



e-FILING REPORT COVER SHEET

Send completed Cover Sheet and the Report in an email addressed to: [PUC.FilingCenter@state.or.us](mailto:PUC.FilingCenter@state.or.us)

REPORT NAME: 2014 Meter Sampling Program Report

COMPANY NAME: NW Natural

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes

If yes, please submit only the cover letter electronically. Submit confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

If known, please select designation: RE (Electric) RG (Gas) RW (Water) RO (Other)

Report is required by: OAR

Statute

Order

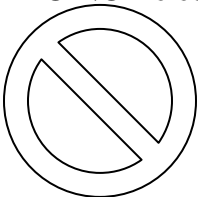
Other at request of Commission Staff

Is this report associated with a specific docket/case? No Yes

If yes, enter docket number: RG 41

List applicable Key Words for this report to facilitate electronic search:  
Meter Sampling Program Report for 2014, NW Natural

**DO NOT electronically file with the PUC Filing Center:**



- Annual Fee Statement form and payment remittance or
- OUS or RSPF Surcharge form or surcharge remittance or
- Any other Telecommunications Reporting or
- Any daily safety or safety incident reports or
- Accident reports required by ORS 654.715

**Please file the above reports according to their individual instructions.**

**ZACH PERRYMAN, P.E.**  
Engineering  
Tel: 503.226.4211 x 4383  
email: zpp@nwnatural.com



February 18, 2015

**VIA ELECTRONIC FILING**

Public Utility Commission of Oregon  
3930 Fairview Industrial Drive SE  
Post Office Box 1088  
Salem, Oregon 97308-1088

Attn: Filing Center

Re: RG 41: Meter Sampling Program Report for 2014

At the request of Commission Staff, Northwest Natural Gas Company, dba NW Natural, submits herewith its 2014 Meter Sampling Program Report.

As required by our Meter Testing Standards and Procedures document, the accuracies of all operating families of diaphragm meters with capacities 1000 ft<sup>3</sup>/hr and below have been statistically analyzed for the year 2014. This analysis utilized all relevant meter tests conducted during the five calendar years between January 1, 2009 and December 31, 2014. The results of this analysis are as follows:

- As of December 31, 2014, we had 719,708 installed meters. These meters formed 511 meter families.
- Over the course of 2014, the company tested 5,605 meters. Over the five-year period of 2009 through 2014, the company had a total of 31,513 meter samples from which to base its results.
- 482 meter families either have sufficient meter samples to establish statistical confidence in their accuracy, or are so new that they do not yet require minimum sampling. These meter families amount to 701,337 meters, or 97.4 percent of the total meter population. The performances of these families are exhibited in Appendix A.
- 15 meter families and 2 sub-families from 2 different families, consisting of a total of 6,395 meters, are not conforming and have been put on the list to be removed by the end of 2015, per the Meter Sampling Program (MSP) guidelines. The performances of these families are exhibited in Appendix B.
- 496 out of the 511 meter families had sufficient meter tests available to have their accuracy determined statistically, the remaining 15 families have been removed from service due to their small population size.
- Compared to the results above, our analysis at the beginning of last year resulted in 2,304 meters being put on the list for removal by the end of 2014.

If you have any questions or comments about the 2014 Meter Sampling Program Report, please contact me at (503) 226-4211 ext. 4383.

Sincerely,

/s/ Zach Perryman

**Zach Perryman, P.E.**  
**Gas Measurement and Technical Support Engineer**

cc: Andy Fortier  
Jon Huddleston  
Alex Miller  
Steve Nelson  
Lori Russell  
Adam Turco  
Grant Yoshihara

