, through December 31, 2012

PennWest Exploration

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INTRODUCTION

The WASKADA NO.5 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, 1985 Board Order; Voluntary

First Enlargement March 1, 1986 Voluntary

POOL: Waskada Lower Amaranth A (03 29A)

This report documents the performance of the Waskada Unit # 5 pressure maintenance project for the period of January 1 to December 31, 2012.

Unit # 5 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° API), predominantly from the Lower Amaranth formation. The interlaminated, shallow marine to subtidal succession of sandstones, siltstones, 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 to 15 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 Unit #5 (Unit History)

CPA Pretty Well ID	Date Well Spudded	On Prod YYYY/MM/DD	Org Operator Name	Ground Elevation (m)	TVD (m)
100/03-34-001-26W1/00	1/31/1981	6/1/1981	Omega Hydcbns Ltd	460.9	969
100/04-34-001-26W1/00	6/21/1984	7/1/1984	Omega Hydcbns Ltd	460.5	958
100/05-34-001-26W1/00	6/24/1984	7/1/1984	Omega Hydcbns Ltd	462.1	960
100/06-34-001-26W1/00	11/26/1983	2/1/1984	Omega Hydcbns Ltd	460.6	937
102/10-34-001-26W1/00	9/9/1983	12/1/1983	Omega Hydcbns Ltd	461.3	949
100/12-34-001-26W1/02	3/13/1984	6/1/1984	NCE Petrofund Corp	463.3	961
100/13-34-001-26W1/00	9/8/1983	10/1/1983	Omega Hydcbns Ltd	460.4	951
100/14-34-001-26W1/02	6/25/1983	8/1/1983	NCE Petrofund Corp	460.6	957
100/15-34-001-26W1/00	10/26/1983	2/1/1984	Omega Hydcbns Ltd	460.3	950
100/16-34-001-26W1/00	10/22/1983	1/1/1984	Omega Hydcbns Ltd	462	951
100/13-35-001-26W1/00	9/21/1983	10/1/1983	Omega Hydcbns Ltd	463.3	956.5
100/14-35-001-26W1/02	9/18/1983	10/1/1983	NCE Petrofund Corp	465.1	956
100/15-35-001-26W1/00	9/14/1983	10/1/1983	Omega Hydcbns Ltd	465	943
102/15-35-001-26W1/00	10/7/2011	11/1/2011	Penn West Expl Ltd	466	912.9
103/15-35-001-26W1/00	10/1/2011	11/1/2011	Penn West Petrl Ltd	465.8	910.7
100/16-35-001-26W1/00	9/13/1983	10/1/1983	Omega Hydcbns Ltd	465.8	948
100/01-02-002-26W1/00	10/13/1983	11/1/1983	Omega Hydcbns Ltd	465.2	952
102/01-02-002-26W1/00	2/4/2010	7/1/2010	Penn West Enrg Trust	467.2	913
103/01-02-002-26W1/00	2/10/2010	7/1/2010	Penn West Enrg Trust	467.3	912.6
100/02-02-002-26W1/00	10/17/1983	11/1/1983	Omega Hydcbns Ltd	463.5	954
102/02-02-002-26W1/00	1/8/2011	3/1/2011	Penn West Enrg Trust	467	914.3
100/03-02-002-26W1/00	12/1/1983	2/1/1984	Omega Hydcbns Ltd	465.6	950
102/03-02-002-26W1/00	2/18/2011	9/1/2011	Penn West Enrg Trust	462.5	909.4
100/04-02-002-26W1/00	10/17/1983	11/1/1983	Omega Hydcbns Ltd	462.8	955
102/04-02-002-26W1/00	9/4/2009	11/1/2009	Penn West Enrg Trust	465	907.9

103/04-02-002-26W1/00	8/27/2009	11/1/2009	Penn West Enrg Trust	465.4	913.4
100/05-02-002-26W1/00	11/27/1983	1/1/1984	Omega Hydcbns Ltd	461.6	945
102/05-02-002-26W1/00	1/14/2011	3/1/2011	Penn West Enrg Trust	467.3	910.5
100/06-02-002-26W1/00	7/15/1983	8/1/1983	Omega Hydcbns Ltd	464.2	950
102/06-02-002-26W1/00	2/25/2011	9/1/2011	Penn West Enrg Trust	462.4	907.1
100/07-02-002-26W1/00	10/13/1983	11/1/1983	Omega Hydcbns Ltd	464.3	948
102/07-02-002-26W1/00	2/13/2011	3/1/2011	Penn West Enrg Trust	465.5	907.7
103/07-02-002-26W1/00	1/16/2011	3/1/2011	Penn West Petrl	466.8	912
100/08-02-002-26W1/00	10/9/1983	11/1/1983	Omega Hydcbns Ltd	462.2	948
100/09-02-002-26W1/00	11/20/1983	1/1/1984	Omega Hydcbns Ltd	464.8	950
100/10-02-002-26W1/00	11/22/1983	1/1/1984	Omega Hydcbns Ltd	464.9	941
102/10-02-002-26W1/00	2/7/2011	3/1/2011	Penn West Enrg Trust	466.3	906.2
100/11-02-002-26W1/00	11/20/1983	1/1/1984	Omega Hydcbns Ltd	463.1	950
100/12-02-002-26W1/00	8/30/1983	9/1/1983	Omega Hydcbns Ltd	465.2	950
102/12-02-002-26W1/00	1/26/2010	3/1/2010	Penn West Energy	465.5	908
103/12-02-002-26W1/00	1/6/2011	3/1/2011	Penn West Enrg Trust	467.2	912.1
100/15-02-002-26W1/00	9/24/1982	11/1/1982	Omega Hydcbns Ltd	464.7	948
100/01-03-002-26W1/00	3/11/1984	5/1/1984	Omega Hydcbns Ltd	462	950
102/01-03-002-26W1/02	6/22/1994	11/1/2010		461.7	909
100/02-03-002-26W1/00	2/23/1984	3/1/1984	Omega Hydcbns Ltd	462.7	950
102/02-03-002-26W1/00	2/16/2010	7/1/2010	Penn West Enrg Trust	463.9	911.7
100/03-03-002-26W1/00	2/29/1984	3/1/1984	Omega Hydcbns Ltd	461.1	950
102/03-03-002-26W1/00	2/25/2010	7/1/2010	Penn West Enrg Trust	464.3	908.9
100/07-03-002-26W1/00	8/20/1983	9/1/1983	Omega Hydcbns Ltd	465	948
102/07-03-002-26W1/00	2/20/2012	3/1/2012	Penn West Petrl Ltd	463	903.3
103/07-03-002-26W1/00	2/13/2012	3/1/2012	Penn West Petrl Ltd	462.8	
100/08-03-002-26W1/00	3/21/1984	6/1/1984	Omega Hydcbns Ltd	463.6	950

Waskada Unit #5 (Production & Injection History)

CPA Pretty Well ID	First Prod YYYY/MM	On Inject. YYYY/MM/DD	Last Prod. YYYY/MM	Cumulative OIL Prod. (m3)	Cumulative WTR Prod. (m3)	Last Inject. YYYY/MM
100/03-34-001-26W1/00	1981/06		1989/12	1535	5835	
100/04-34-001-26W1/00	1984/07		1988/02	353	10302	
100/05-34-001-26W1/00	1984/07	3/1/1986	1986/02	822	4442	1998/04
100/06-34-001-26W1/00	1984/02		2008/09	5050	32844	
102/10-34-001-26W1/00	1983/12		1990/01	652	7152	
100/12-34-001-26W1/02	1984/06		1996/04	2757	11032	
100/13-34-001-26W1/00	1983/10	3/1/1986	1986/02	807	2738	2000/05

100/14-34-001-26W1/02	1983/08		2011/11	2191	4043	
100/15-34-001-26W1/00	1984/02	3/1/1986	1986/02	455	1769	1998/04
100/16-34-001-26W1/00	1984/01		1989/04	256	1996	
100/13-35-001-26W1/00	1983/10	1/1/1985	1984/12	802	1402	2003/10
100/14-35-001-26W1/02	1983/10		2012/04	6007	6251	
100/15-35-001-26W1/00	1983/10	1/1/1985	1984/12	1240	280	2006/02
102/15-35-001-26W1/00	2011/11		2012/10	2753	2360	
103/15-35-001-26W1/00	2011/11		2012/10	10266	2460	
100/16-35-001-26W1/00	1983/10		2012/09	13266	2145	
100/01-02-002-26W1/00	1983/11		2012/03	10174	3137	
102/01-02-002-26W1/00	2010/07		2012/09	4246	2957	
103/01-02-002-26W1/00	2010/07		2012/10	3978	2365	
100/02-02-002-26W1/00	1983/11		2011/02	6743	1264	
102/02-02-002-26W1/00	2011/03		2012/10	1394	2488	
100/03-02-002-26W1/00	1984/02		2012/10	4772	1643	
102/03-02-002-26W1/00	2011/09		2012/10	681	1824	
100/04-02-002-26W1/00	1983/11		2011/08	6025	1250	
102/04-02-002-26W1/00	2009/11		2012/10	5051	3060	
103/04-02-002-26W1/00	2009/11		2012/10	3202	3170	
100/05-02-002-26W1/00	1984/01	1/1/1985	1984/12	894	322	2003/10
102/05-02-002-26W1/00	2011/03		2012/10	2779	2514	
100/06-02-002-26W1/00	1983/08		2012/10	5775	1377	
102/06-02-002-26W1/00	2011/09		2012/10	838	1869	
100/07-02-002-26W1/00	1983/11	1/1/1985	1984/12	722	299	2004/06
102/07-02-002-26W1/00	2011/03		2012/10	1629	1744	
103/07-02-002-26W1/00	2011/03		2012/10	1472	2697	
100/08-02-002-26W1/00	1983/11		2008/06	4609	1444	
100/09-02-002-26W1/00	1984/01		1991/03	2108	569	
100/10-02-002-26W1/00	1984/01		2008/05	3206	920	
102/10-02-002-26W1/00	2011/03		2012/10	2179	3158	
100/11-02-002-26W1/00	1984/01		2011/06	7296	9129	
100/12-02-002-26W1/00	1983/09		2011/07	5700	1735	
102/12-02-002-26W1/00	2010/03		2012/10	4909	3871	
103/12-02-002-26W1/00	2011/03		2012/10	3193	2006	
100/15-02-002-26W1/00	1982/11	3/1/1986	1986/01	1039	637	1998/04
100/01-03-002-26W1/00	1984/05		1996/10	2717	1437	
102/01-03-002-26W1/02	2010/11		2012/10	2559	2736	
100/02-03-002-26W1/00	1984/03		1990/04	1650	896	
102/02-03-002-26W1/00	2010/07		2012/10	1916	1542	
100/03-03-002-26W1/00	1984/03		1986/07	1442	2968	
102/03-03-002-26W1/00	2010/07		2012/10	7731	4663	

100/07-03-002-26W1/00	1983/09	3/1/1986	1986/02	1406	716	1998/04
102/07-03-002-26W1/00	2012/03		2012/10	2449	1577	
103/07-03-002-26W1/00	2012/03		2012/10	2796	1980	
100/08-03-002-26W1/00	1984/06		2012/03	5116	2413	

Discussion:

Production Performance

Production Response versus Injection: Since injection began, mid 1985, injection rates fluctuated to some degree amongst the injectors; it is difficult to link any production responses to any specific injector. Water breakthrough of certain producers could not be directly correlated with over injection in associated injectors. Some wells showed no change in oil rate when injection was ceased in 2005.

Voidage Replacement Ratio Calculation

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 0.89 (under injected) and the current monthly VRR is zero. All of the injectors are shut in currently. PennWest has no plans to re-activate the old injectors (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 inject water into the Lower Amaranth Formation
 - 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.

2012 Waskada Lower Amaranth Waterflood Pilot Location

The pilot producer is 102/12-01-02-26W1/00 (the existing horizontal well) and the injectors are two vertical wells; 100/12-01-02-26W1 and 100/11-01-02-26 (converted to injectors). The pilot started late 2012, but because of some technical issues and cold weather the operation suspended, and it was postponed until spring 2013.

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

102/15-35-001-26W1/00
103/15-35-001-26W1/00
103/01-02-002-26W1/00
102/02-02-002-26W1/00
100/03-02-002-26W1/00
102/03-02-002-26W1/00
102/04-02-002-26W1/00
103/04-02-002-26W1/00
102/05-02-002-26W1/00
100/06-02-002-26W1/00
102/06-02-002-26W1/00
102/07-02-002-26W1/00
103/07-02-002-26W1/00
102/10-02-002-26W1/00
102/12-02-002-26W1/00
103/12-02-002-26W1/00
102/01-03-002-26W1/02
102/02-03-002-26W1/00 (Completing)
102/03-03-002-26W1/00
102/07-03-002-26W1/00

103/07-03-002-26W1/00

Current Suspended Wells

00/06-34-001-26W1/0 (since 2008/09)

00/14-35-001-26-W1/2 (since 2012/05)

00/16-35-001-26W1/0 (since 2012/10)

00-01-02-002-26W1/0 (since 2012/04)

02/01-02-002-26W1/0 (since 2012/04)

00/02-02-002-26W1/0 (since 2011/02)

00/04-02-002-26W1/0 since (2011/08)

00/08-02-002-26W1/0 (since 2008/06)

00/10-02-002-26W1/0 (since 2008/05)

00/11-02-002-26W1/0 (since 2011/06)

00/12-02-002-26W1/0 (since 2011/07)

100/08-03-002-26W1/0 (since 2012/04)

Abandoned Wells

00/03-34-001-26W1/0 (since 1990/01)

00/04-34-001-26W1/0 (since 1988/03)

02/10-34-001-26W1/0 (since 1990/02)

00/12-34-001-26W1/2 (since 1996/05)

00/16-34-001-26W1/0 (since 1989/05)

00/09-02-002-26W1/0 (since 1991/04)

00/01-03-002-26W1/0 (since 1996/11)

00/02-03-002-26W1/0 (since 1990/05)

00/03-03-002-26W1/0 (since 1986/08)

[Injectors]

Current Injecting Wells

None

Current Suspended Wells

1. 00/05-02-002-26W1/0 (since 2003/11)
2. 00/05-34-001-26W1/0 (since 1998/05)
3. 00/07-02-002-26W1/0 (since 2004/07)
4. 00/07-03-002-26W1/0 (since 1998/05)
5. 00/13-34-001-26W1/0 (since 2000/06)
6. 00/13-35-001-26W1/0 (since 2003/11)
7. 00/15-02-002-26W1/0 (since 1998/05)
8. 00/15-34-001-26W1/0 (since 1998/05)
9. 00/15-35-001-26W1/0 (since 2006/03)

Abandoned Wells

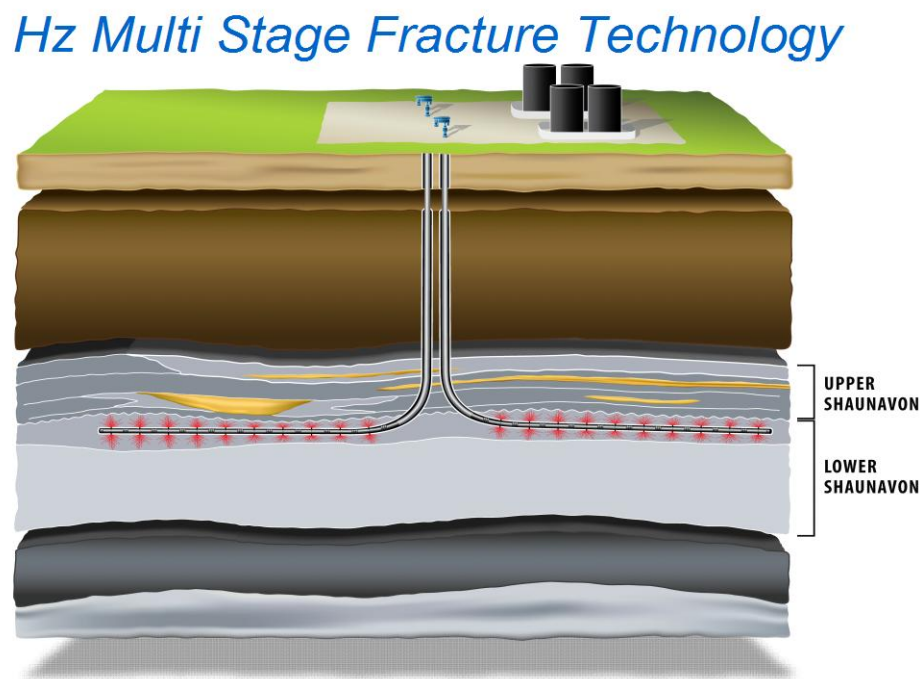
None

The behavior of a Waskada Unit 5 producers are indicated by examining the oil rate versus time plots (see Appendix B). Unit 5 exhibited relatively high initial oil productivity (most of the wells drilled in the past are verticals), 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)

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 resource 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 six horizontal wells, to increase the Recovery Factor (RF), in year 2010, 102/01-02-002-26W1, 103/01-02-002-26W1, 102/12-02-002-26W1, 102/01-03-002-26W1/02, 102/02-03-002-26W1, and 102/03-03-002-26W1 in year 2011 and two more 102/07-03-002-26W1 & 103/07-03-002-26W1 in year 2013. PennWest’s follow up plan 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 development plan that we are incorporating:-



TABLES

Waskada Unit #5

Table 1: Rates History

Production Data						
Date	Oil		Water		Injection Water	
Year	m3/year	m3/day	m3/year	m3/day	m3/year	m3/day
1981	15	0.04	197	0.54	0	0.00
1982	311	0.85	758	2.08	0	0.00
1983	6,802	18.64	5,551	15.21	0	0.00
1984	18,806	51.52	22,874	62.67	0	0.00
1985	9,418	25.80	18,212	49.90	38,316	104.97
1986	6,226	17.06	12,759	34.96	75,812	207.70
1987	5,464	14.97	7,974	21.85	25,875	70.89
1988	4,450	12.19	6,636	18.18	17,778	48.71
1989	3,362	9.21	4,542	12.44	7,984	21.87
1990	4,526	12.40	2,268	6.21	9,757	26.73
1991	4,439	12.16	2,155	5.90	10,083	27.62
1992	4,824	13.22	5,584	15.30	6,146	16.84
1993	4,717	12.92	4,984	13.66	8,476	23.22
1994	3,346	9.17	4,039	11.06	3,292	9.02
1995	4,084	11.19	7,705	21.11	10,010	27.42
1996	3,455	9.47	3,653	10.01	10,941	29.97
1997	2,461	6.74	2,678	7.34	11,485	31.46
1998	1,786	4.89	2,161	5.92	2,491	6.82
1999	1,192	3.26	539	1.48	921	2.52
2000	1,685	4.62	632	1.73	985	2.70
2001	955	2.62	593	1.63	900	2.47
2002	1,284	3.52	540	1.48	367	1.00
2003	1,229	3.37	555	1.52	328	0.90
2004	1,162	3.18	399	1.09	2	0.00
2005	939	2.57	234	0.64	25	0.07
2006	1,553	4.25	1,129	3.09	1	0.00
2007	1,515	4.15	1,824	5.00	0	0.00
2008	1,866	5.11	997	2.73	0	0.00
2009	3,106	8.51	2,078	5.69	0	0.00
2010	18,022	49.38	11,614	31.82	0	0.00
2011	26,060	71.40	22,155	60.70	0	0.00
2012	24,553	67.27	17,407	47.69	0	0.00

Waskada Unit #5

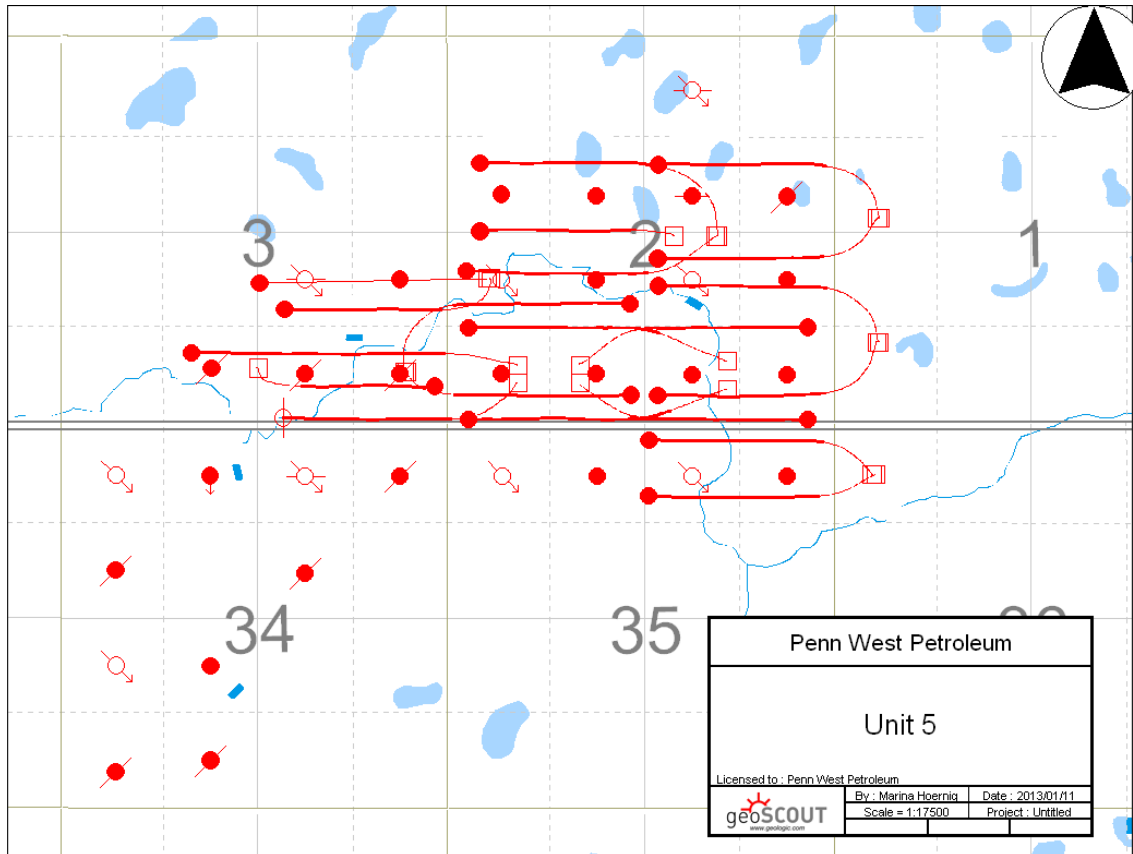
Table 2: Pressure Survey

Location	Shut In Date	Date of Survey	Type of Survey	Pressure @ Datum Depth (kPa)
00/06-34-001-26W1/0		10-Jan-10	BHP, Assuming WC from Last Prod'n	4166
00/13-35-001-26W1/0	Jan-90	(42 days)	Static Gradient	14888
00/14-35-001-26W1/2		2008	BHP, Assuming WC from Last Prod'n	9757
02/04-02-002-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	2089
03/04-02-002-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	1901
00/06-02-002-26W1/0		2008	BHP, Assuming WC from Last Prod'n	5335
00/08-02-002-26W1/0		10-Jan-10	BHP, Assuming WC from Last Prod'n	4013
00/09-02-002-26W1/0		10-Jan-10	BHP, Assuming WC from Last Prod'n	9101
02/12-02-002-26W1/0	17-Oct-10	24-Oct-10	BHP Build Up	2762
00/08-03-002-26W1/0		2008	BHP, Assuming WC from Last Prod'n	4766
102/03-03-002-26W1/0		Aug 2011	Results of the test are attached to the report	
103/01-02-002-26W1/0		July 2011	Results of the test are attached to the report	

Recent pressure tests were performed on 102/03-03 and 103/01-02-002-26W1 on August 2011 and the results of the tests are attached to the report

