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Table 1: Long-term and short-term gas datasets from different oil-immersed transformer

Dataset	Time	H_2	CH_4	C_2H_2	C_2H_4	C_2H_6	Data
1 [1]	2004|04|12	67.1	128.2	4.9	291.7	57.9	Training
	2004|04|13	58.0	130.6	5.0	300.3	39.0	Training
	2004|04|14	70.0	139.5	5.1	311.5	39.1	Training
	2004|04|15	67.0	133.4	5.0	307.9	39.7	Training
	2004|04|16	74.0	142.2	5.3	324.9	41.8	Training
	2004|04|17	76.0	140.0	5.2	317.0	40.8	Training
	2004|04|19	87.0	138.0	5.2	317.2	40.7	Training
	2004|04|20	85.0	131.7	5.2	305.3	41.4	Training
	2004|04|21	86.0	133.8	5.3	300.8	38.6	Testing
	2004|04|22	79.0	129.3	5.2	280.8	36.6	Testing
	2004|04|23	77.0	138.4	5.4	308.0	38.9	Testing
2 [2]	2005|04|14	18.5	62.3	5.5	22.5	70.0	Training
	2005|04|28	20.9	66.8	6.2	23.5	79.8	Training
	2005|05|05	22.1	68.8	6.3	23.9	83.2	Training
	2005|05|12	23.1	71.1	6.6	24.5	87.3	Training
	2005|05|19	23.3	71.4	6.7	24.6	89.0	Testing
	2005|05|26	24.6	72.7	6.5	24.9	90.2	Testing
	2005|06|02	23.9	73.4	6.7	24.3	92.2	Testing
3 [5]	2010|04|20	45.9	27.7	89.9	19.5	7.3	Training
	2010|04|27	47.3	27.9	90.3	19.2	6.9	Training
	2010|05|05	40.8	26.9	86.1	18.2	6.9	Training
	2010|05|11	43.1	27.1	84.9	18.1	6.6	Training
	2010|05|18	47.2	24.7	79.6	16.8	6.5	Training
	2010|05|25	37.9	28.1	90.3	18.6	7.5	Testing
	2010|06|01	45.5	27.8	84.3	17.2	6.9	Testing
	2010|06|08	46.7	29.6	88.2	17.1	7.7	Testing
4 [4]	2005|04|14	18.5	62.3	5.5	22.5	70.0	Training
	2005|04|21	10.1	55.9	4.9	19.9	63.8	Training
	2005|04|28	20.9	66.8	6.2	23.5	79.8	Training
	2005|05|05	22.1	68.8	6.3	23.9	83.2	Training
	2005|05|12	23.1	71.1	6.6	24.5	87.3	Testing
	2005|05|19	23.3	71.4	6.7	24.6	89.0	Testing
	2005|05|26	24.6	72.7	6.5	24.9	90.2	Testing
5 [4]	2006|07	21.9	109.3	0.0	67.9	31.6	Training
	2006|08	21.5	108.5	0.0	67.2	31.4	Training
	2006|10	20.3	106.1	0.0	65.2	31.1	Training
	2006|11	19.8	104.9	0.0	64.0	30.8	Training
	2006|12	19.1	104.1	0.0	63.1	30.7	Training
	2007|02	18.8	103.8	0.0	63.0	30.5	Training
	2007|03	18.6	102.7	0.0	62.7	30.6	Training
	2007|04	18.6	102.8	0.0	62.1	30.6	Training
	2007|07	18.8	103.7	0.0	62.3	30.8	Training
	2007|08	19.0	104.3	0.0	62.5	31.2	Training
	2007|09	19.2	105.2	0.0	62.7	31.5	Training
	2007|11	19.9	107.8	0.0	63.5	31.9	Training
	2007|12	20.4	109.6	0.0	63.9	31.9	Training
	2008|01	20.4	110.3	0.0	64.1	32.0	Testing