**Appendix A  
Meter Families in Conformance**

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
120	0	1967	Rockwell	175	47	98	22			22
120	0	1968	Rockwell	175	46	103	33	1		34
120	0	1969	Rockwell	175	45	244	64	7		71
120	0	1970	Rockwell	175	44	729	56	2	2	60
120	0	1971	Rockwell	175	43	585	43	1		44
120	0	1972	Rockwell	175	42	924	60	2		62
120	0	1973	Rockwell	175	41	718	54	2		56
120	0	1974	Rockwell	175	40	2790	222	9	6	237
120	0	1975	Rockwell	175	39	1929	147	10	2	159
120	0	1976	Rockwell	175	38	1190	104		2	106
120	0	1977	Rockwell	175	37	1453	102	5	1	108
120	0	1978	Rockwell	175	36	1580	107	3	3	113
120	0	1979	Rockwell	175	35	1736	109	3	4	116
120	0	1980	Rockwell	175	34	1116	81	6	4	91
120	0	1981	Rockwell	175	33	787	85	7	2	94
120	0	1982	Rockwell	175	32	1280	82	1	3	86
120	0	1983	Rockwell	175	31	1466	74	2		76
120	0	1984	Rockwell	175	30	1557	75	1	2	78
120	0	1985	Rockwell	175	29	2063	93	5	2	100
120	0	1986	Rockwell	175	28	1387	65		2	67
120	0	1987	Rockwell	175	27	2376	118	1	2	121
120	0	1988	Rockwell	175	26	2312	88		2	90
120	0	1989	Rockwell	175	25	3694	142	3	1	146
120	0	1990	Rockwell	175	24	3768	154	4	3	161
120	0	1991	Rockwell	175	23	4091	196	2	3	201
120	0	1992	Rockwell	175	22	7083	340	4	7	351
120	0	1993	Rockwell	175	21	2828	91		4	95
120	0	1994	Rockwell	175	20	1468	71		3	74
120	0	1995	Rockwell	175	19	412	24			24
120	0	1996	Rockwell	175	18	834	97	4	3	104
120	0	1997	Rockwell	175	17	206	31			31
120	0	1998	Rockwell	175	16	93	20			20
120	0	1999	Rockwell	175	15	4	8			8
120	0	2002	Rockwell	175	12	1	1			1
120	0	2004	Rockwell	175	10	1	1			1
120	0	2005	Rockwell	175	9	2				0
120	0	2006	Rockwell	175	8	1				0
120	0	2008	Rockwell	175	6	3				0
120	0	2009	Rockwell	175	5	14	5			5
120	0	2010	Rockwell	175	4	2	3			3
120	0	2012	Rockwell	175	2	1	4			4
125	0	1978	Rockwell	200	36	1684	89	1	1	91
125	0	1979	Rockwell	200	35	196	49	2		51
125	0	1980	Rockwell	200	34	1940	62	1		63
125	0	1981	Rockwell	200	33	2591	79	1	1	81
125	0	1982	Rockwell	200	32	3233	129		1	130

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
125	0	1983	Rockwell	200	31	1865	69			69
125	0	1984	Rockwell	200	30	2224	81	1	1	83
125	0	1985	Rockwell	200	29	1676	92	13		105
125	0	1986	Rockwell	200	28	427	121	2	1	124
125	0	1987	Rockwell	200	27	586	65	3	2	70
125	0	1988	Rockwell	200	26	445	53	2	1	56
125	0	1989	Rockwell	200	25	597	24			24
125	0	1990	Rockwell	200	24	377	22		1	23
125	0	1991	Rockwell	200	23	753	32		1	33
125	0	1992	Rockwell	200	22	662	34			34
125	0	1993	Rockwell	200	21	569	24			24
125	0	1994	Rockwell	200	20	476	25			25
125	0	1995	Rockwell	200	19	122	27			27
125	0	1996	Rockwell	200	18	261	51	1		52
125	0	1997	Rockwell	200	17	144	55	2		57
125	0	1998	Rockwell	200	16	114	40			40
125	0	1999	Rockwell	200	15	161	37			37
125	0	2008	Rockwell	200	6	5				0
125	0	2009	Rockwell	200	5	4	1			1
130	0	1971	American	175	43	1185	55	2	2	59
130	0	1972	American	175	42	2819	120	9	1	130
130	0	1973	American	175	41	822	56	1		57
130	0	1974	American	175	40	5082	198	16		214
130	0	1975	American	175	39	38	20			20
130	0	1976	American	175	38	1467	86	11	3	100
130	0	1977	American	175	37	3438	160	15	2	177
130	0	1978	American	175	36	1646	97	7		104
130	0	1979	American	175	35	6645	267	18	6	291
130	0	1980	American	175	34	6502	246	13	1	260
130	0	1981	American	175	33	4809	182	26	4	212
130	0	1982	American	175	32	3838	219	21	5	245
130	0	1983	American	175	31	3194	122	20	6	148
130	0	1984	American	175	30	5049	180	11	6	197
130	0	1985	American	175	29	2181	102	7	1	110
130	0	1986	American	175	28	4213	138	7	4	149
130	0	1987	American	175	27	6209	219	15	5	239
130	0	1988	American	175	26	3313	128	16	2	146
130	0	1989	American	175	25	3479	129	7	1	137
130	0	1990	American	175	24	3301	114	11	2	127
130	0	1991	American	175	23	5119	156	8	1	165
130	0	1992	American	175	22	1548	114	7	1	122
130	0	1993	American	175	21	3360	115	5	1	121
130	0	1994	American	175	20	2746	103	7	2	112
130	0	1995	American	175	19	633	23		1	24
130	0	1996	American	175	18	1110	37		1	38
130	0	1997	American	175	17	257	23			23
130	0	1998	American	175	16	20	12		1	13
130	0	2001	American	175	13	2	3			3
130	0	2002	American	175	12	1	2			2
130	0	2006	American	175	8	4				0