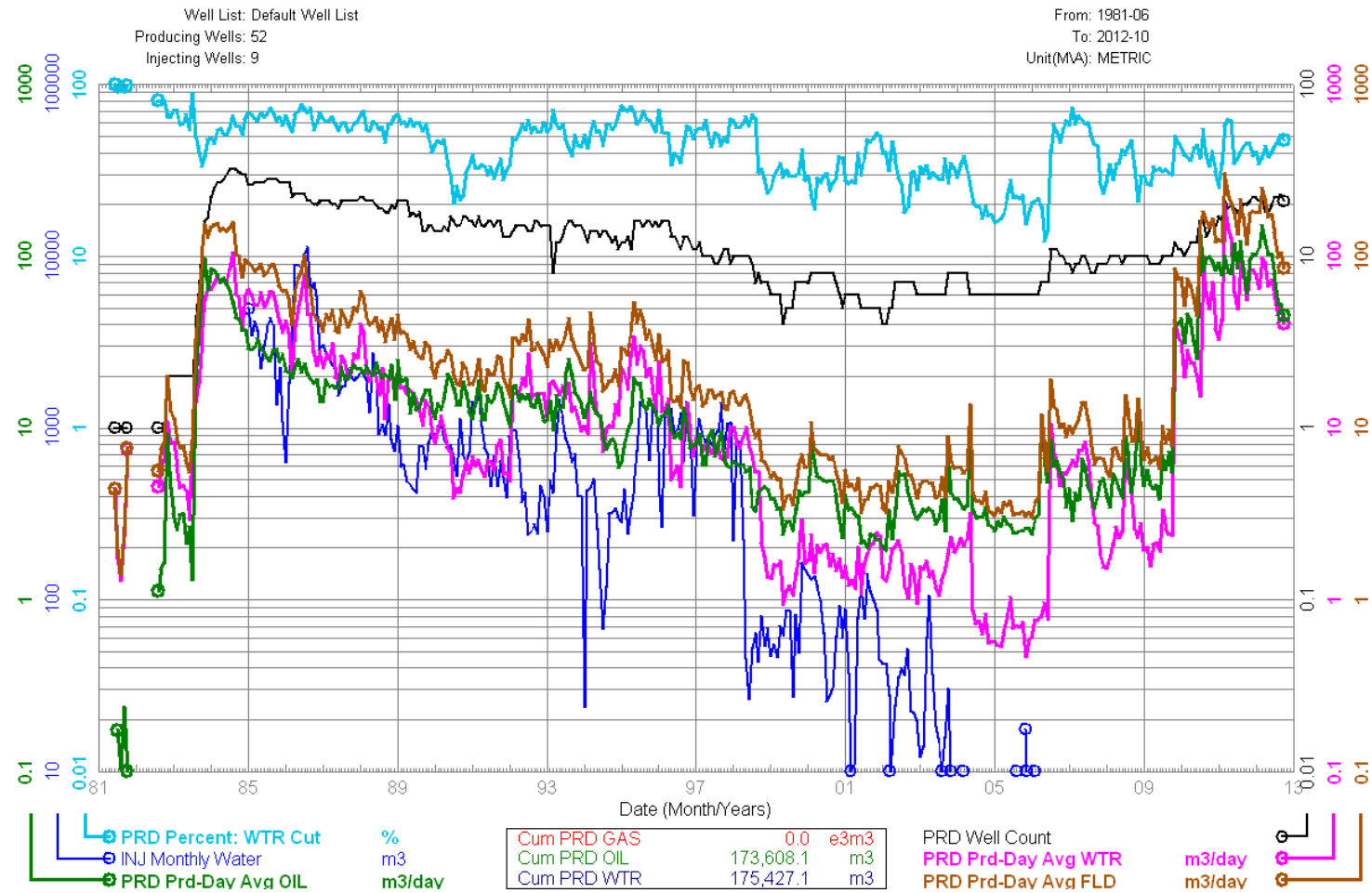
APPENDIX A

Appendix A – Area Map



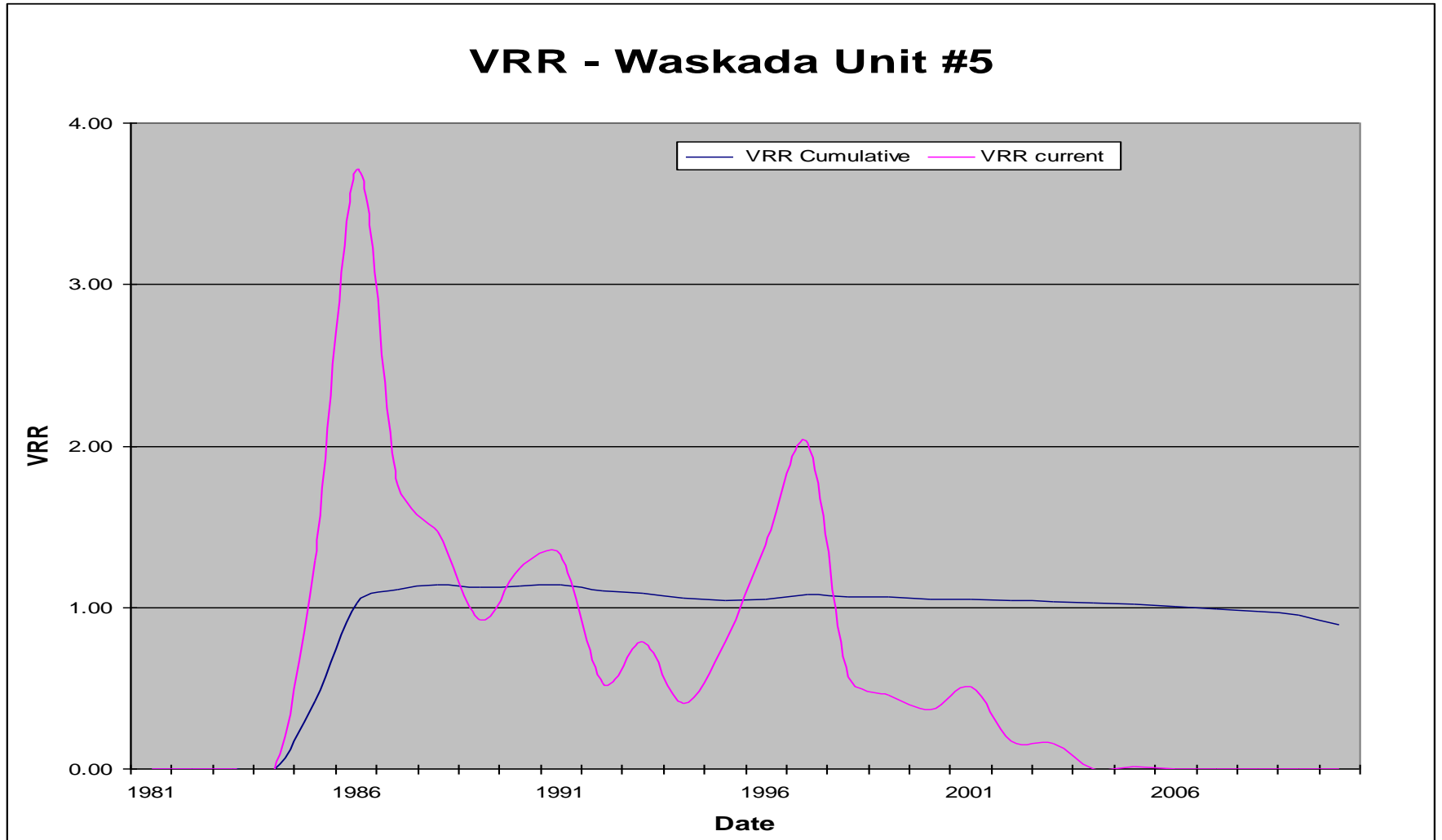
APPENDIX B

Appendix B – Production and Injection History plot



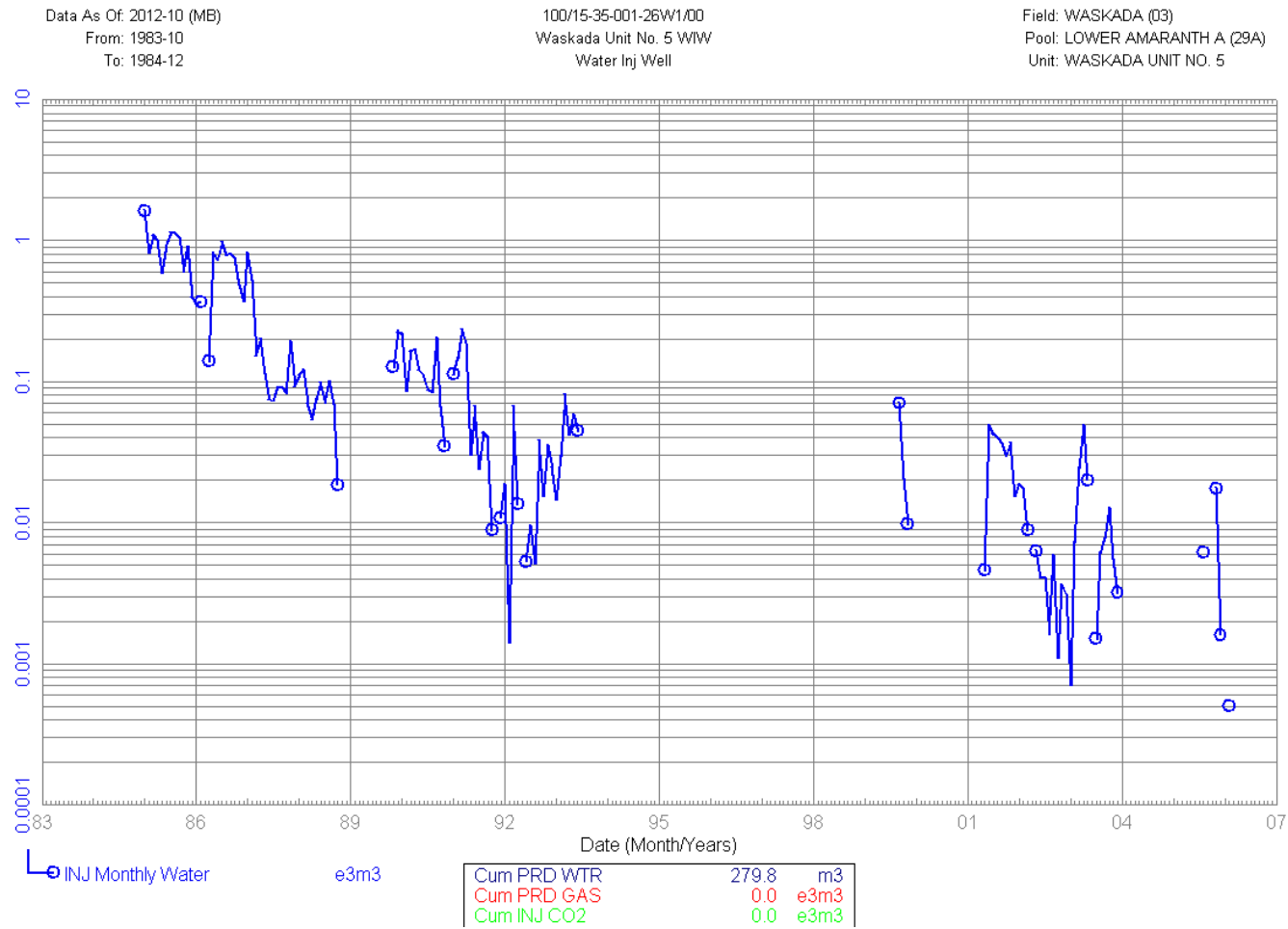
APPENDIX C

Appendix C – Voidage Replacement Ratio VRR



APPENDIX D

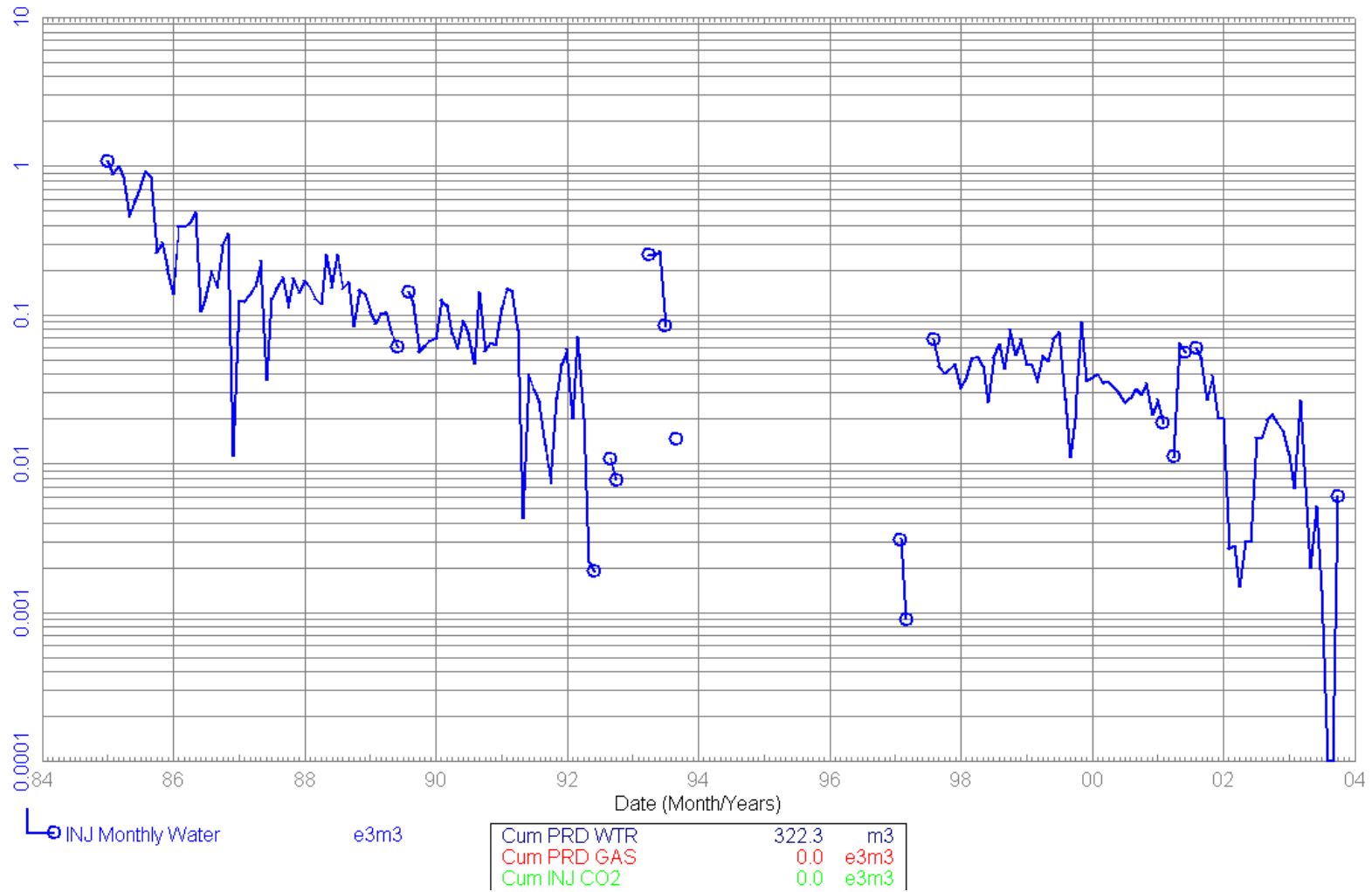
Appendix D – Production and Injection Profiles



Data As Of: 2012-10 (MB)
From: 1984-01
To: 1984-12

100/05-02-002-26W1/00
Waskada Unit No. 5 WIW
Water Inj Well

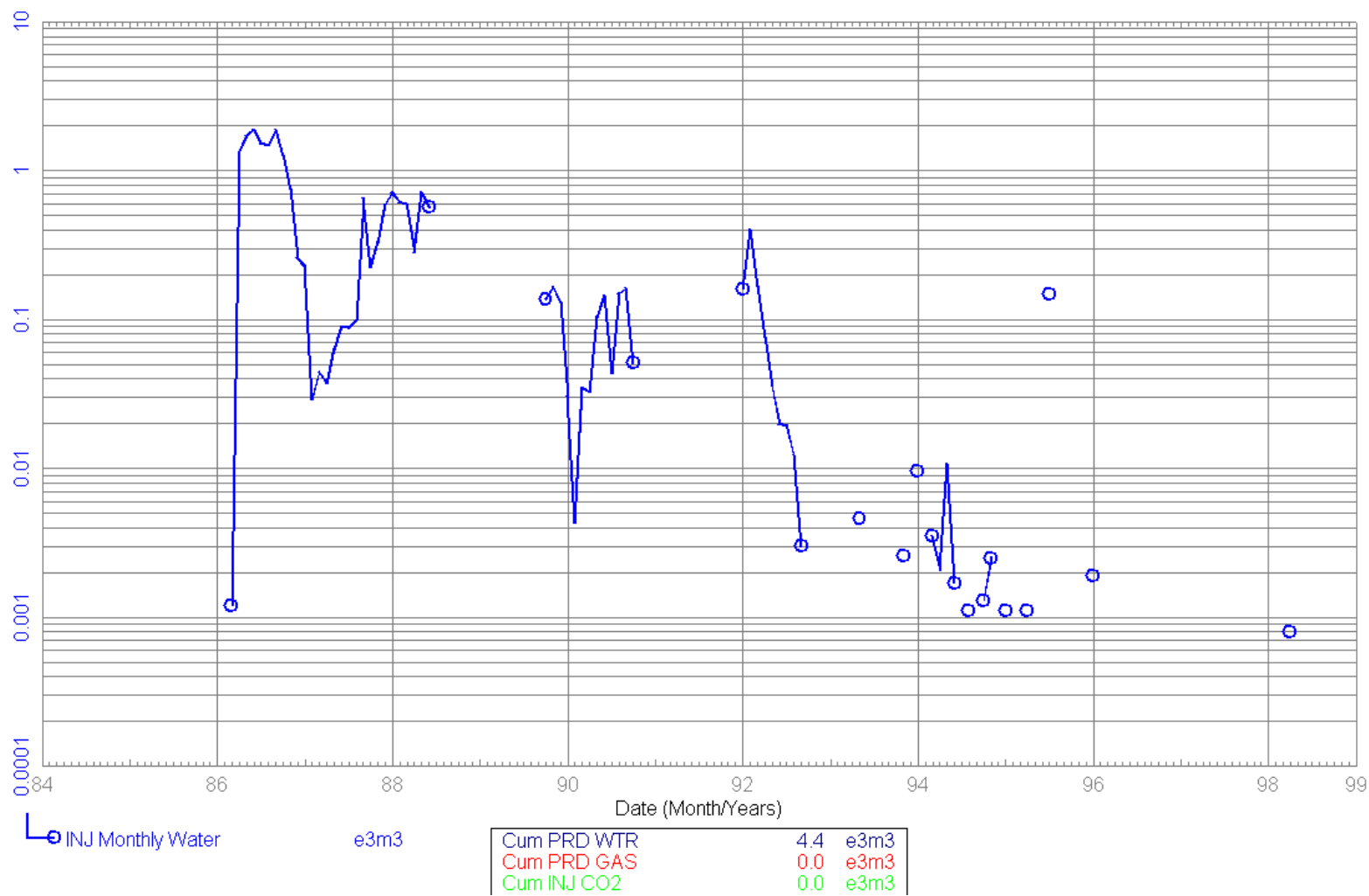
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1984-07
To: 1986-02

100/05-34-001-26W1/00
Waskada Unit No. 5 WIW
Water Inj Well

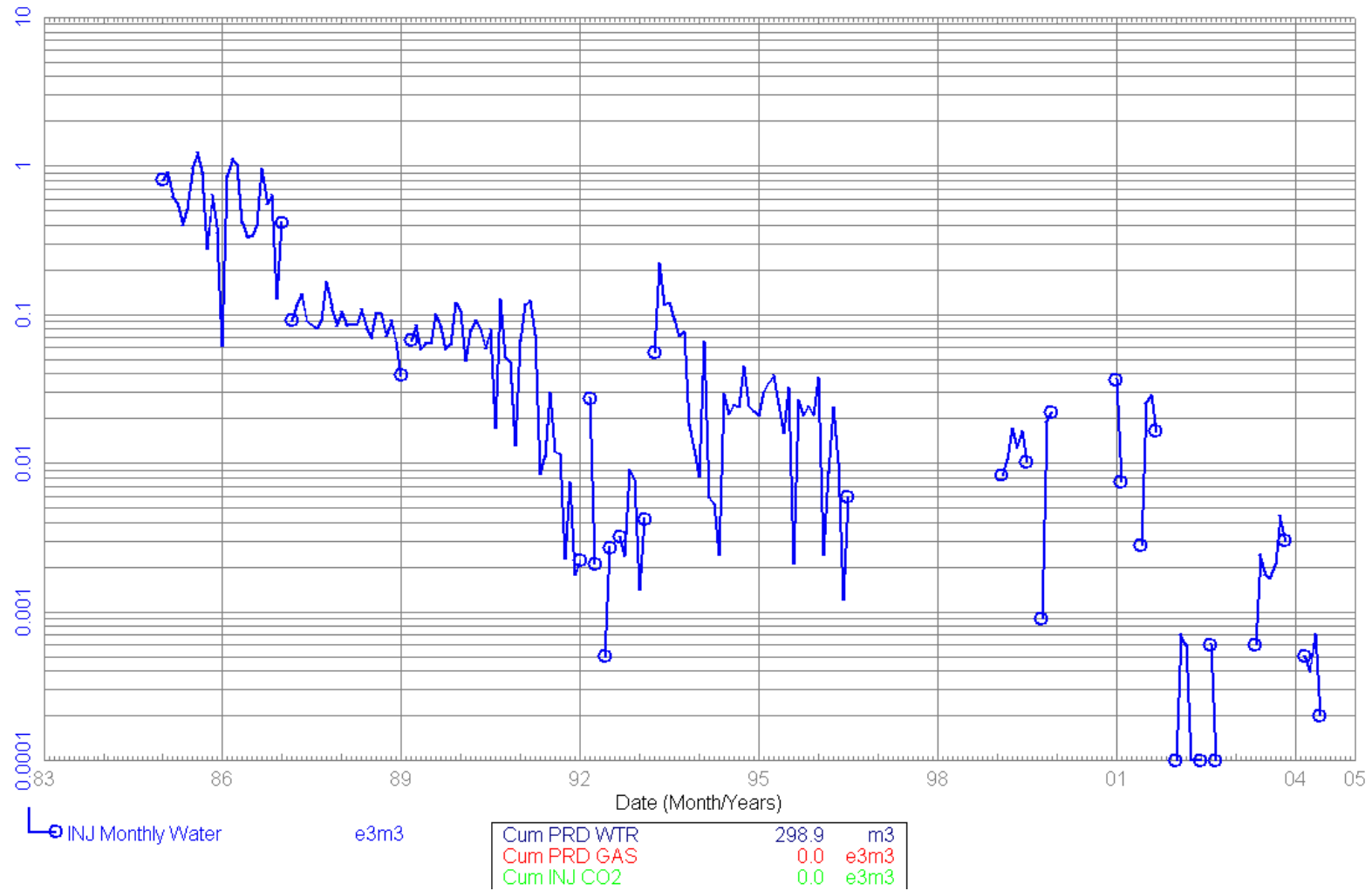
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-11
To: 1984-12

100/07-02-002-26W1/00
Waskada Unit No. 5 WIW
Water Inj Well

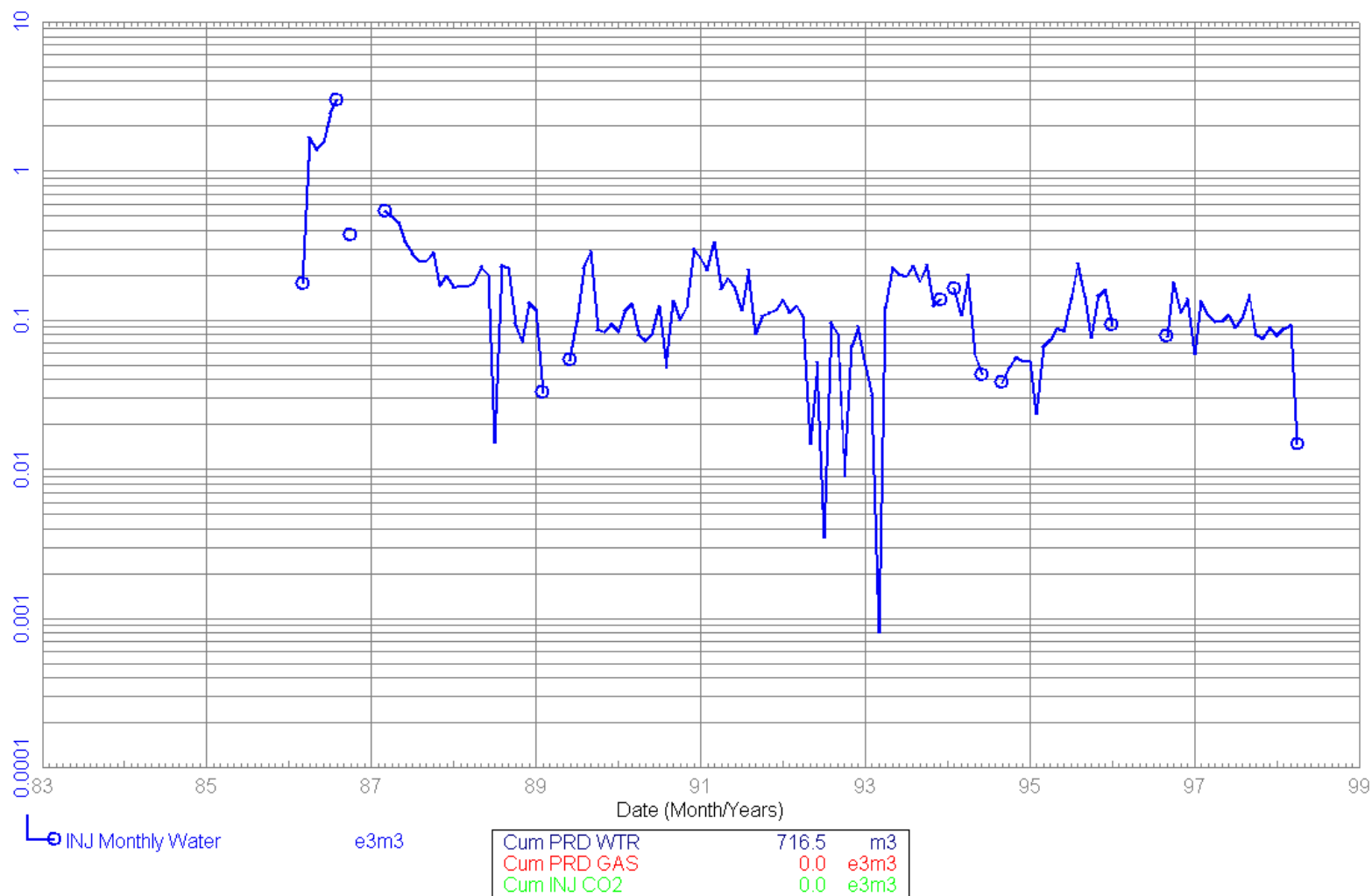
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-09
To: 1986-02

100/07-03-002-26W1/00
Waskada Unit No. 5 WIW
WIW - Suspended

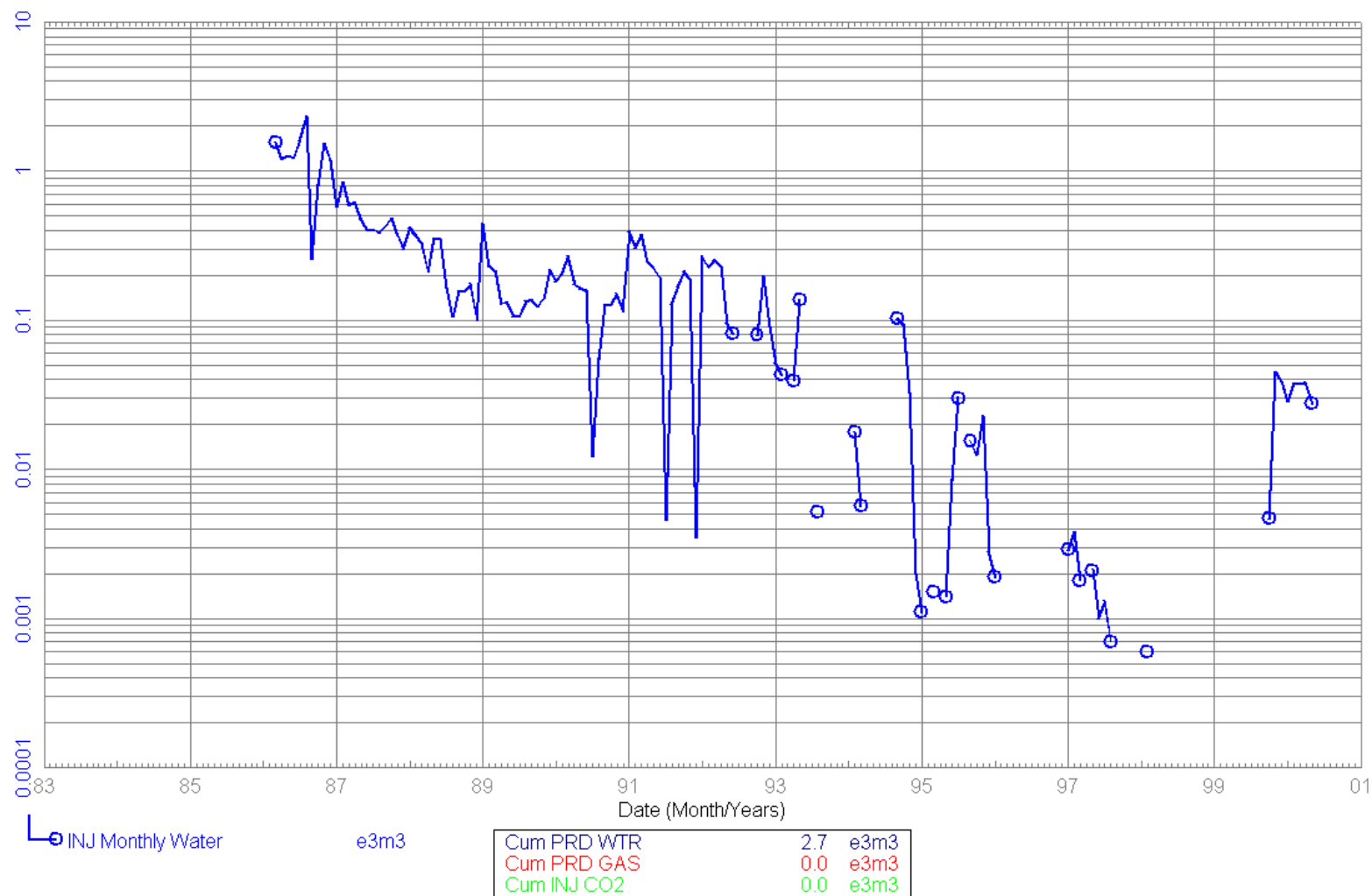
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-10
To: 1986-02

100/13-34-001-26W1/00
Waskada Unit No. 5 WIW
Water Inj Well

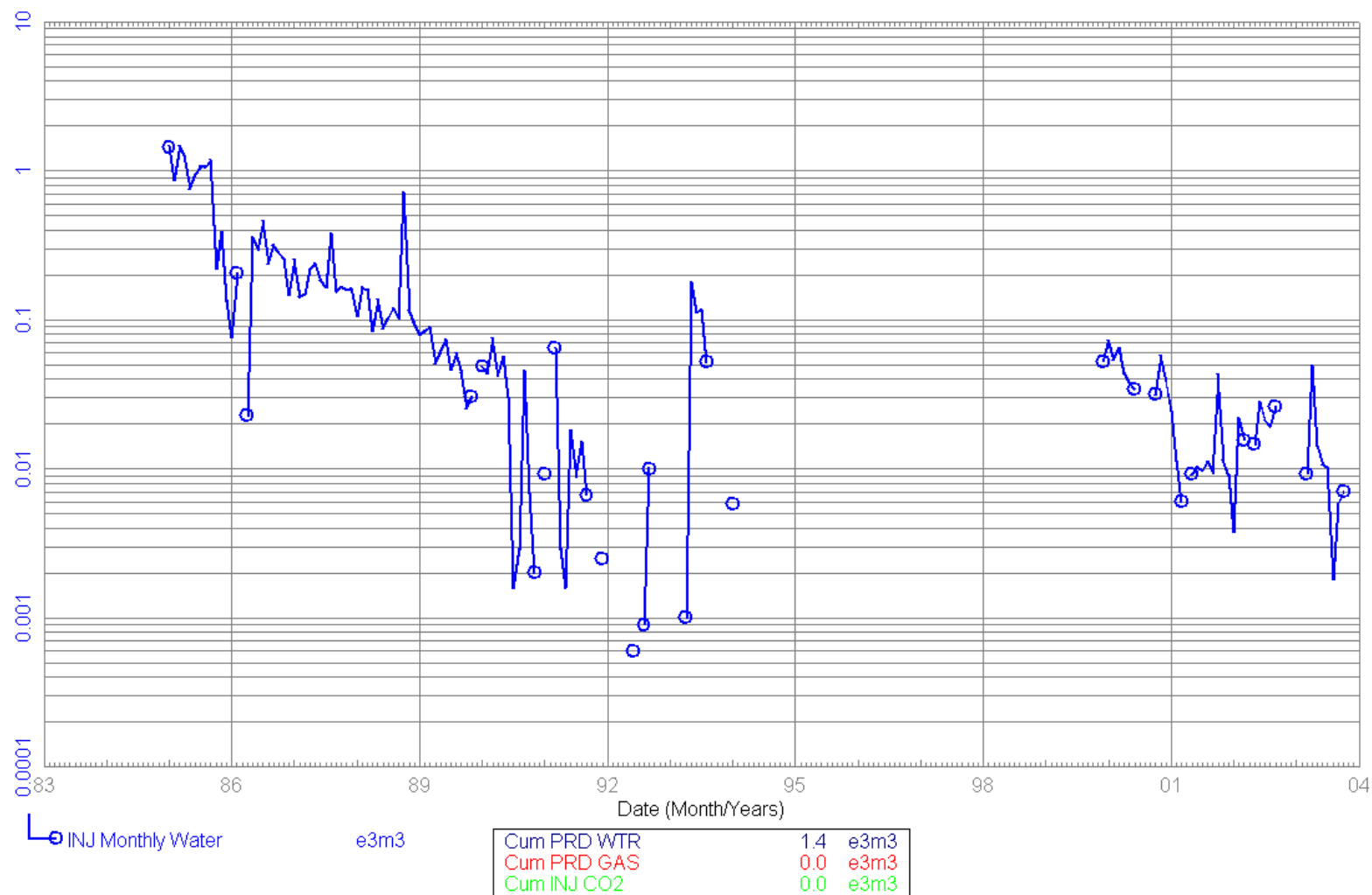
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-10
To: 1984-12

100/13-35-001-26W1/00
Waskada Unit No. 5 WIW
Water Inj Well

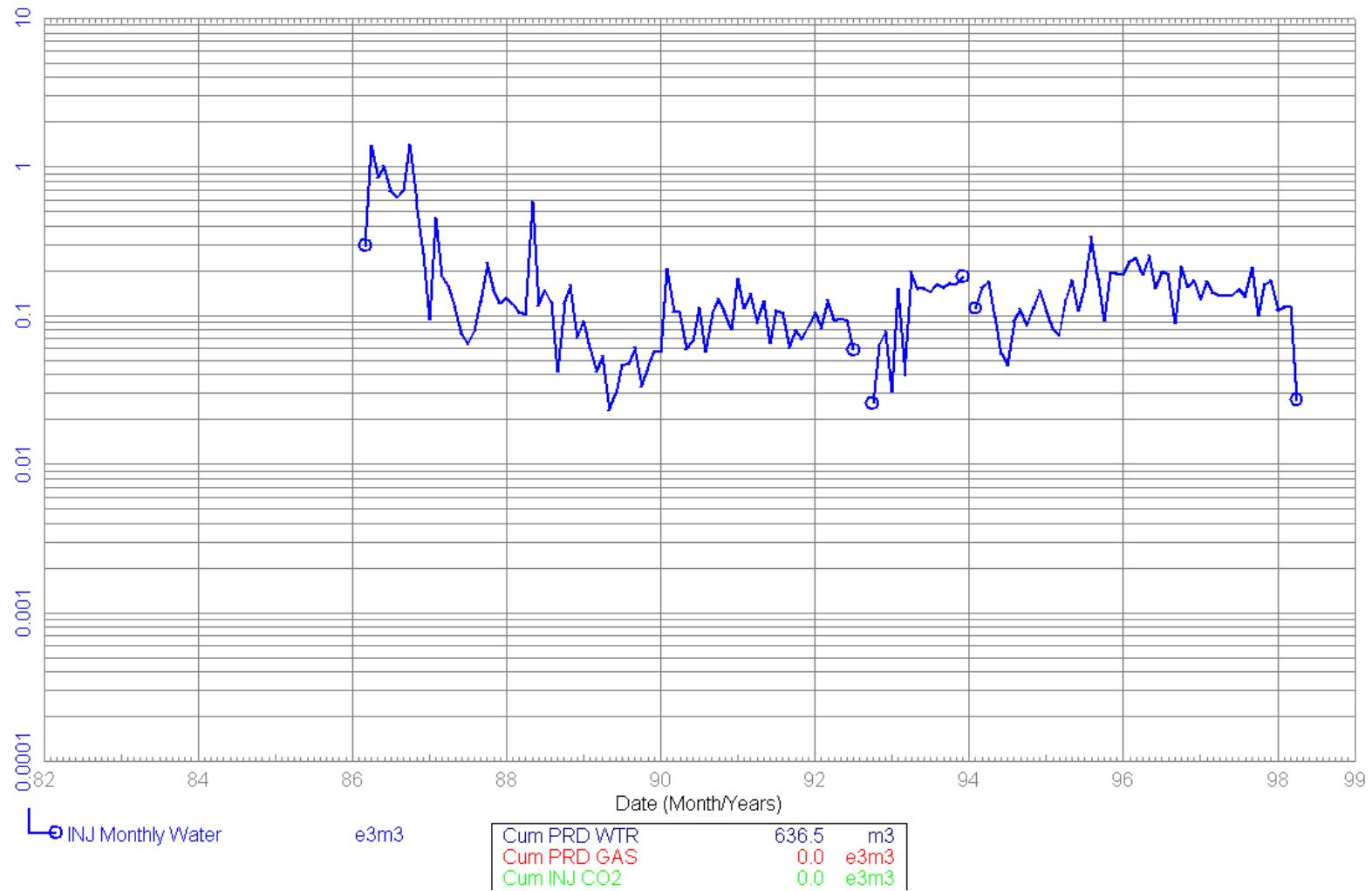
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1982-11
To: 1986-01

100/15-02-002-26W1/00
Waskada Unit No. 5 Prov. WIW
WIW - Suspended

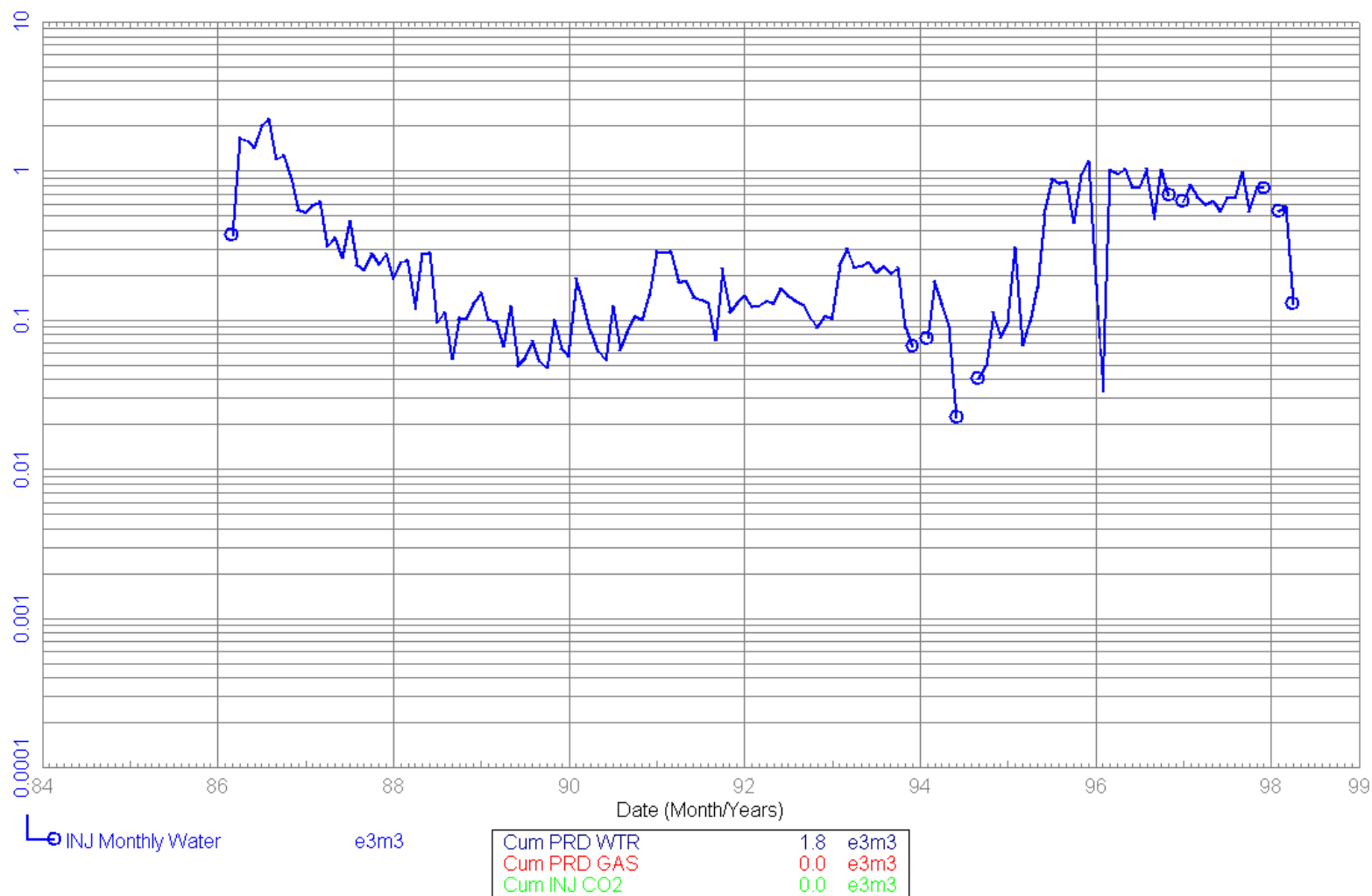
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1984-02
To: 1986-02

