

**Appendices**  
**for “Statistical Analyses of the Geographic Market Delineation**  
**with an Application to the U.S. Natural Gas Markets”**  
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**Appendix I:**  
**How to Compute Half Life of a Dynamic Adjustment Process**

Suppose we have an AR(1) process as follows:

$$\Delta x_t = \lambda x_{t-1} + e_t, \quad (1)$$

where  $x_t$  is already demeaned (and detrended if necessary), or the mean is zero.  $\lambda$  is the speed of adjustment. We can compute the half life of a one-standard deviation shock as follows: Equation (1) can be rewritten as:

$$x_t = (1 + \lambda)x_{t-1} + e_t, \quad (2)$$

Using lag operator, equation (2) becomes:

$$(1 - (1 + \lambda)L)x_t = e_t \quad (3)$$

Equation (3) implies:

$$\begin{aligned} x_t &= (1 - (1 + \lambda)L)^{-1} e_t \\ &= e_t + (1 + \lambda)e_{t-1} + (1 + \lambda)^2 e_{t-2} + \dots + (1 + \lambda)^T e_{t-T} + \dots \end{aligned}$$

Denote by  $T$  the half life of a one-standard deviation shock, we have

$$(1 + \lambda)^T e_{t-T} = 0.5e_{t-T} \quad (4)$$

Equation (4) implies that

$$T = \ln(0.5) / \ln(1 + \lambda)$$

The above derivation is valid only for an AR(1) process. To get the half life of a shock in a higher order adjustment process, we can either derive the theoretical formula in the above fashion, or do a numerical simulation. Since the theoretical derivation is complicated and involved, we show the method of numerical simulation and this is what we used in the paper. See Hamilton (1995) for detailed explanation.

Suppose we have a  $p$ th-order adjustment process

$$x_t = f_1 x_{t-1} + f_2 x_{t-2} + \dots + f_p x_{t-p} + e_t \quad (5)$$

The numerical simulation is done as follows. Set  $x_{-1} = x_{-2} = \dots = x_{-p} = 0, e_0 = 1$ , and set the value of  $e$  for all other dates to 0. Then use equation (5) to calculate the value of  $x_t$  for  $t = 0$ . Next substitute this value along with  $x_{t-1}, x_{t-2}, \dots, x_{t-p+1}$  back into (5) to calculate  $x_{t+1}$ , and continue recursively in this fashion. The value of  $x$  at step  $t$  gives the effect of a one-unit change in  $e_0$  on  $x_t$ . The half life of a shock  $e_0$  is the step  $T$  that gives an effect equaling to  $0.5e_t$ .

## Appendix II

**The unit root test results for those price series (undated) that defined as “pattern 1” series. See the text for the classification. This table has 49 price series.**

	t-stat	1% C.V.	5% C.V.	t on C	t on T	lags #	Sample	Included Obs#
Series	ANR_LS							
ADF test	-0.63	-2.56	-1.93			18	20 1247	1228
	-3.63	-3.43	-2.86	3.54		34	36 1247	1212
	-3.88	-3.97	-3.41	3.45	1.37	34	36 1247	1212
PP test	-1.62	-2.56	-1.93			7	2 1247	1246
	-8.34	-3.43	-2.86	8.94		7	2 1247	1246
	-9.04	-3.97	-3.41	8.10	3.16	7	2 1247	1246
Series	ANR_OK							
ADF test	-0.52	-2.56	-1.93			24	26 1247	1222
	-2.81	-3.43	-2.86	2.76		24	26 1247	1222
	-3.11	-3.97	-3.41	2.73	1.33	24	26 1247	1222
PP test	-1.51	-2.56	-1.93			7	2 1247	1246
	-7.43	-3.43	-2.86	8.16		7	2 1247	1246
	-8.24	-3.97	-3.41	7.54	3.38	7	2 1247	1246
Series	CNGNORT H							
ADF test	-1.07	-2.56	-1.93			36	38 1247	1210
	-3.96	-3.43	-2.86	3.82		36	38 1247	1210
	-4.14	-3.97	-3.41	3.45	1.19	36	38 1247	1210
PP test	-1.45	-2.56	-1.93			7	2 1247	1246
	-4.80	-3.43	-2.86	5.12		7	2 1247	1246
	-5.00	-3.97	-3.41	4.32	1.47	7	2 1247	1246
Series	COLUM_A P							
ADF test	-1.08	-2.56	-1.93			29	31 1247	1217
	-3.90	-3.43	-2.86	3.75		29	31 1247	1217
	-4.06	-3.97	-3.41	3.40	1.14	29	31 1247	1217
PP test	-1.47	-2.56	-1.93			7	2 1247	1246
	-4.97	-3.43	-2.86	5.29		7	2 1247	1246
	-5.18	-3.97	-3.41	4.52	1.48	7	2 1247	1246

Series	COLUM_L							
	S							
ADF test	-0.63	-2.56	-1.93			23	25 1247	1223
	-3.18	-3.43	-2.86	3.10		18	20 1247	1228
	-3.37	-3.97	-3.41	2.95	1.10	18	20 1247	1228
PP test	-1.73	-2.56	-1.93			7	2 1247	1246
	-8.57	-3.43	-2.86	9.03		7	2 1247	1246
	-9.16	-3.97	-3.41	8.08	2.92	7	2 1247	1246
Series	DJBASIN							
ADF test	-0.93	-2.56	-1.93			24	26 1247	1222
	-3.47	-3.43	-2.86	3.35		24	26 1247	1222
	-3.61	-3.97	-3.41	2.79	1.01	24	26 1247	1222
PP test	-2.03	-2.56	-1.93			7	2 1247	1246
	-7.34	-3.43	-2.86	7.82		7	2 1247	1246
	-7.52	-3.97	-3.41	6.34	1.62	7	2 1247	1246
Series	ELPASOP							
	B							
ADF test	-0.79	-2.56	-1.93			36	38 1247	1210
	-3.14	-3.43	-2.86	3.04		36	38 1247	1210
	-3.63	-3.97	-3.41	3.01	1.83	36	38 1247	1210
PP test	-1.34	-2.56	-1.93			7	2 1247	1246
	-6.60	-3.43	-2.86	7.45		7	2 1247	1246
	-7.28	-3.97	-3.41	6.93	3.00	7	2 1247	1246
Series	FGTZ1							
ADF test	-0.46	-2.56	-1.93			23	25 1247	1223
	-3.02	-3.43	-2.86	2.98		19	21 1247	1227
	-3.28	-3.97	-3.41	2.99	1.28	19	21 1247	1227
PP test	-1.26	-2.56	-1.93			7	2 1247	1246
	-9.62	-3.43	-2.86	10.26		7	2 1247	1246
	-10.75	-3.97	-3.41	9.87	4.08	7	2 1247	1246
Series	FGTZ2							
ADF test	-0.59	-2.56	-1.93			28	30 1247	1218
	-3.71	-3.43	-2.86	3.62		36	38 1247	1210
	-3.99	-3.97	-3.41	3.58	1.48	36	38 1247	1210
PP test	-1.65	-2.56	-1.93			7	2 1247	1246
	-8.17	-3.43	-2.86	8.70		7	2 1247	1246
	-8.90	-3.97	-3.41	7.89	3.21	7	2 1247	1246
Series	FLORD_T							
	G							
ADF test	-0.45	-2.56	-1.93			23	25 1247	1223
	-2.89	-3.43	-2.86	2.87		23	25 1247	1223
	-3.14	-3.97	-3.41	2.89	1.22	23	25 1247	1223
PP test	-1.26	-2.56	-1.93			7	2 1247	1246
	-9.56	-3.43	-2.86	10.21		7	2 1247	1246
	-10.74	-3.97	-3.41	9.84	4.16	7	2 1247	1246
Series	FLORD_T							
	S							
ADF test	-0.44	-2.56	-1.93			23	25 1247	1223

		-2.91	-3.43	-2.86	2.88		19	21 1247	1227
		-3.19	-3.97	-3.41	2.90	1.29	19	21 1247	1227
PP test		-1.27	-2.56	-1.93			7	2 1247	1246
		-9.61	-3.43	-2.86	10.25		7	2 1247	1246
		-10.84	-3.97	-3.41	9.89	4.25	7	2 1247	1246
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Series	HENRYHU								
	B								
ADF test		-0.68	-2.56	-1.93			23	25 1247	1223
		-3.25	-3.43	-2.86	3.17		18	20 1247	1228
		-3.44	-3.97	-3.41	2.99	1.12	18	20 1247	1228
PP test		-1.93	-2.56	-1.93			7	2 1247	1246
		-9.47	-3.43	-2.86	9.70		7	2 1247	1246
		-10.09	-3.97	-3.41	8.53	3.03	7	2 1247	1246
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Series	HPL								
ADF test		-0.49	-2.56	-1.93			24	26 1247	1222
		-2.95	-3.43	-2.86	2.92		24	26 1247	1222
		-3.17	-3.97	-3.41	2.93	1.17	24	26 1247	1222
PP test		-1.62	-2.56	-1.93			7	2 1247	1246
		-13.12	-3.43	-2.86	12.67		7	2 1247	1246
		-14.48	-3.97	-3.41	12.00	4.75	7	2 1247	1246
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Series	KOCH7810								
ADF test		-0.48	-2.56	-1.93			24	26 1247	1222
		-3.02	-3.43	-2.86	2.99		24	26 1247	1222
		-3.25	-3.97	-3.41	3.01	1.20	24	26 1247	1222
PP test		-1.42	-2.56	-1.93			7	2 1247	1246
		-8.86	-3.43	-2.86	9.56		7	2 1247	1246
		-9.73	-3.97	-3.41	9.09	3.62	7	2 1247	1246
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Series	KOCHA3_								
	6								
ADF test		-0.71	-2.56	-1.93			31	33 1247	1215
		-3.38	-3.43	-2.86	3.30		31	33 1247	1215
		-3.61	-3.97	-3.41	3.23	1.28	31	33 1247	1215
PP test		-1.41	-2.56	-1.93			7	2 1247	1246
		-6.39	-3.43	-2.86	7.02		7	2 1247	1246
		-6.89	-3.97	-3.41	6.43	2.52	7	2 1247	1246
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Series	KOCHA9								
ADF test		-0.56	-2.56	-1.93			13	15 1247	1233
		-3.66	-3.43	-2.86	3.59		8	10 1247	1238
		-3.97	-3.97	-3.41	3.56	1.52	8	10 1247	1238
PP test		-1.47	-2.56	-1.93			7	2 1247	1246
		-10.06	-3.43	-2.86	10.53		7	2 1247	1246
		-11.10	-3.97	-3.41	10.01	4.02	7	2 1247	1246
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Series	MIDCON								
ADF test		-0.43	-2.56	-1.93			23	25 1247	1223
		-2.79	-3.43	-2.86	2.76		23	25 1247	1223
		-2.99	-3.97	-3.41	2.77	1.10	23	25 1247	1223
PP test		-1.62	-2.56	-1.93			7	2 1247	1246
		-12.86	-3.43	-2.86	12.50		7	2 1247	1246

		-14.22	-3.97	-3.41	11.82	4.75	7	2 1247	1246
Series	NGPL_LA								
ADF test		-0.50	-2.56	-1.93			23	25 1247	1223
		-3.08	-3.43	-2.86	3.04		27	29 1247	1219
		-3.31	-3.97	-3.41	3.05	1.22	27	29 1247	1219
PP test		-1.53	-2.56	-1.93			7	2 1247	1246
		-9.44	-3.43	-2.86	9.93		7	2 1247	1246
		-10.28	-3.97	-3.41	9.31	3.58	7	2 1247	1246
Series	NGPL_MID								
ADF test		-0.51	-2.56	-1.93			24	26 1247	1222
		-2.78	-3.43	-2.86	2.74		24	26 1247	1222
		-3.07	-3.97	-3.41	2.72	1.31	24	26 1247	1222
PP test		-1.58	-2.56	-1.93			7	2 1247	1246
		-8.30	-3.43	-2.86	9.00		7	2 1247	1246
		-9.23	-3.97	-3.41	8.32	3.72	7	2 1247	1246
Series	NGPL_PE R								
ADF test		-0.78	-2.56	-1.93			34	36 1247	1212
		-3.51	-3.43	-2.86	3.43		34	36 1247	1212
		-3.93	-3.97	-3.41	3.40	1.75	34	36 1247	1212
PP test		-0.99	-2.56	-1.93			7	2 1247	1246
		-4.89	-3.43	-2.86	5.93		7	2 1247	1246
		-5.41	-3.97	-3.41	5.63	2.45	7	2 1247	1246
Series	NGPL_ST X								
ADF test		-0.47	-2.56	-1.93			24	26 1247	1222
		-2.83	-3.43	-2.86	2.80		24	26 1247	1222
		-3.07	-3.97	-3.41	2.81	1.18	24	26 1247	1222
PP test		-1.44	-2.56	-1.93			7	2 1247	1246
		-8.25	-3.43	-2.86	8.96		7	2 1247	1246
		-9.04	-3.97	-3.41	8.47	3.39	7	2 1247	1246
Series	NGPLTXO K								
ADF test		-0.46	-2.56	-1.93			24	26 1247	1222
		-2.80	-3.43	-2.86	2.77		24	26 1247	1222
		-3.04	-3.97	-3.41	2.79	1.19	24	26 1247	1222
PP test		-1.67	-2.56	-1.93			7	2 1247	1246
		-10.02	-3.43	-2.86	10.40		7	2 1247	1246
		-10.92	-3.97	-3.41	9.70	3.81	7	2 1247	1246
Series	NIAGARA								
ADF test		-0.98	-2.56	-1.93			35	37 1247	1211
		-3.74	-3.43	-2.86	3.61		35	37 1247	1211
		-3.91	-3.97	-3.41	3.27	1.15	35	37 1247	1211
PP test		-1.75	-2.56	-1.93			7	2 1247	1246
		-6.44	-3.43	-2.86	7.18		7	2 1247	1246
		-6.81	-3.97	-3.41	5.98	2.21	7	2 1247	1246

Series	NORAM							
ADF test	-0.49	-2.56	-1.93			24	26 1247	1222
	-2.87	-3.43	-2.86	2.83		24	26 1247	1222
	-3.15	-3.97	-3.41	2.86	1.30	24	26 1247	1222
PP test	-1.44	-2.56	-1.93			7	2 1247	1246
	-8.45	-3.43	-2.86	9.20		7	2 1247	1246
	-9.40	-3.97	-3.41	8.70	3.76	7	2 1247	1246
Series	NORMID1							
	0							
ADF test	-0.55	-2.56	-1.93			24	26 1247	1222
	-2.83	-3.43	-2.86	2.78		24	26 1247	1222
	-3.11	-3.97	-3.41	2.74	1.28	24	26 1247	1222
PP test	-1.73	-2.56	-1.93			7	2 1247	1246
	-9.40	-3.43	-2.86	9.88		7	2 1247	1246
	-10.38	-3.97	-3.41	9.00	3.90	7	2 1247	1246
Series	NORMID1							
	1							
ADF test	-0.66	-2.56	-1.93			35	37 1247	1211
	-3.08	-3.43	-2.86	2.99		36	38 1247	1210
	-3.58	-3.97	-3.41	2.98	1.83	36	38 1247	1210
PP test	-1.82	-2.56	-1.93			7	2 1247	1246
	-9.51	-3.43	-2.86	9.91		7	2 1247	1246
	-10.56	-3.97	-3.41	8.97	4.07	7	2 1247	1246
Series	ONG							
ADF test	-0.60	-2.56	-1.93			24	26 1247	1222
	-3.13	-3.43	-2.86	3.08		24	26 1247	1222
	-3.46	-3.97	-3.41	3.07	1.46	24	26 1247	1222
PP test	-1.10	-2.56	-1.93			7	2 1247	1246
	-4.98	-3.43	-2.86	5.63		7	2 1247	1246
	-5.56	-3.97	-3.41	5.37	2.53	7	2 1247	1246
Series	PEPL							
ADF test	-0.55	-2.56	-1.93			24	26 1247	1222
	-2.85	-3.43	-2.86	2.80		24	26 1247	1222
	-3.45	-3.97	-3.41	2.96	1.57	36	38 1247	1210
PP test	-1.70	-2.56	-1.93			7	2 1247	1246
	-7.96	-3.43	-2.86	8.50		7	2 1247	1246
	-8.68	-3.97	-3.41	7.71	3.25	7	2 1247	1246
Series	SONAT							
ADF test	-0.72	-2.56	-1.93			32	34 1247	1214
	-3.44	-3.43	-2.86	3.36		32	34 1247	1214
	-3.71	-3.97	-3.41	3.29	1.40	32	34 1247	1214
PP test	-1.55	-2.56	-1.93			7	2 1247	1246
	-8.19	-3.43	-2.86	8.85		7	2 1247	1246
	-8.98	-3.97	-3.41	8.07	3.35	7	2 1247	1246
Series	TENN_LE							
	G							
ADF test	-0.54	-2.56	-1.93			28	30 1247	1218
	-3.38	-3.43	-2.86	3.31		32	34 1247	1214

		-3.73	-3.97	-3.41	3.35	1.57	32	34 1247	1214
PP test		-1.35	-2.56	-1.93			7	2 1247	1246
		-7.49	-3.43	-2.86	8.41		7	2 1247	1246
		-8.37	-3.97	-3.41	7.97	3.52	7	2 1247	1246
Series	TENN_LS								
ADF test		-0.74	-2.56	-1.93			32	34 1247	1214
		-3.48	-3.43	-2.86	3.40		32	34 1247	1214
		-3.73	-3.97	-3.41	3.31	1.35	32	34 1247	1214
PP test		-1.58	-2.56	-1.93			7	2 1247	1246
		-7.34	-3.43	-2.86	7.95		7	2 1247	1246
		-7.94	-3.97	-3.41	7.19	2.85	7	2 1247	1246
Series	TENN_TS								
ADF test		-0.45	-2.56	-1.93			24	26 1247	1222
		-2.83	-3.43	-2.86	2.80		24	26 1247	1222
		-3.10	-3.97	-3.41	2.85	1.26	24	26 1247	1222
PP test		-1.57	-2.56	-1.93			7	2 1247	1246
		-10.07	-3.43	-2.86	10.50		7	2 1247	1246
		-11.15	-3.97	-3.41	9.94	4.15	7	2 1247	1246
Series	TEX_ELA								
ADF test		-0.71	-2.56	-1.93			28	30 1247	1218
		-3.55	-3.43	-2.86	3.45		34	36 1247	1212
		-3.75	-3.97	-3.41	3.28	1.21	34	36 1247	1212
PP test		-1.95	-2.56	-1.93			7	2 1247	1246
		-8.57	-3.43	-2.86	8.84		7	2 1247	1246
		-9.11	-3.97	-3.41	7.68	2.75	7	2 1247	1246
Series	TEX_ETX								
ADF test		-0.62	-2.56	-1.93			32	34 1247	1214
		-3.32	-3.43	-2.86	3.26		32	34 1247	1214
		-3.58	-3.97	-3.41	3.26	1.35	32	34 1247	1214
PP test		-0.98	-2.56	-1.93			7	2 1247	1246
		-5.28	-3.43	-2.86	6.26		7	2 1247	1246
		-5.75	-3.97	-3.41	6.03	2.37	7	2 1247	1246
Series	TEX_SL								
ADF test		-0.67	-2.56	-1.93			18	20 1247	1228
		-3.09	-3.43	-2.86	3.01		18	20 1247	1228
		-3.30	-3.97	-3.41	2.90	1.19	18	20 1247	1228
PP test		-1.67	-2.56	-1.93			7	2 1247	1246
		-8.79	-3.43	-2.86	9.29		7	2 1247	1246
		-9.56	-3.97	-3.41	8.40	3.34	7	2 1247	1246
Series	TEX_STX								
ADF test		-0.49	-2.56	-1.93			24	26 1247	1222
		-2.99	-3.43	-2.86	2.96		24	26 1247	1222
		-3.20	-3.97	-3.41	2.95	1.13	24	26 1247	1222
PP test		-1.19	-2.56	-1.93			7	2 1247	1246
		-6.95	-3.43	-2.86	7.93		7	2 1247	1246
		-7.59	-3.97	-3.41	7.58	2.96	7	2 1247	1246