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
130	0	2007	American	175	7	2				0
130	0	2008	American	175	6	2				0
130	0	2009	American	175	5	20	5			5
130	0	2013	American	175	1	1	1			1
140	0	1968	Sprague	175	46	1108	92	1	15	108
140	0	1969	Sprague	175	45	1	4			4
140	0	1970	Sprague	175	44	394	52		7	59
140	0	1971	Sprague	175	43	1056	52	1	5	58
140	0	1972	Sprague	175	42	188	46	2	2	50
140	0	1973	Sprague	175	41	3057	161	3	9	173
140	0	1974	Sprague	175	40	661	37			37
140	0	1975	Sprague	175	39	777	74		9	83
140	0	1976	Sprague	175	38	1168	63	2	4	69
140	0	1977	Sprague	175	37	348	28		2	30
140	0	1978	Sprague	175	36	321	46		6	52
140	0	1979	Sprague	175	35	172	34		3	37
140	0	1980	Sprague	175	34	358	42		5	47
140	0	1981	Sprague	175	33	676	39		2	41
140	0	1982	Sprague	175	32	643	46	1	2	49
140	0	1983	Sprague	175	31	879	86	3	10	99
140	0	1984	Sprague	175	30	760	81		6	87
140	0	1985	Sprague	175	29	1232	70		9	79
140	0	1986	Sprague	175	28	1018	53	1	6	60
140	0	1987	Sprague	175	27	3120	171		9	180
140	0	1988	Sprague	175	26	828	49		4	53
140	0	1989	Sprague	175	25	806	43		3	46
140	0	1990	Sprague	175	24	1139	58		6	64
140	0	1991	Sprague	175	23	487	46		4	50
140	0	1992	Sprague	175	22	610	39	1	2	42
140	0	1993	Sprague	175	21	698	49		5	54
140	0	1994	Sprague	175	20	631	37		2	39
140	0	1997	Sprague	175	17	487	38	1	2	41
140	0	1998	Sprague	175	16	18	15			15
140	0	2004	Sprague	175	10	1	1			1
140	0	2005	Sprague	175	9	1				0
140	0	2007	Sprague	175	7	1				0
140	0	2008	Sprague	175	6	2				0
140	0	2009	Sprague	175	5	2	4			4
260	0	2005	Sprague	1000	9	1				0
270	0	1998	Schlumberger	1000	16	42	16			16
270	0	2000	Schlumberger	1000	14	33	14		1	15
270	0	2001	Schlumberger	1000	13	70	19			19
270	0	2002	Schlumberger	1000	12	8	12			12
270	0	2003	Schlumberger	1000	11	3	3			3
270	0	2005	Schlumberger	1000	9	1				0
270	0	2006	Schlumberger	1000	8	1				0
272	0	2004	Actaris	1000	10	25	26	1		27
300	540	1993	Rockwell	800	21	4	9			9
300	540	1996	Rockwell	800	18	45	17		1	18
300	540	1997	Rockwell	800	17	20	19		3	22