100/15-34-001-26W1/00
Waskada Unit No. 5 WIW
WIW - Suspended

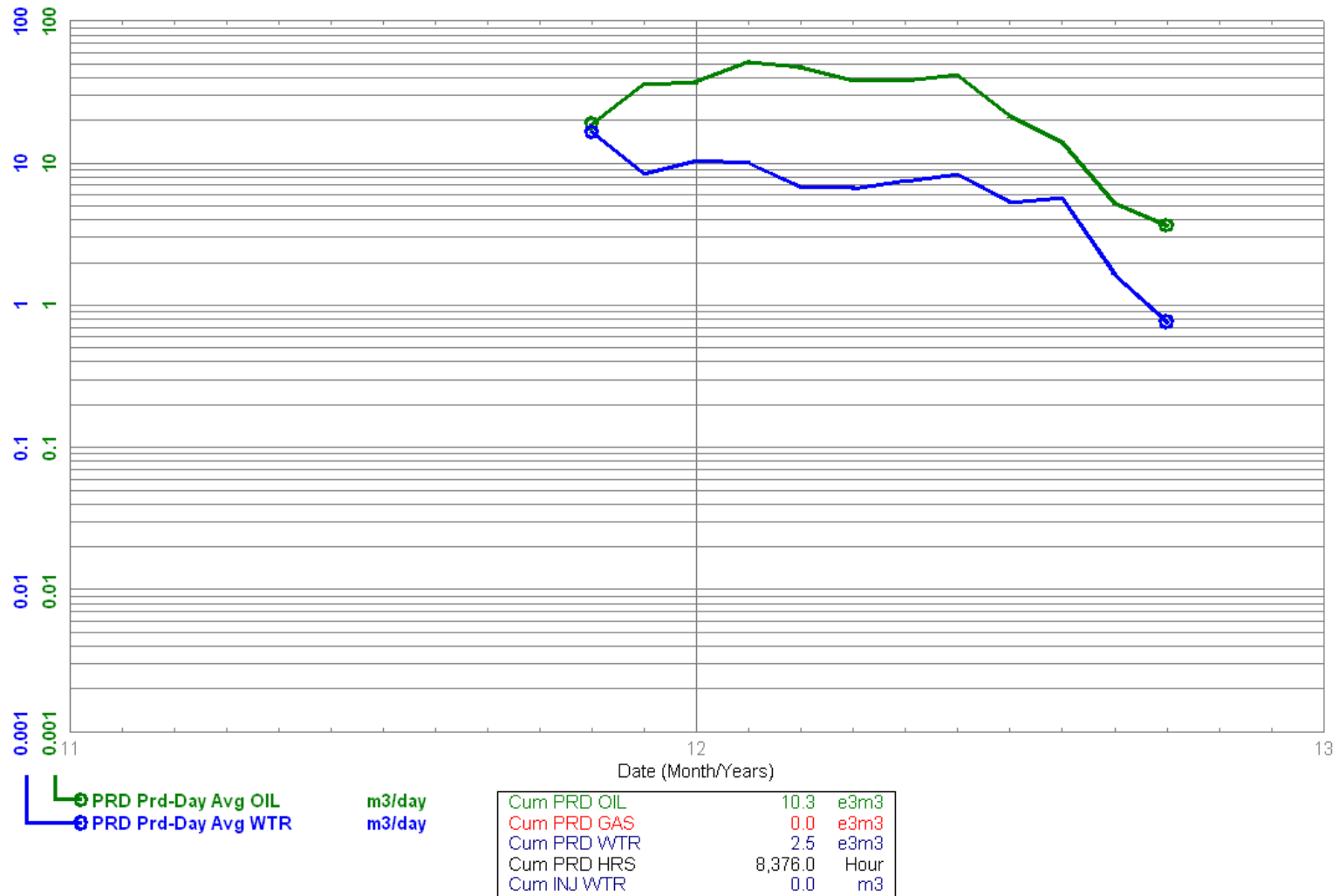
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-11
 To: 2012-10

103/15-35-001-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

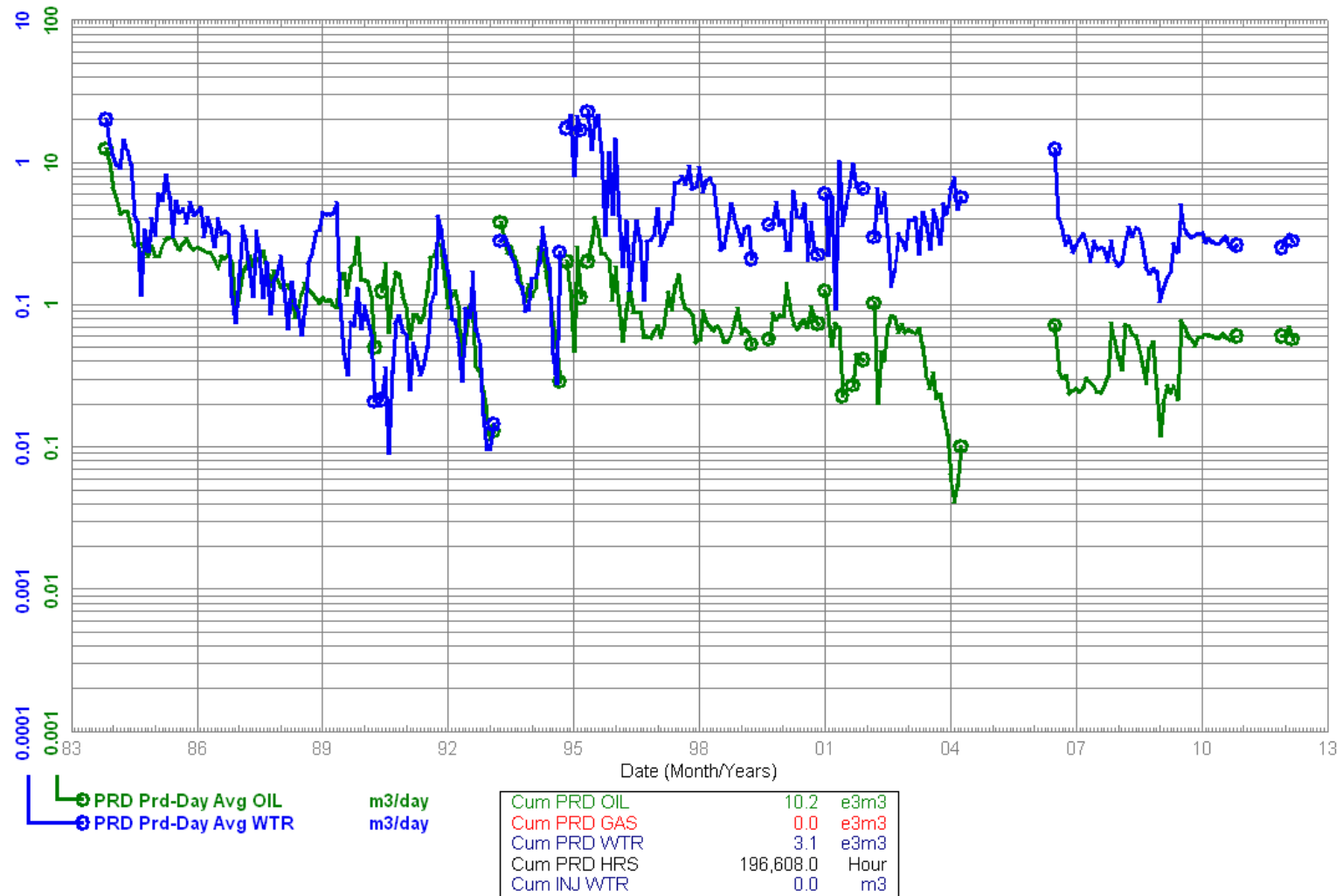
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-11
 To: 2012-03

100/01-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

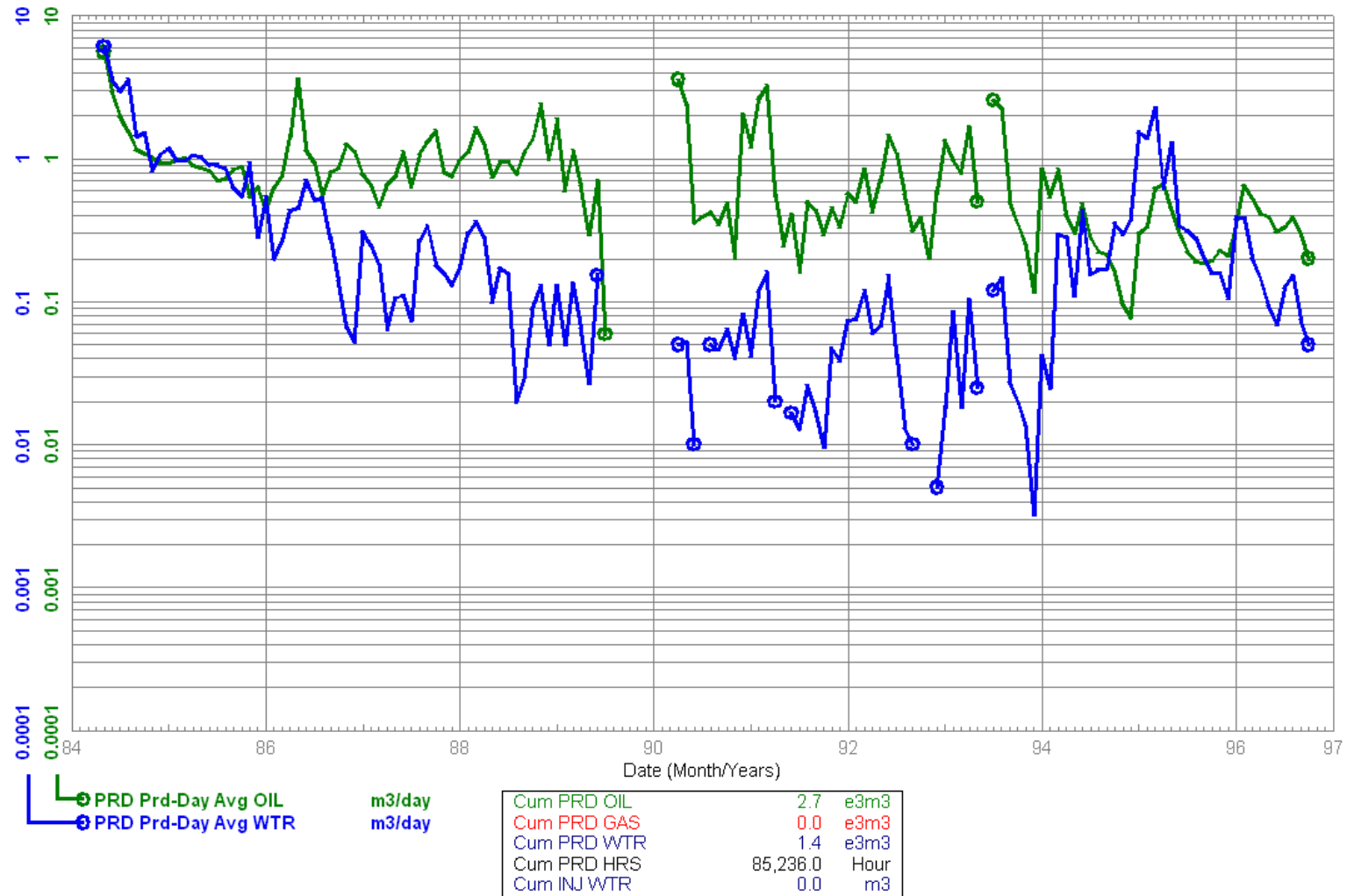
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-05
 To: 1996-10

100/01-03-002-26W1/00
 Waskada Unit No. 5
 Abandoned Producer

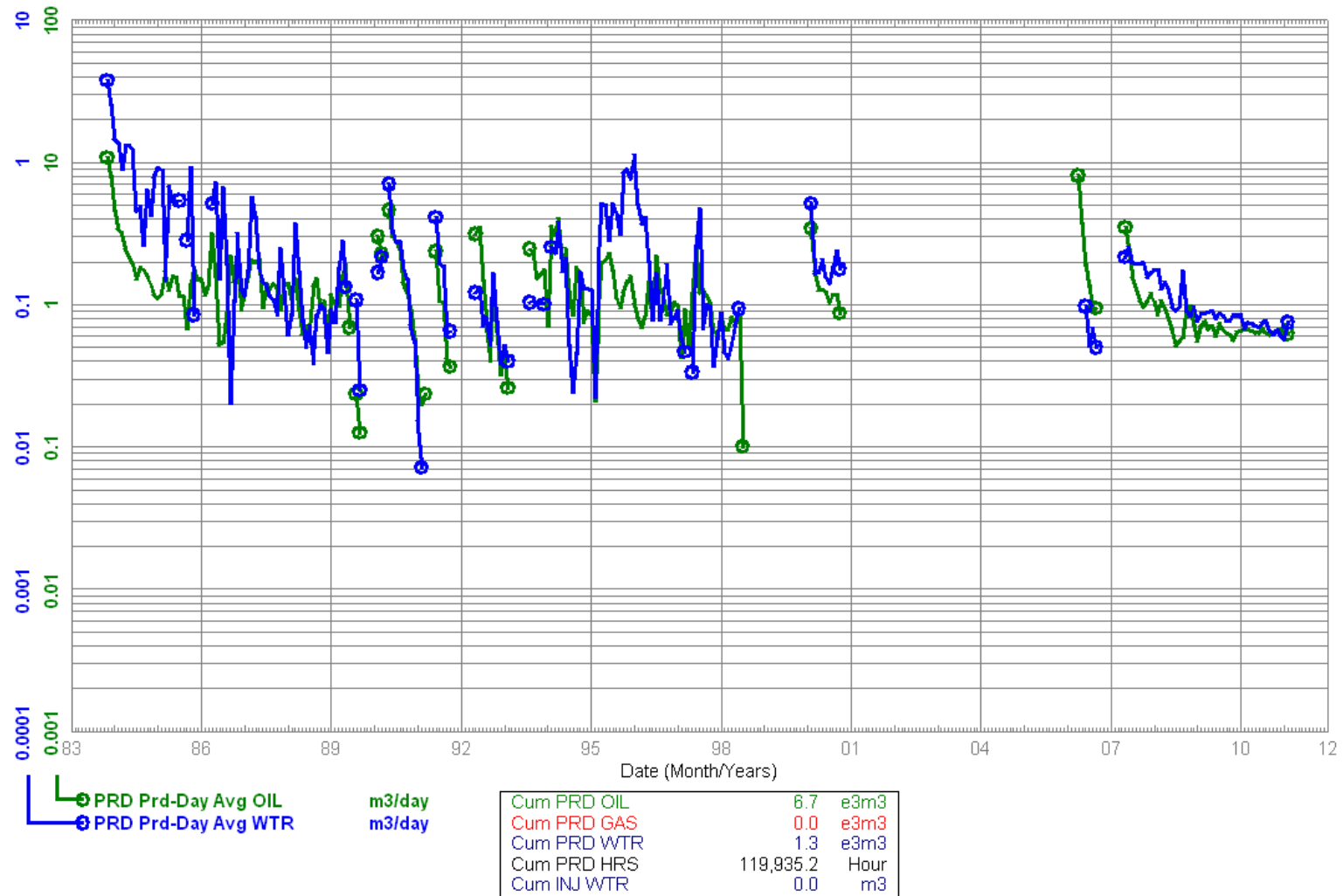
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-11
 To: 2011-02

100/02-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

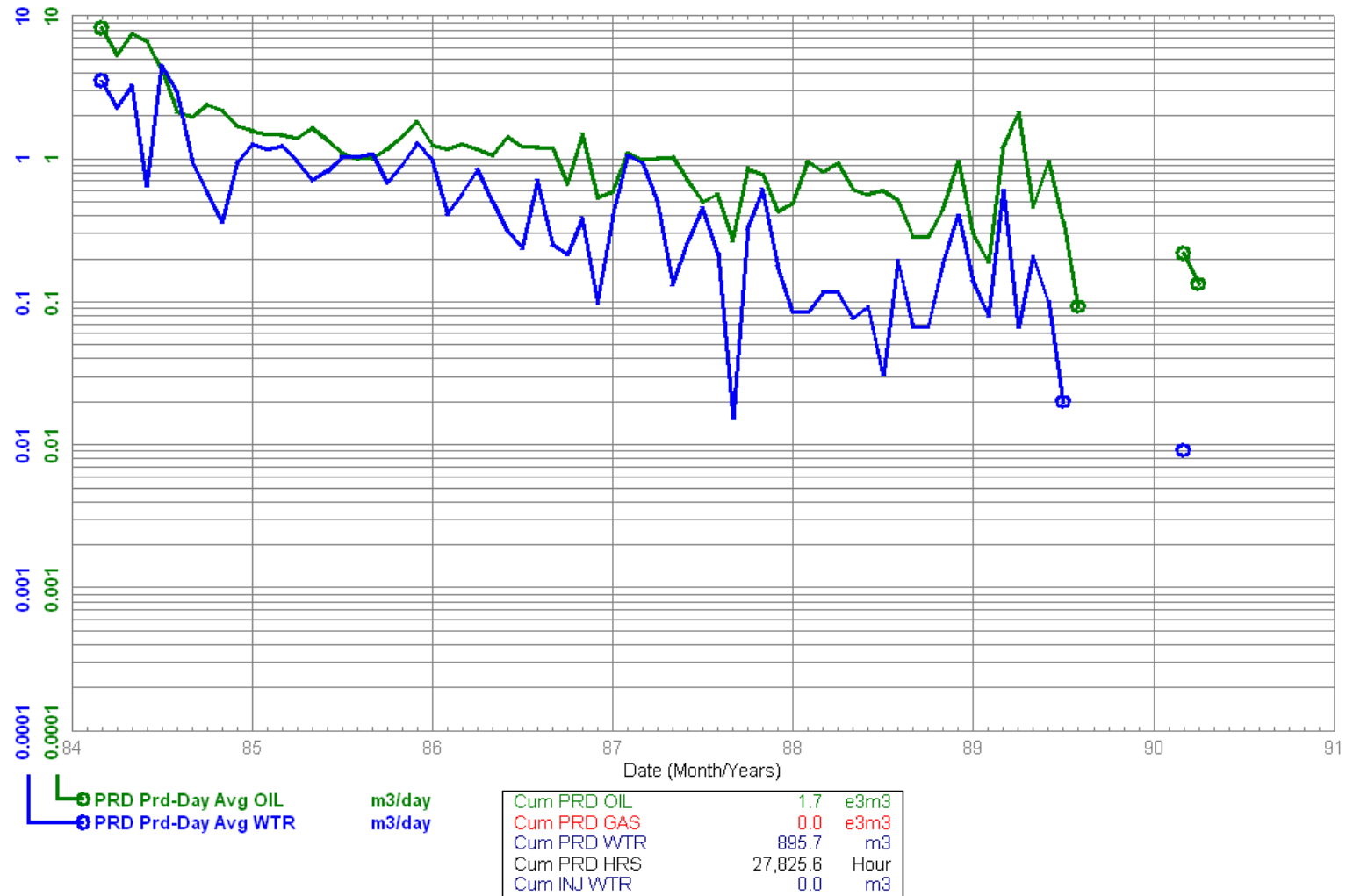
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-03
 To: 1990-04

100/02-03-002-26W1/00
 Waskada Unit No. 5
 Abandoned Producer

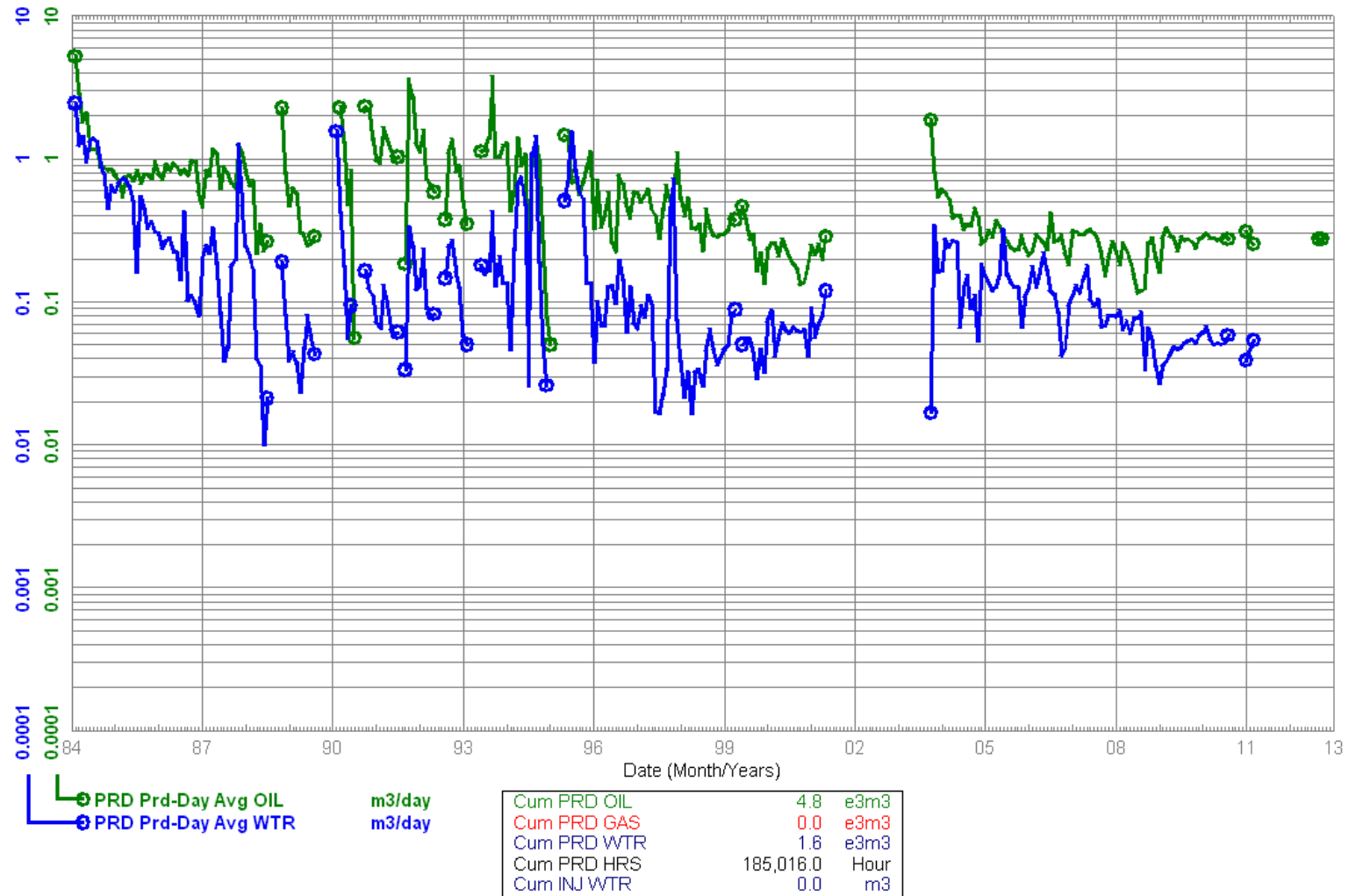
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-02
 To: 2012-10

100/03-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

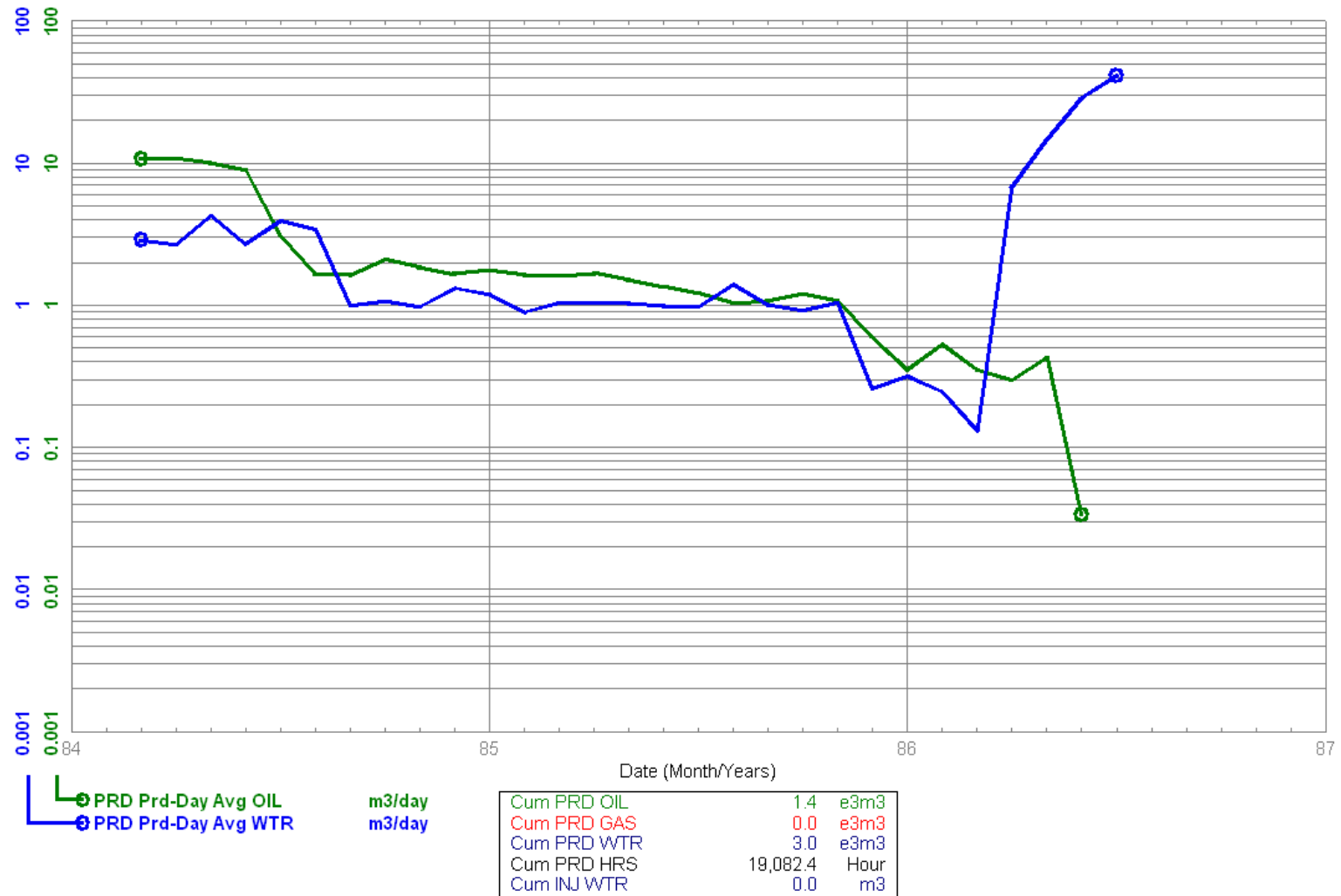
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-03
 To: 1986-07

100/03-03-002-26W1/00
 Waskada Unit No. 5
 Abandoned Producer

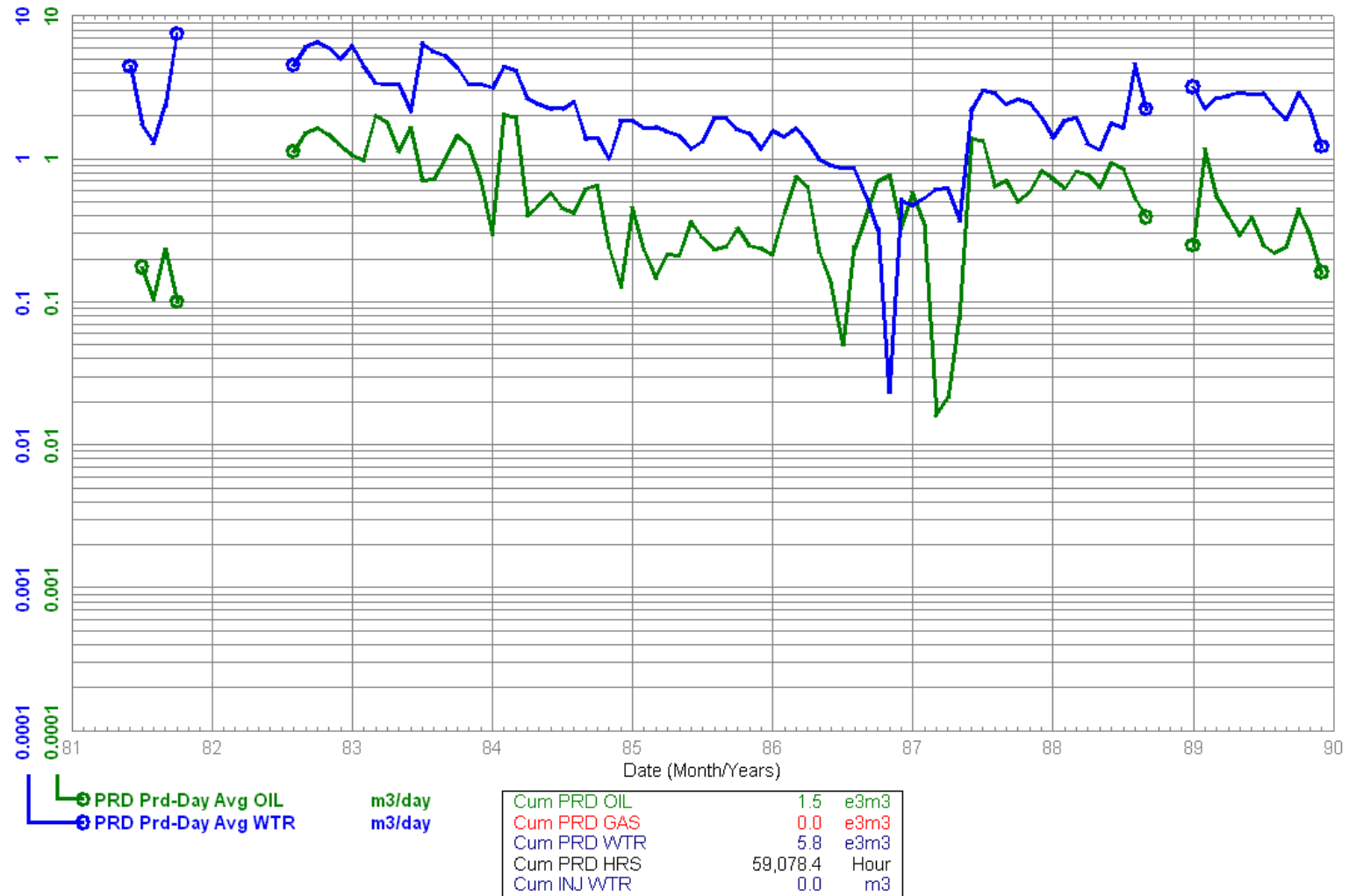
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1981-06
 To: 1989-12