Series	TEX_WLA							
ADF test	-0.59	-2.56	-1.93			23	25 1247	1223
	-3.30	-3.43	-2.86	3.24		31	33 1247	1215
	-3.51	-3.97	-3.41	3.17	1.20	31	33 1247	1215
PP test	-1.42	-2.56	-1.93			7	2 1247	1246
	-7.45	-3.43	-2.86	8.21		7	2 1247	1246
	-8.03	-3.97	-3.41	7.57	2.81	7	2 1247	1246
Series	TEX_Z1							
ADF test	-0.74	-2.56	-1.93			32	34 1247	1214
	-3.43	-3.43	-2.86	3.35		32	34 1247	1214
	-3.70	-3.97	-3.41	3.30	1.39	32	34 1247	1214
PP test	-1.39	-2.56	-1.93			7	2 1247	1246
	-8.22	-3.43	-2.86	9.07		7	2 1247	1246
	-9.06	-3.97	-3.41	8.43	3.45	7	2 1247	1246
Series	TRANW_T N							
ADF test	-0.69	-2.56	-1.93			36	38 1247	1210
	-3.14	-3.43	-2.86	3.07		36	38 1247	1210
	-3.66	-3.97	-3.41	3.09	1.88	36	38 1247	1210
PP test	-1.03	-2.56	-1.93			7	2 1247	1246
	-5.20	-3.43	-2.86	6.24		7	2 1247	1246
	-5.84	-3.97	-3.41	5.93	2.79	7	2 1247	1246
Series	TRANW_T W							
ADF test	-0.71	-2.56	-1.93			36	38 1247	1210
	-3.21	-3.43	-2.86	3.13		36	38 1247	1210
	-3.68	-3.97	-3.41	3.12	1.80	36	38 1247	1210
PP test	-1.09	-2.56	-1.93			7	2 1247	1246
	-5.15	-3.43	-2.86	5.96		7	2 1247	1246
	-5.70	-3.97	-3.41	5.63	2.54	7	2 1247	1246
Series	TRCO_Z1							
ADF test	-0.61	-2.56	-1.93			13	15 1247	1233
	-3.12	-3.43	-2.86	3.07		13	15 1247	1233
	-3.36	-3.97	-3.41	3.02	1.24	13	15 1247	1233
PP test	-1.45	-2.56	-1.93			7	2 1247	1246
	-8.72	-3.43	-2.86	9.43		7	2 1247	1246
	-9.46	-3.97	-3.41	8.85	3.33	7	2 1247	1246
Series	TRCO_Z2							
ADF test	-0.67	-2.56	-1.93			31	33 1247	1215
	-3.41	-3.43	-2.86	3.35		31	33 1247	1215
	-3.67	-3.97	-3.41	3.36	1.35	31	33 1247	1215
PP test	-1.33	-2.56	-1.93			7	2 1247	1246
	-8.60	-3.43	-2.86	9.43		7	2 1247	1246
	-9.49	-3.97	-3.41	8.96	3.59	7	2 1247	1246
Series	TRCO_Z3							
ADF test	-0.52	-2.56	-1.93			27	29 1247	1219
	-3.50	-3.43	-2.86	3.43		32	34 1247	1214
	-3.74	-3.97	-3.41	3.38	1.32	32	34 1247	1214

PP test	-1.30	-2.56	-1.93			7	2 1247	1246
	-6.42	-3.43	-2.86	7.25		7	2 1247	1246
	-6.98	-3.97	-3.41	6.73	2.69	7	2 1247	1246
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Series	TRCO_Z4							
ADF test	-0.77	-2.56	-1.93			32	34 1247	1214
	-3.61	-3.43	-2.86	3.53		32	34 1247	1214
	-3.84	-3.97	-3.41	3.44	1.30	32	34 1247	1214
PP test	-1.50	-2.56	-1.93			7	2 1247	1246
	-7.85	-3.43	-2.86	8.60		7	2 1247	1246
	-8.46	-3.97	-3.41	7.83	2.95	7	2 1247	1246
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Series	TRUN_EL							
	A							
ADF test	-0.71	-2.56	-1.93			31	33 1247	1215
	-3.29	-3.43	-2.86	3.21		31	33 1247	1215
	-3.51	-3.97	-3.41	3.12	1.21	31	33 1247	1215
PP test	-1.49	-2.56	-1.93			7	2 1247	1246
	-7.07	-3.43	-2.86	7.77		7	2 1247	1246
	-7.63	-3.97	-3.41	7.07	2.73	7	2 1247	1246
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Series	TRUN_NO							
	R							
ADF test	-0.59	-2.56	-1.93			34	36 1247	1212
	-3.07	-3.43	-2.86	3.01		34	36 1247	1212
	-3.39	-3.97	-3.41	3.03	1.43	34	36 1247	1212
PP test	-1.68	-2.56	-1.93			7	2 1247	1246
	-9.38	-3.43	-2.86	9.89		7	2 1247	1246
	-10.22	-3.97	-3.41	9.15	3.65	7	2 1247	1246
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Series	TRUN_SO							
	U							
ADF test	-0.50	-2.56	-1.93			22	24 1247	1224
	-2.86	-3.43	-2.86	2.82		22	24 1247	1224
	-3.38	-3.97	-3.41	3.06	1.29	20	22 1247	1226
PP test	-1.65	-2.56	-1.93			7	2 1247	1246
	-9.49	-3.43	-2.86	9.97		7	2 1247	1246
	-10.29	-3.97	-3.41	9.25	3.55	7	2 1247	1246
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Series	VALERO							
ADF test	-0.54	-2.56	-1.93			24	26 1247	1222
	-3.10	-3.43	-2.86	3.05		24	26 1247	1222
	-3.32	-3.97	-3.41	3.05	1.21	24	26 1247	1222
PP test	-1.15	-2.56	-1.93			7	2 1247	1246
	-7.00	-3.43	-2.86	8.04		7	2 1247	1246
	-7.69	-3.97	-3.41	7.70	3.05	7	2 1247	1246
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Series	WILLIAMS							
ADF test	-0.71	-2.56	-1.93			36	38 1247	1210
	-3.14	-3.43	-2.86	3.06		36	38 1247	1210
	-3.56	-3.97	-3.41	3.02	1.68	36	38 1247	1210
PP test	-1.76	-2.56	-1.93			7	2 1247	1246
	-7.45	-3.43	-2.86	7.88		7	2 1247	1246
	-8.10	-3.97	-3.41	7.05	3.05	7	2 1247	1246

## Appendix III

The unit root test results for those price series (undated) that defined as “pattern 2” series. See the text for the classification. This table has 9 price series.

	t-stat	1% C.V.	5% C.V.	t on C	t on T	lags #	Sample	Included Obs#
Series	CIG							
ADF test	-0.72	-2.56	-1.93			29	31 1247	1217
	-2.96	-3.43	-2.86	2.88		29	31 1247	1217
	-3.00	-3.97	-3.41	2.33	0.59	29	31 1247	1217
PP test	-1.18	-2.56	-1.93			7	2 1247	1246
	-3.68	-3.43	-2.86	3.98		7	2 1247	1246
	-3.72	-3.97	-3.41	3.22	0.72	7	2 1247	1246
Series	ELPASOS							
	J							
ADF test	-0.95	-2.56	-1.93			35	37 1247	1211
	-3.07	-3.43	-2.86	2.93		35	37 1247	1211
	-3.32	-3.97	-3.41	2.49	1.34	35	37 1247	1211
PP test	-0.97	-2.56	-1.93			7	2 1247	1246
	-3.48	-3.43	-2.86	3.30		7	2 1247	1246
	-3.63	-3.97	-3.41	2.86	1.04	7	2 1247	1246
Series	KERNRIVE							
ADF test	-0.88	-2.56	-1.93			34	36 1247	1212
	-3.42	-3.43	-2.86	3.28		35	37 1247	1211
	-3.45	-3.97	-3.41	2.65	0.63	35	37 1247	1211
PP test	-1.23	-2.56	-1.93			7	2 1247	1246
	-3.85	-3.43	-2.86	4.47		7	2 1247	1246
	-3.88	-3.97	-3.41	3.62	0.70	7	2 1247	1246
Series	LONESTA							
	R							
ADF test	-0.63	-2.56	-1.93			27	29 1247	1219
	-3.63	-3.43	-2.86	3.58		27	29 1247	1219
	-3.80	-3.97	-3.41	3.55	1.17	27	29 1247	1219
PP test	-0.89	-2.56	-1.93			7	2 1247	1246
	-4.15	-3.43	-2.86	4.24		7	2 1247	1246
	-4.42	-3.97	-3.41	4.07	1.51	7	2 1247	1246
Series	NORDOM							
	ES							
ADF test	-0.60	-2.56	-1.93			30	32 1247	1216
	-2.56	-3.43	-2.86	2.49		30	32 1247	1216
	-2.59	-3.97	-3.41	1.95	0.60	30	32 1247	1216

PP test	-1.20	-2.56	-1.93			7	2 1247	1246
	-3.51	-3.43	-2.86	3.27		7	2 1247	1246
	-3.55	-3.97	-3.41	2.54	0.73	7	2 1247	1246
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Series	NWSUMAS							
ADF test	-0.84	-2.56	-1.93			32	34 1247	1214
	-3.09	-3.43	-2.86	2.98		32	34 1247	1214
	-3.05	-3.97	-3.41	2.41	-0.13	32	34 1247	1214
PP test	-1.41	-2.56	-1.93			7	2 1247	1246
	-3.92	-3.43	-2.86	3.57		7	2 1247	1246
	-3.89	-3.97	-3.41	2.89	-0.20	7	2 1247	1246
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Series	QUESTAR							
ADF test	-0.78	-2.56	-1.93			29	31 1247	1217
	-3.07	-3.43	-2.86	2.98		29	31 1247	1217
	-3.10	-3.97	-3.41	2.42	0.52	29	31 1247	1217
PP test	-1.24	-2.56	-1.93			7	2 1247	1246
	-3.64	-3.43	-2.86	3.79		7	2 1247	1246
	-3.68	-3.97	-3.41	3.00	0.72	7	2 1247	1246
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Series	TW							
ADF test	-0.96	-2.56	-1.93			35	37 1247	1211
	-3.38	-3.43	-2.86	3.24		35	37 1247	1211
	-3.40	-3.97	-3.41	2.64	0.58	35	37 1247	1211
PP test	-1.13	-2.56	-1.93			7	2 1247	1246
	-3.57	-3.43	-2.86	3.48		7	2 1247	1246
	-3.60	-3.97	-3.41	2.80	0.65	7	2 1247	1246
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## Appendix IV

The unit root test results for those price series (undated) in Walls (1994b).  
This table has 13 series.

	t-stat	1% C.V.	5% C.V.	t on C	t on T	lags #	Sample	Included Obs#
Series	R1ELPAS							
	O							
ADF test	-0.19	-2.57	-1.94			21	23 499	477
	-2.53	-3.44	-2.86	2.53		21	23 499	477
	-2.52	-3.98	-3.42	2.39	0.09	21	23 499	477
PP test	-1.45	-2.56	-1.94			5	2 499	498
	-3.75	-3.44	-2.86	3.55		5	2 499	498
	-3.45	-3.98	-3.42	2.62	1.52	5	2 499	498
Series	R1TRANS							
	W							
ADF test	1.01	-2.57	-1.94			22	24 499	451
	-1.54	-3.44	-2.86	1.68		22	24 499	451
	-1.54	-3.98	-3.42	1.59	0.15	22	24 499	451
PP test	-1.43	-2.56	-1.94			5	2 499	: 495
	-3.76	-3.44	-2.86	3.56		5	2 499	: 495
	-3.48	-3.98	-3.42	2.56	1.64	5	2 499	: 495
Series	R2NGPL							
ADF test	-0.46	-2.56	-1.94			20	22 499	478
	-2.60	-3.44	-2.86	2.55		20	22 499	478
	-2.54	-3.98	-3.42	2.23	0.21	20	22 499	478
PP test	-1.39	-2.56	-1.94			5	2 499	498
	-3.16	-3.44	-2.86	2.95		5	2 499	498
	-2.74	-3.98	-3.42	1.89	1.39	5	2 499	498
Series	R2TENN							
ADF test	-0.51	-2.57	-1.94			21	23 499	477
	-2.93	-3.44	-2.86	2.89		21	23 499	477
	-2.92	-3.98	-3.42	2.68	-0.21	21	23 499	477
PP test	-1.06	-2.56	-1.94			5	2 499	498
	-2.61	-3.44	-2.86	2.44		5	2 499	498
	-2.29	-3.98	-3.42	1.63	1.01	5	2 499	498
Series	R2TRUNK							
ADF test	-0.41	-2.57	-1.94			21	23 499	477
	-3.03	-3.44	-2.86	3.00		21	23 499	477
	-3.03	-3.98	-3.42	2.85	-0.25	21	23 499	477
PP test	-1.21	-2.56	-1.94			5	2 499	498
	-2.85	-3.44	-2.86	2.67		5	2 499	498
	-2.52	-3.98	-3.42	1.72	1.36	5	2 499	498
Series	R3ANR							
ADF test	-0.05	-2.57	-1.94			22	24 499	476

		-2.70	-3.44	-2.86	2.72		22	24 499	476
		-2.71	-3.98	-3.42	2.44	0.61	22	24 499	476
PP test		-0.66	-2.56	-1.94			5	2 499	498
		-2.20	-3.44	-2.86	2.10		5	2 499	498
		-2.08	-3.98	-3.42	1.30	1.97	5	2 499	498
Series	R3NGPL								
ADF test		0.16	-2.57	-1.94			22	24 499	476
		-2.29	-3.44	-2.86	2.34		22	24 499	476
		-2.28	-3.98	-3.42	2.02	0.62	22	24 499	476
PP test		-1.00	-2.56	-1.94			5	2 499	498
		-2.85	-3.44	-2.86	2.73		5	2 499	498
		-2.53	-3.98	-3.42	1.63	2.06	5	2 499	498
Series	R3NORTH								
ADF test		-0.67	-2.56	-1.94			20	22 499	478
		-3.30	-3.44	-2.86	3.23		20	22 499	478
		-3.36	-3.98	-3.42	2.68	1.32	20	22 499	478
PP test		-1.26	-2.56	-1.94			5	2 499	498
		-3.19	-3.44	-2.86	3.01		5	2 499	498
		-2.96	-3.98	-3.42	1.93	1.91	5	2 499	498
Series	R3PEPL								
ADF test		0.19	-2.57	-1.94			22	24 499	476
		-2.55	-3.44	-2.86	2.60		22	24 499	476
		-2.56	-3.98	-3.42	2.39	0.45	22	24 499	476
PP test		-0.74	-2.56	-1.94			5	2 499	498
		-2.37	-3.44	-2.86	2.26		5	2 499	498
		-2.21	-3.98	-3.42	1.41	2.07	5	2 499	498
Series	R4NGPL								
ADF test		-0.86	-2.56	-1.94			20	22 499	478
		-3.48	-3.44	-2.86	3.39		20	22 499	478
		-3.38	-3.98	-3.42	2.84	0.61	20	22 499	478
PP test		-1.28	-2.56	-1.94			5	2 499	498
		-3.00	-3.44	-2.86	2.81		5	2 499	498
		-2.62	-3.98	-3.42	1.82	1.37	5	2 499	498
Series	R4TENN								
ADF test		-0.47	-2.57	-1.94			21	23 499	477
		-2.94	-3.44	-2.86	2.90		21	23 499	477
		-2.92	-3.98	-3.42	2.70	-0.17	21	23 499	477
PP test		-1.07	-2.56	-1.94			5	2 499	498
		-2.65	-3.44	-2.86	2.48		5	2 499	498
		-2.33	-3.98	-3.42	1.65	1.13	5	2 499	498
Series	R5ANR								
ADF test		-0.48	-2.57	-1.94			21	23 499	477
		-3.12	-3.44	-2.86	3.08		22	24 499	476
		-3.13	-3.98	-3.42	2.89	-0.37	22	24 499	476
PP test		-1.17	-2.56	-1.94			5	2 499	498
		-2.85	-3.44	-2.86	2.68		5	2 499	498
		-2.51	-3.98	-3.42	1.81	0.96	5	2 499	498

Series	R5COL							
ADF test	-0.56	-2.57	-1.94			22	24 499	476
	-3.15	-3.44	-2.86	3.10		22	24 499	476
	-3.17	-3.98	-3.42	2.91	-0.44	22	24 499	476
PP test	-1.22	-2.56	-1.94			5	2 499	498
	-2.83	-3.44	-2.86	2.65		5	2 499	498
	-2.45	-3.98	-3.42	1.75	0.90	5	2 499	498

## Appendix V:

**Johansen cointegration test results for bivariate comparisons of the 57 price series.  
The rank is equal to the number of cointegrating vectors.**