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
300	540	1999	Rockwell	800	15	23	34		3	37
300	540	2002	Rockwell	800	12	7	8			8
300	540	2003	Rockwell	800	11	3	6			6
300	540	2005	Rockwell	800	9	22	4			4
305	545	1999	Rockwell	800	15	7	6			6
305	545	2005	Rockwell	800	9	9	1		1	2
450	0	1993	Schlumberger	400	21	230	29			29
450	0	1996	Schlumberger	400	18	324	34		1	35
450	0	1997	Schlumberger	400	17	75	19		1	20
450	0	1998	Schlumberger	400	16	506	50			50
450	0	1999	Schlumberger	400	15	116	22			22
450	0	2000	Schlumberger	400	14	6	5			5
450	0	2003	Schlumberger	400	11	30	19			19
450	0	2004	Schlumberger	400	10	9	10			10
450	0	2005	Schlumberger	400	9	14	1			1
450	0	2006	Schlumberger	400	8	1				0
450	0	2009	Schlumberger	400	5	1				0
452	0	2003	Actaris	400	11	124	21			21
452	0	2004	Actaris	400	10	503	45		1	46
452	0	2005	Actaris	400	9	32	3			3
452	0	2006	Actaris	400	8	4				0
452	0	2008	Actaris	400	6	1				0
470	472	1973	American	425	41	11	13			13
470	472	1974	American	425	40	2	2			2
470	472	1981	American	425	33	2	3			3
470	472	1982	American	425	32	32	28	2		30
470	472	1983	American	425	31	42	24	1	1	26
470	472	1984	American	425	30	136	21			21
470	472	1985	American	425	29	53	17			17
470	472	1986	American	425	28	76	31	1		32
470	472	1987	American	425	27	182	43	1		44
470	472	1988	American	425	26	83	20			20
470	472	1989	American	425	25	46	17			17
470	472	1990	American	425	24	41	38	2	1	41
470	472	1991	American	425	23	42	34	2		36
470	472	1992	American	425	22	174	49	2	1	52
470	472	1993	American	425	21	109	21			21
470	472	1994	American	425	20	266	62	3		65
470	472	1995	American	425	19	104	21			21
470	472	1996	American	425	18	24	16			16
470	472	1997	American	425	17	376	51	1		52
470	472	1998	American	425	16	204	68	4		72
470	472	1999	American	425	15	300	39	1		40
470	472	2000	American	425	14	443	66	3	1	70
470	472	2001	American	425	13	99	23			23
470	472	2002	American	425	12	490	37			37
470	472	2003	American	425	11	249	41	1		42
470	472	2004	American	425	10	96	20			20
470	472	2005	American	425	9	38	4			4
470	472	2006	American	425	8	72	6			6