100/03-34-001-26W1/00
 Omega Dalny
 Abandoned Producer

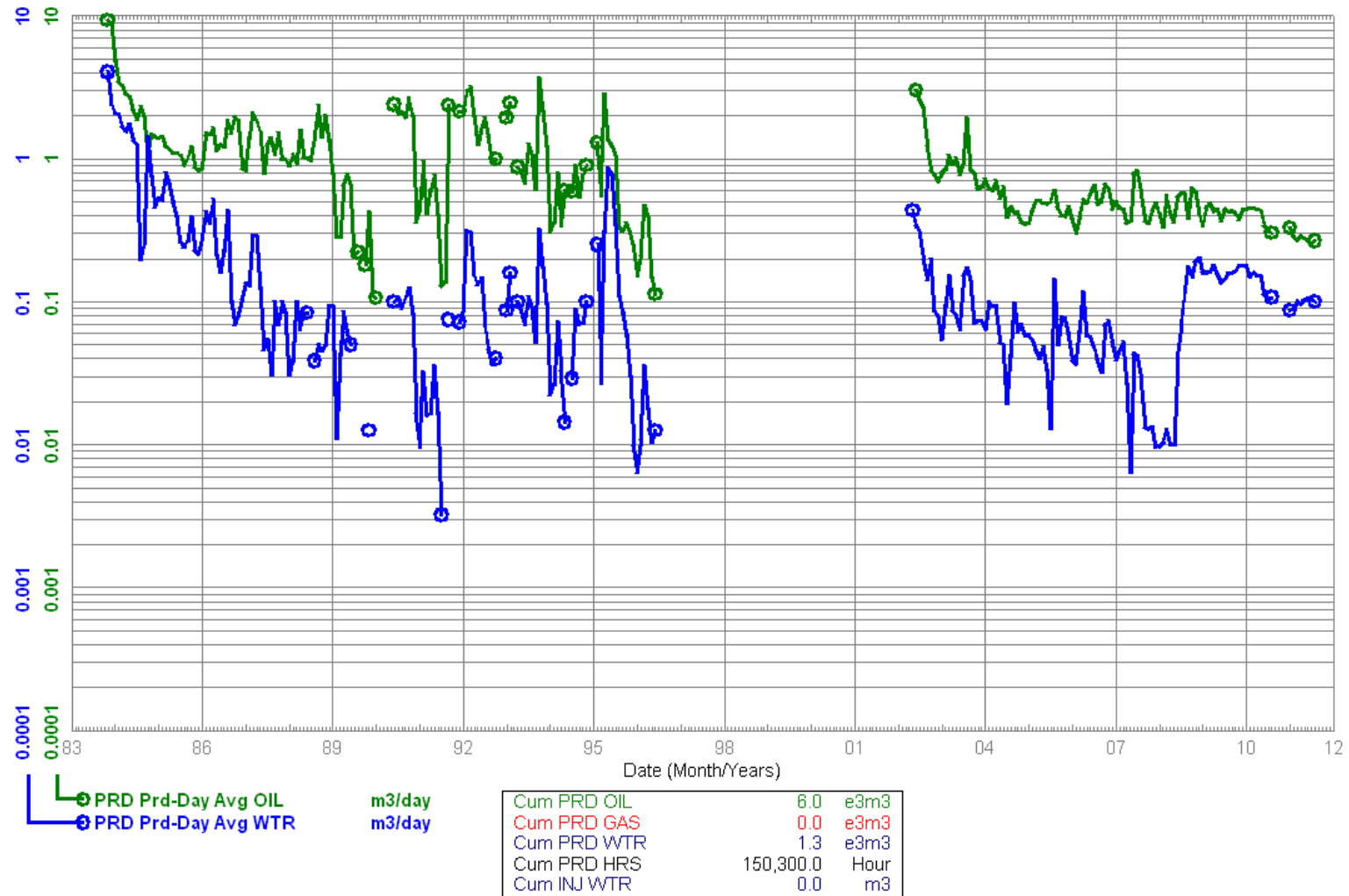
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-11
 To: 2011-08

100/04-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

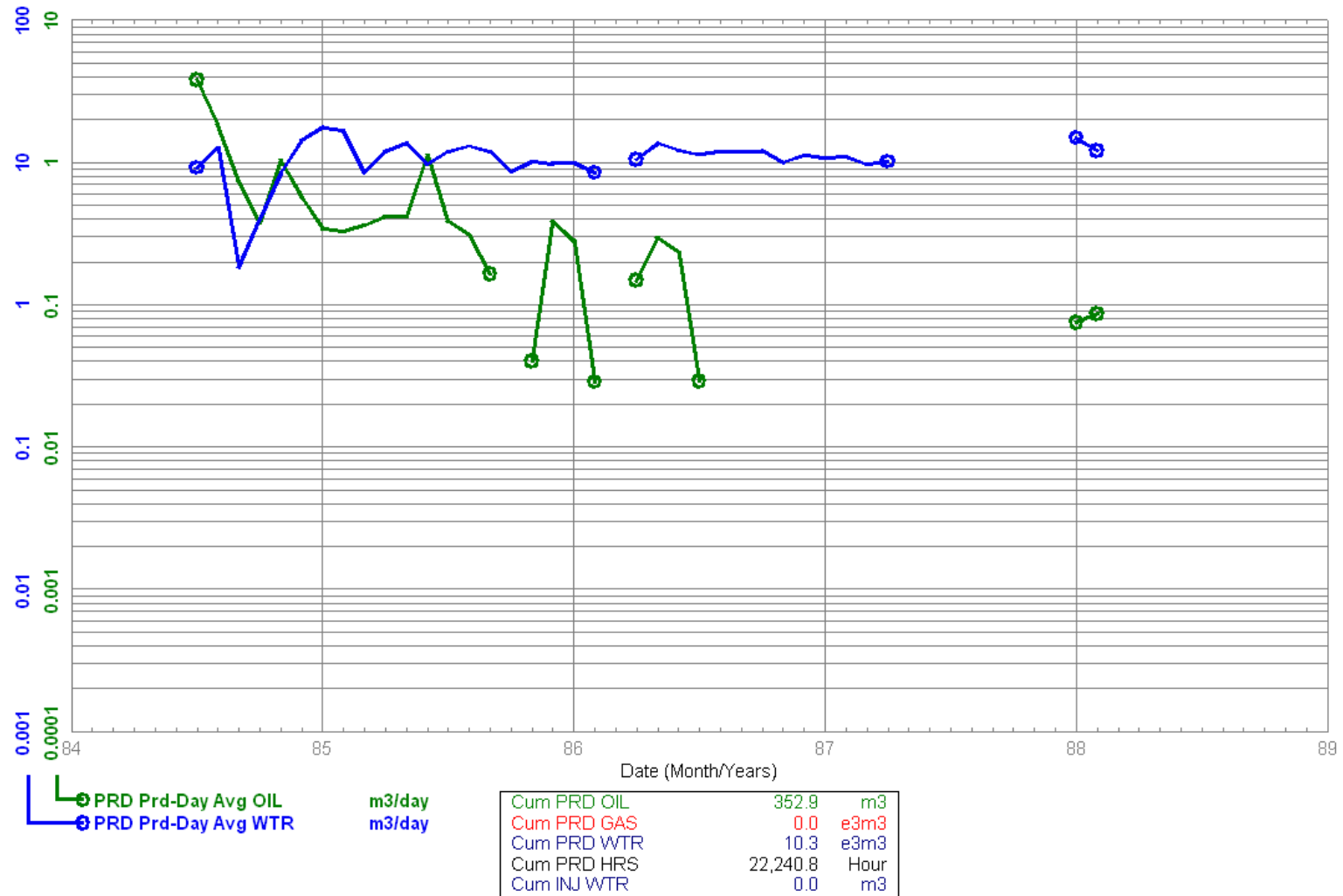
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-07
 To: 1988-02

100/04-34-001-26W1/00
 Omega Waskada
 Abandoned Producer

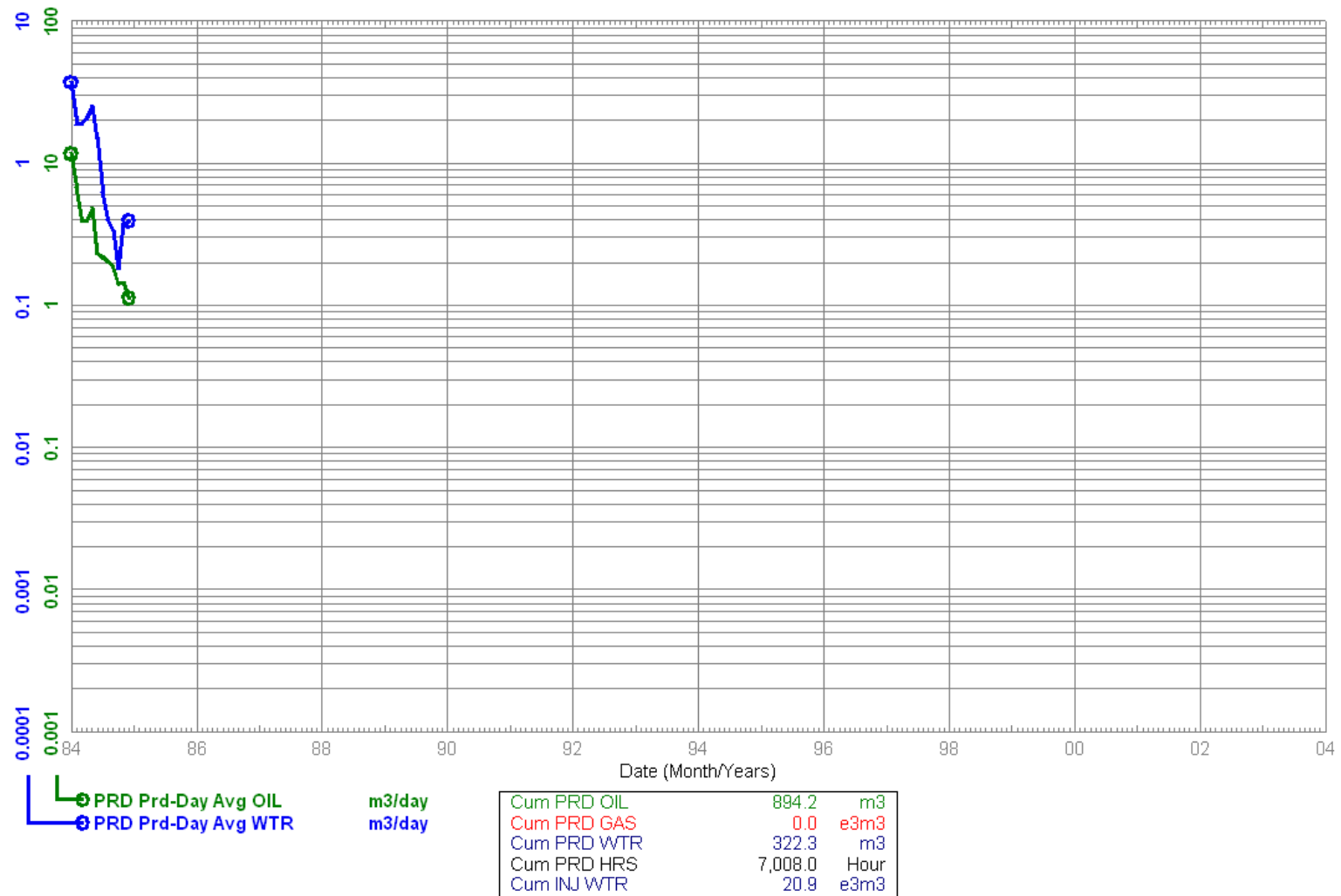
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-01
 To: 1984-12

100/05-02-002-26W1/00
 Waskada Unit No. 5 WW
 Water Inj Well

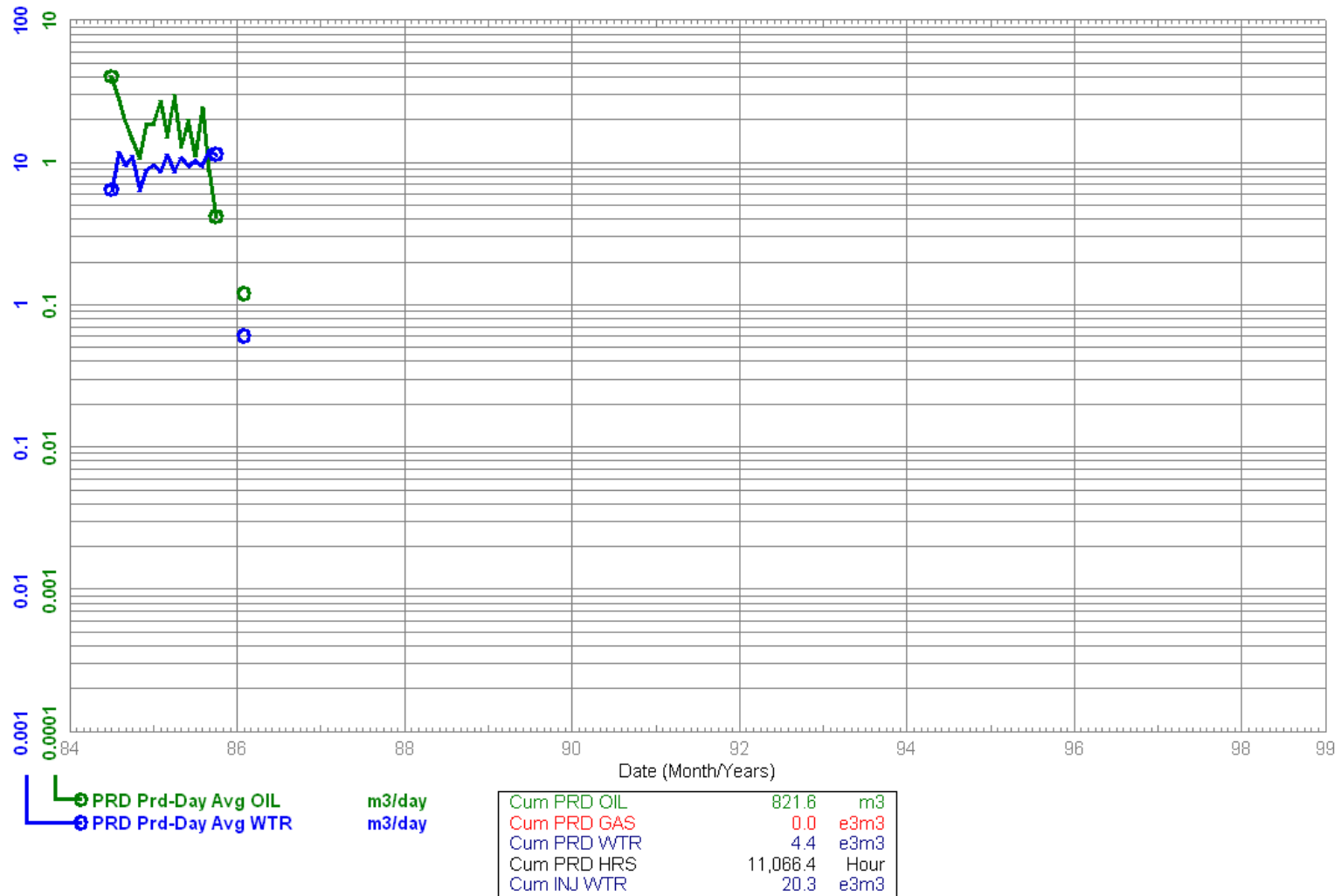
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-07
 To: 1986-02

100/05-34-001-26W1/00
 Waskada Unit No. 5 WW
 Water Inj Well

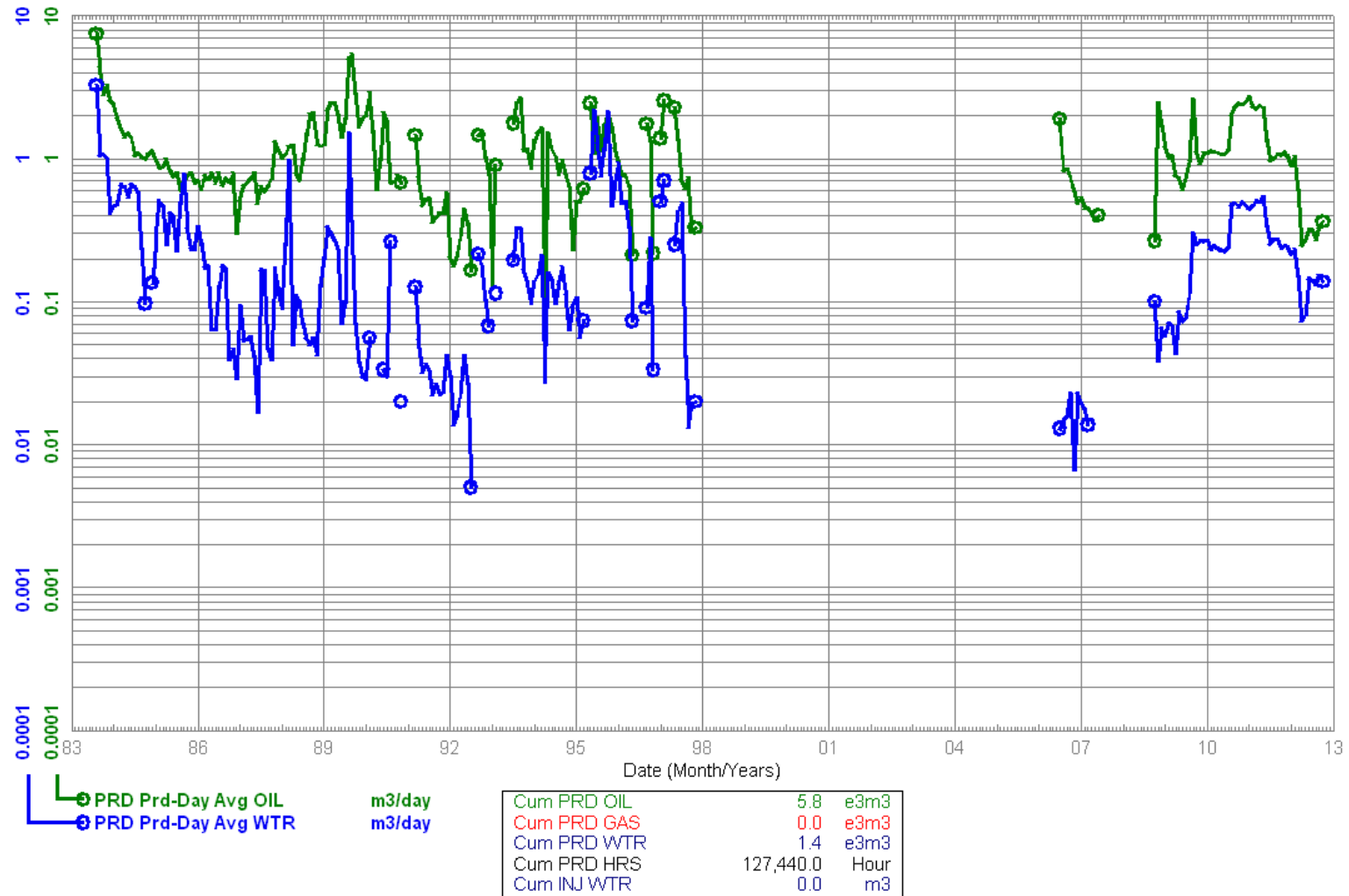
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-08
 To: 2012-10

100/06-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

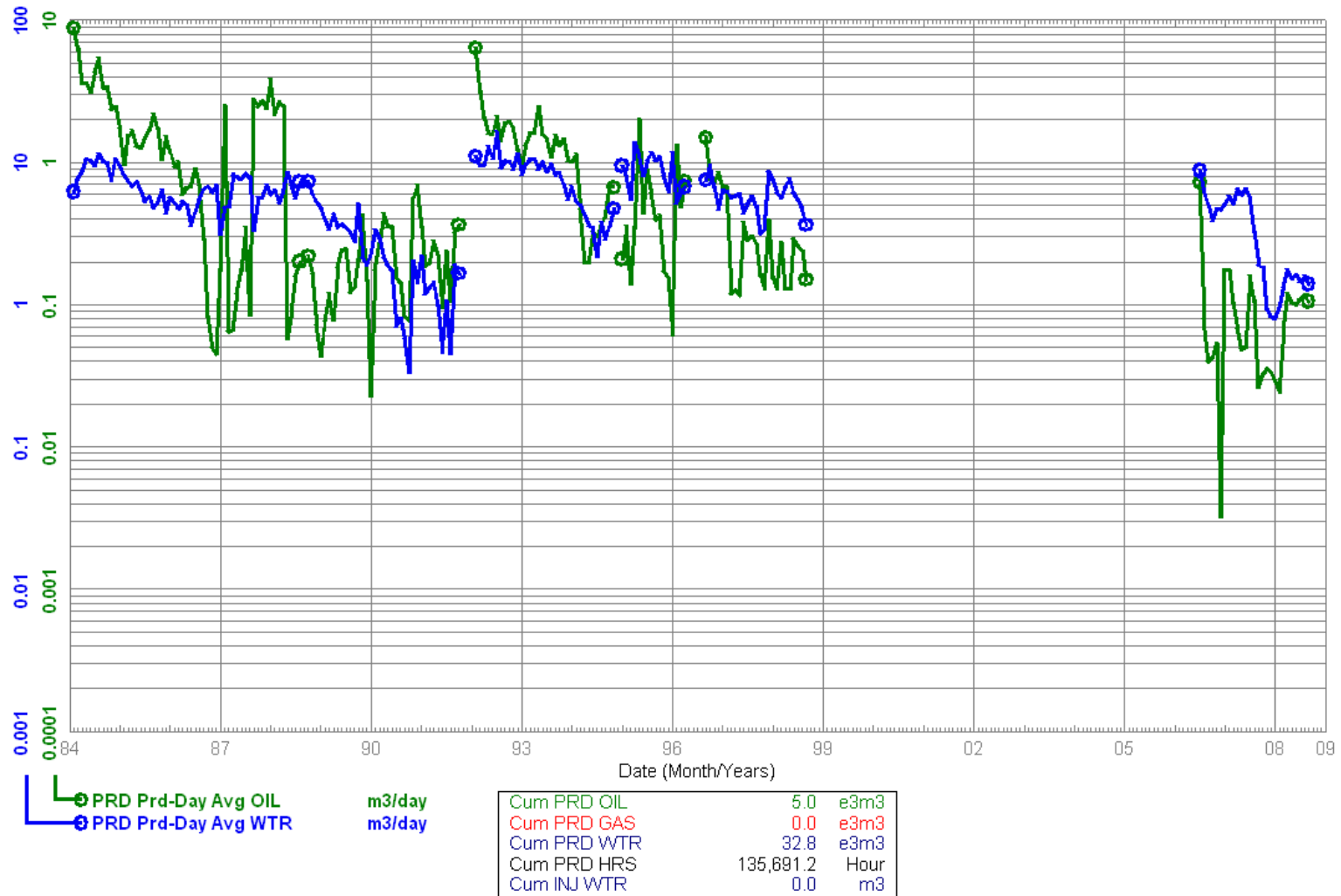
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-02
 To: 2008-09

100/06-34-001-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

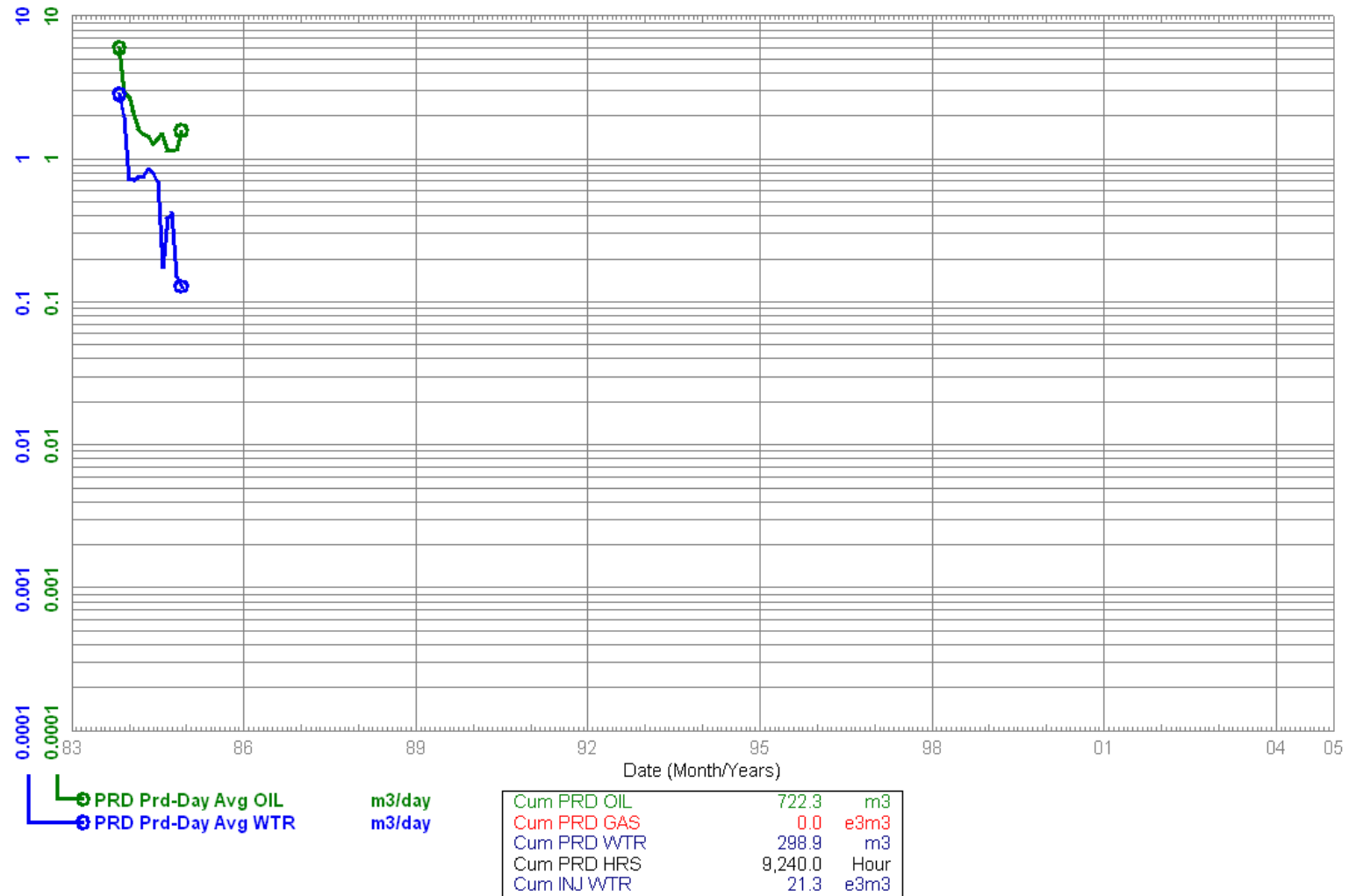
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-11
To: 1984-12

100/07-02-002-26W1/00
Waskada Unit No. 5 WW
Water Inj Well

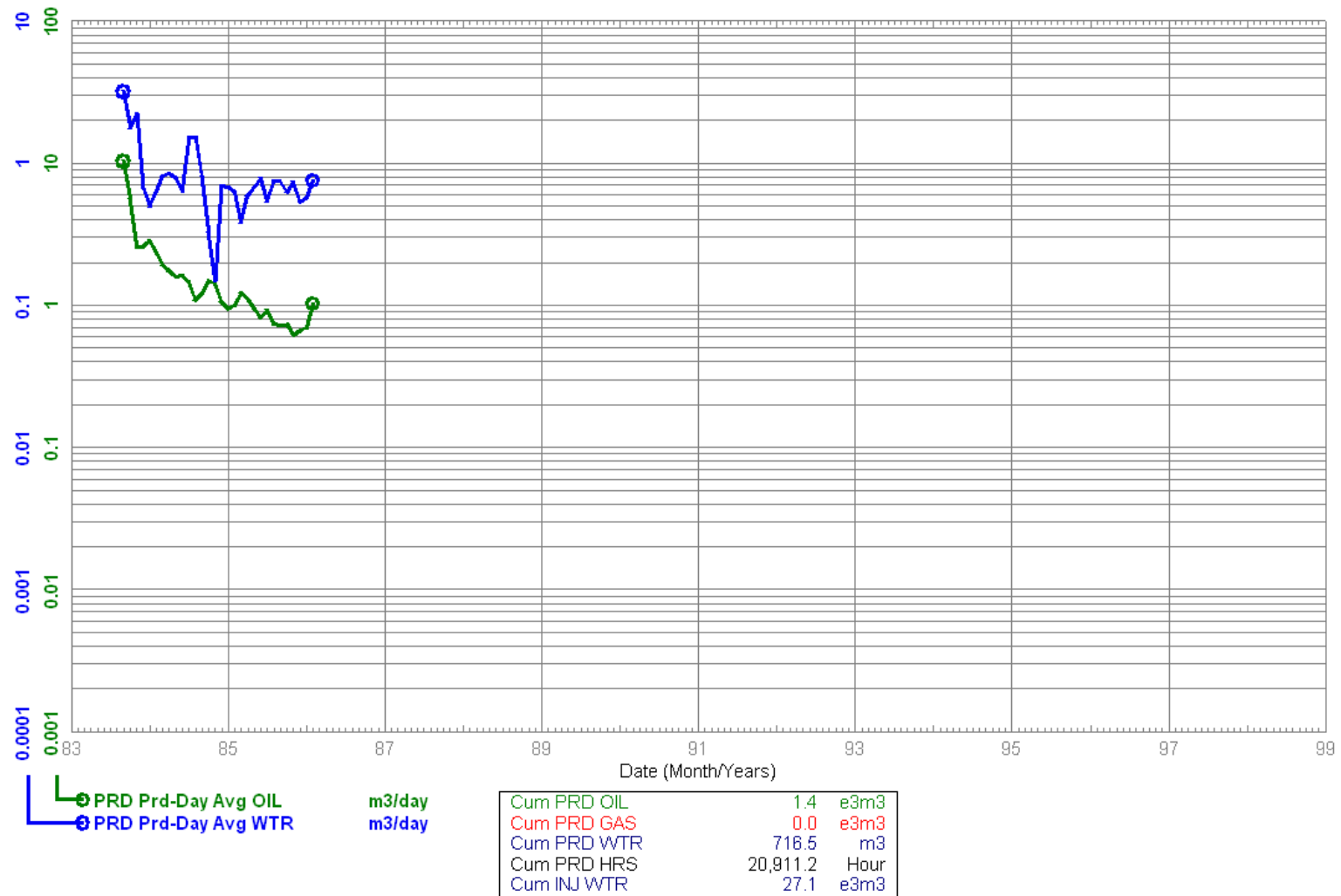
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-09
To: 1986-02

100/07-03-002-26W1/00
Waskada Unit No. 5 WW
WW - Suspended

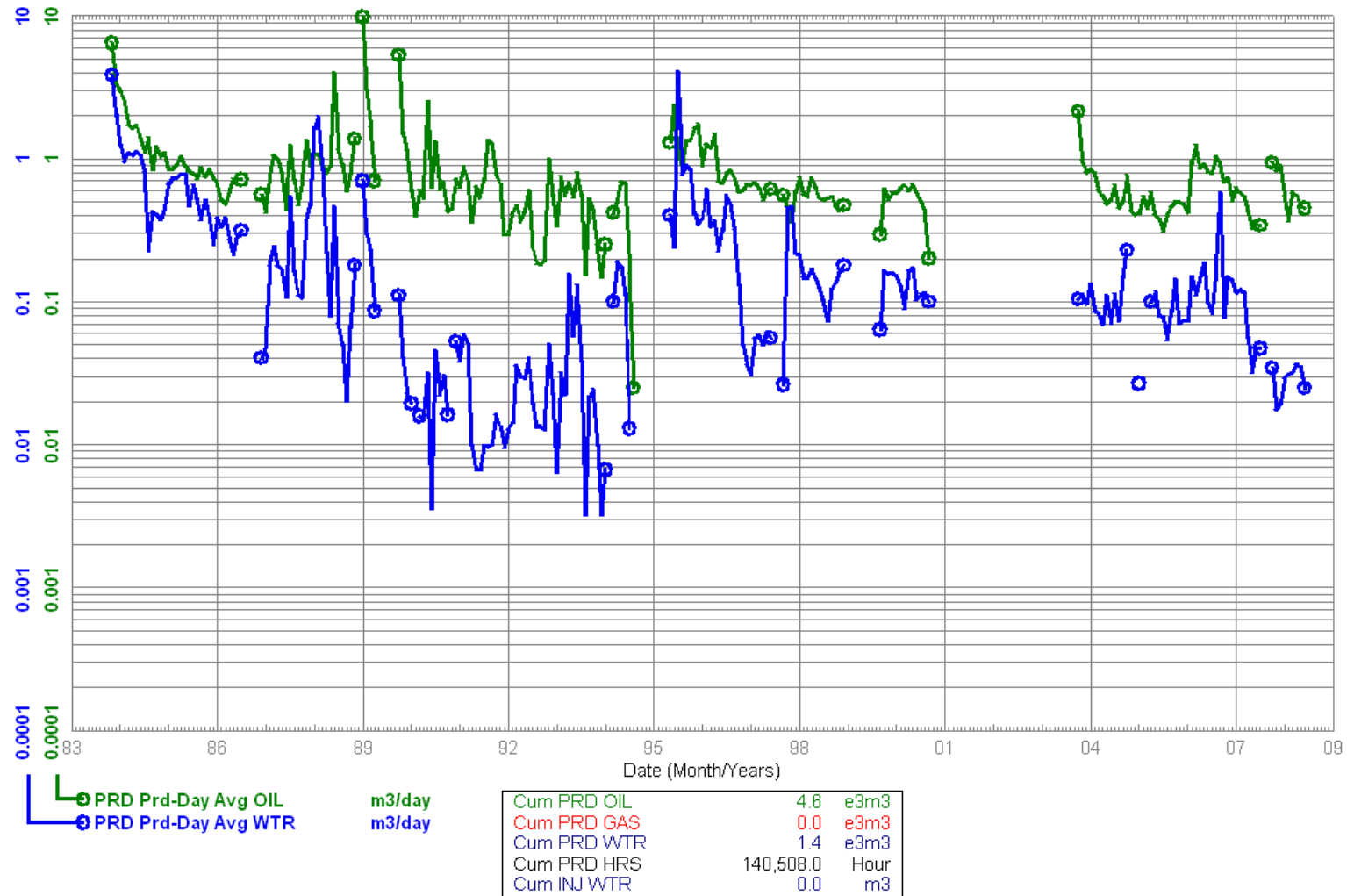
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-11
 To: 2008-06