NUM	Series	Series	lag #	Schwartz	Rank	
1	ANR_LS	ANR_OK	12	-1.1359172	1	
2	ANR_LS	CIG	6	-1.2233753	1	
3	ANR_LS	CNGNORTH	25	-0.6101944	2	*
4	ANR_LS	COLUM_AP	16	-1.0705418	2	*
5	ANR_LS	COLUM_LS	5	-1.9379430	2	**
6	ANR_LS	DJBASIN	10	-0.2659538	2	*
7	ANR_LS	ELPASOPB	15	-1.1019876	1	
8	ANR_LS	ELPASOSJ	5	-1.4888468	2	*
9	ANR_LS	FGTZ1	10	-1.2359914	1	
10	ANR_LS	FGTZ2	8	-2.3216471	2	**
11	ANR_LS	FLORD_TG	10	-1.2225491	1	
12	ANR_LS	FLORD_TS	10	-1.2541981	1	
13	ANR_LS	HENRYHUB	5	-1.5216871	2	**
14	ANR_LS	HPL	12	-0.6729513	1	
15	ANR_LS	KERNRIVE	6	-0.8930986	1	
16	ANR_LS	KOCH7810	10	-1.2878558	1	
17	ANR_LS	KOCHA3_6	15	-1.5278423	1	
18	ANR_LS	KOCHA9	10	-1.2307843	1	
19	ANR_LS	LONESTAR	5	-1.3543532	2	**
20	ANR_LS	MIDCON	10	-0.7808513	1	
21	ANR_LS	NGPL_LA	14	-1.8762111	1	
22	ANR_LS	NGPL_MID	11	-1.3008199	1	
23	ANR_LS	NGPL_PER	10	-1.1107771	1	
24	ANR_LS	NGPL_STX	12	-1.2259161	1	
25	ANR_LS	NGPLTXOK	12	-0.8416435	1	
26	ANR_LS	NIAGARA	15	-0.2742537	1	
27	ANR_LS	NORAM	12	-1.2494038	1	
28	ANR_LS	NORDOMES	6	-1.5815541	1	
29	ANR_LS	NORMID10	11	-0.7347506	1	
30	ANR_LS	NORMID11	12	-0.5649590	1	
31	ANR_LS	NWSUMAS	5	-1.5036781	2	*
32	ANR_LS	ONG	11	-1.7001738	1	
33	ANR_LS	PEPL	12	-0.9079044	1	
34	ANR_LS	QUESTAR	6	-1.2550286	1	
35	ANR_LS	SONAT	6	-1.9324112	2	**
36	ANR_LS	TENN_LEG	8	-1.6918154	2	*
37	ANR_LS	TENN_LS	8	-2.5730792	2	**
38	ANR_LS	TENN_TS	10	-1.2500707	1	
39	ANR_LS	TEX_ELA	7	-1.6039480	2	*
40	ANR_LS	TEX_ETX	7	-1.6801289	2	*
41	ANR_LS	TEX_SL	4	-1.8732496	2	**
42	ANR_LS	TEX_STX	6	-1.7357270	2	*
43	ANR_LS	TEX_WLA	8	-1.8535574	2	**
44	ANR_LS	TEX_Z1	9	-1.6654210	1	
45	ANR_LS	TRANW_TN	6	-1.3629517	1	
46	ANR_LS	TRANW_TW	6	-1.3036953	2	*

47	ANR_LS	TRCO_Z1	10	-1.3455257	1	
48	ANR_LS	TRCO_Z2	13	-0.9986764	1	
49	ANR_LS	TRCO_Z3	7	-2.3478331	2	**
50	ANR_LS	TRCO_Z4	12	-1.4613884	2	**
51	ANR_LS	TRUN_ELA	5	-2.4231110	2	**
52	ANR_LS	TRUN_NOR	13	-1.2029224	1	
53	ANR_LS	TRUN_SOU	10	-1.2276753	2	*
54	ANR_LS	TW	4	-1.4739911	2	*
55	ANR_LS	VALERO	6	-1.3980011	2	*
56	ANR_LS	WILLIAMS	12	-0.7661021	2	*
57	ANR_OK	CIG	6	-1.2499313	1	
58	ANR_OK	CNGNORTH	24	-0.6988786	2	*
59	ANR_OK	COLUM_AP	25	-0.8928832	2	*
60	ANR_OK	COLUM_LS	12	-1.0958014	1	
61	ANR_OK	DJBASIN	7	-0.6301203	2	**
62	ANR_OK	ELPASOPB	3	-2.2097807	2	**
63	ANR_OK	ELPASOSJ	3	-1.5857195	2	*
64	ANR_OK	FGTZ1	4	-1.6635992	2	**
65	ANR_OK	FGTZ2	15	-1.1936216	1	
66	ANR_OK	FLORD_TG	5	-1.7234165	2	*
67	ANR_OK	FLORD_TS	4	-1.7214304	2	*
68	ANR_OK	HENRYHUB	24	-0.9919355	2	**
69	ANR_OK	HPL	3	-1.5424464	2	**
70	ANR_OK	KERNRIVE	3	-0.9656666	2	*
71	ANR_OK	KOCH7810	3	-1.8474147	2	**
72	ANR_OK	KOCHA3_6	24	-1.0319281	2	*
73	ANR_OK	KOCHA9	4	-1.8816848	2	**
74	ANR_OK	LONESTAR	0	-1.4457508	2	**
75	ANR_OK	MIDCON	3	-1.6167943	2	**
76	ANR_OK	NGPL_LA	6	-1.7634867	2	*
77	ANR_OK	NGPL_MID	3	-3.4137253	2	**
78	ANR_OK	NGPL_PER	2	-1.4802200	2	**
79	ANR_OK	NGPL_STX	3	-2.6696634	2	**
80	ANR_OK	NGPLTXOK	4	-2.2473067	2	**
81	ANR_OK	NIAGARA	29	-0.3529807	2	*
82	ANR_OK	NORAM	6	-2.5884307	2	**
83	ANR_OK	NORDOMES	4	-1.6394328	1	
84	ANR_OK	NORMID10	5	-2.0713053	2	**
85	ANR_OK	NORMID11	2	-2.2582512	2	**
86	ANR_OK	NWSUMAS	4	-1.5311203	2	*
87	ANR_OK	ONG	2	-2.9387121	2	**
88	ANR_OK	PEPL	3	-3.0953846	2	**
89	ANR_OK	QUESTAR	6	-1.2751975	1	
90	ANR_OK	SONAT	11	-1.2068945	1	
91	ANR_OK	TENN_LEG	24	-1.5163405	2	*
92	ANR_OK	TENN_LS	22	-1.2559930	2	*
93	ANR_OK	TENN_TS	5	-2.2226703	2	**
94	ANR_OK	TEX_ELA	24	-0.8659589	2	*
95	ANR_OK	TEX_ETX	4	-1.6854324	2	**
96	ANR_OK	TEX_SL	12	-1.0660441	1	
97	ANR_OK	TEX_STX	4	-2.5652510	2	**
98	ANR_OK	TEX_WLA	13	-1.4605112	1	
99	ANR_OK	TEX_Z1	12	-1.2629350	2	*
100	ANR_OK	TRANW_TN	4	-1.8466025	2	**
101	ANR_OK	TRANW_TW	4	-1.9700879	2	**
102	ANR_OK	TRCO_Z1	4	-1.5703676	2	**

103	ANR_OK	TRCO_Z2	25	-1.2507930	2	*
104	ANR_OK	TRCO_Z3	28	-1.4937372	2	*
105	ANR_OK	TRCO_Z4	15	-0.9627430	1	
106	ANR_OK	TRUN_ELA	13	-1.2921110	1	
107	ANR_OK	TRUN_NOR	24	-1.2380440	2	*
108	ANR_OK	TRUN_SOU	6	-1.8573006	2	**
109	ANR_OK	TW	3	-1.5362703	2	*
110	ANR_OK	VALERO	6	-2.0193758	2	*
111	ANR_OK	WILLIAMS	3	-2.6226381	2	**
112	CIG	CNGNORTH	12	-1.0757717	0	
113	CIG	COLUM_AP	14	-1.2173111	0	
114	CIG	COLUM_LS	6	-0.8928453	1	
115	CIG	DJBASIN	6	-1.2257078	1	
116	CIG	ELPASOPB	6	-1.5515180	1	
117	CIG	ELPASOSJ	6	-3.2160748	2	*
118	CIG	FGTZ1	6	-1.2853722	1	
119	CIG	FGTZ2	6	-1.2128580	1	
120	CIG	FLORD_TG	6	-1.3130827	1	
121	CIG	FLORD_TS	6	-1.3076128	1	
122	CIG	HENRYHUB	6	-0.5725990	1	
123	CIG	HPL	6	-0.8264557	1	
124	CIG	KERNRIVE	26	-2.9690577	2	*
125	CIG	KOCH7810	6	-1.2084900	1	
126	CIG	KOCHA3_6	6	-1.4306121	1	
127	CIG	KOCHA9	6	-1.0390489	1	
128	CIG	LONESTAR	6	-2.9020114	1	
129	CIG	MIDCON	6	-0.8607337	1	
130	CIG	NGPL_LA	6	-1.1155747	1	
131	CIG	NGPL_MID	6	-1.2094672	1	
132	CIG	NGPL_PER	6	-2.3909665	1	
133	CIG	NGPL_STX	6	-1.1834668	1	
134	CIG	NGPLTXOK	6	-0.7946206	1	
135	CIG	NIAGARA	16	-0.5457811	0	
136	CIG	NORAM	6	-1.2082350	1	
137	CIG	NORDOMES	7	-3.5168031	1	
138	CIG	NORMID10	6	-0.9810251	1	
139	CIG	NORMID11	6	-0.8213565	1	
140	CIG	NWSUMAS	7	-3.2801766	1	
141	CIG	ONG	6	-2.3052780	1	
142	CIG	PEPL	6	-1.0592338	1	
143	CIG	QUESTAR	7	-3.7853933	1	
144	CIG	SONAT	6	-1.0892518	1	
145	CIG	TENN_LEG	6	-1.2808477	1	
146	CIG	TENN_LS	6	-1.3400534	1	
147	CIG	TENN_TS	6	-0.9298914	1	
148	CIG	TEX_ELA	8	-0.8321259	1	
149	CIG	TEX_ETX	6	-2.2176456	1	
150	CIG	TEX_SL	6	-0.8174861	1	
151	CIG	TEX_STX	6	-1.6493783	1	
152	CIG	TEX_WLA	6	-1.2138768	1	
153	CIG	TEX_Z1	6	-1.1019373	1	
154	CIG	TRANW_TN	6	-2.2910658	2	*
155	CIG	TRANW_TW	6	-2.2075033	1	
156	CIG	TRCO_Z1	6	-1.1271006	1	
157	CIG	TRCO_Z2	9	-1.0769548	0	
158	CIG	TRCO_Z3	6	-1.5070842	1	

159	CIG	TRCO_Z4	9	-0.9587969	1	
160	CIG	TRUN_ELA	6	-1.3919110	1	
161	CIG	TRUN_NOR	8	-1.0747169	1	
162	CIG	TRUN_SOU	6	-0.9929759	1	
163	CIG	TW	11	-3.3216782	1	
164	CIG	VALERO	6	-1.6659704	1	
165	CIG	WILLIAMS	6	-1.1726463	1	
166	CNGNORTH	COLUM_AP	29	-1.2565828	2	**
167	CNGNORTH	COLUM_LS	25	-0.3919614	2	*
168	CNGNORTH	DJBASIN	24	0.0164204	2	*
169	CNGNORTH	ELPASOPB	24	-0.6923746	2	*
170	CNGNORTH	ELPASOSJ	12	-1.3502330	0	
171	CNGNORTH	FGTZ1	27	-0.5228579	2	*
172	CNGNORTH	FGTZ2	25	-0.6057426	2	*
173	CNGNORTH	FLORD_TG	27	-0.5523964	2	*
174	CNGNORTH	FLORD_TS	27	-0.5372653	2	*
175	CNGNORTH	HENRYHUB	25	-0.1816308	2	**
176	CNGNORTH	HPL	24	-0.2207528	2	*
177	CNGNORTH	KERNRIVE	12	-0.8440322	0	
178	CNGNORTH	KOCH7810	23	-0.5981332	2	*
179	CNGNORTH	KOCHA3_6	25	-0.6709917	2	*
180	CNGNORTH	KOCHA9	23	-0.4393141	2	*
181	CNGNORTH	LONESTAR	7	-1.2799336	2	*
182	CNGNORTH	MIDCON	24	-0.2636787	2	*
183	CNGNORTH	NGPL_LA	23	-0.4709003	2	**
184	CNGNORTH	NGPL_MID	24	-0.5856395	2	*
185	CNGNORTH	NGPL_PER	12	-1.0349323	1	
186	CNGNORTH	NGPL_STX	24	-0.6166366	2	*
187	CNGNORTH	NGPLTXOK	23	-0.3194002	2	**
188	CNGNORTH	NIAGARA	22	-0.5013075	2	*
189	CNGNORTH	NORAM	23	-0.5885952	2	**
190	CNGNORTH	NORDOMES	12	-1.5024411	0	
191	CNGNORTH	NORMID10	24	-0.2464846	2	*
192	CNGNORTH	NORMID11	24	-0.2100468	2	*
193	CNGNORTH	NWSUMAS	12	-1.4050934	0	
194	CNGNORTH	ONG	24	-1.3331584	2	*
195	CNGNORTH	PEPL	24	-0.4682585	2	*
196	CNGNORTH	QUESTAR	12	-1.1144819	0	
197	CNGNORTH	SONAT	23	-0.5554449	2	*
198	CNGNORTH	TENN_LEG	25	-0.7453280	2	*
199	CNGNORTH	TENN_LS	24	-0.7764126	2	**
200	CNGNORTH	TENN_TS	24	-0.4319670	2	**
201	CNGNORTH	TEX_ELA	25	-0.3515065	2	**
202	CNGNORTH	TEX_ETX	23	-1.1447803	2	*
203	CNGNORTH	TEX_SL	25	-0.3198123	2	*
204	CNGNORTH	TEX_STX	24	-0.9204958	2	**
205	CNGNORTH	TEX_WLA	23	-0.6690157	2	*
206	CNGNORTH	TEX_Z1	25	-0.4590193	2	*
207	CNGNORTH	TRANW_TN	13	-0.9908583	1	
208	CNGNORTH	TRANW_TW	12	-1.0240982	0	
209	CNGNORTH	TRCO_Z1	24	-0.5088640	2	**
210	CNGNORTH	TRCO_Z2	24	-0.5445845	2	*
211	CNGNORTH	TRCO_Z3	25	-0.9566114	2	*
212	CNGNORTH	TRCO_Z4	25	-0.5761408	2	*
213	CNGNORTH	TRUN_ELA	24	-0.7518064	2	*
214	CNGNORTH	TRUN_NOR	24	-0.4434547	2	**

215	CNGNORTH	TRUN_SOU	24	-0.4587623	2	**
216	CNGNORTH	TW	1	-1.3662990	2	**
217	CNGNORTH	VALERO	24	-0.8184484	2	*
218	CNGNORTH	WILLIAMS	23	-0.5688923	2	**
219	COLUM_AP	COLUM_LS	15	-0.8882156	2	*
220	COLUM_AP	DJBASIN	10	-0.3693432	2	*
221	COLUM_AP	ELPASOPB	13	-0.9486421	1	
222	COLUM_AP	ELPASOSJ	15	-1.5346694	0	
223	COLUM_AP	FGTZ1	13	-0.7984990	1	
224	COLUM_AP	FGTZ2	15	-0.9963210	2	*
225	COLUM_AP	FLORD_TG	13	-0.8237094	1	
226	COLUM_AP	FLORD_TS	13	-0.8092387	1	
227	COLUM_AP	HENRYHUB	25	-0.6498800	2	*
228	COLUM_AP	HPL	24	-0.4658163	2	*
229	COLUM_AP	KERNRIVE	9	-1.0097713	1	
230	COLUM_AP	KOCH7810	13	-0.8929143	1	
231	COLUM_AP	KOCHA3_6	15	-1.1472323	2	*
232	COLUM_AP	KOCHA9	13	-0.8154322	1	
233	COLUM_AP	LONESTAR	9	-1.4537842	2	*
234	COLUM_AP	MIDCON	13	-0.5370733	1	
235	COLUM_AP	NGPL_LA	27	-0.8140855	2	*
236	COLUM_AP	NGPL_MID	27	-0.8614499	2	*
237	COLUM_AP	NGPL_PER	25	-1.1941923	2	*
238	COLUM_AP	NGPL_STX	24	-0.8947599	2	*
239	COLUM_AP	NGPLTXOK	24	-0.6911137	2	*
240	COLUM_AP	NIAGARA	25	-0.6056884	1	
241	COLUM_AP	NORAM	25	-0.7784047	2	*
242	COLUM_AP	NORDOMES	14	-1.6559260	0	
243	COLUM_AP	NORMID10	12	-0.5918799	1	
244	COLUM_AP	NORMID11	24	-0.4879926	2	*
245	COLUM_AP	NWSUMAS	14	-1.5617442	0	
246	COLUM_AP	ONG	27	-1.4114902	2	*
247	COLUM_AP	PEPL	24	-0.7527464	2	*
248	COLUM_AP	QUESTAR	16	-1.2825801	0	
249	COLUM_AP	SONAT	15	-1.0532891	2	*
250	COLUM_AP	TENN_LEG	27	-1.0017699	2	*
251	COLUM_AP	TENN_LS	15	-1.1764619	2	*
252	COLUM_AP	TENN_TS	25	-0.8099469	2	*
253	COLUM_AP	TEX_ELA	15	-0.7711383	2	*
254	COLUM_AP	TEX_ETX	18	-1.3358378	2	*
255	COLUM_AP	TEX_SL	12	-0.8858130	2	*
256	COLUM_AP	TEX_STX	13	-1.2138504	1	
257	COLUM_AP	TEX_WLA	13	-1.1005851	1	
258	COLUM_AP	TEX_Z1	12	-0.8451743	2	*
259	COLUM_AP	TRANW_TN	15	-1.0530396	1	
260	COLUM_AP	TRANW_TW	13	-1.1624379	1	
261	COLUM_AP	TRCO_Z1	15	-0.8719686	1	
262	COLUM_AP	TRCO_Z2	15	-1.0418603	1	
263	COLUM_AP	TRCO_Z3	15	-1.3843079	1	
264	COLUM_AP	TRCO_Z4	15	-1.1392235	2	*
265	COLUM_AP	TRUN_ELA	16	-1.2555629	2	*
266	COLUM_AP	TRUN_NOR	26	-0.8434720	2	*
267	COLUM_AP	TRUN_SOU	12	-0.9208535	2	*
268	COLUM_AP	TW	14	-1.5385824	0	
269	COLUM_AP	VALERO	24	-1.1201546	2	*
270	COLUM_AP	WILLIAMS	25	-0.7474167	2	*