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
470	472	2007	American	425	7	268	14		1	15
470	472	2008	American	425	6	23				0
470	472	2009	American	425	5	5				0
470	472	2010	American	425	4	2				0
470	472	2011	American	425	3	1	1			1
470	472	2012	American	425	2	2	1			1
471	0	2005	American	425	9	1086	51	5		56
471	0	2006	American	425	8	776	43	2		45
471	0	2007	American	425	7	579	35	1	1	37
471	0	2008	American	425	6	79	4			4
471	0	2009	American	425	5	4				0
471	0	2010	American	425	4	110	2	1		3
471	0	2011	American	425	3	118	6	1		7
471	0	2012	American	425	2	10				0
475	0	2005	American	630	9	330	16			16
475	0	2006	American	630	8	671	34	2		36
475	0	2007	American	630	7	685	18			18
475	0	2008	American	630	6	1156	49	5		54
475	0	2009	American	630	5	1010	41	7		48
475	0	2010	American	630	4	711	21		1	22
475	0	2011	American	630	3	1110	27			27
475	0	2012	American	630	2	1531	22			22
475	0	2013	American	630	1	1614	12			12
475	0	2014	American	630	0	34				0
480	486	1977	American	800	37	6	7			7
480	486	1989	American	800	25	40	30	2	3	35
480	486	1990	American	800	24	42	16		1	17
480	486	1991	American	800	23	87	43	2		45
480	486	1992	American	800	22	43	28	1	2	31
480	486	1993	American	800	21	67	42	1	1	44
480	486	1995	American	800	19	34	22	1	2	25
480	486	1996	American	800	18	13	13	1		14
480	486	1998	American	800	16	15	18	1		19
480	486	2000	American	800	14	59	37	2	3	42
480	486	2001	American	800	13	29	20	1	1	22
480	486	2002	American	800	12	37	15			15
480	486	2005	American	800	9	17	3			3
480	486	2006	American	800	8	3				0
480	486	2007	American	800	7	1				0
480	486	2013	American	800	1	1				0
485	0	1978	American	800	36	10	10	1		11
485	0	1980	American	800	34	36	15			15
485	0	1981	American	800	33	43	32	2	1	35
485	0	1982	American	800	32	84	45	4	1	50
485	0	1983	American	800	31	74	44	6		50
485	0	1984	American	800	30	99	60	3	5	68
485	0	1987	American	800	27	33	37	3	3	43
485	0	1993	American	800	21	3	4			4
485	0	1995	American	800	19	21	21	2		23
485	0	1996	American	800	18	16	11			11

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
485	0	1997	American	800	17	16	16			16
485	0	2005	American	800	9	45	5	1		6
485	0	2011	American	800	3	1				0
490	0	2007	Sprague	305	7	1				0
500	502	1990	American	1000	24	8	7			7
500	502	1992	American	1000	22	8	7			7
500	502	1993	American	1000	21	14	10		1	11
500	502	1994	American	1000	20	6	6			6
500	502	1995	American	1000	19	1	2			2
500	502	1998	American	1000	16	144	58	4		62
500	502	1999	American	1000	15	41	31	1		32
500	502	2000	American	1000	14	53	18			18
500	502	2001	American	1000	13	24	13			13
500	502	2003	American	1000	11	31	16			16
500	502	2005	American	1000	9	14	4			4
505	507	1980	American	1000	34	14	10		1	11
505	507	1981	American	1000	33	21	12			12
505	507	1982	American	1000	32	13	10		1	11
505	507	1984	American	1000	30	4	5			5
505	507	2003	American	1000	11	4	4			4
505	507	2004	American	1000	10	4	4			4
505	507	2005	American	1000	9	403	41	4	1	46
505	507	2006	American	1000	8	655	102	6		108
505	507	2007	American	1000	7	465	46	1		47
505	507	2008	American	1000	6	397	24	1		25
505	507	2009	American	1000	5	333	18			18
505	507	2010	American	1000	4	220	8	1		9
505	507	2011	American	1000	3	427	30			30
505	507	2012	American	1000	2	454	16	1		17
505	507	2013	American	1000	1	421	10			10
505	507	2014	American	1000	0	2				0
510	515	1973	Rockwell	310	41	111	57	3	7	67
510	515	1974	Rockwell	310	40	59	35	2	5	42
510	515	1975	Rockwell	310	39	61	29	1	2	32
510	515	1976	Rockwell	310	38	331	60	1	1	62
510	515	1977	Rockwell	310	37	184	37		4	41
510	515	1978	Rockwell	310	36	154	41		3	44
510	515	1979	Rockwell	310	35	210	49	2	1	52
510	515	1980	Rockwell	310	34	163	25		2	27
510	515	1981	Rockwell	310	33	221	65	6	3	74
510	515	1982	Rockwell	310	32	106	34	1	2	37
510	515	1983	Rockwell	310	31	153	62	4	7	73
510	515	1984	Rockwell	310	30	33	26	1	1	28
510	515	1985	Rockwell	310	29	42	33	2	3	38
510	515	1986	Rockwell	310	28	28	26	2	1	29
510	515	1987	Rockwell	310	27	280	39		3	42
510	515	1988	Rockwell	310	26	152	57	1	2	60
510	515	1989	Rockwell	310	25	125	55	6	2	63
510	515	1990	Rockwell	310	24	307	70	5	6	81
510	515	1991	Rockwell	310	23	246	30		1	31



Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
510	515	1992	Rockwell	310	22	176	59	3	2	64
510	515	1993	Rockwell	310	21	156	32			32
510	515	1994	Rockwell	310	20	53	31	1	3	35
510	515	1995	Rockwell	310	19	66	31	1	2	34
510	515	1996	Rockwell	310	18	45	42	2	2	46
510	515	1997	Rockwell	310	17	12	9			9
510	515	2008	Rockwell	310	6	1				0
510	515	2009	Rockwell	310	5	1				0
510	515	2010	Rockwell	310	4	1				0
510	515	2011	Rockwell	310	3	1	2			2
510	515	2013	Rockwell	310	1	1	2			2
520	0	1976	Rockwell	415	38	88	25			25
520	0	1977	Rockwell	415	37	58	18			18
520	0	1978	Rockwell	415	36	54	21			21
520	0	1979	Rockwell	415	35	108	20		1	21
520	0	1980	Rockwell	415	34	96	47	3		50
520	0	1981	Rockwell	415	33	251	53		6	59
520	0	1982	Rockwell	415	32	54	34	3	3	40
520	0	1983	Rockwell	415	31	25	19		1	20
520	0	1984	Rockwell	415	30	22	18	1		19
520	0	1986	Rockwell	415	28	7	6			6
520	0	1987	Rockwell	415	27	66	18		1	19
520	0	1988	Rockwell	415	26	59	19			19
520	0	1991	Rockwell	415	23	111	34	1		35
520	0	1992	Rockwell	415	22	89	21		1	22
520	0	1993	Rockwell	415	21	45	17			17
520	0	1994	Rockwell	415	20	113	20		1	21
520	0	1995	Rockwell	415	19	351	63	3	1	67
520	0	1996	Rockwell	415	18	160	52	2		54
520	0	1997	Rockwell	415	17	72	46	4		50
520	0	1998	Rockwell	415	16	48	17			17
520	0	1999	Rockwell	415	15	375	73	7		80
520	0	2000	Rockwell	415	14	145	37	1		38
520	0	2001	Rockwell	415	13	421	69	11		80
520	0	2002	Rockwell	415	12	102	20			20
520	0	2003	Rockwell	415	11	174	63	3		66
520	0	2004	Rockwell	415	10	112	22			22
520	0	2005	Rockwell	415	9	70	7			7
520	0	2006	Rockwell	415	8	2	1			1
520	0	2007	Rockwell	415	7	1	1			1
520	0	2009	Rockwell	415	5	3				0
520	0	2011	Rockwell	415	3	1	1			1
530	0	2005	Rockwell	1000	9	1				0
555	0	1980	American	310	34	103	20			20
555	0	1981	American	310	33	54	33	1		34
555	0	1982	American	310	32	150	22		1	23
555	0	1983	American	310	31	129	21			21
555	0	1984	American	310	30	239	43			43
555	0	1985	American	310	29	149	22			22
555	0	1986	American	310	28	124	39			39