100/08-02-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

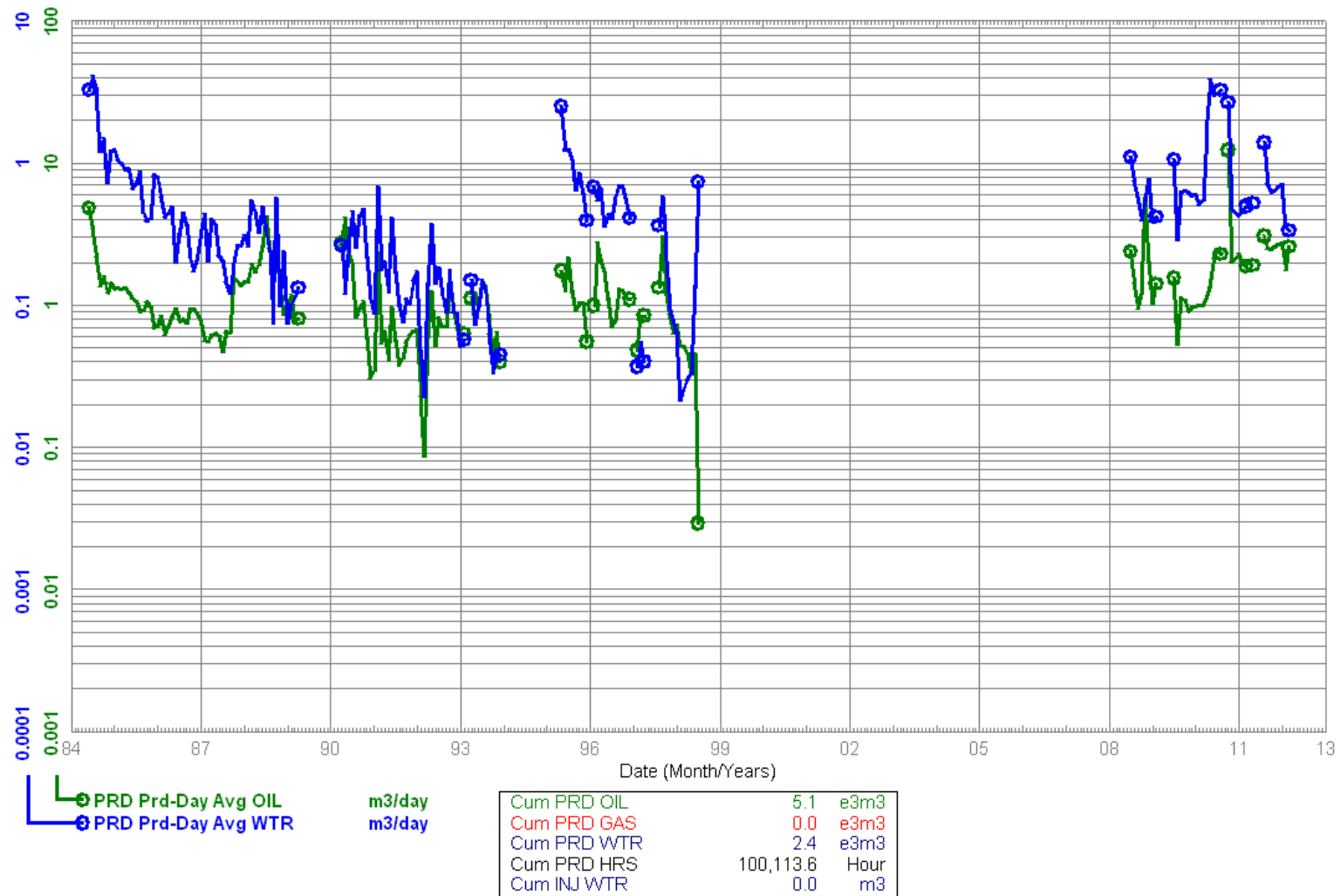
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-06
 To: 2012-03

100/08-03-002-26W1/00
 Waskada Unit No. 5
 Capable Of Oil Prod

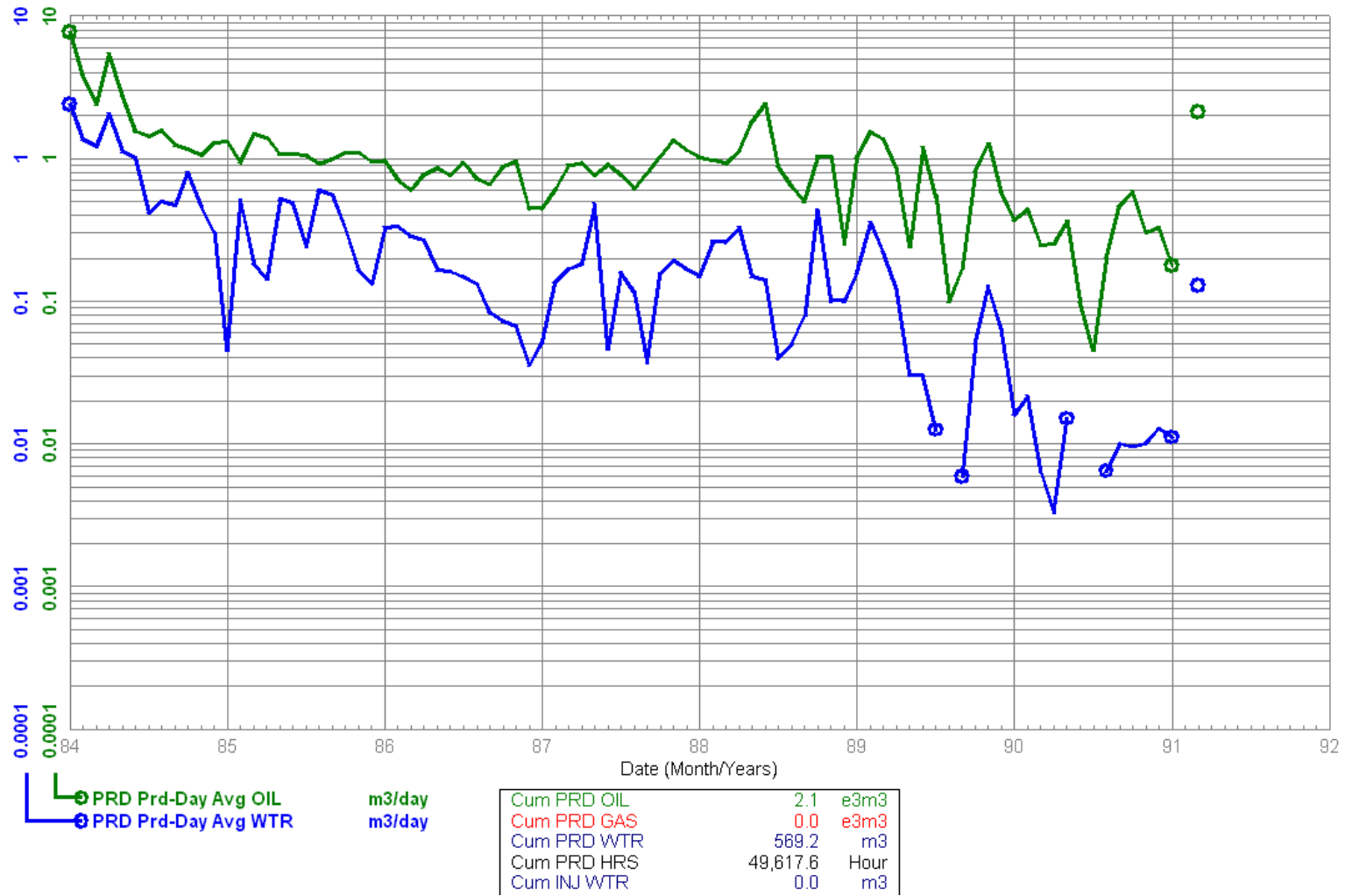
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-01
 To: 1991-03

100/09-02-002-26W1/00
 Waskada Unit No. 5 Prov.
 Abandoned Producer

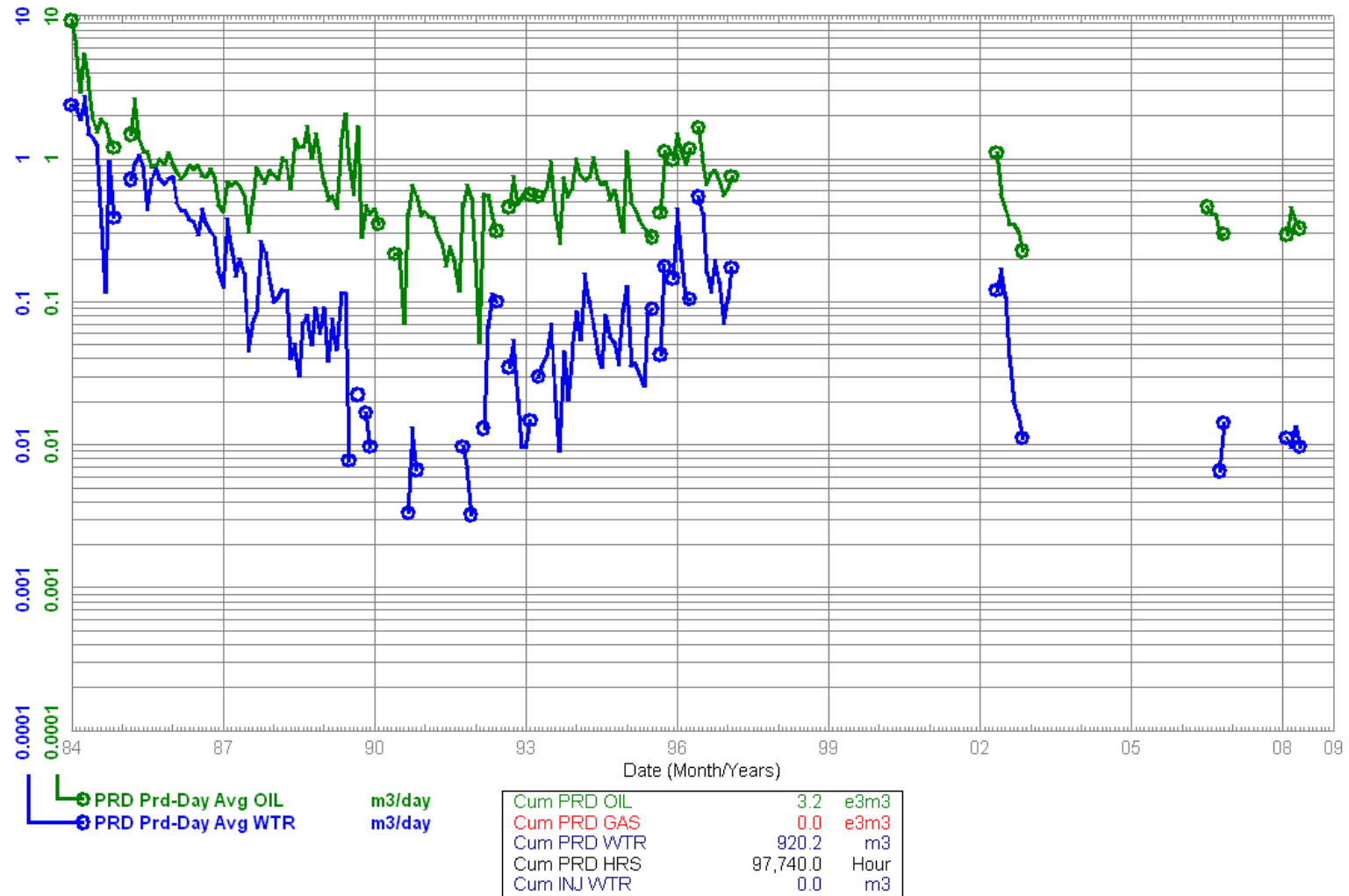
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-01
 To: 2008-05

100/10-02-002-26W1/00
 Waskada Unit No. 5 Prov.
 COOP - Suspended

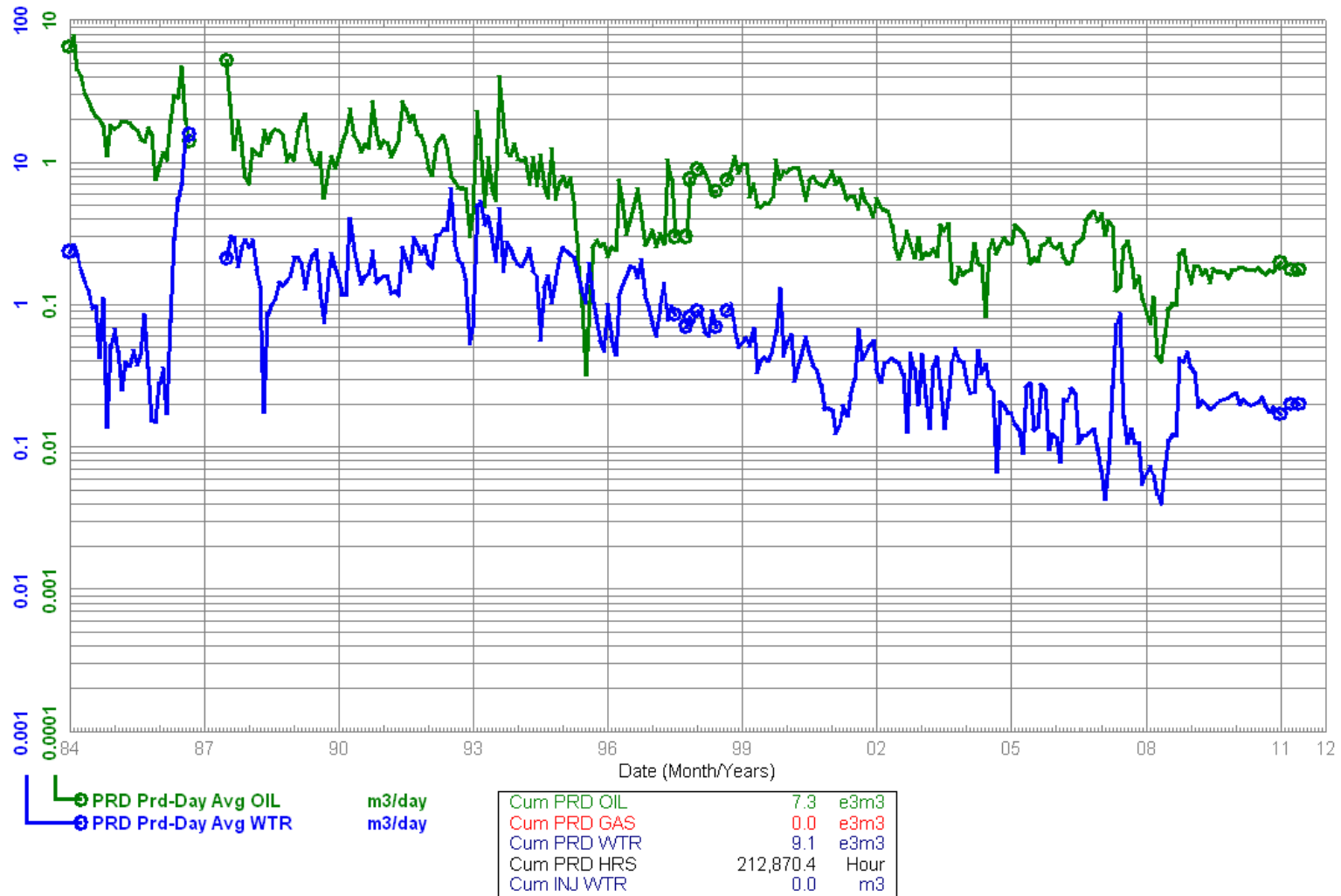
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-01
 To: 2011-06

100/11-02-002-26W1/00
 Waskada Unit No. 5 Prov.
 Capable Of Oil Prod

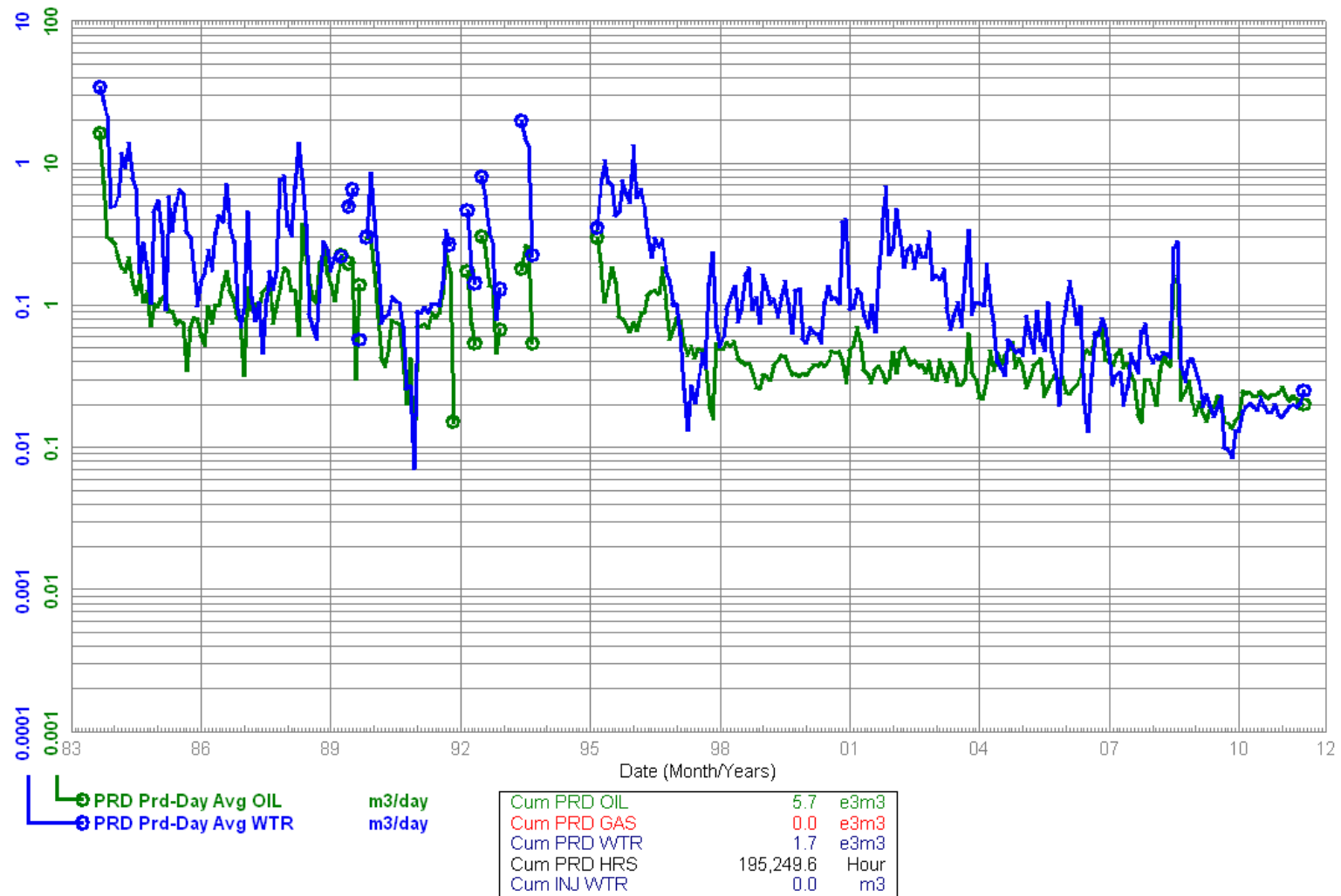
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-09
 To: 2011-07

100/12-02-002-26W1/00
 Waskada Unit No. 5 Prov.
 Capable Of Oil Prod

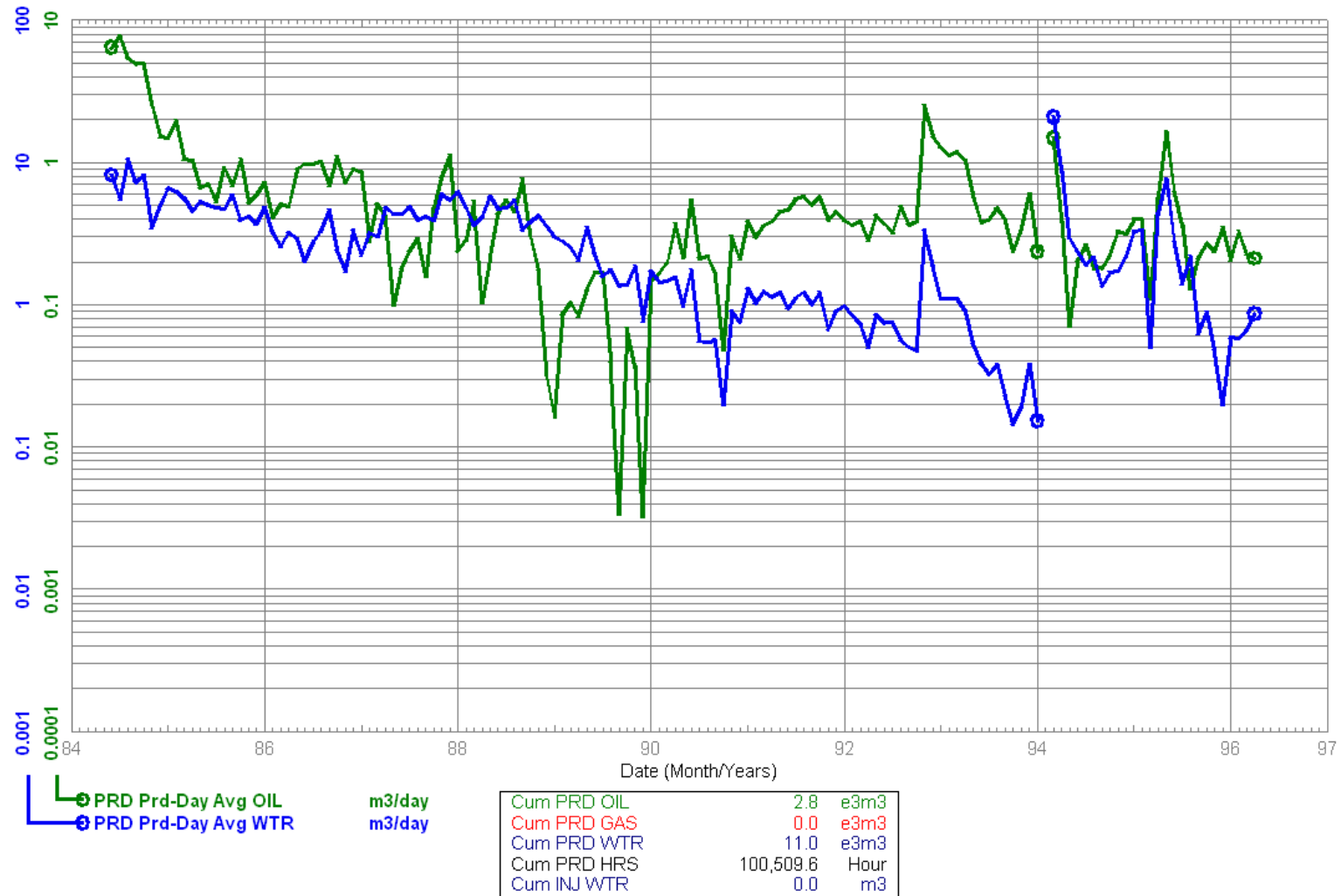
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-06
 To: 1996-04

100/12-34-001-26W1/02
 Waskada Unit No. 5
 Abandoned Producer

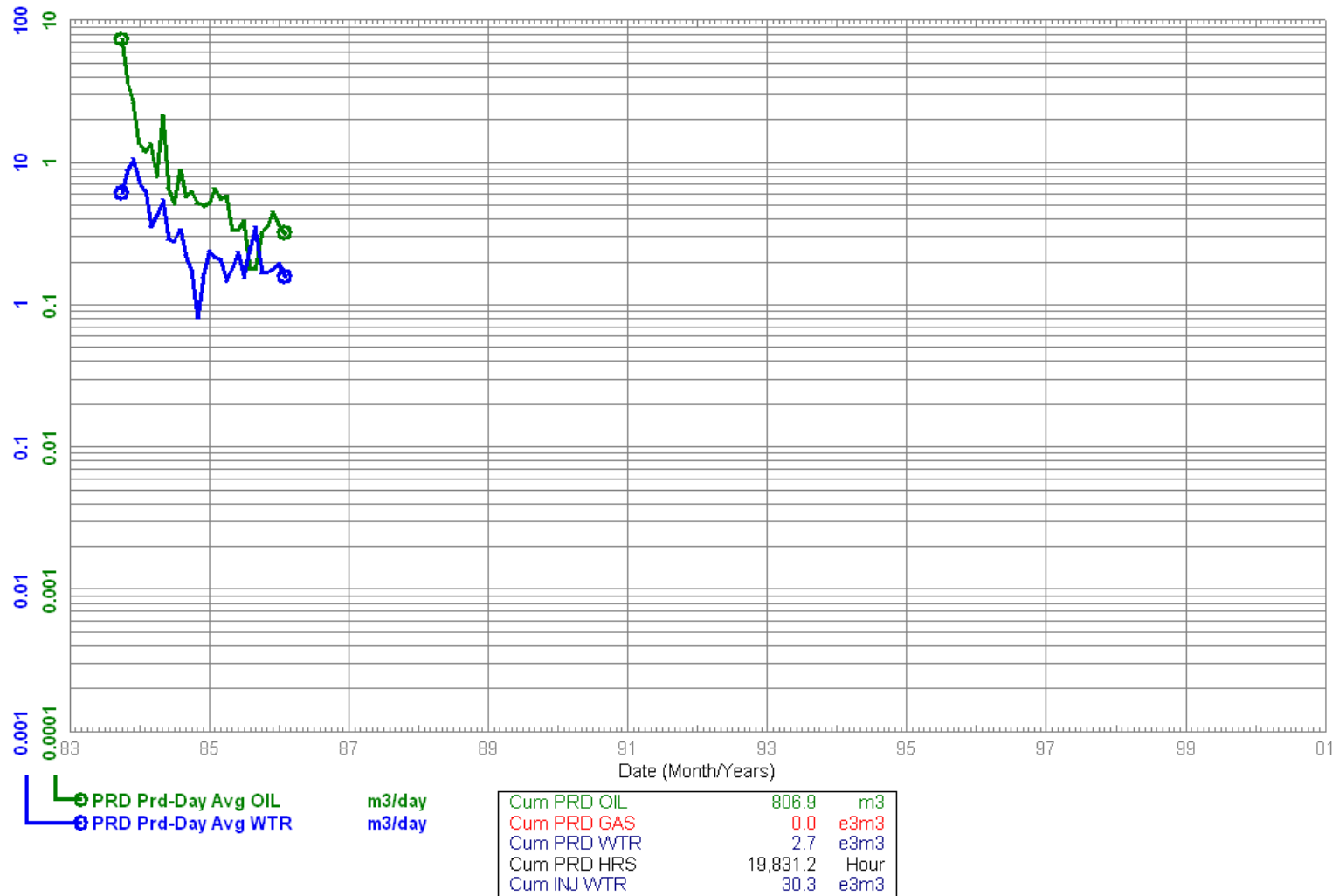
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-10
 To: 1986-02

100/13-34-001-26W1/00
 Waskada Unit No. 5 WW
 Water Inj Well

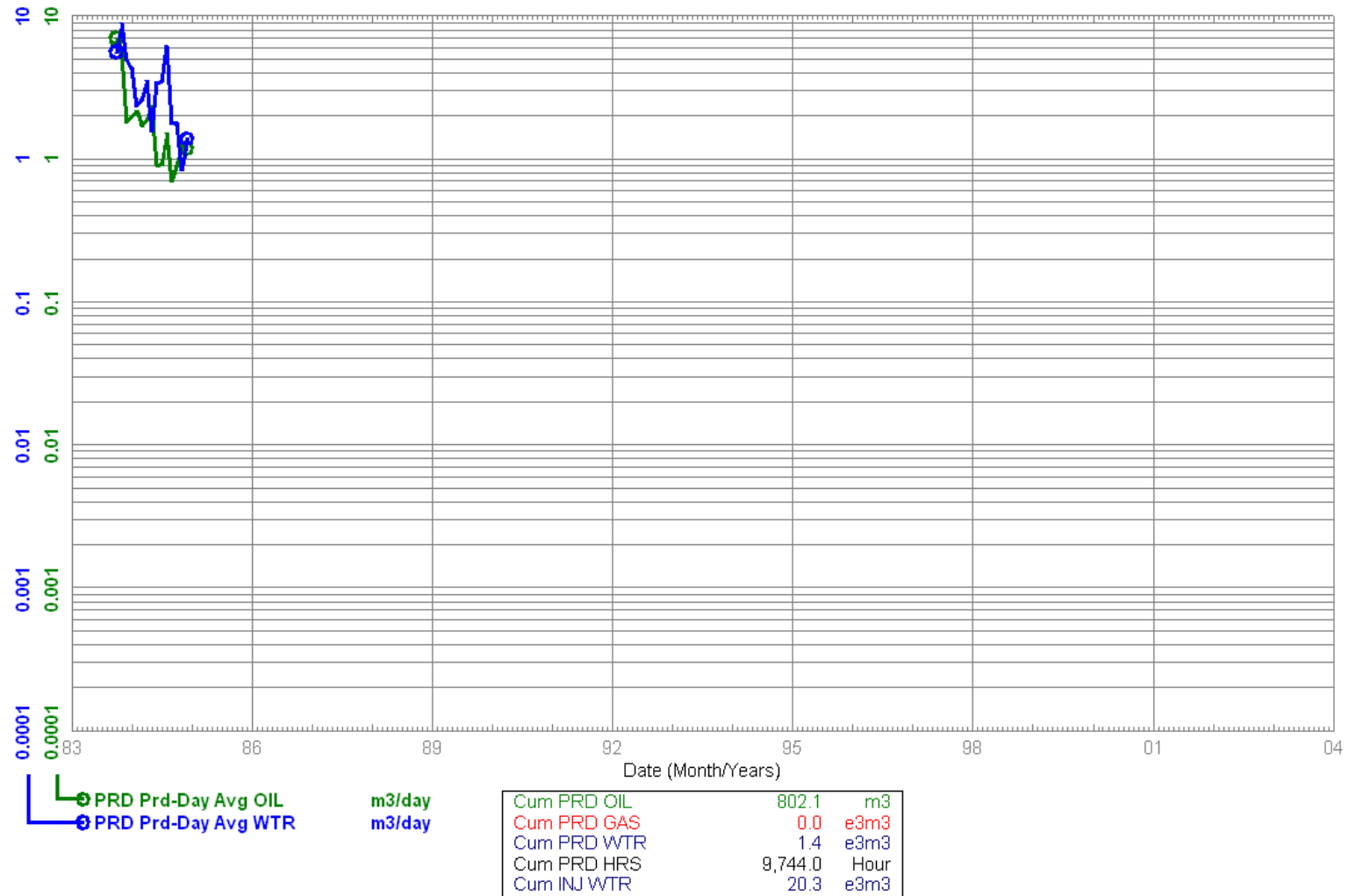
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-10
To: 1984-12