271	COLUM_LS	DJBASIN	9	-0.1441690	2	*
272	COLUM_LS	ELPASOPB	12	-1.1871414	1	
273	COLUM_LS	ELPASOSJ	6	-1.2628973	1	
274	COLUM_LS	FGTZ1	10	-1.0807671	1	
275	COLUM_LS	FGTZ2	6	-1.6732996	2	**
276	COLUM_LS	FLORD_TG	13	-1.0647147	1	
277	COLUM_LS	FLORD_TS	10	-1.0742212	1	
278	COLUM_LS	HENRYHUB	13	-3.3252037	1	
279	COLUM_LS	HPL	26	-0.8595829	2	*
280	COLUM_LS	KERNRIVE	6	-0.6540003	1	
281	COLUM_LS	KOCH7810	9	-1.1663428	2	*
282	COLUM_LS	KOCHA3_6	13	-1.1719918	2	*
283	COLUM_LS	KOCHA9	11	-1.3251426	1	
284	COLUM_LS	LONESTAR	2	-1.1006616	2	**
285	COLUM_LS	MIDCON	12	-0.7522121	1	
286	COLUM_LS	NGPL_LA	14	-1.3502824	1	
287	COLUM_LS	NGPL_MID	13	-1.1138963	1	
288	COLUM_LS	NGPL_PER	6	-0.9218699	2	*
289	COLUM_LS	NGPL_STX	12	-1.3420089	1	
290	COLUM_LS	NGPLTXOK	26	-1.1219060	1	
291	COLUM_LS	NIAGARA	27	-0.2492167	2	*
292	COLUM_LS	NORAM	11	-0.8615434	1	
293	COLUM_LS	NORDOMES	6	-1.3323536	1	
294	COLUM_LS	NORMID10	11	-0.8882570	1	
295	COLUM_LS	NORMID11	13	-0.7141378	1	
296	COLUM_LS	NWSUMAS	4	-1.2502446	2	*
297	COLUM_LS	ONG	11	-1.4437988	1	
298	COLUM_LS	PEPL	12	-1.1369566	1	
299	COLUM_LS	QUESTAR	6	-0.9587017	1	
300	COLUM_LS	SONAT	8	-2.6710363	2	*
301	COLUM_LS	TENN_LEG	6	-1.1869912	2	**
302	COLUM_LS	TENN_LS	5	-2.1015988	2	**
303	COLUM_LS	TENN_TS	11	-1.4862781	1	
304	COLUM_LS	TEX_ELA	13	-2.3827491	1	
305	COLUM_LS	TEX_ETX	7	-1.3379526	1	
306	COLUM_LS	TEX_SL	6	-2.9543066	2	**
307	COLUM_LS	TEX_STX	13	-1.8005328	1	
308	COLUM_LS	TEX_WLA	25	-2.6491256	2	**
309	COLUM_LS	TEX_Z1	10	-1.4279030	1	
310	COLUM_LS	TRANW_TN	6	-0.9834977	2	*
311	COLUM_LS	TRANW_TW	6	-1.1943563	2	*
312	COLUM_LS	TRCO_Z1	11	-1.1446099	1	
313	COLUM_LS	TRCO_Z2	12	-1.0270846	1	
314	COLUM_LS	TRCO_Z3	4	-1.9745895	2	**
315	COLUM_LS	TRCO_Z4	12	-1.3403420	2	*
316	COLUM_LS	TRUN_ELA	11	-2.5837889	1	
317	COLUM_LS	TRUN_NOR	14	-0.8287527	1	
318	COLUM_LS	TRUN_SOU	13	-1.6518374	1	
319	COLUM_LS	TW	2	-1.2206879	2	**
320	COLUM_LS	VALERO	6	-1.3854627	2	*
321	COLUM_LS	WILLIAMS	12	-0.7774670	1	
322	DJBASIN	ELPASOPB	6	-0.7147009	2	**
323	DJBASIN	ELPASOSJ	2	-1.3946008	2	**
324	DJBASIN	FGTZ1	6	-0.5415105	2	**
325	DJBASIN	FGTZ2	9	-0.3251470	2	*
326	DJBASIN	FLORD_TG	6	-0.5888231	2	*

327	DJBASIN	FLORD_TS	6	-0.5856203	2	*
328	DJBASIN	HENRYHUB	9	0.1142878	2	*
329	DJBASIN	HPL	6	-0.1502645	2	**
330	DJBASIN	KERNRIVE	2	-1.0277137	2	*
331	DJBASIN	KOCH7810	6	-0.5167673	2	**
332	DJBASIN	KOCHA3_6	13	-0.3248641	1	
333	DJBASIN	KOCHA9	6	-0.4138791	2	**
334	DJBASIN	LONESTAR	3	-1.2199216	2	**
335	DJBASIN	MIDCON	6	-0.2095042	2	**
336	DJBASIN	NGPL_LA	6	-0.3855781	2	**
337	DJBASIN	NGPL_MID	6	-0.6064671	2	**
338	DJBASIN	NGPL_PER	6	-0.8458719	2	*
339	DJBASIN	NGPL_STX	7	-0.5421684	2	**
340	DJBASIN	NGPLTXOK	7	-0.2857867	2	*
341	DJBASIN	NIAGARA	19	0.2864369	2	*
342	DJBASIN	NORAM	6	-0.4706594	2	**
343	DJBASIN	NORDOMES	9	-1.5713724	1	
344	DJBASIN	NORMID10	2	-0.4029677	2	**
345	DJBASIN	NORMID11	4	-0.2847805	2	**
346	DJBASIN	NWSUMAS	5	-1.4428138	2	*
347	DJBASIN	ONG	6	-1.1994088	2	*
348	DJBASIN	PEPL	7	-0.5600085	2	**
349	DJBASIN	QUESTAR	6	-1.2418596	1	
350	DJBASIN	SONAT	10	-0.2992010	2	*
351	DJBASIN	TENN_LEG	9	-0.3843887	2	*
352	DJBASIN	TENN_LS	10	-0.4098471	2	*
353	DJBASIN	TENN_TS	9	-0.3330697	2	*
354	DJBASIN	TEX_ELA	9	-0.0470244	2	*
355	DJBASIN	TEX_ETX	9	-0.9718063	2	*
356	DJBASIN	TEX_SL	9	-0.0466722	2	*
357	DJBASIN	TEX_STX	6	-0.8321494	2	**
358	DJBASIN	TEX_WLA	9	-0.4350401	2	*
359	DJBASIN	TEX_Z1	10	-0.1566897	2	*
360	DJBASIN	TRANW_TN	2	-0.8807714	2	**
361	DJBASIN	TRANW_TW	6	-1.0141334	2	**
362	DJBASIN	TRCO_Z1	6	-0.5033992	2	**
363	DJBASIN	TRCO_Z2	10	-0.4121843	2	*
364	DJBASIN	TRCO_Z3	9	-0.6923752	2	*
365	DJBASIN	TRCO_Z4	10	-0.3151540	1	
366	DJBASIN	TRUN_ELA	10	-0.4875202	2	*
367	DJBASIN	TRUN_NOR	11	-0.1897634	2	*
368	DJBASIN	TRUN_SOU	6	-0.4961636	2	**
369	DJBASIN	TW	5	-1.4390649	2	*
370	DJBASIN	VALERO	9	-0.7371774	2	*
371	DJBASIN	WILLIAMS	7	-0.5692472	2	**
372	ELPASOPB	ELPASOSJ	3	-2.0261873	2	*
373	ELPASOPB	FGTZ1	3	-1.6013888	2	**
374	ELPASOPB	FGTZ2	15	-1.1039858	1	
375	ELPASOPB	FLORD_TG	3	-1.6475862	2	**
376	ELPASOPB	FLORD_TS	3	-1.6545895	2	**
377	ELPASOPB	HENRYHUB	16	-0.9511555	1	
378	ELPASOPB	HPL	3	-1.4428140	2	**
379	ELPASOPB	KERNRIVE	3	-1.2742636	2	*
380	ELPASOPB	KOCH7810	3	-1.6184019	2	**
381	ELPASOPB	KOCHA3_6	13	-1.0922004	1	
382	ELPASOPB	KOCHA9	3	-1.6976964	2	**

383	ELPASOPB	LONESTAR	0	-1.7601170	2	**
384	ELPASOPB	MIDCON	3	-1.4874988	2	**
385	ELPASOPB	NGPL_LA	6	-1.4976873	2	**
386	ELPASOPB	NGPL_MID	3	-2.0860092	2	**
387	ELPASOPB	NGPL_PER	3	-1.8361595	2	**
388	ELPASOPB	NGPL_STX	3	-2.0782661	2	**
389	ELPASOPB	NGPLTXOK	3	-1.6767014	2	**
390	ELPASOPB	NIAGARA	16	-0.3891221	1	
391	ELPASOPB	NORAM	4	-1.6965317	2	**
392	ELPASOPB	NORDOMES	3	-1.9667990	2	*
393	ELPASOPB	NORMID10	3	-1.9931827	2	**
394	ELPASOPB	NORMID11	2	-1.9107173	2	**
395	ELPASOPB	NWSUMAS	4	-1.8360811	2	*
396	ELPASOPB	ONG	3	-2.6248924	2	**
397	ELPASOPB	PEPL	2	-2.1906800	2	**
398	ELPASOPB	QUESTAR	3	-1.5684839	2	**
399	ELPASOPB	SONAT	16	-1.2915014	1	
400	ELPASOPB	TENN_LEG	12	-1.3516697	1	
401	ELPASOPB	TENN_LS	14	-1.2463669	1	
402	ELPASOPB	TENN_TS	3	-1.8433196	2	**
403	ELPASOPB	TEX_ELA	6	-0.9010130	2	*
404	ELPASOPB	TEX_ETX	6	-1.8498377	2	*
405	ELPASOPB	TEX_SL	11	-1.1610201	1	
406	ELPASOPB	TEX_STX	4	-2.4125062	2	**
407	ELPASOPB	TEX_WLA	16	-1.5256924	1	
408	ELPASOPB	TEX_Z1	11	-1.2372794	1	
409	ELPASOPB	TRANW_TN	3	-2.3517413	2	*
410	ELPASOPB	TRANW_TW	3	-2.6531948	2	**
411	ELPASOPB	TRCO_Z1	2	-1.3602442	2	**
412	ELPASOPB	TRCO_Z2	12	-1.1450338	1	
413	ELPASOPB	TRCO_Z3	9	-1.4193141	1	
414	ELPASOPB	TRCO_Z4	12	-0.9224141	1	
415	ELPASOPB	TRUN_ELA	15	-1.4254569	1	
416	ELPASOPB	TRUN_NOR	24	-1.0315555	2	*
417	ELPASOPB	TRUN_SOU	4	-1.6702057	2	**
418	ELPASOPB	TW	3	-1.8579130	2	*
419	ELPASOPB	VALERO	3	-2.0694557	2	**
420	ELPASOPB	WILLIAMS	4	-1.6801140	2	**
421	ELPASOSJ	FGTZ1	3	-1.6023154	2	**
422	ELPASOSJ	FGTZ2	5	-1.4731235	2	*
423	ELPASOSJ	FLORD_TG	3	-1.6196914	2	**
424	ELPASOSJ	FLORD_TS	3	-1.6098911	2	**
425	ELPASOSJ	HENRYHUB	2	-0.9533740	2	*
426	ELPASOSJ	HPL	3	-1.1729987	2	**
427	ELPASOSJ	KERNRIVE	8	-2.9351518	1	
428	ELPASOSJ	KOCH7810	2	-1.5473753	2	*
429	ELPASOSJ	KOCHA3_6	10	-1.7286682	1	
430	ELPASOSJ	KOCHA9	2	-1.4191279	2	*
431	ELPASOSJ	LONESTAR	1	-3.2669609	2	**
432	ELPASOSJ	MIDCON	5	-1.1634490	2	*
433	ELPASOSJ	NGPL_LA	2	-1.4490530	2	**
434	ELPASOSJ	NGPL_MID	2	-1.5162229	2	*
435	ELPASOSJ	NGPL_PER	3	-2.6674513	2	**
436	ELPASOSJ	NGPL_STX	3	-1.5451247	2	*
437	ELPASOSJ	NGPLTXOK	3	-1.1593885	2	*
438	ELPASOSJ	NIAGARA	15	-0.8932538	0	

439	ELPASOSJ	NORAM	3	-1.4891302	2	**
440	ELPASOSJ	NORDOMES	8	-3.6500289	1	
441	ELPASOSJ	NORMID10	2	-1.3480145	2	*
442	ELPASOSJ	NORMID11	2	-1.1919829	2	*
443	ELPASOSJ	NWSUMAS	4	-3.4434745	2	*
444	ELPASOSJ	ONG	2	-2.6145818	2	*
445	ELPASOSJ	PEPL	2	-1.4432165	2	*
446	ELPASOSJ	QUESTAR	11	-3.1974586	1	
447	ELPASOSJ	SONAT	5	-1.4623627	2	*
448	ELPASOSJ	TENN_LEG	2	-1.5776239	2	*
449	ELPASOSJ	TENN_LS	5	-1.6309119	2	*
450	ELPASOSJ	TENN_TS	2	-1.3087218	2	*
451	ELPASOSJ	TEX_ELA	8	-1.1918060	1	
452	ELPASOSJ	TEX_ETX	3	-2.5293312	2	**
453	ELPASOSJ	TEX_SL	2	-1.2005716	2	**
454	ELPASOSJ	TEX_STX	2	-2.0195182	2	*
455	ELPASOSJ	TEX_WLA	2	-1.6038809	2	**
456	ELPASOSJ	TEX_Z1	2	-1.4219057	2	**
457	ELPASOSJ	TRANW_TN	3	-2.5742249	2	**
458	ELPASOSJ	TRANW_TW	3	-2.6365422	2	*
459	ELPASOSJ	TRCO_Z1	2	-1.4527209	2	*
460	ELPASOSJ	TRCO_Z2	8	-1.3877651	0	
461	ELPASOSJ	TRCO_Z3	5	-1.8247381	2	*
462	ELPASOSJ	TRCO_Z4	9	-1.2994896	1	
463	ELPASOSJ	TRUN_ELA	5	-1.7529041	2	*
464	ELPASOSJ	TRUN_NOR	9	-1.3659028	0	
465	ELPASOSJ	TRUN_SOU	2	-1.3764117	2	*
466	ELPASOSJ	TW	8	-3.5175401	1	
467	ELPASOSJ	VALERO	2	-2.0283351	2	**
468	ELPASOSJ	WILLIAMS	3	-1.5249769	2	**
469	FGTZ1	FGTZ2	11	-1.4719389	1	
470	FGTZ1	FLORD_TG	2	-3.7120035	2	**
471	FGTZ1	FLORD_TS	2	-3.5650422	2	**
472	FGTZ1	HENRYHUB	10	-0.9249940	1	
473	FGTZ1	HPL	3	-1.5874666	2	**
474	FGTZ1	KERNRIVE	4	-1.0326613	2	*
475	FGTZ1	KOCH7810	4	-1.6923887	2	**
476	FGTZ1	KOCHA3_6	13	-0.8396457	1	
477	FGTZ1	KOCHA9	3	-1.7994494	2	**
478	FGTZ1	LONESTAR	2	-1.4988533	2	**
479	FGTZ1	MIDCON	3	-1.8218378	2	**
480	FGTZ1	NGPL_LA	7	-1.7581888	1	
481	FGTZ1	NGPL_MID	4	-1.7284122	2	**
482	FGTZ1	NGPL_PER	2	-1.3451154	2	**
483	FGTZ1	NGPL_STX	3	-1.8021961	2	**
484	FGTZ1	NGPLTXOK	5	-1.3611125	2	*
485	FGTZ1	NIAGARA	27	-0.2016958	2	*
486	FGTZ1	NORAM	6	-1.7261229	2	**
487	FGTZ1	NORDOMES	4	-1.6667959	2	*
488	FGTZ1	NORMID10	4	-1.3087115	2	**
489	FGTZ1	NORMID11	3	-1.1675038	2	**
490	FGTZ1	NWSUMAS	4	-1.5520212	2	*
491	FGTZ1	ONG	3	-2.0146287	2	**
492	FGTZ1	PEPL	4	-1.3548990	2	*
493	FGTZ1	QUESTAR	3	-1.3143354	2	**
494	FGTZ1	SONAT	10	-1.0756645	1	

495	FGTZ1	TENN_LEG	10	-1.3569893	1	
496	FGTZ1	TENN_LS	10	-1.4689977	1	
497	FGTZ1	TENN_TS	4	-1.7184076	2	**
498	FGTZ1	TEX_ELA	6	-0.9101904	1	
499	FGTZ1	TEX_ETX	3	-1.5845040	2	**
500	FGTZ1	TEX_SL	10	-1.1130731	1	
501	FGTZ1	TEX_STX	4	-2.1147893	2	**
502	FGTZ1	TEX_WLA	13	-1.3980831	1	
503	FGTZ1	TEX_Z1	11	-1.1002202	1	
504	FGTZ1	TRANW_TN	4	-1.5706140	2	**
505	FGTZ1	TRANW_TW	3	-1.5983287	2	**
506	FGTZ1	TRCO_Z1	3	-1.6755630	2	**
507	FGTZ1	TRCO_Z2	10	-1.4291830	1	
508	FGTZ1	TRCO_Z3	10	-1.6059657	1	
509	FGTZ1	TRCO_Z4	12	-0.9309129	1	
510	FGTZ1	TRUN_ELA	11	-1.3300711	1	
511	FGTZ1	TRUN_NOR	11	-0.9362514	1	
512	FGTZ1	TRUN_SOU	3	-1.5220142	2	*
513	FGTZ1	TW	4	-1.5524920	2	*
514	FGTZ1	VALERO	3	-1.8747227	2	**
515	FGTZ1	WILLIAMS	5	-1.1649661	2	**
516	FGTZ2	FLORD_TG	11	-1.4550212	1	
517	FGTZ2	FLORD_TS	11	-1.4630892	1	
518	FGTZ2	HENRYHUB	6	-1.4098040	2	**
519	FGTZ2	HPL	8	-0.7259300	2	*
520	FGTZ2	KERNRIVE	6	-0.8865699	1	
521	FGTZ2	KOCH7810	9	-1.3908105	2	*
522	FGTZ2	KOCHA3_6	15	-1.3236411	1	
523	FGTZ2	KOCHA9	10	-1.2442140	1	
524	FGTZ2	LONESTAR	5	-1.3145492	2	**
525	FGTZ2	MIDCON	10	-0.8503770	1	
526	FGTZ2	NGPL_LA	16	-1.7496594	0	
527	FGTZ2	NGPL_MID	13	-1.3561923	1	
528	FGTZ2	NGPL_PER	6	-1.0280831	2	*
529	FGTZ2	NGPL_STX	13	-1.2425037	1	
530	FGTZ2	NGPLTXOK	13	-0.8899828	1	
531	FGTZ2	NIAGARA	26	-0.2598100	1	
532	FGTZ2	NORAM	11	-1.3075447	1	
533	FGTZ2	NORDOMES	6	-1.5612756	1	
534	FGTZ2	NORMID10	7	-0.7953735	2	*
535	FGTZ2	NORMID11	15	-0.6369313	1	
536	FGTZ2	NWSUMAS	5	-1.4788707	2	*
537	FGTZ2	ONG	11	-1.7050644	1	
538	FGTZ2	PEPL	15	-0.9773824	1	
539	FGTZ2	QUESTAR	6	-1.2356720	1	
540	FGTZ2	SONAT	6	-1.8280738	2	**
541	FGTZ2	TENN_LEG	6	-1.6906856	2	*
542	FGTZ2	TENN_LS	6	-2.2640718	2	**
543	FGTZ2	TENN_TS	10	-1.2509489	1	
544	FGTZ2	TEX_ELA	7	-1.3989666	2	**
545	FGTZ2	TEX_ETX	7	-1.5261470	1	
546	FGTZ2	TEX_SL	6	-1.5730308	2	**
547	FGTZ2	TEX_STX	7	-1.7277106	2	*
548	FGTZ2	TEX_WLA	8	-1.6547085	2	**
549	FGTZ2	TEX_Z1	6	-1.4945841	2	*
550	FGTZ2	TRANW_TN	6	-1.4018258	1	