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
555	0	1987	American	310	27	80	32			32
555	0	1988	American	310	26	10	17			17
555	0	1989	American	310	25	45	36			36
555	0	1990	American	310	24	29	25			25
555	0	1991	American	310	23	27	24	2		26
555	0	1994	American	310	20	16	12			12
555	0	1995	American	310	19	15	10			10
555	0	1996	American	310	18	11	10	1		11
555	0	1997	American	310	17	47	21			21
555	0	2000	American	310	14	1	1			1
555	0	2003	American	310	11	1	1			1
555	0	2004	American	310	10	1	1			1
555	0	2008	American	310	6	1				0
555	0	2009	American	310	5	1				0
555	0	2012	American	310	2	1	1			1
560	0	1985	American	250	29	1526	47		1	48
560	0	1986	American	250	28	6498	190	2		192
560	0	1987	American	250	27	462	66	2		68
560	0	1988	American	250	26	3289	78			78
560	0	1989	American	250	25	7326	200	3	3	206
560	0	1990	American	250	24	6609	200	2	6	208
560	0	1991	American	250	23	5862	145	2	4	151
560	0	1992	American	250	22	4949	179		6	185
560	0	1993	American	250	21	4237	87		1	88
560	0	1994	American	250	20	6337	124	1	3	128
560	0	1995	American	250	19	8476	179	2	2	183
560	0	1996	American	250	18	11449	214	3	3	220
560	0	1997	American	250	17	15505	290	11	1	302
560	0	1998	American	250	16	14825	268	7	1	276
560	0	1999	American	250	15	11498	161	4	1	166
560	0	2000	American	250	14	11548	176	1		177
560	0	2001	American	250	13	9650	132	2		134
560	0	2002	American	250	12	8663	114			114
560	0	2003	American	250	11	2945	91	12	2	105
560	0	2005	American	250	9	111	1			1
560	0	2006	American	250	8	679	18			18
560	0	2007	American	250	7	222	9			9
560	0	2008	American	250	6	6				0
560	0	2010	American	250	4	2				0
560	0	2011	American	250	3	2	4			4
560	0	2012	American	250	2	6	5			5
560	0	2013	American	250	1	3	3			3
561	0	2005	American	250	9	2375	38	2		40
561	0	2006	American	250	8	22006	310	3		313
561	0	2007	American	250	7	22586	333	5		338
561	0	2008	American	250	6	23605	469	11		480
561	0	2009	American	250	5	14643	247	8		255
561	0	2010	American	250	4	10380	167			167
561	0	2011	American	250	3	10900	132			132
561	0	2012	American	250	2	12217	124		1	125

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
561	0	2013	American	250	1	15646	64	3		67
561	0	2014	American	250	0	222				0
570	0	1988	Rockwell	275	26	555	25		1	26
570	0	1989	Rockwell	275	25	803	49		1	50
570	0	1990	Rockwell	275	24	5559	121			121
570	0	1991	Rockwell	275	23	3003	67	1		68
570	0	1992	Rockwell	275	22	193	25			25
570	0	1993	Rockwell	275	21	96	24		1	25
570	0	1994	Rockwell	275	20	5208	85	1	2	88
570	0	1995	Rockwell	275	19	6659	85		2	87
570	0	1996	Rockwell	275	18	7870	114	1	3	118
570	0	1997	Rockwell	275	17	2427	32		1	33
570	0	1998	Rockwell	275	16	5581	77		1	78
570	0	1999	Rockwell	275	15	10803	160	1		161
570	0	2000	Rockwell	275	14	8662	98	3	2	103
570	0	2001	Rockwell	275	13	8869	102	1		103
570	0	2002	Rockwell	275	12	11039	164	1	2	167
570	0	2003	Rockwell	275	11	20215	261	1	1	263
570	0	2004	Rockwell	275	10	3681	55		2	57
570	0	2005	Rockwell	275	9	22	3			3
570	0	2006	Rockwell	275	8	8	2			2
570	0	2007	Rockwell	275	7	7				0
570	0	2008	Rockwell	275	6	6	1			1
570	0	2009	Rockwell	275	5	17				0
570	0	2010	Rockwell	275	4	2	3			3
570	0	2011	Rockwell	275	3	1	2			2
570	0	2012	Rockwell	275	2	4	3			3
570	0	2013	Rockwell	275	1	1	3			3
572	0	2004	Invensys	275	10	14218	160			160
572	0	2005	Invensys	275	9	25266	322	7	2	331
572	0	2006	Invensys	275	8	8339	114	2		116
572	0	2007	Invensys	275	7	24				0
572	0	2008	Invensys	275	6	79	1			1
572	0	2009	Invensys	275	5	801	54			54
572	0	2010	Invensys	275	4	17	3			3
572	0	2011	Invensys	275	3	91	7			7
572	0	2012	Invensys	275	2	4	1			1
572	0	2013	Invensys	275	1	1				0
580	0	1991	Sprague	175	23	1	2			2
580	0	1993	Sprague	175	21	1	2			2
580	0	2007	Sprague	175	7	1				0
585	0	1988	Sprague	250	26	202	22			22
585	0	1991	Sprague	250	23	770	25			25
585	0	1992	Sprague	250	22	2179	116			116
585	0	1993	Sprague	250	21	3973	126			126
585	0	1994	Sprague	250	20	1720	48			48
585	0	1995	Sprague	250	19	1567	60			60
585	0	1996	Sprague	250	18	4564	95		3	98
585	0	1997	Sprague	250	17	6084	121		2	123
585	0	1998	Sprague	250	16	5583	105			105