100/13-35-001-26W1/00
Waskada Unit No. 5 WW
Water Inj Well

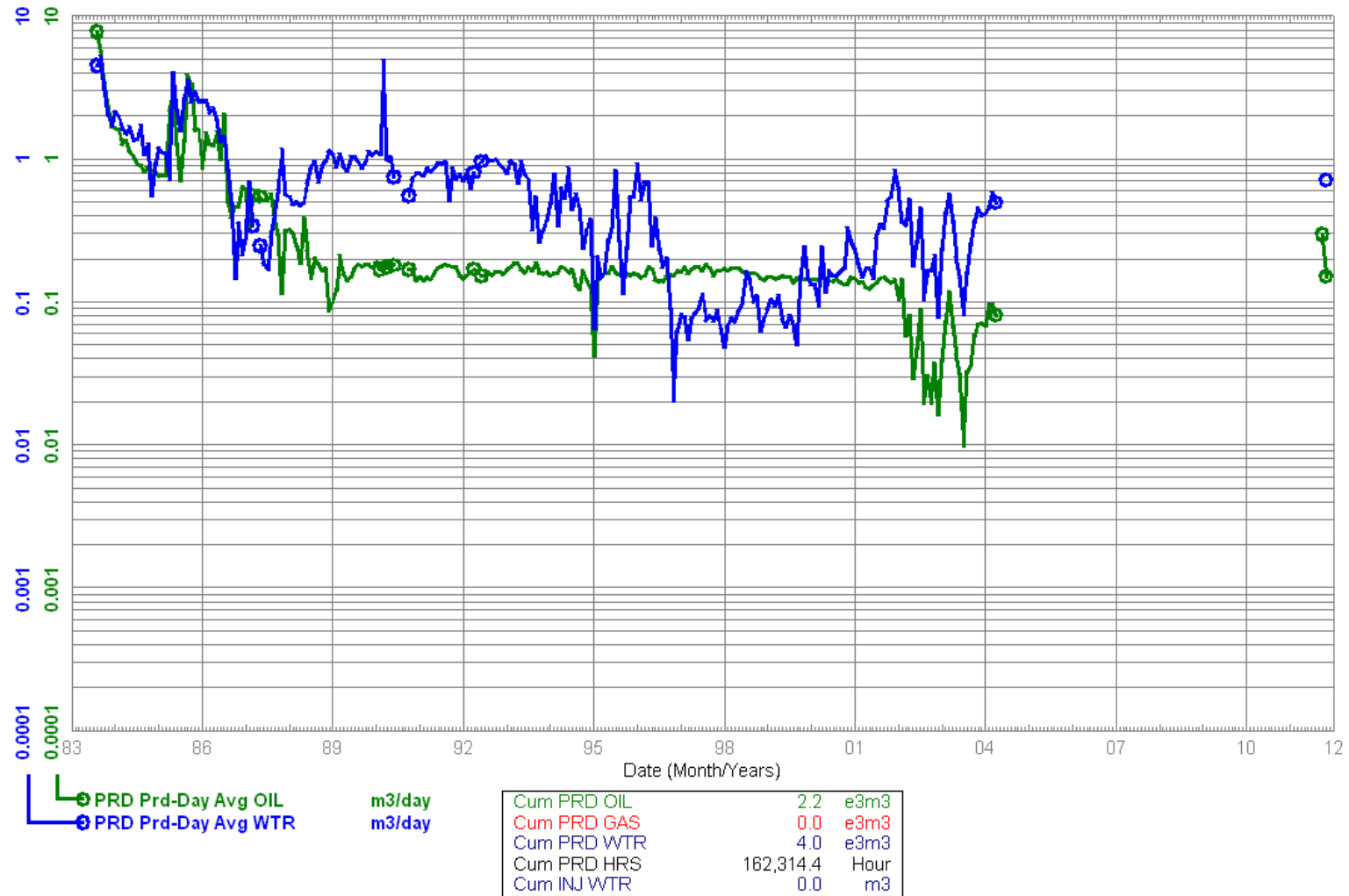
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-08
 To: 2011-11

100/14-34-001-26W1/02
 Waskada Unit No. 5 COM
 Comingled

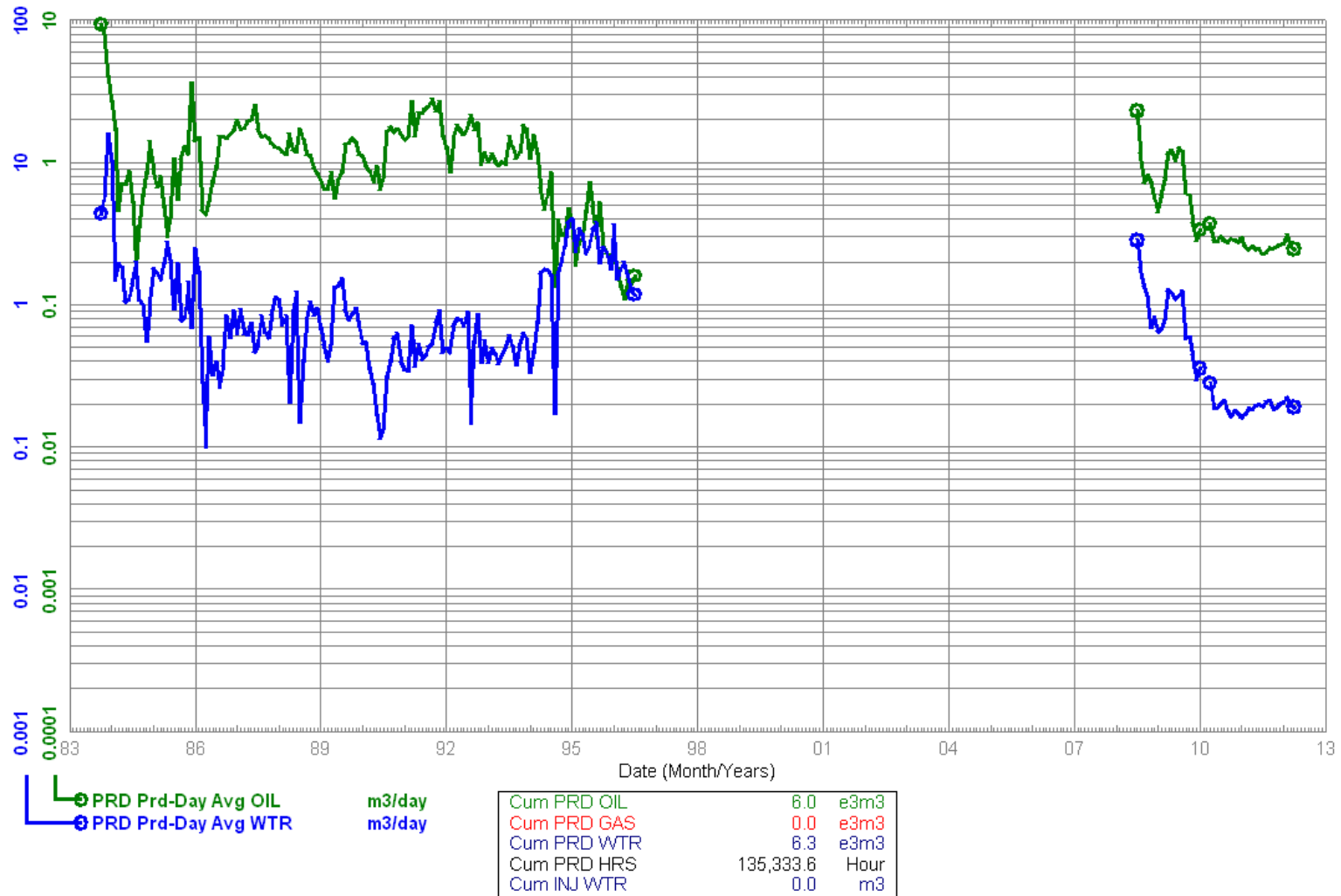
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-10
 To: 2012-04

100/14-35-001-26W1/02
 Waskada Unit No. 5
 Capable Of Oil Prod

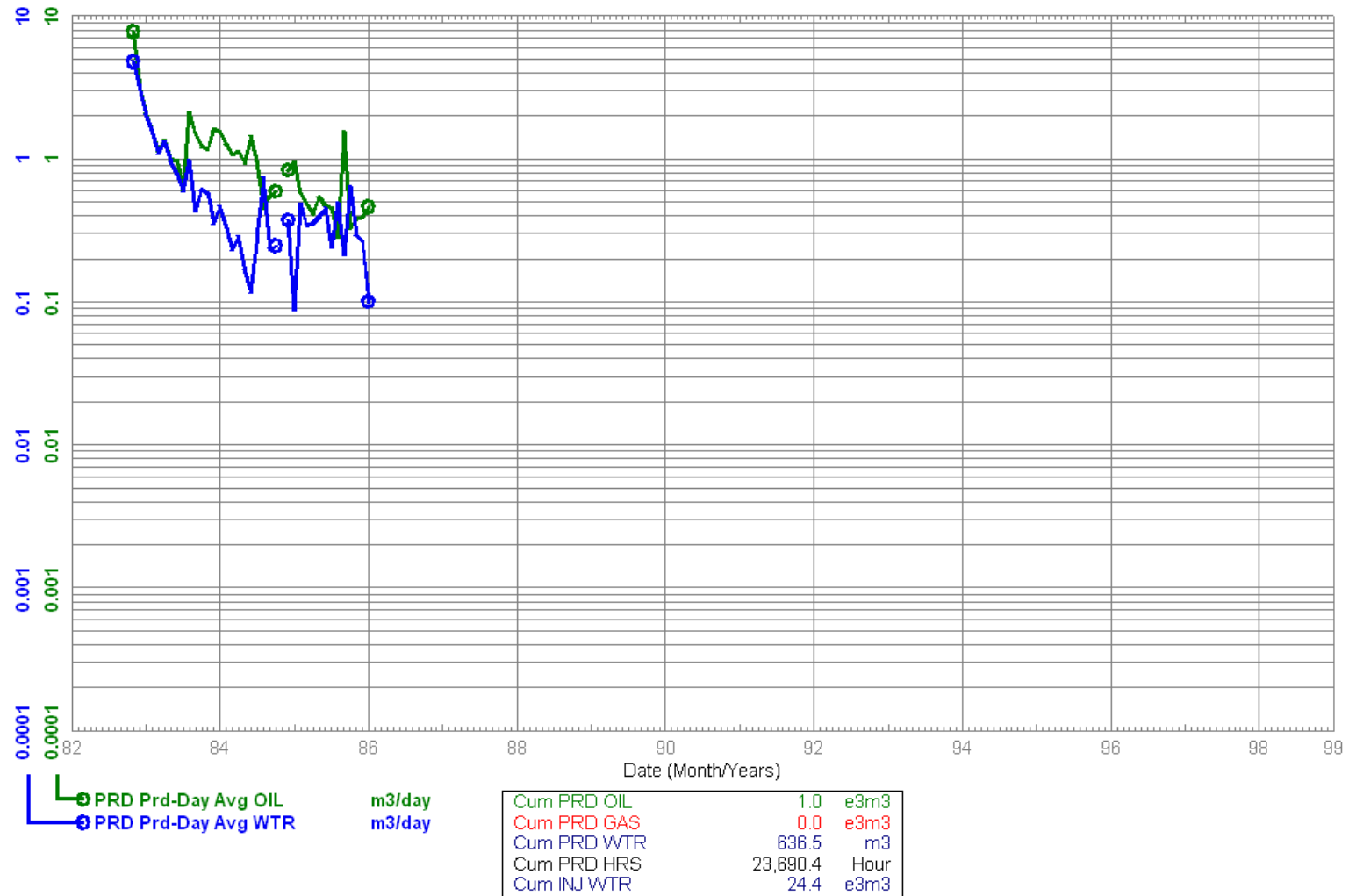
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1982-11
 To: 1986-01

100/15-02-002-26W1/00
 Waskada Unit No. 5 Prov. WIW
 WIW - Suspended

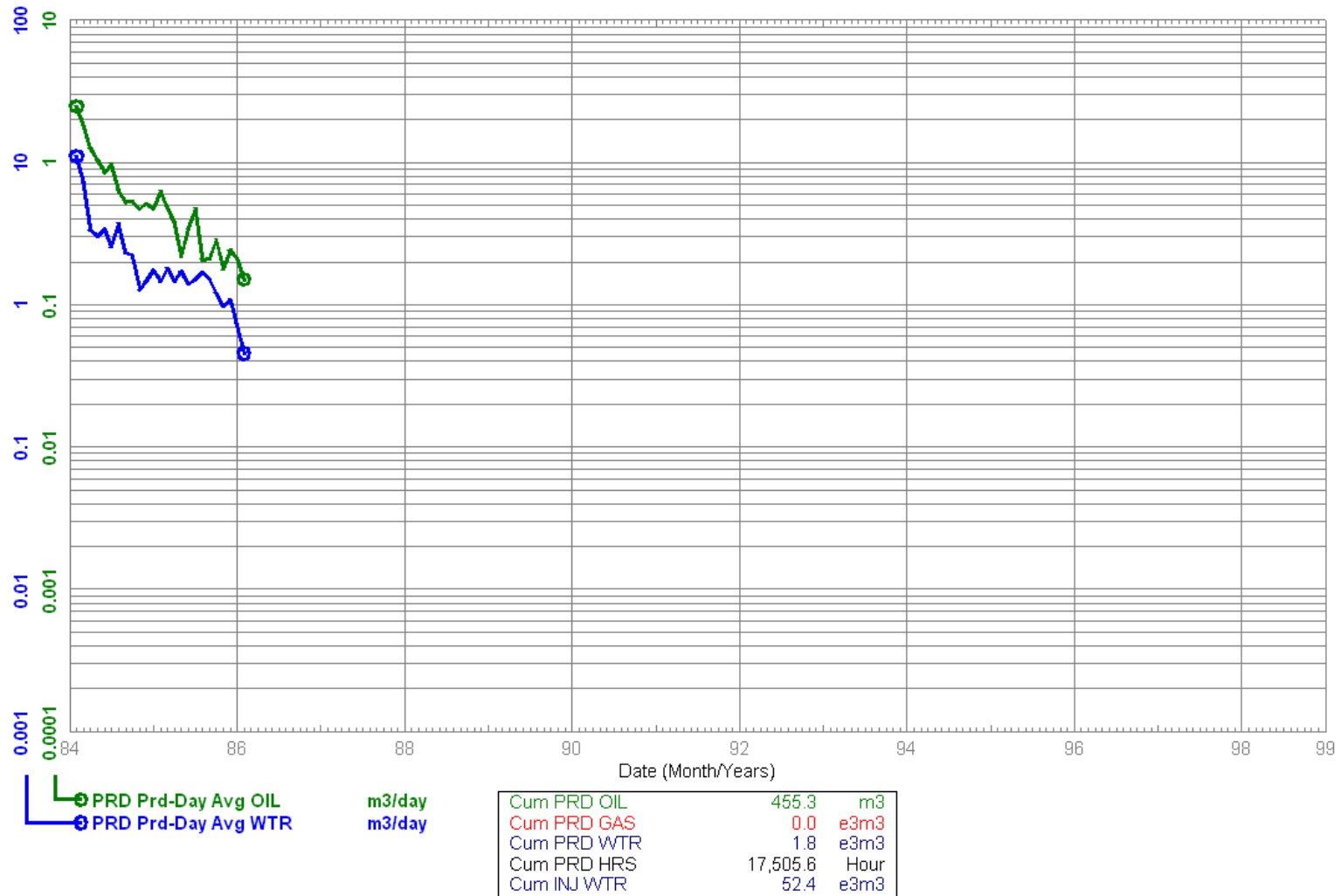
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-02
 To: 1986-02

100/15-34-001-26W1/00
 Waskada Unit No. 5 WW
 WW - Suspended

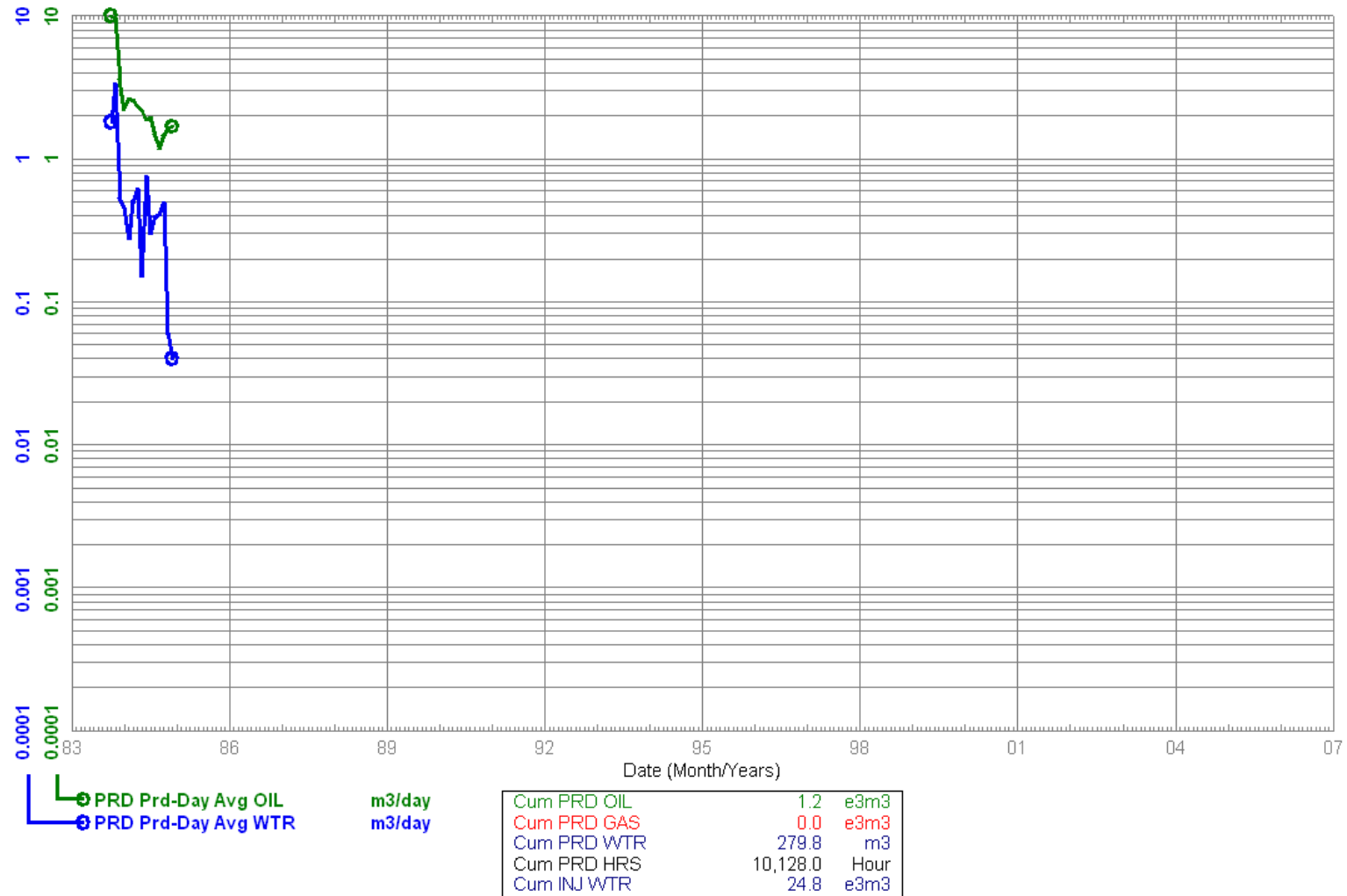
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-10
To: 1984-12

100/15-35-001-26W1/00
Waskada Unit No. 5 WW
Water Inj Well

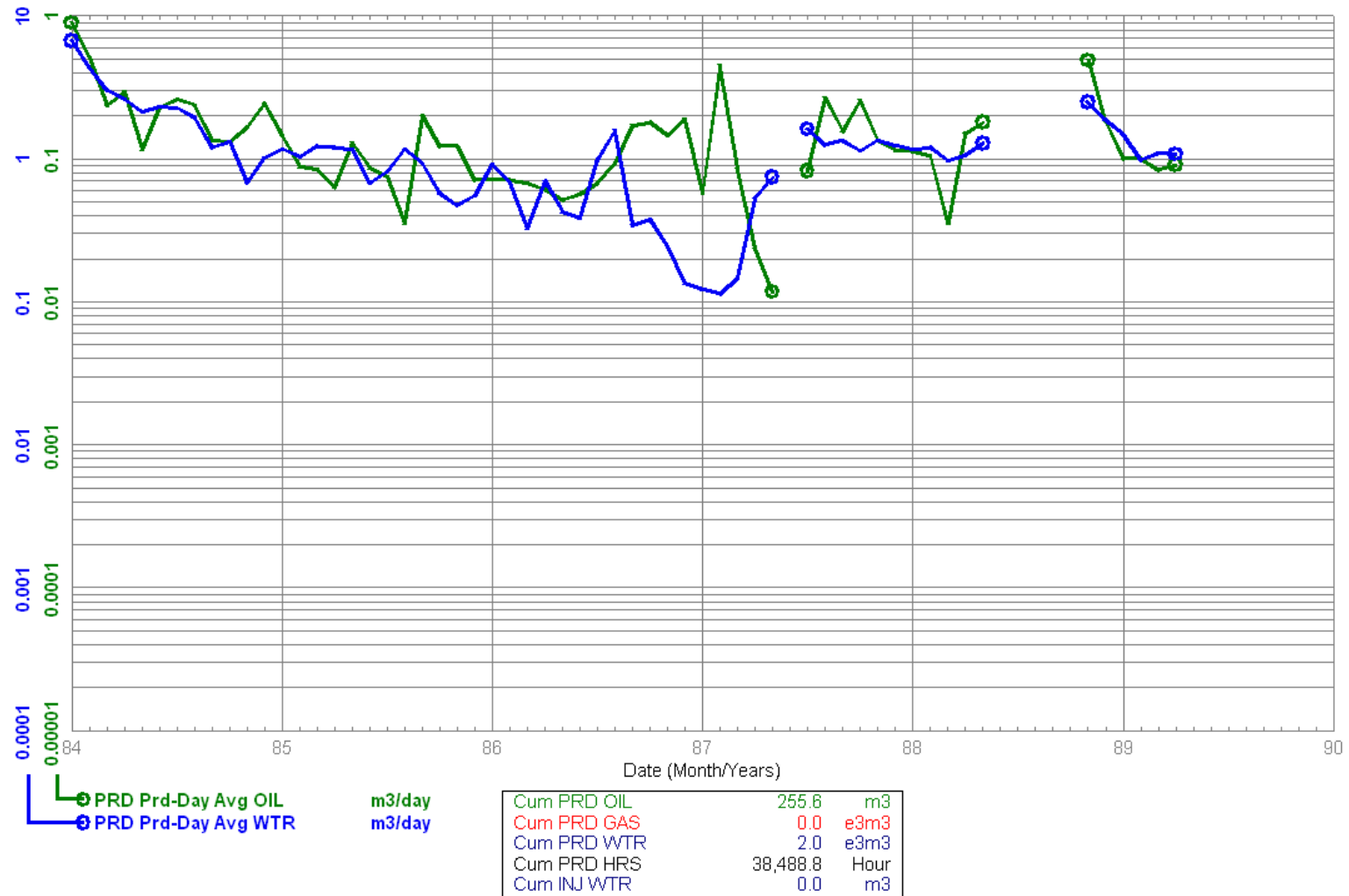
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1984-01
 To: 1989-04

100/16-34-001-26W1/00
 Omega Chevron Waskada
 Abandoned Producer

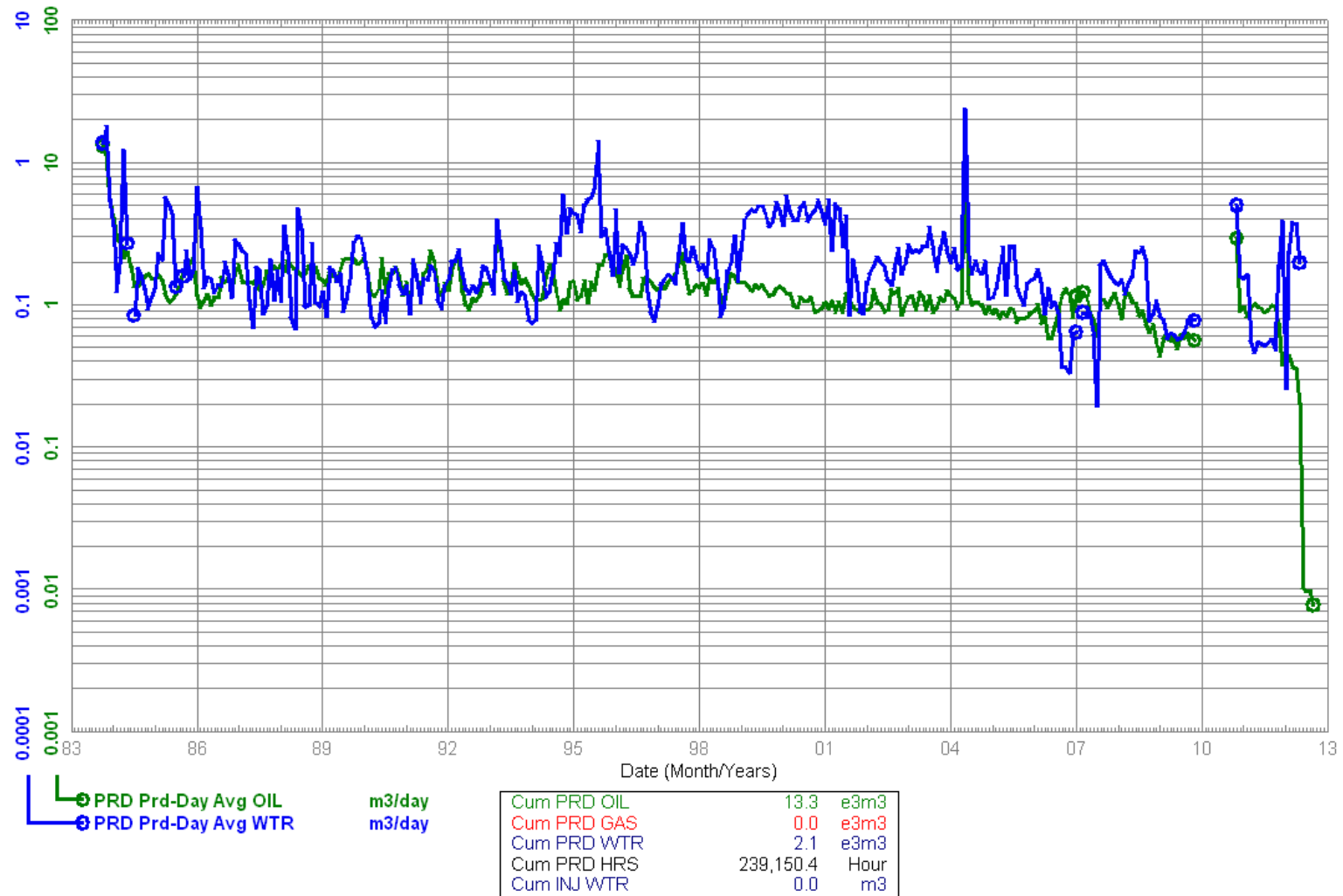
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
From: 1983-10
To: 2012-09

100/16-35-001-26W1/00
Waskada Unit No. 5
Capable Of Oil Prod

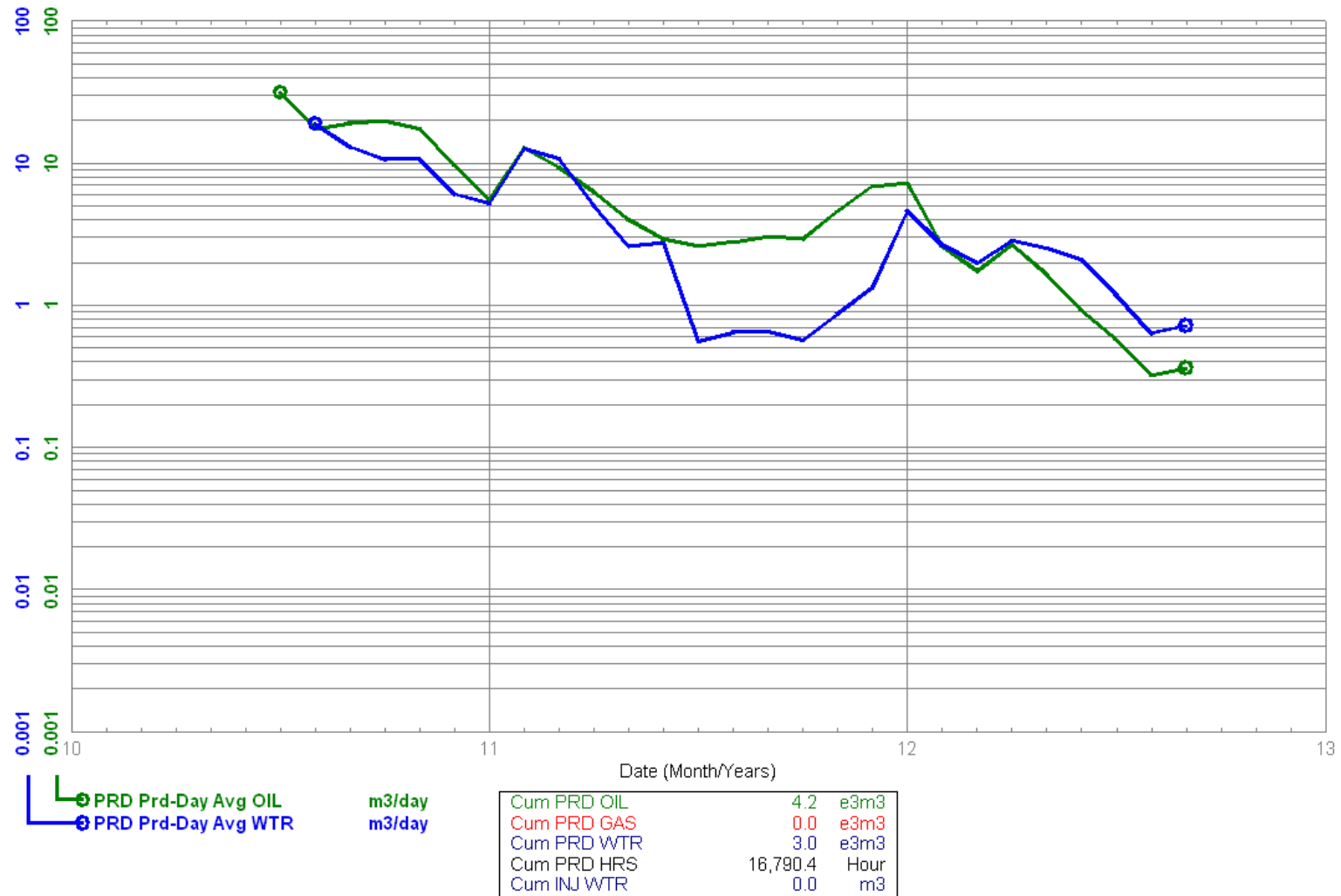
Field: WASKADA (03)
Pool: LOWER AMARANTH A (29A)
Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-07
 To: 2012-09

102/01-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

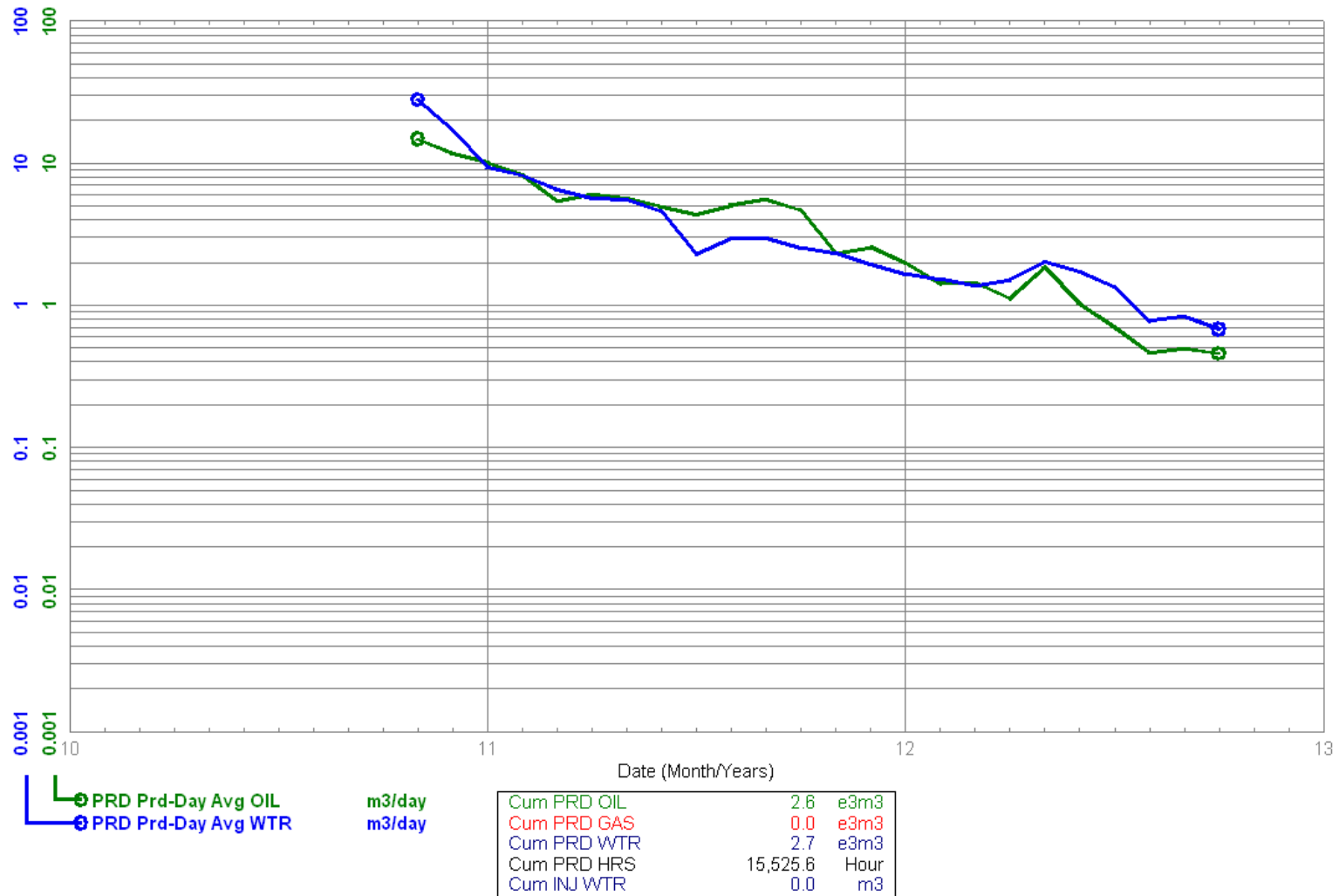
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-11
 To: 2012-10