551	FGTZ2	TRANW_TW	7	-1.3207331	2	*
552	FGTZ2	TRCO_Z1	9	-1.4333631	2	*
553	FGTZ2	TRCO_Z2	15	-1.0038684	1	
554	FGTZ2	TRCO_Z3	7	-2.1613810	2	**
555	FGTZ2	TRCO_Z4	12	-1.3512063	2	*
556	FGTZ2	TRUN_ELA	6	-1.9415942	2	**
557	FGTZ2	TRUN_NOR	23	-1.1202015	1	
558	FGTZ2	TRUN_SOU	9	-1.2923751	2	*
559	FGTZ2	TW	5	-1.4530739	2	*
560	FGTZ2	VALERO	7	-1.4473934	2	*
561	FGTZ2	WILLIAMS	11	-0.8470207	1	
562	FLORD_TG	FLORD_TS	3	-4.6322237	2	**
563	FLORD_TG	HENRYHUB	10	-0.9038402	1	
564	FLORD_TG	HPL	3	-1.6288389	2	**
565	FLORD_TG	KERNRIVE	4	-1.0586264	2	*
566	FLORD_TG	KOCH7810	4	-1.7676819	2	**
567	FLORD_TG	KOCHA3_6	13	-0.8447553	1	
568	FLORD_TG	KOCHA9	3	-1.8973193	2	**
569	FLORD_TG	LONESTAR	2	-1.5061029	2	**
570	FLORD_TG	MIDCON	3	-1.8377496	2	**
571	FLORD_TG	NGPL_LA	7	-1.7812410	1	
572	FLORD_TG	NGPL_MID	4	-1.7797717	2	**
573	FLORD_TG	NGPL_PER	4	-1.3661694	2	**
574	FLORD_TG	NGPL_STX	3	-1.8773847	2	*
575	FLORD_TG	NGPLTXOK	5	-1.4303352	2	*
576	FLORD_TG	NIAGARA	27	-0.2775854	2	*
577	FLORD_TG	NORAM	6	-1.7855396	2	**
578	FLORD_TG	NORDOMES	4	-1.6913595	2	*
579	FLORD_TG	NORMID10	4	-1.3675365	2	*
580	FLORD_TG	NORMID11	3	-1.2194477	2	*
581	FLORD_TG	NWSUMAS	4	-1.5724301	2	*
582	FLORD_TG	ONG	3	-2.0461016	2	**
583	FLORD_TG	PEPL	4	-1.3978056	2	*
584	FLORD_TG	QUESTAR	4	-1.3425426	2	*
585	FLORD_TG	SONAT	13	-1.1532677	1	
586	FLORD_TG	TENN_LEG	10	-1.3881869	1	
587	FLORD_TG	TENN_LS	10	-1.4561503	1	
588	FLORD_TG	TENN_TS	4	-1.7591045	2	*
589	FLORD_TG	TEX_ELA	6	-0.9135832	1	
590	FLORD_TG	TEX_ETX	3	-1.6232910	2	**
591	FLORD_TG	TEX_SL	10	-1.0783437	1	
592	FLORD_TG	TEX_STX	4	-2.1699478	2	**
593	FLORD_TG	TEX_WLA	13	-1.4178955	1	
594	FLORD_TG	TEX_Z1	11	-1.1545893	1	
595	FLORD_TG	TRANW_TN	4	-1.6077594	2	**
596	FLORD_TG	TRANW_TW	3	-1.6346304	2	**
597	FLORD_TG	TRCO_Z1	3	-1.7155035	2	**
598	FLORD_TG	TRCO_Z2	10	-1.4771295	1	
599	FLORD_TG	TRCO_Z3	10	-1.6121262	1	
600	FLORD_TG	TRCO_Z4	12	-0.9594639	1	
601	FLORD_TG	TRUN_ELA	12	-1.2678757	1	
602	FLORD_TG	TRUN_NOR	23	-0.9666964	1	
603	FLORD_TG	TRUN_SOU	3	-1.5089881	2	*
604	FLORD_TG	TW	4	-1.5778008	2	*
605	FLORD_TG	VALERO	3	-1.9038160	2	**
606	FLORD_TG	WILLIAMS	5	-1.1932769	2	**

607	FLORD_TS	HENRYHUB	10	-0.9090877	1	
608	FLORD_TS	HPL	3	-1.6004719	2	**
609	FLORD_TS	KERNRIVE	4	-1.0506489	2	*
610	FLORD_TS	KOCH7810	4	-1.7189844	2	**
611	FLORD_TS	KOCHA3_6	13	-0.8374414	1	
612	FLORD_TS	KOCHA9	3	-1.9189755	2	**
613	FLORD_TS	LONESTAR	2	-1.5020132	2	**
614	FLORD_TS	MIDCON	3	-1.8202359	2	**
615	FLORD_TS	NGPL_LA	7	-1.7862764	1	
616	FLORD_TS	NGPL_MID	4	-1.7857044	2	**
617	FLORD_TS	NGPL_PER	4	-1.3559944	2	**
618	FLORD_TS	NGPL_STX	3	-1.9000924	2	*
619	FLORD_TS	NGPLTXOK	5	-1.4314504	2	*
620	FLORD_TS	NIAGARA	27	-0.2641443	2	*
621	FLORD_TS	NORAM	6	-1.7808892	2	**
622	FLORD_TS	NORDOMES	4	-1.6809790	2	*
623	FLORD_TS	NORMID10	3	-1.3593565	2	**
624	FLORD_TS	NORMID11	3	-1.2059488	2	*
625	FLORD_TS	NWSUMAS	4	-1.5651673	2	*
626	FLORD_TS	ONG	3	-2.0527781	2	**
627	FLORD_TS	PEPL	4	-1.3934364	2	*
628	FLORD_TS	QUESTAR	6	-1.3348631	1	
629	FLORD_TS	SONAT	10	-1.1442176	1	
630	FLORD_TS	TENN_LEG	10	-1.3848715	1	
631	FLORD_TS	TENN_LS	10	-1.4981362	1	
632	FLORD_TS	TENN_TS	4	-1.7623837	2	**
633	FLORD_TS	TEX_ELA	6	-0.9299158	1	
634	FLORD_TS	TEX_ETX	3	-1.6299536	2	**
635	FLORD_TS	TEX_SL	10	-1.0828111	1	
636	FLORD_TS	TEX_STX	4	-2.1766818	2	**
637	FLORD_TS	TEX_WLA	13	-1.4348334	1	
638	FLORD_TS	TEX_Z1	11	-1.1724084	1	
639	FLORD_TS	TRANW_TN	4	-1.5887593	2	**
640	FLORD_TS	TRANW_TW	3	-1.6231412	2	**
641	FLORD_TS	TRCO_Z1	3	-1.7118835	2	**
642	FLORD_TS	TRCO_Z2	10	-1.4529100	1	
643	FLORD_TS	TRCO_Z3	10	-1.6178650	1	
644	FLORD_TS	TRCO_Z4	12	-0.9496303	1	
645	FLORD_TS	TRUN_ELA	11	-1.2641947	1	
646	FLORD_TS	TRUN_NOR	23	-0.9809421	1	
647	FLORD_TS	TRUN_SOU	3	-1.5306745	2	*
648	FLORD_TS	TW	4	-1.5691416	2	*
649	FLORD_TS	VALERO	2	-1.8954538	2	**
650	FLORD_TS	WILLIAMS	5	-1.1997332	2	**
651	HENRYHUB	HPL	26	-0.6978584	2	*
652	HENRYHUB	KERNRIVE	6	-0.3291000	1	
653	HENRYHUB	KOCH7810	10	-1.0347412	1	
654	HENRYHUB	KOCHA3_6	13	-0.8638175	2	*
655	HENRYHUB	KOCHA9	14	-1.2064855	1	
656	HENRYHUB	LONESTAR	2	-0.7800938	2	**
657	HENRYHUB	MIDCON	12	-0.6250855	1	
658	HENRYHUB	NGPL_LA	14	-1.2180065	1	
659	HENRYHUB	NGPL_MID	13	-0.9474223	1	
660	HENRYHUB	NGPL_PER	6	-0.5911309	2	*
661	HENRYHUB	NGPL_STX	11	-1.2647663	1	
662	HENRYHUB	NGPLTXOK	26	-1.0906755	1	

663	HENRYHUB	NIAGARA	27	-0.0497298	2	*
664	HENRYHUB	NORAM	11	-0.7372259	1	
665	HENRYHUB	NORDOMES	4	-1.0124153	2	*
666	HENRYHUB	NORMID10	13	-0.6969564	1	
667	HENRYHUB	NORMID11	22	-0.5895078	2	*
668	HENRYHUB	NWSUMAS	4	-0.9376441	2	*
669	HENRYHUB	ONG	11	-1.1762233	1	
670	HENRYHUB	PEPL	13	-0.9849240	1	
671	HENRYHUB	QUESTAR	6	-0.6348354	1	
672	HENRYHUB	SONAT	9	-2.2034849	1	
673	HENRYHUB	TENN_LEG	9	-0.9832026	2	*
674	HENRYHUB	TENN_LS	14	-1.6378847	1	
675	HENRYHUB	TENN_TS	24	-1.4698158	2	*
676	HENRYHUB	TEX_ELA	15	-2.0328192	1	
677	HENRYHUB	TEX_ETX	2	-0.9693464	2	**
678	HENRYHUB	TEX_SL	13	-2.4856537	1	
679	HENRYHUB	TEX_STX	15	-1.5821458	1	
680	HENRYHUB	TEX_WLA	18	-2.0569737	2	*
681	HENRYHUB	TEX_Z1	9	-1.2101723	1	
682	HENRYHUB	TRANW_TN	6	-0.6710732	2	*
683	HENRYHUB	TRANW_TW	6	-0.8620423	2	*
684	HENRYHUB	TRCO_Z1	11	-1.0279458	1	
685	HENRYHUB	TRCO_Z2	12	-0.8372736	1	
686	HENRYHUB	TRCO_Z3	9	-1.6471152	2	*
687	HENRYHUB	TRCO_Z4	11	-1.0939204	2	*
688	HENRYHUB	TRUN_ELA	11	-1.9575550	1	
689	HENRYHUB	TRUN_NOR	14	-0.5635524	1	
690	HENRYHUB	TRUN_SOU	13	-1.4598835	1	
691	HENRYHUB	TW	2	-0.9186304	2	**
692	HENRYHUB	VALERO	6	-1.1704758	2	*
693	HENRYHUB	WILLIAMS	12	-0.6862338	1	
694	HPL	KERNRIVE	4	-0.5775526	2	*
695	HPL	KOCH7810	2	-1.4223958	2	**
696	HPL	KOCHA3_6	24	-0.5172616	1	
697	HPL	KOCHA9	2	-1.4508030	2	**
698	HPL	LONESTAR	0	-1.0967329	2	**
699	HPL	MIDCON	3	-1.5783859	2	**
700	HPL	NGPL_LA	6	-1.2024823	2	**
701	HPL	NGPL_MID	3	-1.4636957	2	**
702	HPL	NGPL_PER	2	-0.9901251	2	**
703	HPL	NGPL_STX	3	-1.6907888	2	**
704	HPL	NGPLTXOK	3	-1.3290016	2	**
705	HPL	NIAGARA	27	-0.0646084	2	*
706	HPL	NORAM	3	-1.3431844	2	**
707	HPL	NORDOMES	4	-1.2443638	2	*
708	HPL	NORMID10	4	-1.1956621	2	**
709	HPL	NORMID11	3	-1.1889371	2	**
710	HPL	NWSUMAS	4	-1.1377034	2	*
711	HPL	ONG	3	-1.6675205	2	**
712	HPL	PEPL	4	-1.3660479	2	*
713	HPL	QUESTAR	6	-0.8720133	1	
714	HPL	SONAT	12	-0.8931946	1	
715	HPL	TENN_LEG	12	-0.9832798	1	
716	HPL	TENN_LS	14	-0.9792430	1	
717	HPL	TENN_TS	2	-1.6681616	2	**
718	HPL	TEX_ELA	26	-0.6552792	1	

719	HPL	TEX_ETX	3	-1.3084088	2	**
720	HPL	TEX_SL	12	-0.7774235	1	
721	HPL	TEX_STX	3	-2.1042253	2	**
722	HPL	TEX_WLA	13	-1.2220832	1	
723	HPL	TEX_Z1	11	-0.7583383	2	*
724	HPL	TRANW_TN	3	-1.2326390	2	**
725	HPL	TRANW_TW	3	-1.3481144	2	**
726	HPL	TRCO_Z1	2	-1.0714045	2	**
727	HPL	TRCO_Z2	15	-1.0113022	1	
728	HPL	TRCO_Z3	10	-1.0983137	1	
729	HPL	TRCO_Z4	16	-0.5475128	1	
730	HPL	TRUN_ELA	15	-0.9938816	1	
731	HPL	TRUN_NOR	24	-0.6553103	1	
732	HPL	TRUN_SOU	2	-1.3049634	2	**
733	HPL	TW	4	-1.1266494	2	*
734	HPL	VALERO	2	-1.7966758	2	**
735	HPL	WILLIAMS	3	-1.0054461	2	**
736	KERNRIVE	KOCH7810	4	-0.9206697	2	*
737	KERNRIVE	KOCHA3_6	10	-1.0948138	1	
738	KERNRIVE	KOCHA9	3	-0.7735408	2	*
739	KERNRIVE	LONESTAR	6	-2.6606691	1	
740	KERNRIVE	MIDCON	4	-0.5814130	2	*
741	KERNRIVE	NGPL_LA	3	-0.8264781	2	*
742	KERNRIVE	NGPL_MID	4	-0.9001622	2	*
743	KERNRIVE	NGPL_PER	4	-2.1040226	2	*
744	KERNRIVE	NGPL_STX	3	-0.9145648	2	*
745	KERNRIVE	NGPLTXOK	3	-0.5506354	2	*
746	KERNRIVE	NIAGARA	16	-0.3165571	0	
747	KERNRIVE	NORAM	9	-0.8722822	1	
748	KERNRIVE	NORDOMES	9	-3.5193353	1	
749	KERNRIVE	NORMID10	4	-0.6977124	2	*
750	KERNRIVE	NORMID11	3	-0.5584896	2	*
751	KERNRIVE	NWSUMAS	26	-3.2044695	2	*
752	KERNRIVE	ONG	9	-1.9638204	0	
753	KERNRIVE	PEPL	3	-0.8097535	2	*
754	KERNRIVE	QUESTAR	26	-3.2320500	2	*
755	KERNRIVE	SONAT	5	-0.8400728	1	
756	KERNRIVE	TENN_LEG	9	-0.9718217	0	
757	KERNRIVE	TENN_LS	5	-1.0187713	1	
758	KERNRIVE	TENN_TS	4	-0.6736278	2	*
759	KERNRIVE	TEX_ELA	9	-0.5913499	1	
760	KERNRIVE	TEX_ETX	3	-1.9551070	2	*
761	KERNRIVE	TEX_SL	4	-0.5720407	2	*
762	KERNRIVE	TEX_STX	4	-1.3562508	2	*
763	KERNRIVE	TEX_WLA	9	-0.9734914	1	
764	KERNRIVE	TEX_Z1	4	-0.8056813	2	*
765	KERNRIVE	TRANW_TN	3	-1.8538581	2	*
766	KERNRIVE	TRANW_TW	9	-1.8754008	0	
767	KERNRIVE	TRCO_Z1	2	-0.8337494	2	*
768	KERNRIVE	TRCO_Z2	9	-0.8437499	0	
769	KERNRIVE	TRCO_Z3	9	-1.2176977	1	
770	KERNRIVE	TRCO_Z4	9	-0.7455037	1	
771	KERNRIVE	TRUN_ELA	6	-1.1235438	1	
772	KERNRIVE	TRUN_NOR	9	-0.7719037	0	
773	KERNRIVE	TRUN_SOU	4	-0.7579397	2	*
774	KERNRIVE	TW	3	-3.1669113	2	*

775	KERNRIVE	VALERO	4	-1.3692355	2	*
776	KERNRIVE	WILLIAMS	3	-0.9149872	2	*
777	KOCH7810	KOCHA3_6	24	-1.0972619	2	*
778	KOCH7810	KOCHA9	3	-2.0824212	2	**
779	KOCH7810	LONESTAR	2	-1.3995118	2	**
780	KOCH7810	MIDCON	2	-1.4818323	2	**
781	KOCH7810	NGPL_LA	6	-1.8658111	2	**
782	KOCH7810	NGPL_MID	4	-1.9551277	2	**
783	KOCH7810	NGPL_PER	3	-1.2694650	2	*
784	KOCH7810	NGPL_STX	2	-2.1282918	2	**
785	KOCH7810	NGPLTXOK	3	-1.7345453	2	**
786	KOCH7810	NIAGARA	26	-0.2642833	2	*
787	KOCH7810	NORAM	4	-1.9473878	2	**
788	KOCH7810	NORDOMES	4	-1.6077642	2	*
789	KOCH7810	NORMID10	2	-1.3915971	2	**
790	KOCH7810	NORMID11	2	-1.2737254	2	**
791	KOCH7810	NWSUMAS	4	-1.4997910	2	*
792	KOCH7810	ONG	3	-2.1212792	2	**
793	KOCH7810	PEPL	4	-1.6558002	2	**
794	KOCH7810	QUESTAR	6	-1.2498360	1	
795	KOCH7810	SONAT	11	-1.2950814	1	
796	KOCH7810	TENN_LEG	28	-1.6090166	2	*
797	KOCH7810	TENN_LS	9	-1.4518647	2	*
798	KOCH7810	TENN_TS	2	-2.0220936	2	**
799	KOCH7810	TEX_ELA	5	-0.9525818	2	**
800	KOCH7810	TEX_ETX	4	-1.6226721	2	**
801	KOCH7810	TEX_SL	11	-1.0974988	1	
802	KOCH7810	TEX_STX	3	-2.3560039	2	**
803	KOCH7810	TEX_WLA	13	-1.4429856	1	
804	KOCH7810	TEX_Z1	11	-1.2896485	2	*
805	KOCH7810	TRANW_TN	4	-1.5573061	2	**
806	KOCH7810	TRANW_TW	4	-1.6075110	2	**
807	KOCH7810	TRCO_Z1	3	-1.8096014	2	**
808	KOCH7810	TRCO_Z2	12	-1.3083947	1	
809	KOCH7810	TRCO_Z3	9	-1.6289929	2	*
810	KOCH7810	TRCO_Z4	12	-1.0800866	1	
811	KOCH7810	TRUN_ELA	12	-1.3681300	1	
812	KOCH7810	TRUN_NOR	11	-1.2875520	2	*
813	KOCH7810	TRUN_SOU	4	-1.9631479	2	**
814	KOCH7810	TW	4	-1.5032537	2	*
815	KOCH7810	VALERO	2	-1.8926214	2	**
816	KOCH7810	WILLIAMS	4	-1.4924140	2	**
817	KOCHA3_6	KOCHA9	13	-0.8805999	1	
818	KOCHA3_6	LONESTAR	10	-1.5668516	1	
819	KOCHA3_6	MIDCON	13	-0.5183669	1	
820	KOCHA3_6	NGPL_LA	14	-1.0850043	1	
821	KOCHA3_6	NGPL_MID	13	-1.0465518	1	
822	KOCHA3_6	NGPL_PER	16	-1.4296609	1	
823	KOCHA3_6	NGPL_STX	13	-1.0284362	1	
824	KOCHA3_6	NGPLTXOK	13	-0.6805271	1	
825	KOCHA3_6	NIAGARA	15	-0.2647079	1	
826	KOCHA3_6	NORAM	24	-1.0754782	2	*
827	KOCHA3_6	NORDOMES	10	-1.7844567	1	
828	KOCHA3_6	NORMID10	13	-0.6736568	1	
829	KOCHA3_6	NORMID11	13	-0.5440010	1	
830	KOCHA3_6	NWSUMAS	5	-1.6900276	2	*