Perf	Alt. Perf	Year Set	Manufacturer	Size	Age	# Meters in Family	# OK	# Fast	# Slow	# Meter Tests
585	0	1999	Sprague	250	15	268	25			25
585	0	2000	Sprague	250	14	68	21			21
585	0	2001	Sprague	250	13	66	30			30
585	0	2002	Sprague	250	12	60	78	2		80
585	0	2003	Sprague	250	11	14	11			11
585	0	2004	Sprague	250	10	65	24			24
585	0	2006	Sprague	250	8	2				0
585	0	2009	Sprague	250	5	5				0
590	0	1988	Lancaster	250	26	95	22			22
590	0	1989	Lancaster	250	25	1399	69		1	70
590	0	1990	Lancaster	250	24	1390	99	1	2	102
590	0	1991	Lancaster	250	23	1814	122	1	3	126
590	0	1992	Lancaster	250	22	2778	137		1	138
590	0	1993	Lancaster	250	21	2938	92	1	1	94
590	0	1994	Lancaster	250	20	4636	178	2	7	187
590	0	1995	Lancaster	250	19	5090	142	3	8	153
590	0	1996	Lancaster	250	18	47	23			23
590	0	1997	Lancaster	250	17	2191	64			64
590	0	1998	Lancaster	250	16	42	21			21
590	0	1999	Lancaster	250	15	173	22			22
590	0	2002	Lancaster	250	12	1	1			1
590	0	2004	Lancaster	250	10	1	1			1
590	0	2005	Lancaster	250	9	1				0
590	0	2006	Lancaster	250	8	2				0
590	0	2008	Lancaster	250	6	1	2			2
590	0	2009	Lancaster	250	5	3				0
590	0	2010	Lancaster	250	4	1				0
595	600	1998	Schlumberger	250	16	1	58		2	60
595	600	2000	Schlumberger	250	14	3621	513	16	5	534
595	600	2001	Schlumberger	250	13	4007	417	2	9	428
595	600	2002	Schlumberger	250	12	3501	329	1	16	346
595	600	2003	Schlumberger	250	11	72	20			20
595	600	2004	Schlumberger	250	10	35	16			16
595	600	2005	Schlumberger	250	9	1				0
595	600	2008	Schlumberger	250	6	1				0
595	600	2012	Schlumberger	250	2	1	3			3
<b>Total</b>						<b>701,337</b>	<b>24,832</b>	<b>713</b>	<b>514</b>	<b>26,059</b>

**Appendix B  
Meter Families Not Conforming (To Be Removed)**

<b>Perf</b>	<b>Alt. Perf</b>	<b>Year Set</b>	<b>Manufacturer</b>	<b>Size</b>	<b>Age</b>	<b># Meters in Family or Subfamily</b>	<b>Subfamily</b>
125	0	2003	Rockwell	200	11	1	
130	0	1983	American	175	30	331	Meter #'s 247462 - 259203
300	540	2000	Rockwell	800	14	40	
300	540	2004	Rockwell	800	10	7	
480	486	1973	American	800	41	6	
480	486	1997	American	800	17	12	
480	486	2003	American	800	11	14	
480	486	2004	American	800	10	15	
500	502	1997	American	1000	17	20	
505	507	1996	American	1000	17	1	
505	507	2002	American	1000	11	4	
560	0	2003	American	250	11	320	Meter #'s 871817 - 872646
560	0	2004	American	250	10	1218	
561	0	2004	American	250	10	2804	
570	0	1984	Rockwell	275	30	1	
570	0	1984	Rockwell	275	30	1	
595	600	1999	Schlumberger	250	15	1600	
			<b>Total</b>			<b>6395</b>	