102/01-03-002-26W1/02
 Penn West Waskada HZNTL
 Capable Of Oil Prod

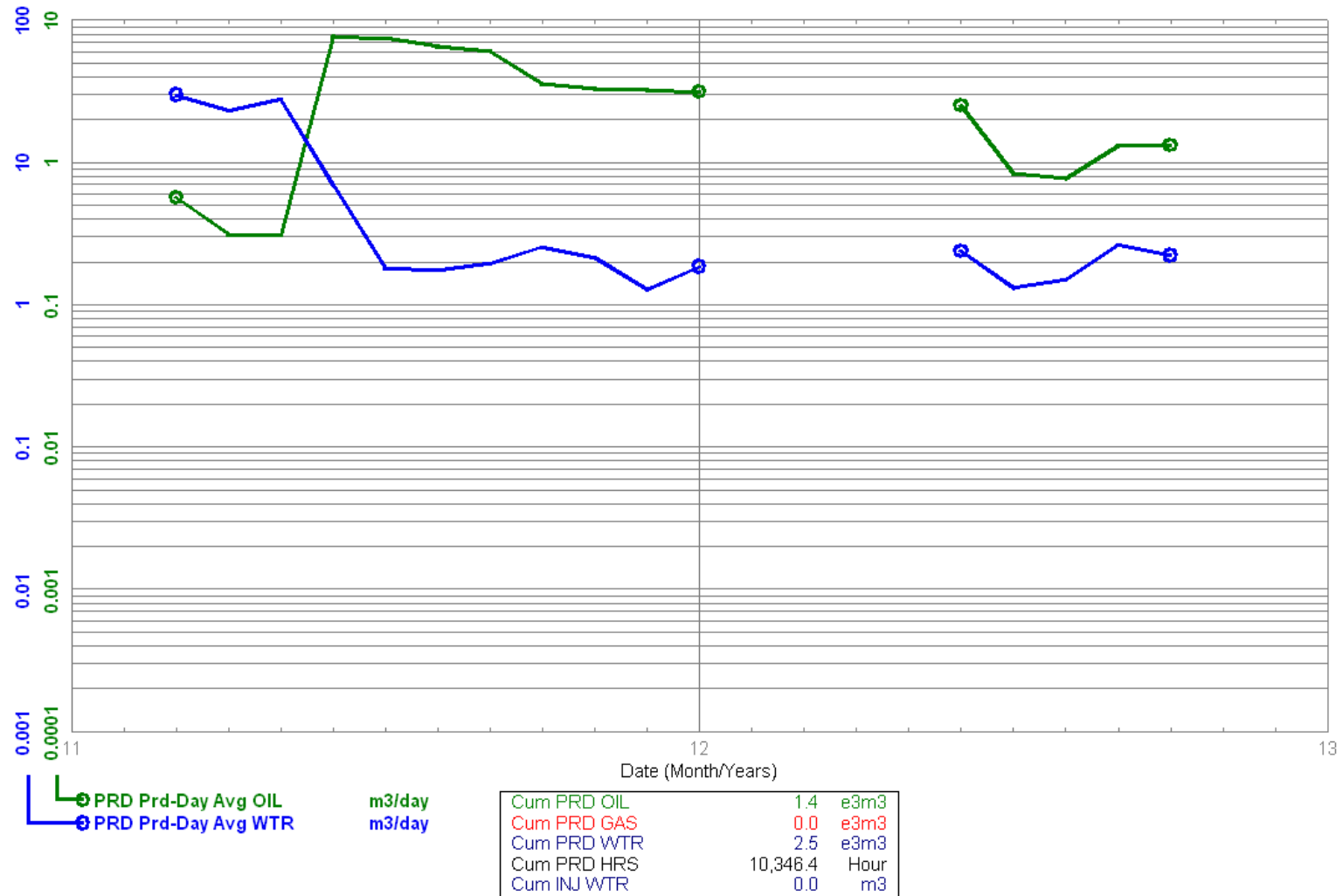
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit:



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

102/02-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

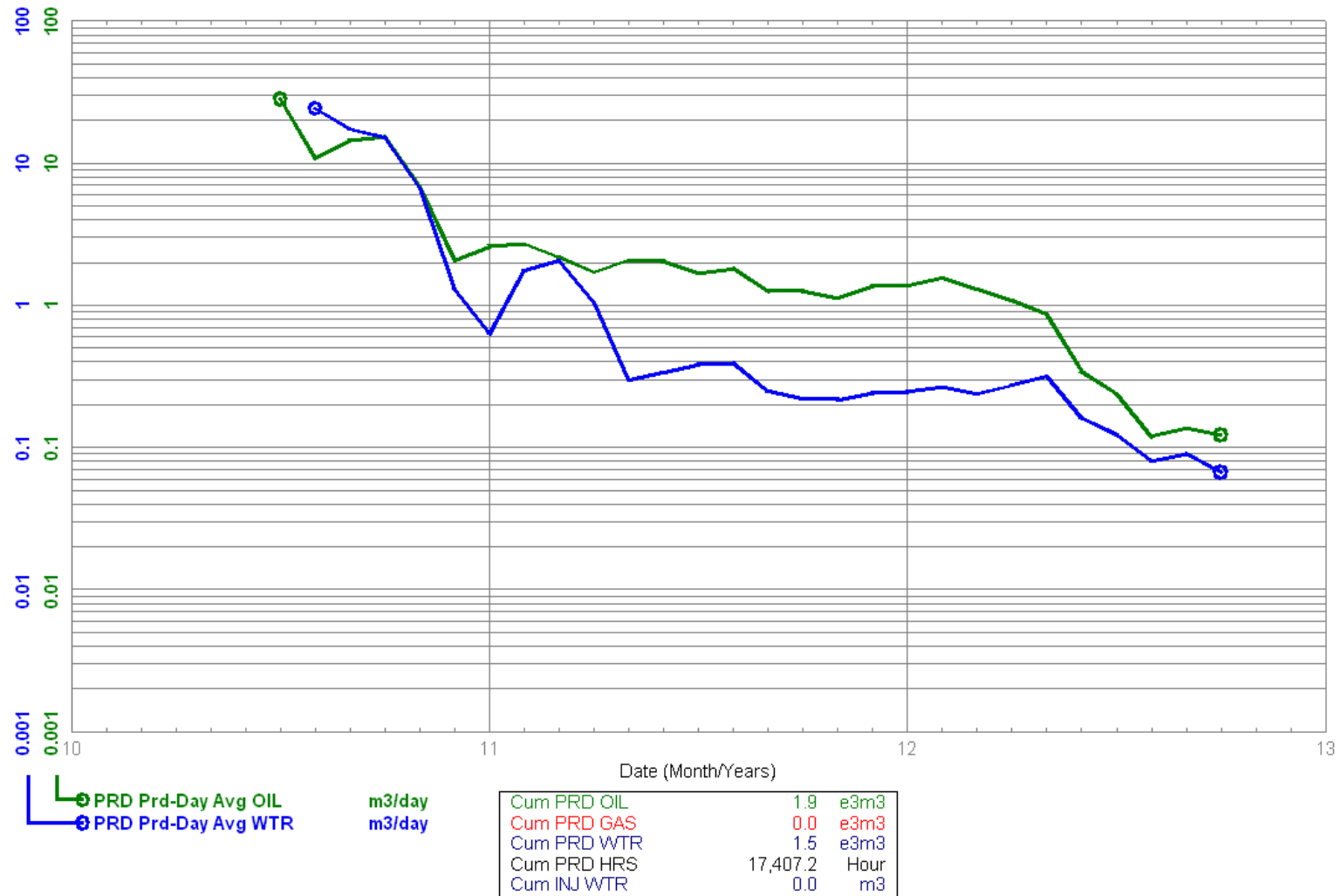
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-07
 To: 2012-10

102/02-03-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Completing

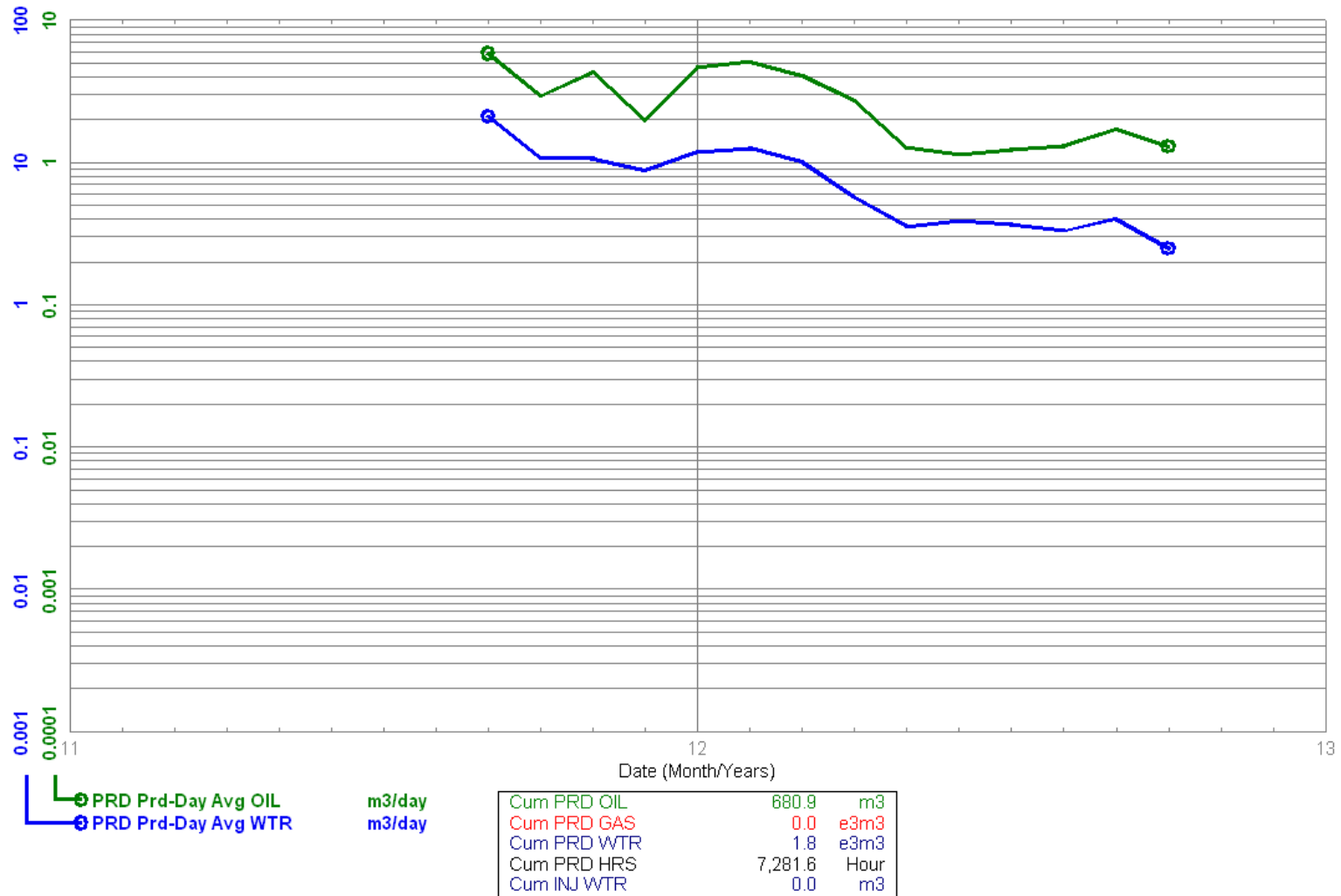
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-09
 To: 2012-10

102/03-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

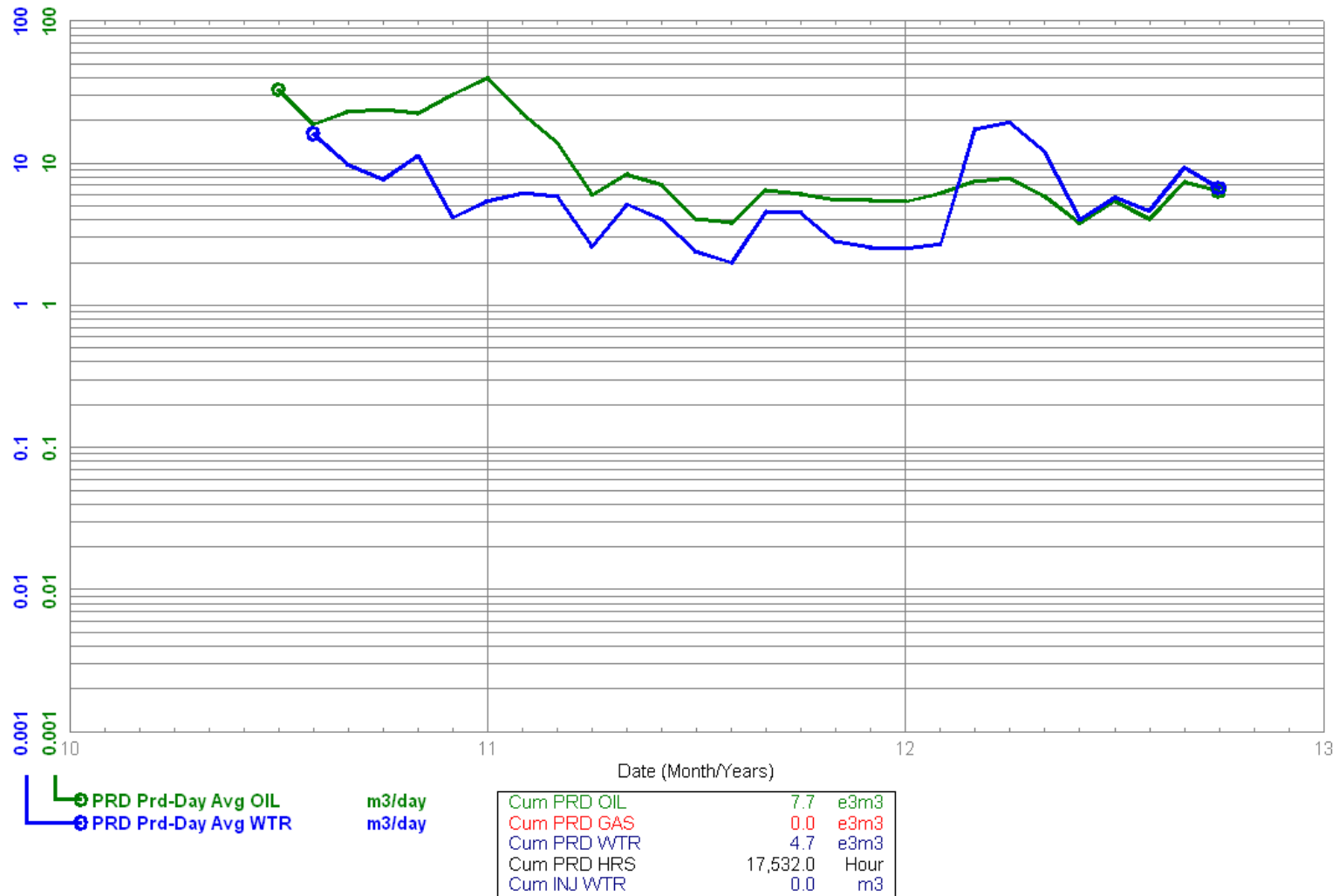
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-07
 To: 2012-10

102/03-03-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

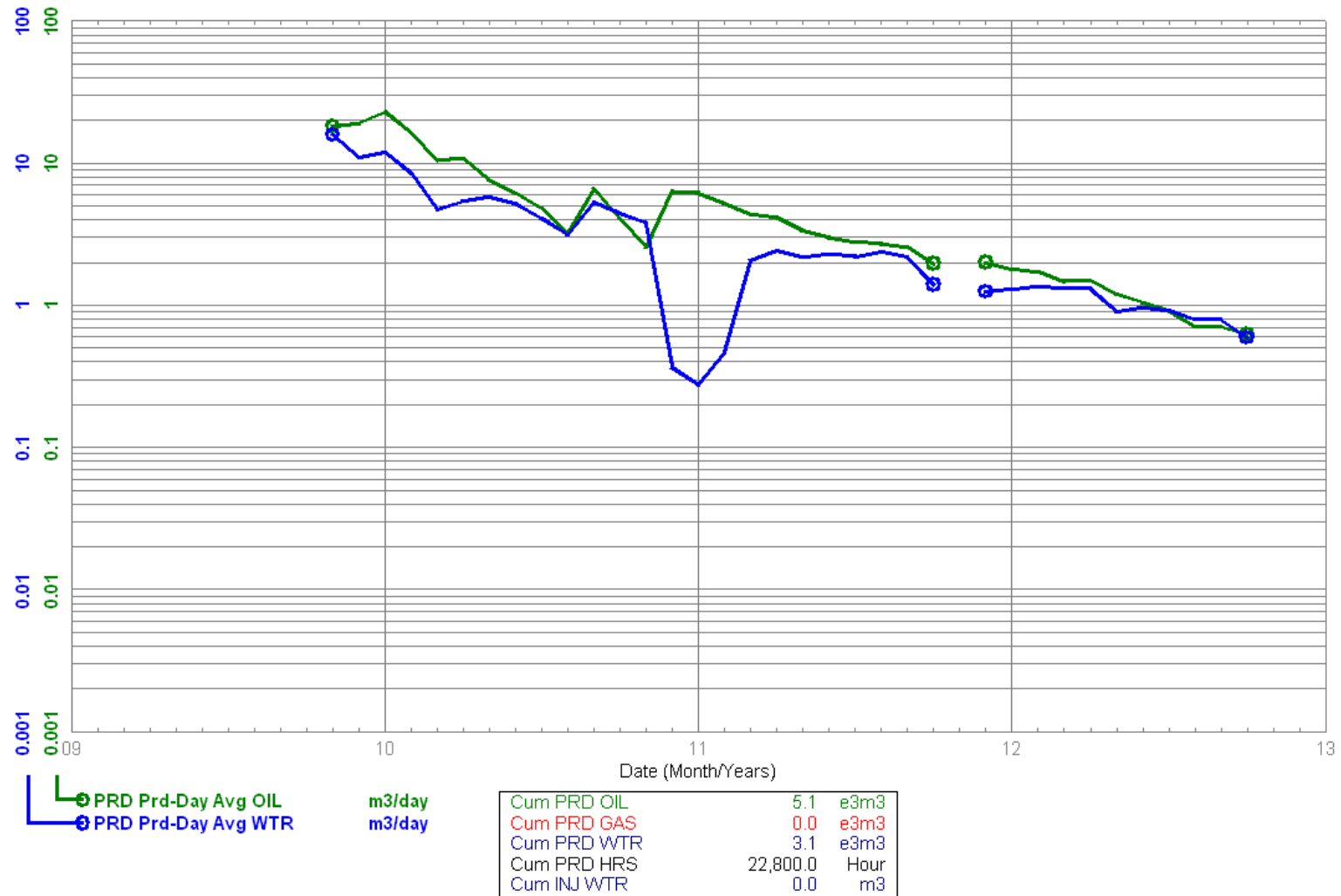
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2009-11
 To: 2012-10

102/04-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

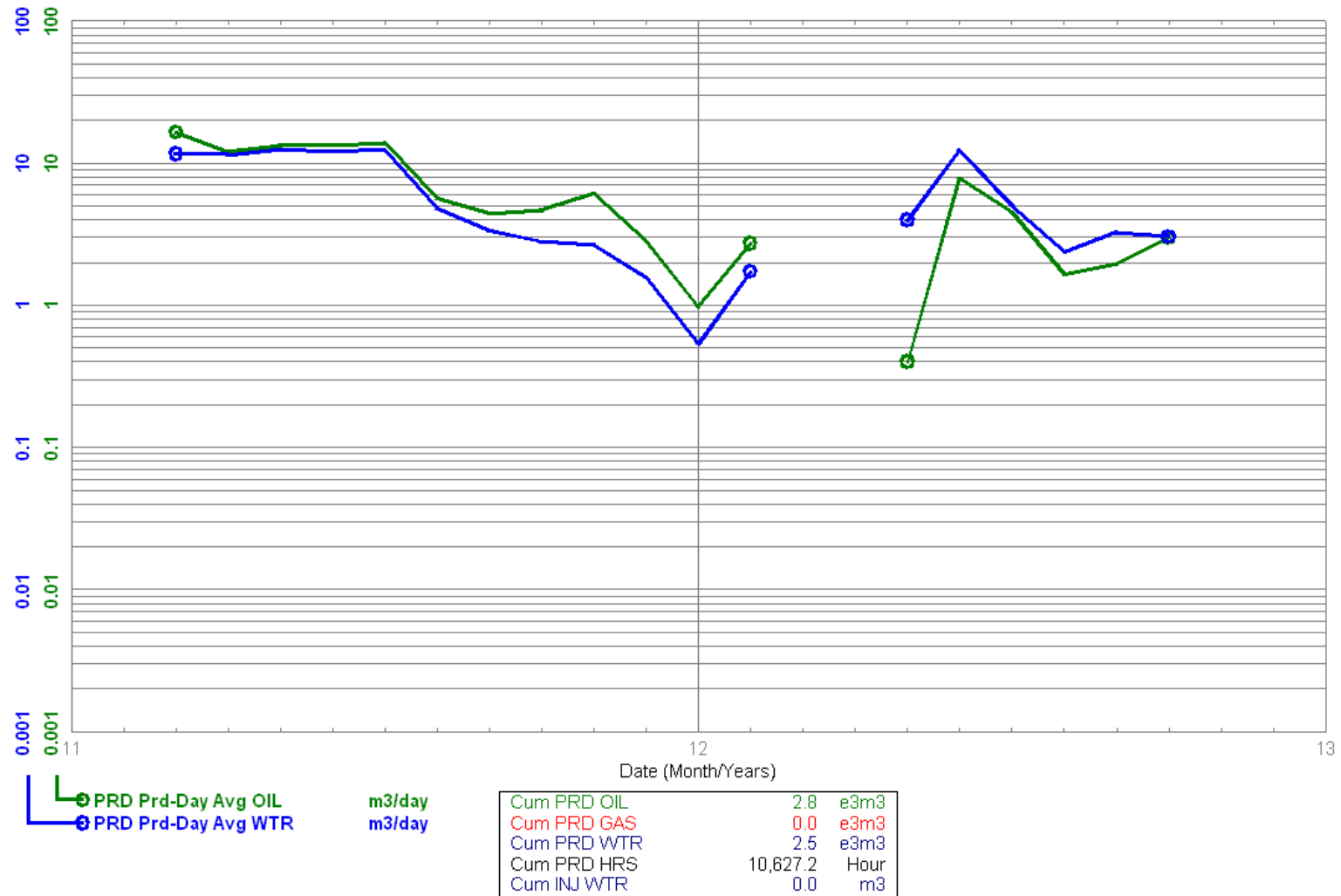
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

102/05-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

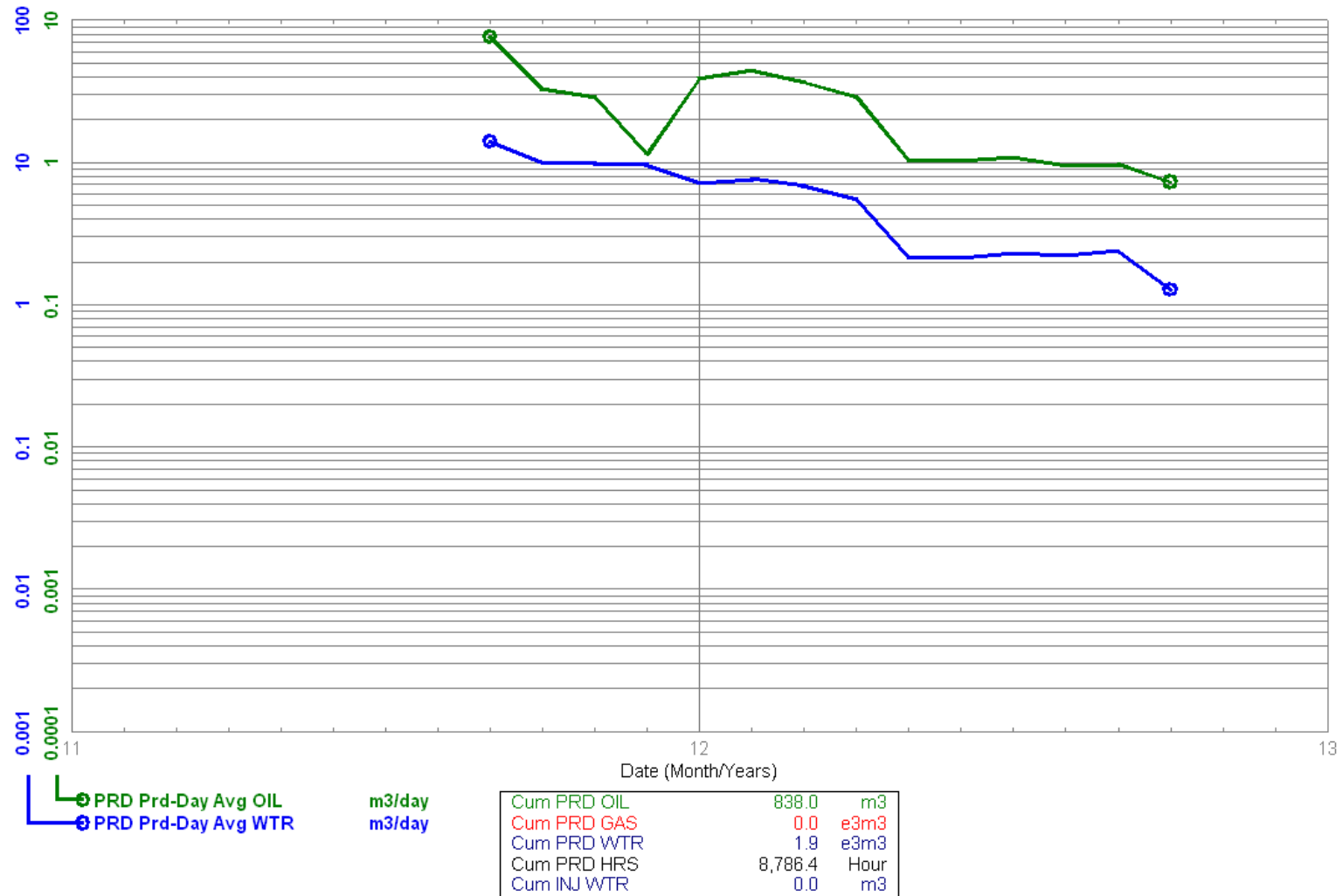
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-09
 To: 2012-10

102/06-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

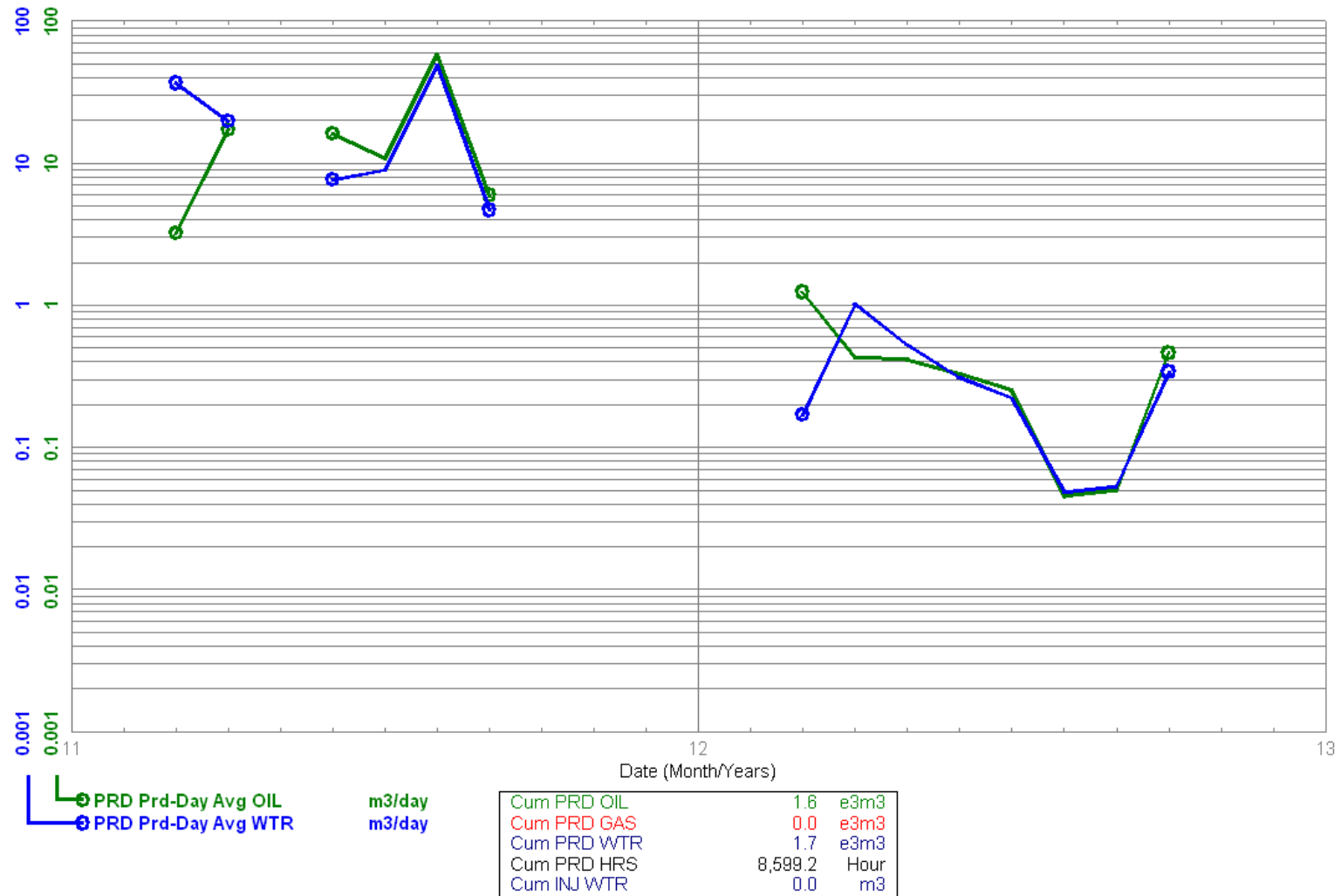
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