831	KOCHA3_6	ONG	24	-1.7529260	2	*
832	KOCHA3_6	PEPL	13	-0.8447326	1	
833	KOCHA3_6	QUESTAR	10	-1.4615868	1	
834	KOCHA3_6	SONAT	13	-1.3522981	1	
835	KOCHA3_6	TENN_LEG	13	-1.3355393	1	
836	KOCHA3_6	TENN_LS	15	-1.5978719	1	
837	KOCHA3_6	TENN_TS	13	-0.8541429	1	
838	KOCHA3_6	TEX_ELA	21	-0.9071552	1	
839	KOCHA3_6	TEX_ETX	16	-1.7263519	1	
840	KOCHA3_6	TEX_SL	13	-1.1555400	2	*
841	KOCHA3_6	TEX_STX	24	-1.4958644	2	*
842	KOCHA3_6	TEX_WLA	16	-1.3036957	1	
843	KOCHA3_6	TEX_Z1	13	-1.2494173	1	
844	KOCHA3_6	TRANW_TN	11	-1.4390377	1	
845	KOCHA3_6	TRANW_TW	14	-1.3903869	1	
846	KOCHA3_6	TRCO_Z1	13	-0.9767193	1	
847	KOCHA3_6	TRCO_Z2	13	-0.9457120	1	
848	KOCHA3_6	TRCO_Z3	13	-1.8784298	1	
849	KOCHA3_6	TRCO_Z4	13	-1.3119757	2	*
850	KOCHA3_6	TRUN_ELA	15	-1.6353189	1	
851	KOCHA3_6	TRUN_NOR	24	-1.2029796	1	
852	KOCHA3_6	TRUN_SOU	13	-0.8986658	1	
853	KOCHA3_6	TW	5	-1.6958663	2	*
854	KOCHA3_6	VALERO	13	-1.2553930	1	
855	KOCHA3_6	WILLIAMS	25	-0.8559772	2	*
856	KOCHA9	LONESTAR	2	-1.2619827	2	**
857	KOCHA9	MIDCON	4	-1.5487944	2	**
858	KOCHA9	NGPL_LA	6	-1.7373604	2	**
859	KOCHA9	NGPL_MID	3	-1.9327477	2	**
860	KOCHA9	NGPL_PER	3	-1.1787481	2	**
861	KOCHA9	NGPL_STX	3	-2.4540436	2	**
862	KOCHA9	NGPLTXOK	5	-1.9709534	2	**
863	KOCHA9	NIAGARA	27	-0.2699474	2	*
864	KOCHA9	NORAM	3	-1.7737113	2	**
865	KOCHA9	NORDOMES	4	-1.4404012	2	*
866	KOCHA9	NORMID10	3	-1.4734465	2	**
867	KOCHA9	NORMID11	4	-1.3091095	2	**
868	KOCHA9	NWSUMAS	4	-1.3449849	2	*
869	KOCHA9	ONG	3	-1.9777295	2	**
870	KOCHA9	PEPL	3	-1.7982513	2	**
871	KOCHA9	QUESTAR	6	-1.0700443	1	
872	KOCHA9	SONAT	11	-1.3418968	1	
873	KOCHA9	TENN_LEG	12	-1.3889183	1	
874	KOCHA9	TENN_LS	10	-1.3655015	1	
875	KOCHA9	TENN_TS	3	-2.4094824	2	**
876	KOCHA9	TEX_ELA	6	-0.9906648	2	*
877	KOCHA9	TEX_ETX	7	-1.5775471	2	*
878	KOCHA9	TEX_SL	11	-1.2761964	1	
879	KOCHA9	TEX_STX	3	-2.5076543	2	**
880	KOCHA9	TEX_WLA	13	-1.6097295	1	
881	KOCHA9	TEX_Z1	11	-1.2285533	1	
882	KOCHA9	TRANW_TN	3	-1.3183005	2	*
883	KOCHA9	TRANW_TW	3	-1.4478666	2	**
884	KOCHA9	TRCO_Z1	2	-1.8222010	2	**
885	KOCHA9	TRCO_Z2	12	-1.3024328	1	
886	KOCHA9	TRCO_Z3	10	-1.5145097	1	

887	KOCHA9	TRCO_Z4	12	-1.0393968	1	
888	KOCHA9	TRUN_ELA	10	-1.3318557	1	
889	KOCHA9	TRUN_NOR	11	-1.1424451	1	
890	KOCHA9	TRUN_SOU	3	-2.1899798	2	**
891	KOCHA9	TW	4	-1.3332258	2	*
892	KOCHA9	VALERO	2	-2.0053953	2	**
893	KOCHA9	WILLIAMS	4	-1.4172837	2	**
894	LONESTAR	MIDCON	0	-1.1238751	2	**
895	LONESTAR	NGPL_LA	2	-1.2915472	2	**
896	LONESTAR	NGPL_MID	2	-1.3498827	2	**
897	LONESTAR	NGPL_PER	3	-2.5245059	2	**
898	LONESTAR	NGPL_STX	0	-1.4242400	2	**
899	LONESTAR	NGPLTXOK	0	-1.0433366	2	**
900	LONESTAR	NIAGARA	15	-0.7967561	1	
901	LONESTAR	NORAM	0	-1.3527176	2	**
902	LONESTAR	NORDOMES	3	-3.4065357	2	*
903	LONESTAR	NORMID10	2	-1.1632038	2	**
904	LONESTAR	NORMID11	0	-1.0465487	2	**
905	LONESTAR	NWSUMAS	4	-3.2425201	2	*
906	LONESTAR	ONG	2	-2.4220751	2	**
907	LONESTAR	PEPL	1	-1.2708443	2	**
908	LONESTAR	QUESTAR	4	-2.9881939	2	*
909	LONESTAR	SONAT	4	-1.2946741	2	**
910	LONESTAR	TENN_LEG	2	-1.4128548	2	**
911	LONESTAR	TENN_LS	5	-1.4801770	2	**
912	LONESTAR	TENN_TS	2	-1.1728540	2	**
913	LONESTAR	TEX_ELA	8	-1.0633626	2	*
914	LONESTAR	TEX_ETX	3	-2.3941190	2	**
915	LONESTAR	TEX_SL	2	-1.0471126	2	**
916	LONESTAR	TEX_STX	2	-1.8730682	2	**
917	LONESTAR	TEX_WLA	2	-1.4507983	2	**
918	LONESTAR	TEX_Z1	2	-1.2515040	2	**
919	LONESTAR	TRANW_TN	3	-2.3085956	2	**
920	LONESTAR	TRANW_TW	3	-2.3828999	2	**
921	LONESTAR	TRCO_Z1	2	-1.3234606	2	**
922	LONESTAR	TRCO_Z2	8	-1.3009772	2	*
923	LONESTAR	TRCO_Z3	4	-1.6815996	2	**
924	LONESTAR	TRCO_Z4	9	-1.1706193	2	*
925	LONESTAR	TRUN_ELA	5	-1.6209722	2	**
926	LONESTAR	TRUN_NOR	8	-1.2279522	2	*
927	LONESTAR	TRUN_SOU	2	-1.2166398	2	**
928	LONESTAR	TW	2	-3.2672725	2	**
929	LONESTAR	VALERO	2	-1.9144350	2	**
930	LONESTAR	WILLIAMS	3	-1.3508708	2	**
931	MIDCON	NGPL_LA	11	-1.2763521	2	*
932	MIDCON	NGPL_MID	4	-1.6835861	2	**
933	MIDCON	NGPL_PER	4	-0.9986079	2	**
934	MIDCON	NGPL_STX	4	-1.7055074	2	**
935	MIDCON	NGPLTXOK	3	-1.3420805	2	**
936	MIDCON	NIAGARA	27	0.0300122	2	*
937	MIDCON	NORAM	3	-1.4134083	2	**
938	MIDCON	NORDOMES	4	-1.2292825	2	*
939	MIDCON	NORMID10	4	-1.2581914	2	**
940	MIDCON	NORMID11	4	-1.1969393	2	**
941	MIDCON	NWSUMAS	4	-1.1230484	2	*
942	MIDCON	ONG	3	-1.7146758	2	**

943	MIDCON	PEPL	2	-1.3189110	2	**
944	MIDCON	QUESTAR	6	-0.8896654	1	
945	MIDCON	SONAT	12	-0.7727031	1	
946	MIDCON	TENN_LEG	10	-1.0366445	1	
947	MIDCON	TENN_LS	13	-1.0073697	1	
948	MIDCON	TENN_TS	4	-1.7008538	2	**
949	MIDCON	TEX_ELA	6	-0.5205193	2	*
950	MIDCON	TEX_ETX	5	-1.1776294	2	**
951	MIDCON	TEX_SL	12	-0.7521154	1	
952	MIDCON	TEX_STX	3	-1.9718622	2	**
953	MIDCON	TEX_WLA	13	-1.0783817	1	
954	MIDCON	TEX_Z1	11	-0.7392998	2	*
955	MIDCON	TRANW_TN	3	-1.2426287	2	*
956	MIDCON	TRANW_TW	3	-1.3281682	2	**
957	MIDCON	TRCO_Z1	2	-1.1969638	2	**
958	MIDCON	TRCO_Z2	13	-1.0096035	1	
959	MIDCON	TRCO_Z3	10	-1.1335006	1	
960	MIDCON	TRCO_Z4	15	-0.5817103	1	
961	MIDCON	TRUN_ELA	12	-0.8770539	1	
962	MIDCON	TRUN_NOR	23	-0.6986338	1	
963	MIDCON	TRUN_SOU	4	-1.3945138	2	**
964	MIDCON	TW	4	-1.1136566	2	*
965	MIDCON	VALERO	4	-1.6459864	2	**
966	MIDCON	WILLIAMS	3	-1.0577304	2	**
967	NGPL_LA	NGPL_MID	6	-1.9773357	2	*
968	NGPL_LA	NGPL_PER	6	-1.1711275	2	*
969	NGPL_LA	NGPL_STX	6	-2.0341847	2	**
970	NGPL_LA	NGPLTXOK	6	-1.6160373	2	**
971	NGPL_LA	NIAGARA	27	-0.1978076	2	*
972	NGPL_LA	NORAM	10	-1.9879979	1	
973	NGPL_LA	NORDOMES	3	-1.5123593	2	*
974	NGPL_LA	NORMID10	6	-1.2444140	2	**
975	NGPL_LA	NORMID11	6	-1.1102327	2	**
976	NGPL_LA	NWSUMAS	4	-1.4190606	2	*
977	NGPL_LA	ONG	7	-2.0238206	2	*
978	NGPL_LA	PEPL	6	-1.4242011	2	**
979	NGPL_LA	QUESTAR	3	-1.1675284	2	**
980	NGPL_LA	SONAT	14	-1.3829173	1	
981	NGPL_LA	TENN_LEG	9	-1.6793317	2	*
982	NGPL_LA	TENN_LS	14	-1.8609997	1	
983	NGPL_LA	TENN_TS	6	-1.9908241	2	**
984	NGPL_LA	TEX_ELA	11	-1.0721659	1	
985	NGPL_LA	TEX_ETX	2	-1.6780601	2	**
986	NGPL_LA	TEX_SL	13	-1.3340436	1	
987	NGPL_LA	TEX_STX	6	-2.3590485	2	*
988	NGPL_LA	TEX_WLA	13	-1.6702028	1	
989	NGPL_LA	TEX_Z1	14	-1.5154801	1	
990	NGPL_LA	TRANW_TN	3	-1.4560053	2	**
991	NGPL_LA	TRANW_TW	3	-1.4335158	2	**
992	NGPL_LA	TRCO_Z1	5	-1.9730849	2	**
993	NGPL_LA	TRCO_Z2	15	-1.2904993	1	
994	NGPL_LA	TRCO_Z3	10	-1.8787915	2	*
995	NGPL_LA	TRCO_Z4	12	-1.1051561	1	
996	NGPL_LA	TRUN_ELA	13	-1.5790355	1	
997	NGPL_LA	TRUN_NOR	25	-1.3045992	1	
998	NGPL_LA	TRUN_SOU	5	-1.7498853	2	**

999	NGPL_LA	TW	3	-1.4150129	2	*
1000	NGPL_LA	VALERO	5	-1.7511590	2	**
1001	NGPL_LA	WILLIAMS	6	-1.3047447	2	**
1002	NGPL_MID	NGPL_PER	4	-1.4088867	2	**
1003	NGPL_MID	NGPL_STX	3	-2.4515293	2	**
1004	NGPL_MID	NGPLTXOK	3	-2.0472216	2	**
1005	NGPL_MID	NIAGARA	27	-0.2855461	2	*
1006	NGPL_MID	NORAM	5	-2.6534397	2	**
1007	NGPL_MID	NORDOMES	4	-1.5793948	2	*
1008	NGPL_MID	NORMID10	4	-2.1661411	2	**
1009	NGPL_MID	NORMID11	4	-2.1083368	2	**
1010	NGPL_MID	NWSUMAS	4	-1.4718793	2	*
1011	NGPL_MID	ONG	2	-2.7347084	2	**
1012	NGPL_MID	PEPL	3	-2.8053949	2	**
1013	NGPL_MID	QUESTAR	6	-1.2244385	1	
1014	NGPL_MID	SONAT	13	-1.2326774	1	
1015	NGPL_MID	TENN_LEG	11	-1.6078895	1	
1016	NGPL_MID	TENN_LS	13	-1.4082425	1	
1017	NGPL_MID	TENN_TS	6	-2.2530279	2	**
1018	NGPL_MID	TEX_ELA	10	-0.8273515	1	
1019	NGPL_MID	TEX_ETX	4	-1.6546759	2	*
1020	NGPL_MID	TEX_SL	13	-1.0745518	1	
1021	NGPL_MID	TEX_STX	2	-2.6737646	2	**
1022	NGPL_MID	TEX_WLA	13	-1.4579503	1	
1023	NGPL_MID	TEX_Z1	13	-1.3016043	1	
1024	NGPL_MID	TRANW_TN	3	-1.8148067	2	*
1025	NGPL_MID	TRANW_TW	4	-1.8632560	2	**
1026	NGPL_MID	TRCO_Z1	3	-1.7094357	2	**
1027	NGPL_MID	TRCO_Z2	13	-1.2317490	1	
1028	NGPL_MID	TRCO_Z3	11	-1.5835431	1	
1029	NGPL_MID	TRCO_Z4	15	-0.9922643	1	
1030	NGPL_MID	TRUN_ELA	13	-1.3280025	1	
1031	NGPL_MID	TRUN_NOR	24	-1.3438337	2	*
1032	NGPL_MID	TRUN_SOU	6	-1.9639037	2	**
1033	NGPL_MID	TW	4	-1.4720893	2	*
1034	NGPL_MID	VALERO	6	-2.0500162	2	**
1035	NGPL_MID	WILLIAMS	6	-2.1618707	2	**
1036	NGPL_PER	NGPL_STX	2	-1.3334700	2	*
1037	NGPL_PER	NGPLTXOK	2	-0.9524594	2	*
1038	NGPL_PER	NIAGARA	15	-0.5392780	0	
1039	NGPL_PER	NORAM	2	-1.3475601	2	**
1040	NGPL_PER	NORDOMES	4	-2.6939606	2	*
1041	NGPL_PER	NORMID10	3	-1.1523205	2	*
1042	NGPL_PER	NORMID11	3	-1.0163946	2	*
1043	NGPL_PER	NWSUMAS	4	-2.5335335	2	*
1044	NGPL_PER	ONG	3	-2.6691221	2	**
1045	NGPL_PER	PEPL	3	-1.2542372	2	*
1046	NGPL_PER	QUESTAR	4	-2.4686129	2	*
1047	NGPL_PER	SONAT	6	-1.0466537	2	*
1048	NGPL_PER	TENN_LEG	10	-1.2000563	1	
1049	NGPL_PER	TENN_LS	6	-1.1434394	2	*
1050	NGPL_PER	TENN_TS	4	-1.1241006	2	**
1051	NGPL_PER	TEX_ELA	16	-0.7137052	1	
1052	NGPL_PER	TEX_ETX	6	-2.6081698	2	*
1053	NGPL_PER	TEX_SL	6	-0.8797619	2	*
1054	NGPL_PER	TEX_STX	4	-1.8655104	2	**