	2008|02	20.9	111.6	0.0	64.5	31.9	Testing
	2008|03	21.0	112.5	0.0	64.7	32.1	Testing

Dataset	Time	H_2	CH_4	C_2H_2	C_2H_4	C_2H_6	Dataset
6 [3]	1992|10|30	89.1	1276.2	0.0	1723.4	322.2	Training
	1992|10|30	89.0	1276.3	0.0	1723.4	322.1	Training
	1992|11|02	245.1	1644.2	0.0	2356.3	493.5	Training
	1992|11|05	383.3	1690.6	0.0	2484.2	503.6	Training
	1992|11|08	345.4	1650.7	0.0	2482.1	504.3	Training
	1992|11|11	293.2	1416.8	0.0	2354.6	472.2	Training
	1992|11|14	236.1	1262.1	0.0	2238.1	478.1	Training
	1992|11|17	315.5	1599.2	0.0	2426.2	492.5	Training
	1992|11|20	341.6	1705.4	0.0	2601.5	577.4	Training
	1992|11|23	320.2	1730.6	0.0	2786.5	595.2	Training
	1992|11|26	347.3	1880.2	0.0	2837.3	609.3	Testing
	1992|11|29	327.4	2056.4	0.0	3270.2	619.2	Testing
	1992|12|02	335.7	2147.5	0.0	3347.7	628.7	Testing
7 [6]	2004|03|15	28.7	80.2	1.3	133.5	40.5	Training
	2004|05|10	41.7	95.8	1.4	163.9	54.6	Training
	2004|07|12	69.8	115.7	1.9	202.1	70.8	Training
	2004|09|15	83.2	127.6	1.9	226.4	85.3	Training
	2004|11|15	104.6	150.5	2.4	270.9	105.8	Training
	2005|01|10	116.3	191.7	2.8	351.5	127.4	Training
	2005|04|12	147.2	226.4	2.8	419.4	130.4	Training
	2005|06|13	168.7	233.3	2.5	432.9	162.5	Training
	2005|09|16	190.2	249.5	3.0	464.6	171.8	Training
	2005|11|18	207.6	285.7	3.7	535.4	181.2	Testing
	2006|01|17	221.9	325.7	4.1	613.6	200.5	Testing
	2006|04|14	276.4	352.8	4.5	666.7	231.8	Testing
8 [7]	2011|11|07|18:00	411.6	38.9	85.2	34.7	5.2	Training
	2011|11|07|19:00	484.2	48.4	107.3	43.1	8.4	Training
	2011|11|07|20:00	518.9	50.5	114.7	47.3	9.5	Training
	2011|11|07|21:00	640.0	64.2	138.9	56.8	12.6	Training
	2011|11|07|22:00	636.8	65.2	144.2	58.9	11.6	Training
	2011|11|07|23:00	633.6	66.3	147.3	60.0	13.7	Training
	2011|11|07|24:03	623.1	66.3	147.3	61.1	12.6	Training
	2011|11|08|00:00	630.5	67.3	155.7	63.2	13.7	Training
	2011|11|08|01:00	614.7	68.4	155.7	63.2	13.7	Training
	2011|11|08|02:00	594.7	69.4	156.8	64.2	12.6	Training
	2011|11|08|03:00	580.0	67.3	155.7	63.2	13.7	Training
	2011|11|08|04:00	565.2	68.4	154.7	63.2	13.7	Training
	2011|11|08|05:00	554.7	66.3	154.7	62.1	12.6	Training
	2011|11|08|06:00	549.4	65.2	154.7	63.2	13.7	Training
	2011|11|08|07:00	543.1	66.3	156.8	63.2	12.6	Training
	2011|11|08|08:00	533.6	65.2	154.7	63.2	12.6	Testing
	2011|11|08|09:00	526.3	67.3	156.8	63.2	12.6	Testing
	2011|11|08|10:00	530.5	77.8	157.8	63.2	13.7	Testing