102/07-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

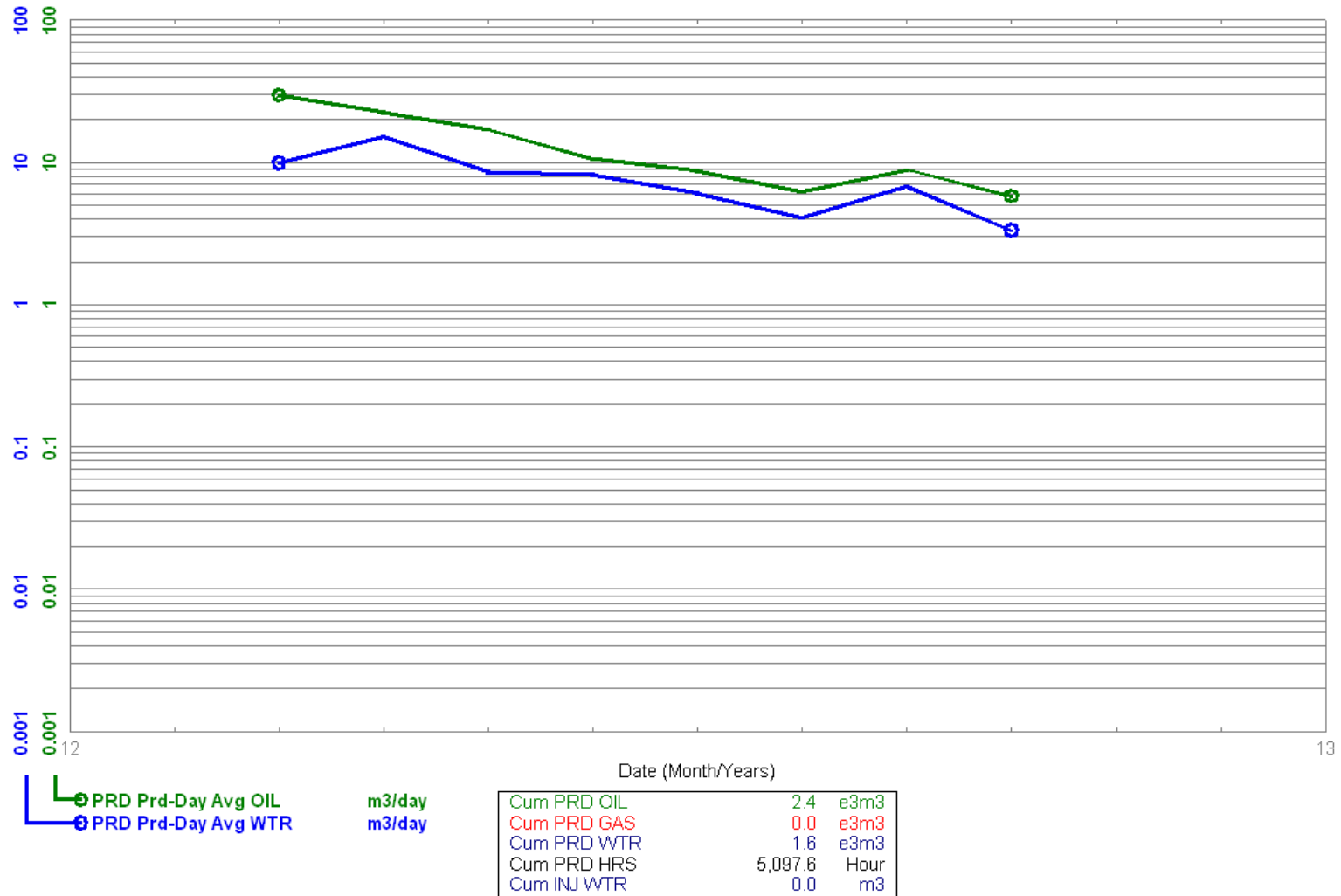
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2012-03
 To: 2012-10

102/07-03-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

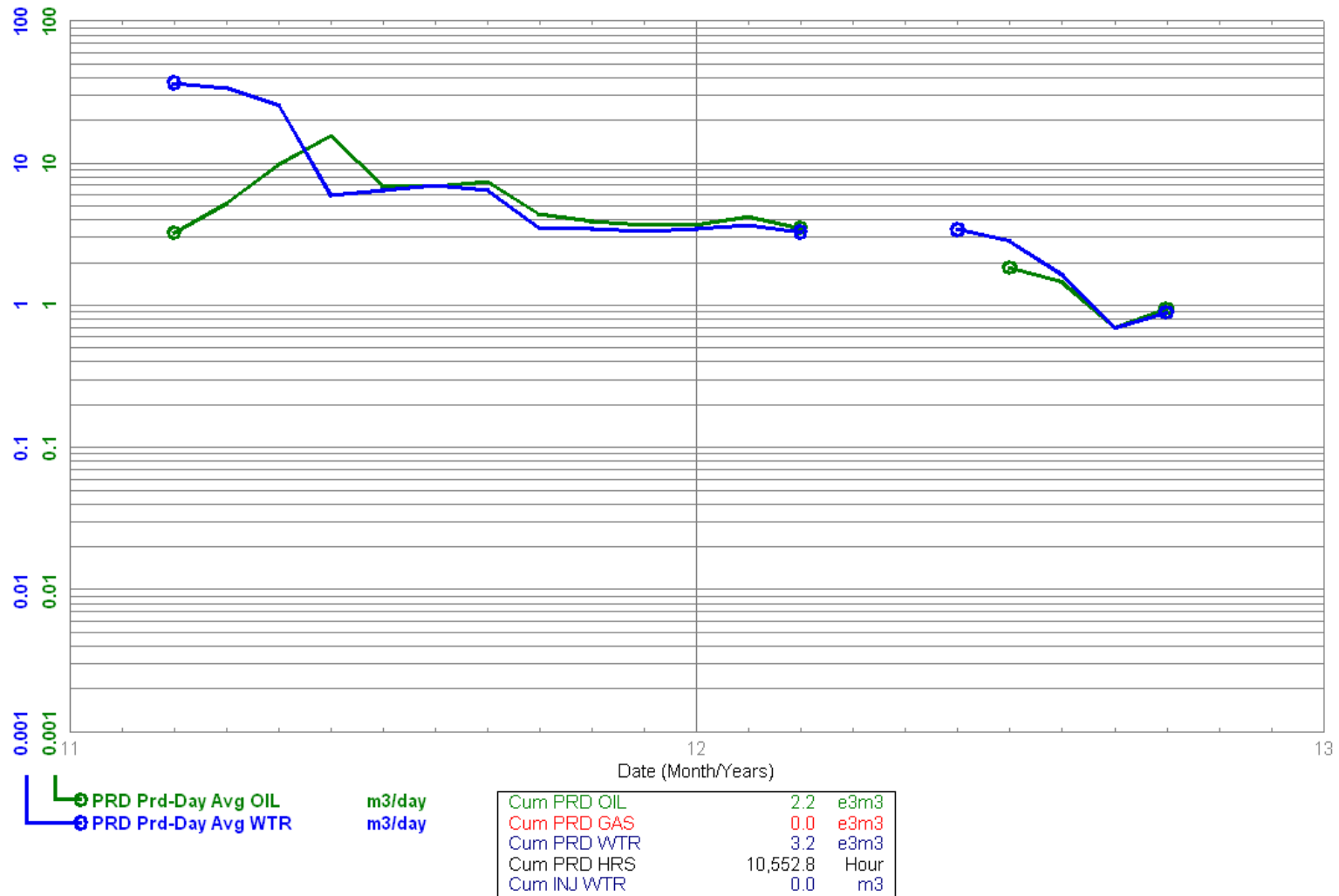
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

102/10-02-002-26W1/00
 Waskada Unit No. 5 Prov. HZNTL
 Capable Of Oil Prod

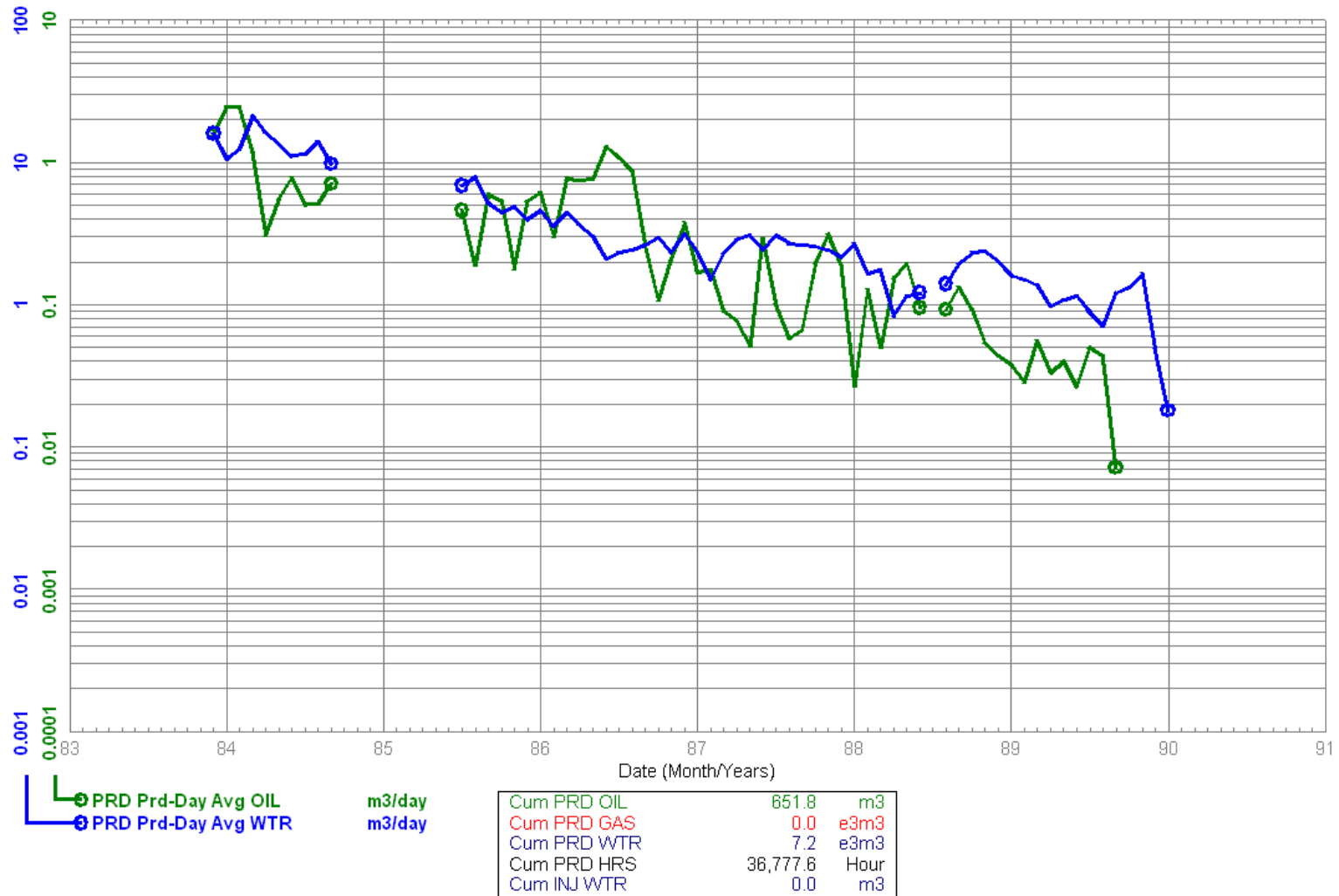
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 1983-12
 To: 1990-01

102/10-34-001-26W1/00
 Omega Chevron Waskada
 Abandoned Producer

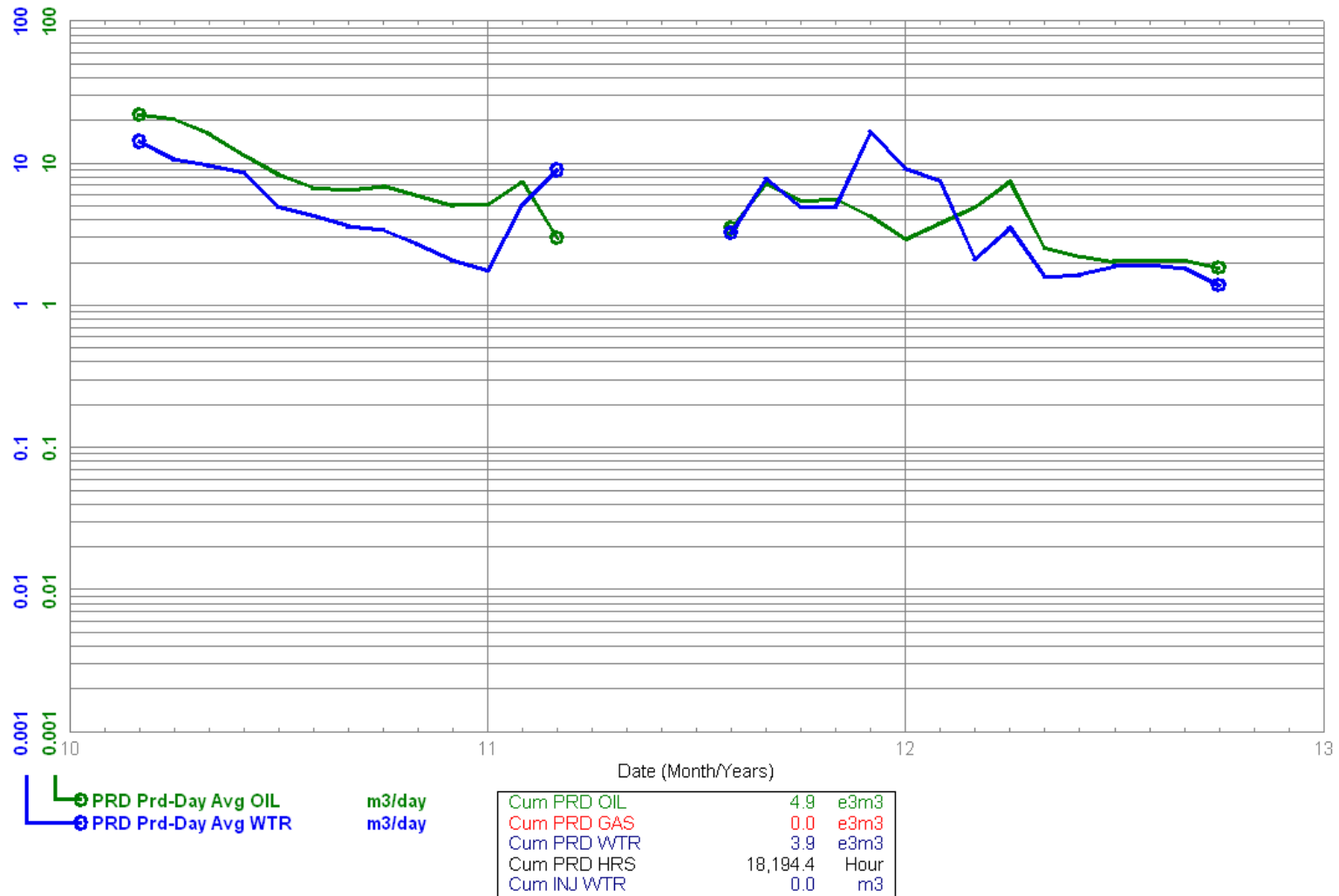
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-03
 To: 2012-10

102/12-02-002-26W1/00
 Waskada Unit No. 5 Prov. HZNTL
 Capable Of Oil Prod

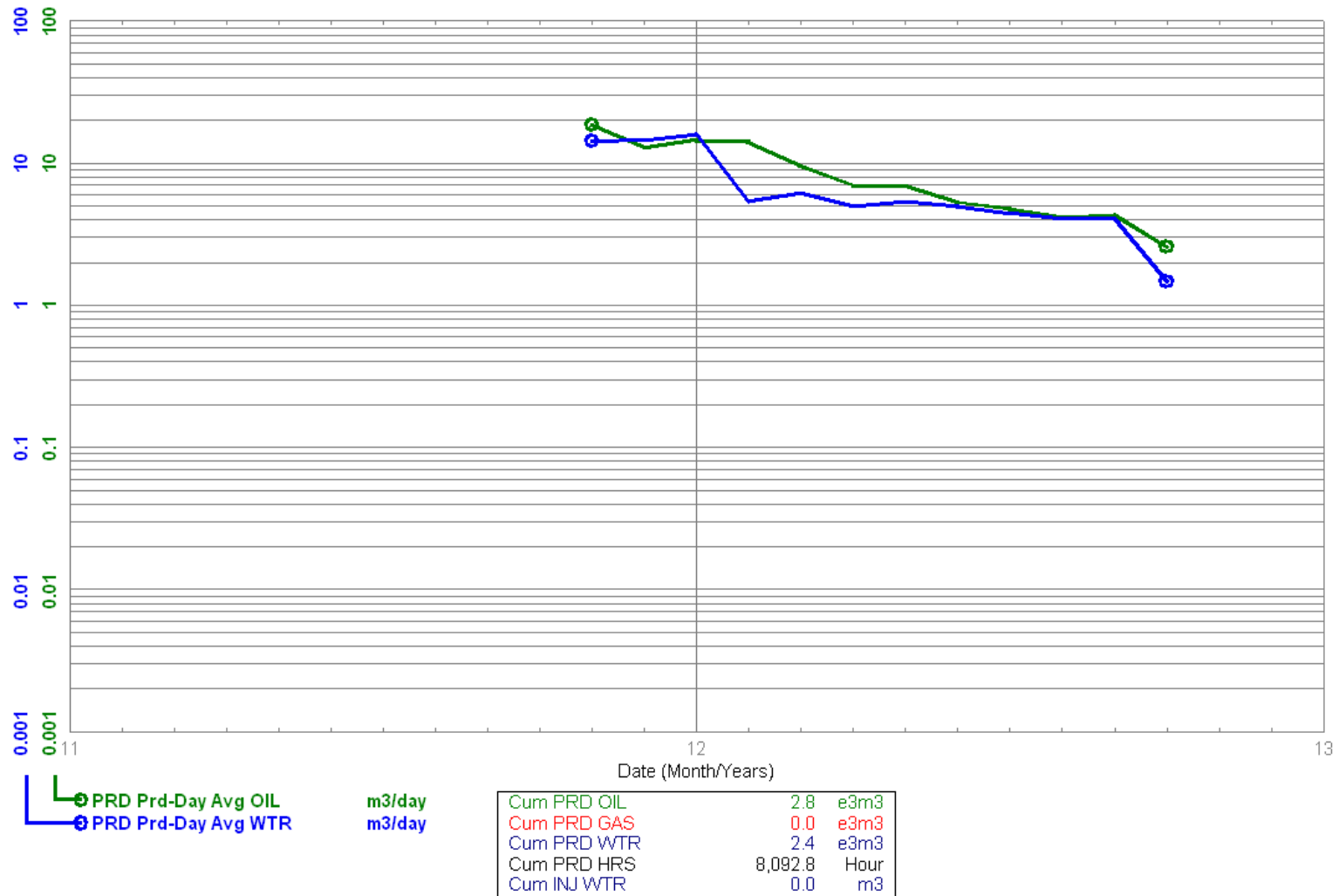
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-11
 To: 2012-10

102/15-35-001-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

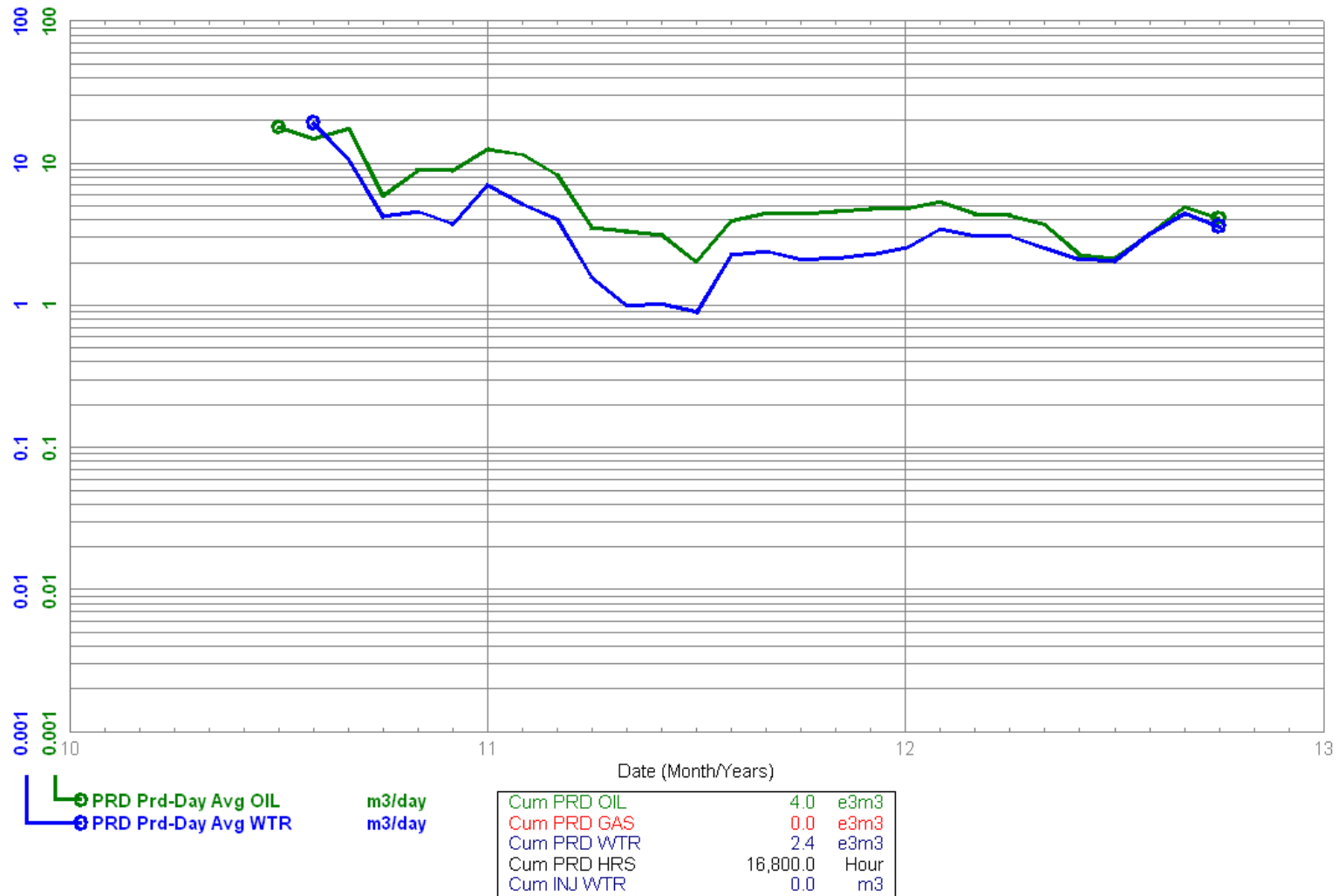
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2010-07
 To: 2012-10

103/01-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

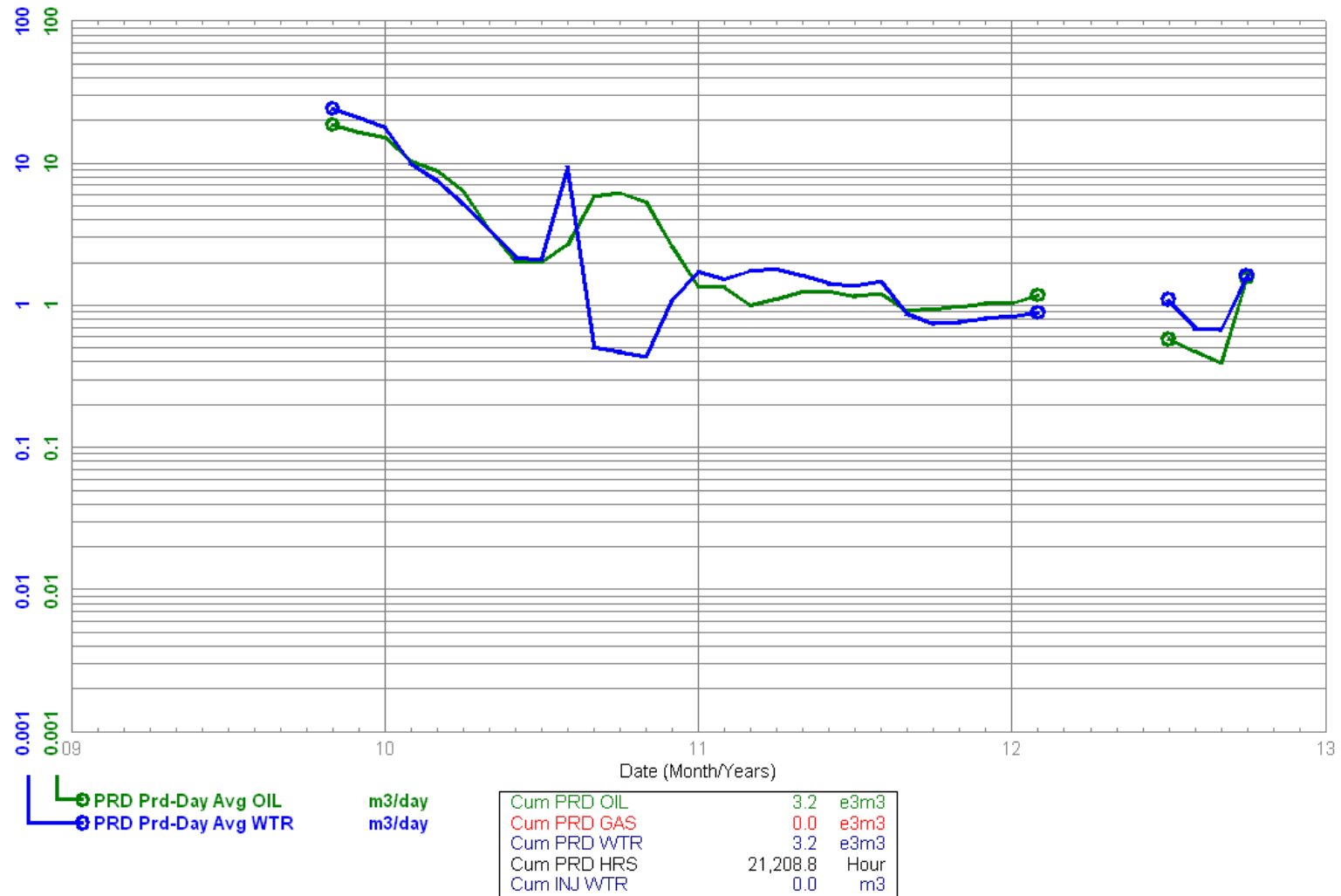
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2009-11
 To: 2012-10

103/04-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

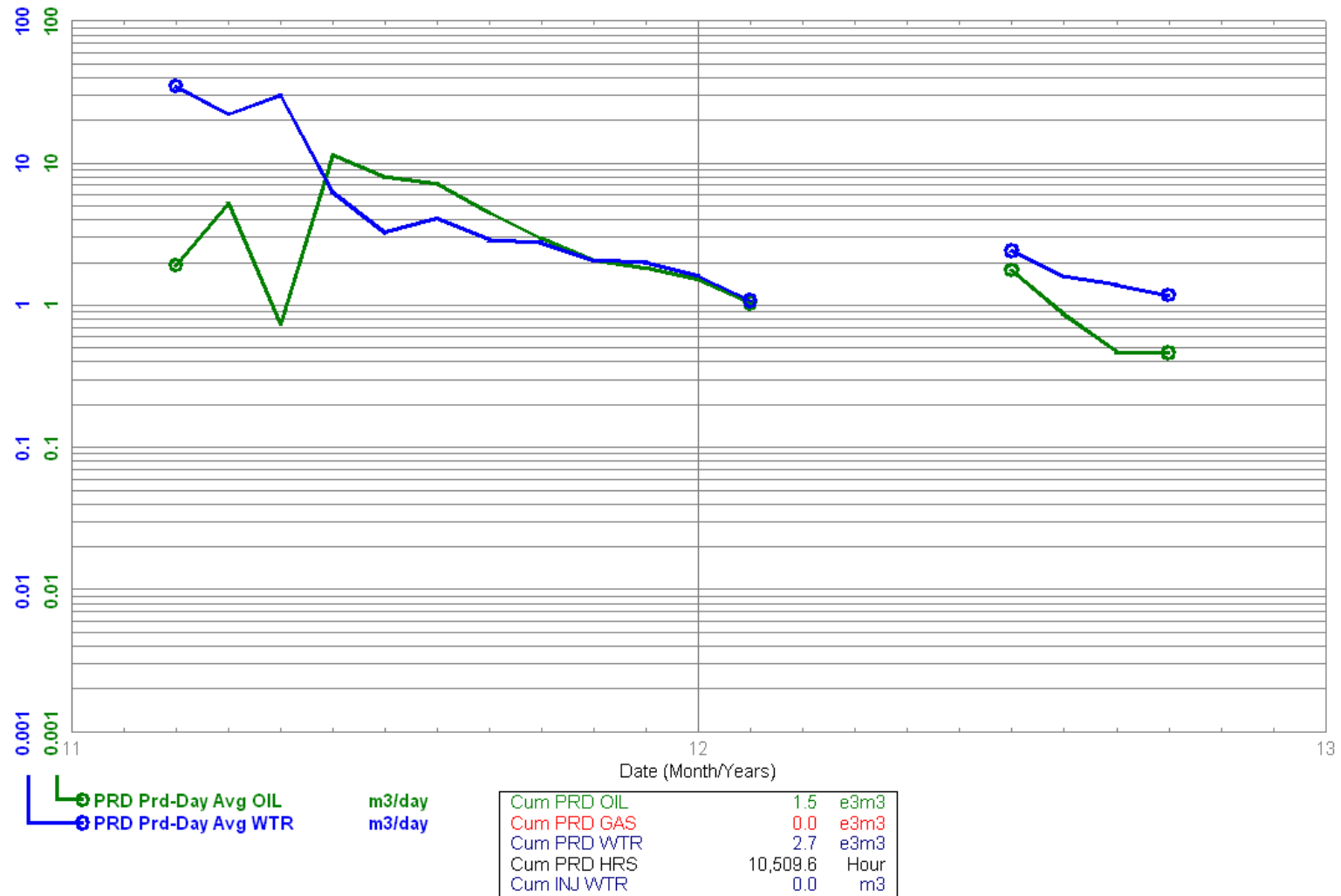
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

103/07-02-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

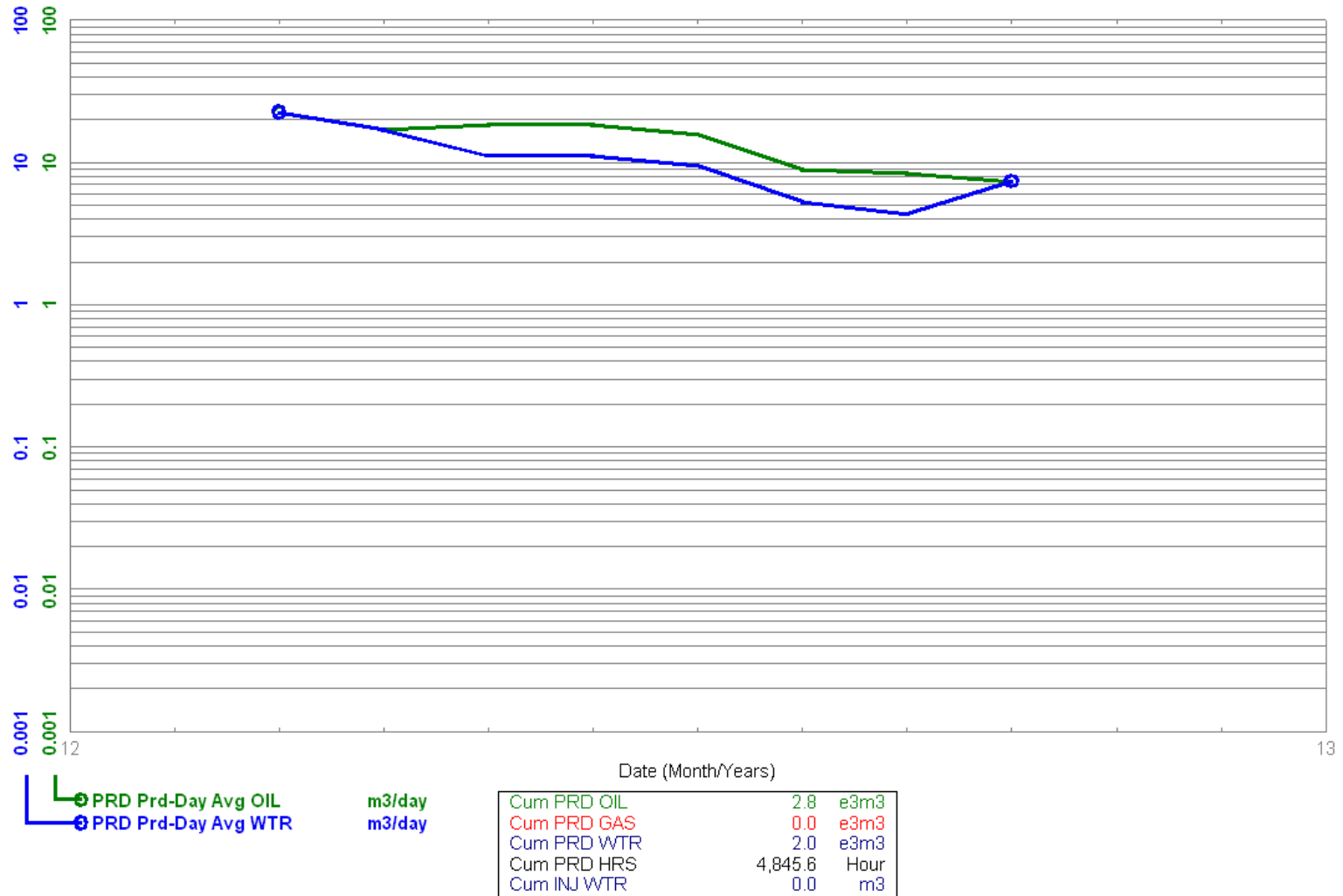
Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2012-03
 To: 2012-10

103/07-03-002-26W1/00
 Waskada Unit No. 5 HZNTL
 Capable Of Oil Prod

Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5



Data As Of: 2012-10 (MB)
 From: 2011-03
 To: 2012-10

103/12-02-002-26W1/00
 Waskada Unit No. 5 Prov. HZNTL
 Capable Of Oil Prod

Field: WASKADA (03)
 Pool: LOWER AMARANTH A (29A)
 Unit: WASKADA UNIT NO. 5