1055	NGPL_PER	TEX_WLA	10	-1.2509989	1	
1056	NGPL_PER	TEX_Z1	11	-1.1137370	1	
1057	NGPL_PER	TRANW_TN	4	-2.4908363	2	**
1058	NGPL_PER	TRANW_TW	3	-2.4366617	2	**
1059	NGPL_PER	TRCO_Z1	4	-1.0633957	2	**
1060	NGPL_PER	TRCO_Z2	11	-0.9496386	1	
1061	NGPL_PER	TRCO_Z3	6	-1.3445593	2	*
1062	NGPL_PER	TRCO_Z4	15	-0.9523558	1	
1063	NGPL_PER	TRUN_ELA	16	-1.3625267	1	
1064	NGPL_PER	TRUN_NOR	25	-1.0027120	2	*
1065	NGPL_PER	TRUN_SOU	4	-1.1441802	2	**
1066	NGPL_PER	TW	3	-2.5963532	2	*
1067	NGPL_PER	VALERO	4	-1.7244657	2	**
1068	NGPL_PER	WILLIAMS	2	-1.2810671	2	*
1069	NGPL_STX	NGPLTXOK	4	-3.1437669	2	**
1070	NGPL_STX	NIAGARA	29	-0.3800192	2	*
1071	NGPL_STX	NORAM	6	-2.2164985	2	**
1072	NGPL_STX	NORDOMES	4	-1.5889633	2	*
1073	NGPL_STX	NORMID10	3	-1.8471356	2	**
1074	NGPL_STX	NORMID11	3	-1.8681017	2	**
1075	NGPL_STX	NWSUMAS	4	-1.4926635	2	*
1076	NGPL_STX	ONG	3	-2.3929745	2	**
1077	NGPL_STX	PEPL	5	-2.3771450	2	**
1078	NGPL_STX	QUESTAR	3	-1.2125333	2	**
1079	NGPL_STX	SONAT	11	-1.4217152	1	
1080	NGPL_STX	TENN_LEG	24	-1.6416098	1	
1081	NGPL_STX	TENN_LS	13	-1.3996207	1	
1082	NGPL_STX	TENN_TS	3	-2.9199839	2	**
1083	NGPL_STX	TEX_ELA	13	-1.0768385	1	
1084	NGPL_STX	TEX_ETX	7	-1.7863088	2	*
1085	NGPL_STX	TEX_SL	11	-1.3265165	1	
1086	NGPL_STX	TEX_STX	7	-3.0448679	2	*
1087	NGPL_STX	TEX_WLA	13	-1.7578594	1	
1088	NGPL_STX	TEX_Z1	12	-1.4136314	2	*
1089	NGPL_STX	TRANW_TN	4	-1.5821687	2	**
1090	NGPL_STX	TRANW_TW	4	-1.7517472	2	**
1091	NGPL_STX	TRCO_Z1	5	-1.9745349	2	**
1092	NGPL_STX	TRCO_Z2	12	-1.4094648	1	
1093	NGPL_STX	TRCO_Z3	12	-1.6039453	1	
1094	NGPL_STX	TRCO_Z4	12	-1.0752023	1	
1095	NGPL_STX	TRUN_ELA	12	-1.4333316	1	
1096	NGPL_STX	TRUN_NOR	25	-1.3559818	1	
1097	NGPL_STX	TRUN_SOU	4	-2.4565747	2	**
1098	NGPL_STX	TW	3	-1.4872976	2	*
1099	NGPL_STX	VALERO	3	-2.2194260	2	**
1100	NGPL_STX	WILLIAMS	3	-2.1227459	2	**
1101	NGPLTXOK	NIAGARA	27	-0.1738932	2	*
1102	NGPLTXOK	NORAM	3	-1.7924854	2	**
1103	NGPLTXOK	NORDOMES	3	-1.2135006	2	*
1104	NGPLTXOK	NORMID10	3	-1.5414756	2	**
1105	NGPLTXOK	NORMID11	3	-1.5913251	2	**
1106	NGPLTXOK	NWSUMAS	4	-1.1258476	2	*
1107	NGPLTXOK	ONG	3	-1.8811001	2	**
1108	NGPLTXOK	PEPL	4	-2.1967477	2	**
1109	NGPLTXOK	QUESTAR	3	-0.8372767	2	**
1110	NGPLTXOK	SONAT	21	-1.2082935	2	*

1111	NGPLTXOK	TENN_LEG	24	-1.2690652	2	*
1112	NGPLTXOK	TENN_LS	13	-0.9938887	1	
1113	NGPLTXOK	TENN_TS	3	-2.5069428	2	**
1114	NGPLTXOK	TEX_ELA	27	-0.8761672	2	*
1115	NGPLTXOK	TEX_ETX	7	-1.3341203	2	*
1116	NGPLTXOK	TEX_SL	11	-1.1170319	2	*
1117	NGPLTXOK	TEX_STX	4	-2.2822413	2	**
1118	NGPLTXOK	TEX_WLA	16	-1.4807413	1	
1119	NGPLTXOK	TEX_Z1	12	-1.0207997	2	*
1120	NGPLTXOK	TRANW_TN	4	-1.1185569	2	**
1121	NGPLTXOK	TRANW_TW	4	-1.3466324	2	**
1122	NGPLTXOK	TRCO_Z1	4	-1.6028565	2	**
1123	NGPLTXOK	TRCO_Z2	12	-1.1719623	1	
1124	NGPLTXOK	TRCO_Z3	12	-1.2458541	1	
1125	NGPLTXOK	TRCO_Z4	15	-0.8160539	1	
1126	NGPLTXOK	TRUN_ELA	17	-1.1079115	1	
1127	NGPLTXOK	TRUN_NOR	25	-0.9850846	2	*
1128	NGPLTXOK	TRUN_SOU	4	-2.2152470	2	**
1129	NGPLTXOK	TW	3	-1.1136025	2	*
1130	NGPLTXOK	VALERO	3	-1.7077931	2	**
1131	NGPLTXOK	WILLIAMS	3	-1.7903371	2	**
1132	NIAGARA	NORAM	29	-0.2004534	2	**
1133	NIAGARA	NORDOMES	15	-0.9954407	0	
1134	NIAGARA	NORMID10	27	-0.0376391	2	*
1135	NIAGARA	NORMID11	28	-0.0021657	2	*
1136	NIAGARA	NWSUMAS	15	-0.8971442	0	
1137	NIAGARA	ONG	16	-0.7816262	1	
1138	NIAGARA	PEPL	28	-0.2131684	2	*
1139	NIAGARA	QUESTAR	16	-0.6323059	0	
1140	NIAGARA	SONAT	27	-0.3771796	1	
1141	NIAGARA	TENN_LEG	26	-0.2606752	1	
1142	NIAGARA	TENN_LS	15	-0.4378983	1	
1143	NIAGARA	TENN_TS	28	-0.3158264	2	*
1144	NIAGARA	TEX_ELA	28	-0.1757750	2	**
1145	NIAGARA	TEX_ETX	19	-0.7228832	2	*
1146	NIAGARA	TEX_SL	27	-0.1762240	2	*
1147	NIAGARA	TEX_STX	28	-0.5998153	2	*
1148	NIAGARA	TEX_WLA	27	-0.4110788	2	*
1149	NIAGARA	TEX_Z1	26	-0.1727957	1	
1150	NIAGARA	TRANW_TN	17	-0.4883647	1	
1151	NIAGARA	TRANW_TW	17	-0.6046603	1	
1152	NIAGARA	TRCO_Z1	28	-0.3288526	2	*
1153	NIAGARA	TRCO_Z2	20	-0.2840719	1	
1154	NIAGARA	TRCO_Z3	27	-0.5349272	1	
1155	NIAGARA	TRCO_Z4	26	-0.2586233	1	
1156	NIAGARA	TRUN_ELA	15	-0.4334010	1	
1157	NIAGARA	TRUN_NOR	23	-0.1215537	2	*
1158	NIAGARA	TRUN_SOU	28	-0.3577750	2	*
1159	NIAGARA	TW	16	-0.8764176	0	
1160	NIAGARA	VALERO	27	-0.3995200	2	**
1161	NIAGARA	WILLIAMS	29	-0.1975995	2	**
1162	NORAM	NORDOMES	4	-1.5399960	2	*
1163	NORAM	NORMID10	4	-1.5655463	2	**
1164	NORAM	NORMID11	4	-1.5565609	2	**
1165	NORAM	NWSUMAS	5	-1.4364104	2	*
1166	NORAM	ONG	2	-2.5530844	2	**

1167	NORAM	PEPL	5	-1.9315821	2	**
1168	NORAM	QUESTAR	6	-1.2211807	1	
1169	NORAM	SONAT	11	-0.9828075	1	
1170	NORAM	TENN_LEG	12	-1.5833639	1	
1171	NORAM	TENN_LS	11	-1.3588918	1	
1172	NORAM	TENN_TS	5	-1.8722760	2	**
1173	NORAM	TEX_ELA	11	-0.6453098	1	
1174	NORAM	TEX_ETX	4	-1.6574130	2	**
1175	NORAM	TEX_SL	11	-0.8286040	1	
1176	NORAM	TEX_STX	4	-2.3615265	2	**
1177	NORAM	TEX_WLA	11	-1.2290168	1	
1178	NORAM	TEX_Z1	11	-1.2619680	1	
1179	NORAM	TRANW_TN	4	-1.7203855	2	**
1180	NORAM	TRANW_TW	4	-1.5926968	2	**
1181	NORAM	TRCO_Z1	4	-1.8124681	2	**
1182	NORAM	TRCO_Z2	12	-1.1711483	1	
1183	NORAM	TRCO_Z3	11	-1.5688145	1	
1184	NORAM	TRCO_Z4	12	-0.9120751	1	
1185	NORAM	TRUN_ELA	13	-1.1487007	1	
1186	NORAM	TRUN_NOR	25	-1.2012231	1	
1187	NORAM	TRUN_SOU	4	-1.6546828	2	**
1188	NORAM	TW	4	-1.4481355	2	*
1189	NORAM	VALERO	4	-1.8598690	2	**
1190	NORAM	WILLIAMS	3	-1.9996737	2	**
1191	NORDOMES	NORMID10	4	-1.3778523	1	
1192	NORDOMES	NORMID11	4	-1.2316588	1	
1193	NORDOMES	NWSUMAS	8	-4.1968862	1	
1194	NORDOMES	ONG	4	-2.6783997	1	
1195	NORDOMES	PEPL	3	-1.4917217	2	*
1196	NORDOMES	QUESTAR	9	-3.5658000	1	
1197	NORDOMES	SONAT	4	-1.5359261	1	
1198	NORDOMES	TENN_LEG	4	-1.6460300	2	*
1199	NORDOMES	TENN_LS	5	-1.6987994	2	*
1200	NORDOMES	TENN_TS	4	-1.3449877	2	*
1201	NORDOMES	TEX_ELA	8	-1.2804508	1	
1202	NORDOMES	TEX_ETX	3	-2.5500538	2	*
1203	NORDOMES	TEX_SL	4	-1.2627151	2	*
1204	NORDOMES	TEX_STX	4	-2.0510278	2	*
1205	NORDOMES	TEX_WLA	3	-1.6557127	2	*
1206	NORDOMES	TEX_Z1	4	-1.4907715	2	*
1207	NORDOMES	TRANW_TN	4	-2.5466646	2	*
1208	NORDOMES	TRANW_TW	3	-2.6110871	2	*
1209	NORDOMES	TRCO_Z1	4	-1.5134936	2	*
1210	NORDOMES	TRCO_Z2	8	-1.4950297	0	
1211	NORDOMES	TRCO_Z3	4	-1.9180209	2	*
1212	NORDOMES	TRCO_Z4	9	-1.4108210	1	
1213	NORDOMES	TRUN_ELA	6	-1.8454435	1	
1214	NORDOMES	TRUN_NOR	8	-1.4589590	0	
1215	NORDOMES	TRUN_SOU	4	-1.4317449	2	*
1216	NORDOMES	TW	2	-4.3911809	2	*
1217	NORDOMES	VALERO	4	-2.0719091	2	*
1218	NORDOMES	WILLIAMS	3	-1.5885004	2	*
1219	NORMID10	NORMID11	2	-2.8645731	2	**
1220	NORMID10	NWSUMAS	4	-1.2690054	2	*
1221	NORMID10	ONG	2	-2.0604111	2	**
1222	NORMID10	PEPL	4	-2.2363293	2	**

1223	NORMID10	QUESTAR	6	-1.0021351	1	
1224	NORMID10	SONAT	11	-0.9625857	1	
1225	NORMID10	TENN_LEG	11	-1.0262658	2	*
1226	NORMID10	TENN_LS	13	-0.9841952	1	
1227	NORMID10	TENN_TS	2	-1.6728052	2	**
1228	NORMID10	TEX_ELA	6	-0.6423233	2	**
1229	NORMID10	TEX_ETX	4	-1.2495976	2	**
1230	NORMID10	TEX_SL	11	-0.8363125	1	
1231	NORMID10	TEX_STX	4	-2.0156341	2	**
1232	NORMID10	TEX_WLA	13	-1.2024300	1	
1233	NORMID10	TEX_Z1	11	-0.8425559	2	*
1234	NORMID10	TRANW_TN	3	-1.4473660	2	*
1235	NORMID10	TRANW_TW	4	-1.6270530	2	**
1236	NORMID10	TRCO_Z1	3	-1.1300953	2	**
1237	NORMID10	TRCO_Z2	13	-0.9402819	1	
1238	NORMID10	TRCO_Z3	9	-1.0564591	2	*
1239	NORMID10	TRCO_Z4	12	-0.6040054	1	
1240	NORMID10	TRUN_ELA	13	-0.9967369	1	
1241	NORMID10	TRUN_NOR	11	-0.7656222	1	
1242	NORMID10	TRUN_SOU	4	-1.4611137	2	**
1243	NORMID10	TW	4	-1.2763895	2	*
1244	NORMID10	VALERO	2	-1.6479135	2	**
1245	NORMID10	WILLIAMS	5	-1.4230521	2	**
1246	NORMID11	NWSUMAS	4	-1.1241470	2	*
1247	NORMID11	ONG	2	-1.9558290	2	**
1248	NORMID11	PEPL	2	-2.3479330	2	**
1249	NORMID11	QUESTAR	6	-0.8520695	1	
1250	NORMID11	SONAT	13	-0.7962355	1	
1251	NORMID11	TENN_LEG	12	-0.8896225	1	
1252	NORMID11	TENN_LS	13	-0.8143507	1	
1253	NORMID11	TENN_TS	4	-1.6206858	2	**
1254	NORMID11	TEX_ELA	24	-0.4820454	2	*
1255	NORMID11	TEX_ETX	4	-1.0781863	2	*
1256	NORMID11	TEX_SL	12	-0.7010224	1	
1257	NORMID11	TEX_STX	4	-1.8607520	2	**
1258	NORMID11	TEX_WLA	13	-1.0321736	1	
1259	NORMID11	TEX_Z1	12	-0.7199841	2	*
1260	NORMID11	TRANW_TN	3	-1.2944094	2	*
1261	NORMID11	TRANW_TW	4	-1.4671290	2	**
1262	NORMID11	TRCO_Z1	4	-0.9954389	2	**
1263	NORMID11	TRCO_Z2	13	-0.8269543	1	
1264	NORMID11	TRCO_Z3	12	-0.9069154	1	
1265	NORMID11	TRCO_Z4	15	-0.5322079	1	
1266	NORMID11	TRUN_ELA	15	-0.8293271	1	
1267	NORMID11	TRUN_NOR	24	-0.6525823	2	*
1268	NORMID11	TRUN_SOU	4	-1.3123755	2	**
1269	NORMID11	TW	4	-1.1275827	2	*
1270	NORMID11	VALERO	2	-1.5032861	2	**
1271	NORMID11	WILLIAMS	4	-1.5854944	2	**
1272	NWSUMAS	ONG	4	-2.5273043	2	*
1273	NWSUMAS	PEPL	4	-1.3825387	2	*
1274	NWSUMAS	QUESTAR	18	-3.4062378	2	*
1275	NWSUMAS	SONAT	5	-1.4494061	2	*
1276	NWSUMAS	TENN_LEG	4	-1.5621647	2	*
1277	NWSUMAS	TENN_LS	5	-1.6190819	2	*
1278	NWSUMAS	TENN_TS	4	-1.2553176	2	*

1279	NWSUMAS	TEX_ELA	5	-1.1941230	2	*
1280	NWSUMAS	TEX_ETX	4	-2.4544568	2	*
1281	NWSUMAS	TEX_SL	4	-1.1831883	2	*
1282	NWSUMAS	TEX_STX	4	-1.9428475	2	*
1283	NWSUMAS	TEX_WLA	4	-1.5632898	2	*
1284	NWSUMAS	TEX_Z1	4	-1.4212305	2	*
1285	NWSUMAS	TRANW_TN	5	-2.3903977	2	*
1286	NWSUMAS	TRANW_TW	4	-2.4337819	2	*
1287	NWSUMAS	TRCO_Z1	4	-1.4293031	2	*
1288	NWSUMAS	TRCO_Z2	8	-1.3956983	0	
1289	NWSUMAS	TRCO_Z3	4	-1.8330643	2	*
1290	NWSUMAS	TRCO_Z4	9	-1.3055290	1	
1291	NWSUMAS	TRUN_ELA	5	-1.7478042	2	*
1292	NWSUMAS	TRUN_NOR	8	-1.3441810	0	
1293	NWSUMAS	TRUN_SOU	4	-1.3428910	2	*
1294	NWSUMAS	TW	4	-3.8137903	2	*
1295	NWSUMAS	VALERO	4	-1.9691445	2	*
1296	NWSUMAS	WILLIAMS	4	-1.4803965	2	*
1297	ONG	PEPL	2	-2.4179548	2	**
1298	ONG	QUESTAR	6	-2.3164515	1	
1299	ONG	SONAT	11	-1.6608413	1	
1300	ONG	TENN_LEG	11	-1.9921156	1	
1301	ONG	TENN_LS	13	-1.7509671	1	
1302	ONG	TENN_TS	3	-2.0307542	2	**
1303	ONG	TEX_ELA	9	-1.2249373	1	
1304	ONG	TEX_ETX	4	-2.7139661	2	*
1305	ONG	TEX_SL	11	-1.3517480	1	
1306	ONG	TEX_STX	4	-2.9018093	2	**
1307	ONG	TEX_WLA	11	-1.8508688	1	
1308	ONG	TEX_Z1	25	-1.6898222	1	
1309	ONG	TRANW_TN	4	-2.9555311	2	*
1310	ONG	TRANW_TW	4	-2.9718163	2	**
1311	ONG	TRCO_Z1	3	-1.8762189	2	**
1312	ONG	TRCO_Z2	25	-1.5124706	1	
1313	ONG	TRCO_Z3	6	-2.0254681	2	*
1314	ONG	TRCO_Z4	19	-1.4344435	2	*
1315	ONG	TRUN_ELA	11	-1.8414253	1	
1316	ONG	TRUN_NOR	24	-1.6946839	2	*
1317	ONG	TRUN_SOU	2	-1.8894420	2	**
1318	ONG	TW	4	-2.5681345	1	
1319	ONG	VALERO	3	-2.6026942	2	**
1320	ONG	WILLIAMS	3	-2.4491330	2	**
1321	PEPL	QUESTAR	3	-1.0972322	2	**
1322	PEPL	SONAT	11	-1.2131457	1	
1323	PEPL	TENN_LEG	13	-1.2132629	2	*
1324	PEPL	TENN_LS	13	-1.0777943	1	
1325	PEPL	TENN_TS	5	-2.1434358	2	**
1326	PEPL	TEX_ELA	13	-0.7957980	1	
1327	PEPL	TEX_ETX	4	-1.4552178	2	*
1328	PEPL	TEX_SL	12	-1.0833946	2	*
1329	PEPL	TEX_STX	4	-2.3755437	2	*
1330	PEPL	TEX_WLA	14	-1.4227338	1	
1331	PEPL	TEX_Z1	12	-1.0492237	2	*
1332	PEPL	TRANW_TN	3	-1.5291521	2	*
1333	PEPL	TRANW_TW	4	-1.8134968	2	**
1334	PEPL	TRCO_Z1	3	-1.3675368	2	**

1335	PEPL	TRCO_Z2	13	-1.0618084	1	
1336	PEPL	TRCO_Z3	12	-1.2737328	1	
1337	PEPL	TRCO_Z4	15	-0.8583968	1	
1338	PEPL	TRUN_ELA	13	-1.2030525	1	
1339	PEPL	TRUN_NOR	24	-1.0015686	2	*
1340	PEPL	TRUN_SOU	4	-1.9589469	2	**
1341	PEPL	TW	2	-1.3822937	2	**
1342	PEPL	VALERO	3	-1.9057164	2	**
1343	PEPL	WILLIAMS	3	-2.2841360	2	**
1344	QUESTAR	SONAT	6	-1.1483785	1	
1345	QUESTAR	TENN_LEG	2	-1.3122015	2	*
1346	QUESTAR	TENN_LS	6	-1.3540721	1	
1347	QUESTAR	TENN_TS	6	-0.9686689	1	
1348	QUESTAR	TEX_ELA	8	-0.9025793	1	
1349	QUESTAR	TEX_ETX	3	-2.3049215	2	**
1350	QUESTAR	TEX_SL	4	-0.8810751	2	*
1351	QUESTAR	TEX_STX	6	-1.6736694	1	
1352	QUESTAR	TEX_WLA	3	-1.2713580	2	**
1353	QUESTAR	TEX_Z1	4	-1.1568703	2	*
1354	QUESTAR	TRANW_TN	3	-2.2685579	2	**
1355	QUESTAR	TRANW_TW	9	-2.2083931	1	
1356	QUESTAR	TRCO_Z1	6	-1.1512332	1	
1357	QUESTAR	TRCO_Z2	9	-1.1207904	1	
1358	QUESTAR	TRCO_Z3	4	-1.5472988	2	*
1359	QUESTAR	TRCO_Z4	9	-1.0076461	1	
1360	QUESTAR	TRUN_ELA	6	-1.4477716	1	
1361	QUESTAR	TRUN_NOR	8	-1.1177166	1	
1362	QUESTAR	TRUN_SOU	6	-1.0388431	1	
1363	QUESTAR	TW	3	-3.4159114	2	*
1364	QUESTAR	VALERO	6	-1.6942631	1	
1365	QUESTAR	WILLIAMS	3	-1.2068843	2	**
1366	SONAT	TENN_LEG	5	-1.3966301	2	**
1367	SONAT	TENN_LS	5	-2.0785390	2	**
1368	SONAT	TENN_TS	13	-1.4823486	1	
1369	SONAT	TEX_ELA	6	-2.0649573	2	*
1370	SONAT	TEX_ETX	7	-1.4930570	1	
1371	SONAT	TEX_SL	5	-2.3451566	2	**
1372	SONAT	TEX_STX	13	-1.8261978	1	
1373	SONAT	TEX_WLA	9	-2.3353473	2	**
1374	SONAT	TEX_Z1	9	-1.5616458	1	
1375	SONAT	TRANW_TN	5	-1.1713095	2	*
1376	SONAT	TRANW_TW	15	-1.3954530	1	
1377	SONAT	TRCO_Z1	11	-1.1757681	1	
1378	SONAT	TRCO_Z2	12	-1.0700487	1	
1379	SONAT	TRCO_Z3	4	-2.0543917	2	**
1380	SONAT	TRCO_Z4	12	-1.3648519	2	**
1381	SONAT	TRUN_ELA	9	-2.3274895	2	**
1382	SONAT	TRUN_NOR	11	-1.0637163	2	*
1383	SONAT	TRUN_SOU	13	-1.5970088	1	
1384	SONAT	TW	5	-1.4266842	2	*
1385	SONAT	VALERO	6	-1.5394600	2	*
1386	SONAT	WILLIAMS	12	-0.8729919	2	*
1387	TENN_LEG	TENN_LS	11	-1.7983064	1	
1388	TENN_LEG	TENN_TS	28	-1.5083828	2	*
1389	TENN_LEG	TEX_ELA	11	-0.9742536	1	
1390	TENN_LEG	TEX_ETX	5	-1.7206803	2	**

1391	TENN_LEG	TEX_SL	11	-1.1477854	2	*
1392	TENN_LEG	TEX_STX	9	-2.0116481	2	*
1393	TENN_LEG	TEX_WLA	8	-1.5168373	2	**
1394	TENN_LEG	TEX_Z1	3	-1.7266450	2	**
1395	TENN_LEG	TRANW_TN	10	-1.5763128	1	
1396	TENN_LEG	TRANW_TW	11	-1.4994499	1	
1397	TENN_LEG	TRCO_Z1	25	-1.5301363	1	
1398	TENN_LEG	TRCO_Z2	28	-1.3240867	2	*
1399	TENN_LEG	TRCO_Z3	6	-1.9329683	2	**
1400	TENN_LEG	TRCO_Z4	15	-1.2670108	1	
1401	TENN_LEG	TRUN_ELA	14	-1.5515343	1	
1402	TENN_LEG	TRUN_NOR	28	-1.3437464	1	
1403	TENN_LEG	TRUN_SOU	28	-1.3133433	2	*
1404	TENN_LEG	TW	4	-1.5469090	2	*
1405	TENN_LEG	VALERO	11	-1.6911028	1	
1406	TENN_LEG	WILLIAMS	25	-1.0753840	2	*
1407	TENN_LS	TENN_TS	10	-1.3743715	1	
1408	TENN_LS	TEX_ELA	11	-1.7324756	2	*
1409	TENN_LS	TEX_ETX	5	-1.7425271	2	*
1410	TENN_LS	TEX_SL	5	-1.8668320	2	**
1411	TENN_LS	TEX_STX	14	-1.9416530	1	
1412	TENN_LS	TEX_WLA	8	-2.1626035	2	**
1413	TENN_LS	TEX_Z1	8	-1.6655772	1	
1414	TENN_LS	TRANW_TN	14	-1.4669602	1	
1415	TENN_LS	TRANW_TW	14	-1.4148011	1	
1416	TENN_LS	TRCO_Z1	9	-1.4884094	2	*
1417	TENN_LS	TRCO_Z2	14	-1.2509754	1	
1418	TENN_LS	TRCO_Z3	5	-2.5194785	2	**
1419	TENN_LS	TRCO_Z4	14	-1.5065762	1	
1420	TENN_LS	TRUN_ELA	5	-2.2537143	2	**
1421	TENN_LS	TRUN_NOR	15	-1.3236355	1	
1422	TENN_LS	TRUN_SOU	10	-1.3465109	1	
1423	TENN_LS	TW	5	-1.5931468	2	*
1424	TENN_LS	VALERO	14	-1.5396175	1	
1425	TENN_LS	WILLIAMS	14	-0.9041961	1	
1426	TENN_TS	TEX_ELA	24	-1.1300196	2	*
1427	TENN_TS	TEX_ETX	4	-1.5263835	2	*
1428	TENN_TS	TEX_SL	13	-1.5178712	1	
1429	TENN_TS	TEX_STX	4	-2.9113068	2	**
1430	TENN_TS	TEX_WLA	13	-1.8214893	1	
1431	TENN_TS	TEX_Z1	11	-1.3162163	2	*
1432	TENN_TS	TRANW_TN	3	-1.3287952	2	*
1433	TENN_TS	TRANW_TW	3	-1.4923761	2	**
1434	TENN_TS	TRCO_Z1	4	-1.8427967	2	**
1435	TENN_TS	TRCO_Z2	13	-1.2444692	1	
1436	TENN_TS	TRCO_Z3	9	-1.4742325	2	*
1437	TENN_TS	TRCO_Z4	12	-1.0057075	1	
1438	TENN_TS	TRUN_ELA	17	-1.4376064	1	
1439	TENN_TS	TRUN_NOR	25	-1.2090106	1	
1440	TENN_TS	TRUN_SOU	4	-2.6514728	2	**
1441	TENN_TS	TW	4	-1.2419994	2	*
1442	TENN_TS	VALERO	3	-2.0848994	2	**
1443	TENN_TS	WILLIAMS	5	-1.6012632	2	**
1444	TEX_ELA	TEX_ETX	7	-1.1048038	1	
1445	TEX_ELA	TEX_SL	10	-1.8612763	1	
1446	TEX_ELA	TEX_STX	5	-1.4224608	2	*

1447	TEX_ELA	TEX_WLA	25	-2.0726526	2	**
1448	TEX_ELA	TEX_Z1	11	-1.1432476	1	
1449	TEX_ELA	TRANW_TN	11	-0.8423921	1	
1450	TEX_ELA	TRANW_TW	5	-1.0065653	2	*
1451	TEX_ELA	TRCO_Z1	11	-0.9141894	1	
1452	TEX_ELA	TRCO_Z2	12	-0.8570336	1	
1453	TEX_ELA	TRCO_Z3	10	-1.5659366	1	
1454	TEX_ELA	TRCO_Z4	11	-1.0516923	2	*
1455	TEX_ELA	TRUN_ELA	9	-1.9911495	1	
1456	TEX_ELA	TRUN_NOR	11	-0.6698104	1	
1457	TEX_ELA	TRUN_SOU	11	-1.2057502	1	
1458	TEX_ELA	TW	5	-1.1482519	2	*
1459	TEX_ELA	VALERO	5	-1.1586226	2	*
1460	TEX_ELA	WILLIAMS	13	-0.5484595	1	
1461	TEX_ETX	TEX_SL	7	-1.2649590	1	
1462	TEX_ETX	TEX_STX	25	-2.5024034	2	*
1463	TEX_ETX	TEX_WLA	25	-1.7591348	2	*
1464	TEX_ETX	TEX_Z1	4	-1.5727318	2	**
1465	TEX_ETX	TRANW_TN	4	-2.3732603	2	**
1466	TEX_ETX	TRANW_TW	6	-2.3101354	2	**
1467	TEX_ETX	TRCO_Z1	4	-1.5050572	2	**
1468	TEX_ETX	TRCO_Z2	13	-1.2526580	1	
1469	TEX_ETX	TRCO_Z3	5	-1.8506470	2	**
1470	TEX_ETX	TRCO_Z4	19	-1.3028235	2	*
1471	TEX_ETX	TRUN_ELA	7	-1.8082770	1	
1472	TEX_ETX	TRUN_NOR	23	-1.5243744	1	
1473	TEX_ETX	TRUN_SOU	7	-1.5089265	2	*
1474	TEX_ETX	TW	3	-2.4531092	2	*
1475	TEX_ETX	VALERO	4	-2.0975031	2	**
1476	TEX_ETX	WILLIAMS	7	-1.4208900	2	*
1477	TEX_SL	TEX_STX	13	-1.6934415	1	
1478	TEX_SL	TEX_WLA	9	-2.2962216	2	**
1479	TEX_SL	TEX_Z1	10	-1.4259439	1	
1480	TEX_SL	TRANW_TN	6	-0.9133502	2	*
1481	TEX_SL	TRANW_TW	6	-1.1131397	2	*
1482	TEX_SL	TRCO_Z1	11	-1.1196980	1	
1483	TEX_SL	TRCO_Z2	12	-1.0428441	1	
1484	TEX_SL	TRCO_Z3	7	-1.9097052	2	**
1485	TEX_SL	TRCO_Z4	12	-1.2360218	2	**
1486	TEX_SL	TRUN_ELA	11	-2.5227155	2	*
1487	TEX_SL	TRUN_NOR	15	-0.7899155	1	
1488	TEX_SL	TRUN_SOU	13	-1.5789622	1	
1489	TEX_SL	TW	2	-1.1629052	2	**
1490	TEX_SL	VALERO	9	-1.3043653	2	*
1491	TEX_SL	WILLIAMS	12	-0.7399860	2	*
1492	TEX_STX	TEX_WLA	13	-2.2966826	1	
1493	TEX_STX	TEX_Z1	13	-1.7992127	1	
1494	TEX_STX	TRANW_TN	3	-2.1826132	2	*
1495	TEX_STX	TRANW_TW	2	-2.3217468	2	**
1496	TEX_STX	TRCO_Z1	5	-2.0814147	2	**
1497	TEX_STX	TRCO_Z2	12	-1.5188660	1	
1498	TEX_STX	TRCO_Z3	9	-2.0415870	1	
1499	TEX_STX	TRCO_Z4	15	-1.3920384	1	
1500	TEX_STX	TRUN_ELA	13	-1.9516417	1	
1501	TEX_STX	TRUN_NOR	24	-1.7127215	2	*
1502	TEX_STX	TRUN_SOU	2	-2.5278973	2	**

1503	TEX_STX	TW	4	-1.9410361	2	*
1504	TEX_STX	VALERO	3	-2.8486821	2	**
1505	TEX_STX	WILLIAMS	4	-1.9306928	2	**
1506	TEX_WLA	TEX_Z1	7	-1.6403461	2	*
1507	TEX_WLA	TRANW_TN	13	-1.3378746	1	
1508	TEX_WLA	TRANW_TW	15	-1.5632704	1	
1509	TEX_WLA	TRCO_Z1	11	-1.4648959	1	
1510	TEX_WLA	TRCO_Z2	13	-1.3145576	1	
1511	TEX_WLA	TRCO_Z3	5	-2.0428501	2	**
1512	TEX_WLA	TRCO_Z4	13	-1.3742574	2	*
1513	TEX_WLA	TRUN_ELA	9	-2.4126522	2	**
1514	TEX_WLA	TRUN_NOR	23	-1.1385837	0	
1515	TEX_WLA	TRUN_SOU	19	-1.8471817	2	*
1516	TEX_WLA	TW	2	-1.5437342	2	**
1517	TEX_WLA	VALERO	13	-1.8298222	1	
1518	TEX_WLA	WILLIAMS	12	-1.0901439	2	*
1519	TEX_Z1	TRANW_TN	11	-1.2743696	1	
1520	TEX_Z1	TRANW_TW	11	-1.2993689	1	
1521	TEX_Z1	TRCO_Z1	11	-1.1707011	2	*
1522	TEX_Z1	TRCO_Z2	13	-1.0574502	2	*
1523	TEX_Z1	TRCO_Z3	5	-1.7286809	2	**
1524	TEX_Z1	TRCO_Z4	11	-1.0637141	2	*
1525	TEX_Z1	TRUN_ELA	8	-1.5907032	1	
1526	TEX_Z1	TRUN_NOR	15	-1.0839635	1	
1527	TEX_Z1	TRUN_SOU	13	-1.1674035	2	*
1528	TEX_Z1	TW	4	-1.3865897	2	*
1529	TEX_Z1	VALERO	11	-1.4786398	1	
1530	TEX_Z1	WILLIAMS	14	-0.8754196	1	
1531	TRANW_TN	TRANW_TW	9	-3.8138523	1	
1532	TRANW_TN	TRCO_Z1	3	-1.2987075	2	*
1533	TRANW_TN	TRCO_Z2	13	-1.0848751	1	
1534	TRANW_TN	TRCO_Z3	6	-1.6014136	2	*
1535	TRANW_TN	TRCO_Z4	15	-0.9511696	1	
1536	TRANW_TN	TRUN_ELA	6	-1.4532444	1	
1537	TRANW_TN	TRUN_NOR	10	-1.3647969	1	
1538	TRANW_TN	TRUN_SOU	3	-1.2516734	2	*
1539	TRANW_TN	TW	3	-2.4345803	2	*
1540	TRANW_TN	VALERO	3	-2.0221504	2	*
1541	TRANW_TN	WILLIAMS	3	-1.5067218	2	*
1542	TRANW_TW	TRCO_Z1	2	-1.3051582	2	**
1543	TRANW_TW	TRCO_Z2	12	-1.1831540	1	
1544	TRANW_TW	TRCO_Z3	5	-1.6096842	2	*
1545	TRANW_TW	TRCO_Z4	19	-1.0391416	2	*
1546	TRANW_TW	TRUN_ELA	6	-1.6139120	2	*
1547	TRANW_TW	TRUN_NOR	10	-1.2811996	1	
1548	TRANW_TW	TRUN_SOU	2	-1.4614232	2	**
1549	TRANW_TW	TW	3	-2.4824274	2	*
1550	TRANW_TW	VALERO	3	-2.1783890	2	**
1551	TRANW_TW	WILLIAMS	4	-1.6875172	2	**
1552	TRCO_Z1	TRCO_Z2	12	-1.5447516	2	*
1553	TRCO_Z1	TRCO_Z3	10	-1.8168869	2	*
1554	TRCO_Z1	TRCO_Z4	10	-1.3150471	1	
1555	TRCO_Z1	TRUN_ELA	10	-1.2990636	2	*
1556	TRCO_Z1	TRUN_NOR	12	-1.2004709	2	*
1557	TRCO_Z1	TRUN_SOU	5	-1.8581068	2	**
1558	TRCO_Z1	TW	4	-1.4142270	2	*

1559	TRCO_Z1	VALERO	2	-1.7355822	2	**
1560	TRCO_Z1	WILLIAMS	4	-1.3373869	2	**
1561	TRCO_Z2	TRCO_Z3	13	-1.6054733	1	
1562	TRCO_Z2	TRCO_Z4	14	-1.1086087	1	
1563	TRCO_Z2	TRUN_ELA	13	-1.2549578	1	
1564	TRCO_Z2	TRUN_NOR	22	-1.0736699	1	
1565	TRCO_Z2	TRUN_SOU	12	-1.2077773	1	
1566	TRCO_Z2	TW	9	-1.3632591	0	
1567	TRCO_Z2	VALERO	12	-1.3170521	1	
1568	TRCO_Z2	WILLIAMS	12	-0.9629318	1	
1569	TRCO_Z3	TRCO_Z4	13	-2.2408909	1	
1570	TRCO_Z3	TRUN_ELA	4	-2.3626114	2	**
1571	TRCO_Z3	TRUN_NOR	20	-1.4357185	1	
1572	TRCO_Z3	TRUN_SOU	9	-1.4996294	2	**
1573	TRCO_Z3	TW	4	-1.8239057	2	*
1574	TRCO_Z3	VALERO	5	-1.7095705	2	**
1575	TRCO_Z3	WILLIAMS	12	-1.1781309	1	
1576	TRCO_Z4	TRUN_ELA	14	-1.6244800	1	
1577	TRCO_Z4	TRUN_NOR	26	-0.8844050	1	
1578	TRCO_Z4	TRUN_SOU	13	-1.0866181	1	
1579	TRCO_Z4	TW	9	-1.2775791	1	
1580	TRCO_Z4	VALERO	15	-1.1502668	1	
1581	TRCO_Z4	WILLIAMS	18	-0.7424407	2	*
1582	TRUN_ELA	TRUN_NOR	13	-1.1933688	2	*
1583	TRUN_ELA	TRUN_SOU	13	-1.6115857	1	
1584	TRUN_ELA	TW	5	-1.7230714	2	*
1585	TRUN_ELA	VALERO	11	-1.6484802	1	
1586	TRUN_ELA	WILLIAMS	12	-0.9807375	2	*
1587	TRUN_NOR	TRUN_SOU	25	-1.3339296	2	*
1588	TRUN_NOR	TW	9	-1.3254307	0	
1589	TRUN_NOR	VALERO	11	-1.3750449	1	
1590	TRUN_NOR	WILLIAMS	28	-0.8792781	2	**
1591	TRUN_SOU	TW	4	-1.3268308	2	*
1592	TRUN_SOU	VALERO	3	-1.8698626	2	**
1593	TRUN_SOU	WILLIAMS	4	-1.5268472	2	**
1594	TW	VALERO	4	-1.9531204	2	*
1595	TW	WILLIAMS	4	-1.4769056	2	*
1596	VALERO	WILLIAMS	4	-1.6065738	2	**