

Appendix D

Water Resources

Groundwater

Table D-1 General Groundwater Chemistry Data – Rusk Permit Area

Well No.	Date	Field pH (std. units)	Field EC (µmhos)	TDS	Alkalinity	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Calcium	Magnesium	Potassium	Sodium	Nitrate	Total Iron	Total Manganese	Dissolved Iron	Dissolved Manganese
MW-1-A-07	1/17/2008	6.7	794	481	196	239	<1	91	0.6	48	14	6	4	152	<0.1	1.43	0.23	0.38	0.20
	4/4/2008	6.7	736	573	240	293	<1	131	0.6	51	16	6	4	176	<0.1	6.76	1.33	<0.05	0.02
	7/15/2008	6.7	770	689	327	399	<1	128	0.6	54	16	5	4	226	<0.1	2.58	0.56	2.92	0.61
	10/14/2008	6.9	795	772	376	459	<1	144	0.5	61	21	7	5	275	<0.1	5.24	0.53	4.81	0.50
MW-1-B-07	1/17/2008	6.6	651	482	101	123	<1	162	0.2	6	68	17	4	47	<0.1	2.41	0.48	0.86	0.52
	4/4/2008	6.9	689	602	113	138	<1	185	0.2	6	74	17	4	44	<0.1	18.70	0.64	<0.05	0.03
	7/15/2008	6.9	640	606	104	127	<1	184	0.2	7	77	19	4	49	<0.1	6.62	0.94	6.62	0.77
	10/14/2008	6.8	675	634	110	134	<1	189	0.2	6	77	19	4	47	<0.1	9.34	0.80	11.90	0.79
MW-2-OB-07	1/18/2008	6.8	917	95	<1	<1	<1	13	0.4	4	6	6	2	2	5.6	0.54	0.12	0.36	0.16
	4/7/2008	6.9	949	106	<1	<1	<1	17	0.6	11	7	7	2	2	7.6	0.34	0.11	0.11	0.11
	7/16/2008	6.8	935	110	<1	<1	<1	18	0.5	7	5	7	2	2	11	0.07	0.04	0.07	0.04
	10/24/2008	6.9	875	61	<1	<1	<1	14	0.4	10	2	4	1	2	5.8	0.15	0.02	0.11	0.02
MW-2-UB-07	1/18/2008	6.7	979	269	239	291	<1	9	0.1	6	39	10	6	46	<0.1	0.57	0.11	0.28	0.09
	4/7/2008	6.8	983	279	240	292	<1	10	0.1	7	42	10	6	45	<0.1	0.35	0.07	<0.05	0.07
	7/16/2008	6.8	905	290	234	286	<1	9	0.1	7	43	10	5	44	<0.1	0.46	0.11	<0.05	0.06
	10/24/2008	6.9	970	265	216	264	<1	9	<0.1	8	41	10	5	42	<0.1	0.45	0.10	<0.05	0.04

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Well No.	Date	Field pH (std. units)	Field EC (µmhos)	TDS	Alkalinity	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Calcium	Magnesium	Potassium	Sodium	Nitrate	Total Iron	Total Manganese	Dissolved Iron	Dissolved Manganese
MW-3-OB-07	1/18/2008	6.7	706	34	6	7	<1	9	<0.1	3	1	<1	<1	6	0.3	<0.05	0.01	<0.05	<0.01
	4/7/2008	6.6	613	52	7	9	<1	9	<0.1	3	1	<1	<1	6	0.3	0.17	<0.01	<0.05	<0.01
	7/17/2008	6.7	620	63	4	5	<1	11	<0.1	2	2	1	<1	6	0.4	<0.05	0.02	<0.05	<0.01
	10/24/2008	6.8	675	48	10	13	<1	9	<0.1	2	2	1	<1	6	0.3	0.11	<0.01	<0.05	<0.01
MW-3-UB-07	1/18/2008	6.9	1,070	448	380	461	1	28	1	<2	3	2	3	181	<0.1	0.06	0.02	<0.05	0.02
	4/7/2008	6.9	1,081	474	380	442	10	32	1	<2	3	2	3	178	<0.1	0.22	0.13	<0.05	0.01
	7/17/2008	6.9	1,120	480	382	449	8	28	0.9	<2	5	2	3	176	0.2	0.15	0.10	<0.05	<0.01
	10/24/2008	6.9	1,070	476	345	421	<1	30	0.9	3	4	2	3	175	<0.1	0.15	0.05	<0.05	0.04
MW-4-A-07	1/24/2008	6.8	972	280	55	67	<1	81	0.1	18	8	4	5	72	0.9	2.65	0.60	0.08	0.54
	4/8/2008	6.7	952	245	26	31	<1	93	<0.1	18	9	4	2	61	2.8	0.90	0.60	0.52	0.64
	7/17/2008	6.6	885	260	12	14	<1	99	<0.1	18	9	4	1	61	2.4	1.42	0.33	0.06	0.33
	10/24/2008	6.6	785	257	9	11	<1	100	<0.1	17	9	4	<1	60	2.3	0.78	0.18	<0.05	0.17
MW-4-B-07	1/24/2008	6.7	687	325	187	228	<1	62	0.4	4	4	2	2	118	<0.1	4.77	0.22	1.86	0.19
	4/8/2008	6.7	713	313	162	198	<1	63	0.3	2	6	2	2	97	0.2	6.73	0.21	0.09	0.03
	7/17/2008	6.7	670	310	164	200	<1	63	0.4	<1	8	3	2	97	<0.1	5.39	0.29	<0.05	0.09
	10/24/2008	6.7	730	308	162	198	<1	63	0.4	<1	8	3	2	95	<0.1	3.87	0.45	4.73	0.50

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Well No.	Date	Field pH (std. units)	Field EC (µmhos)	TDS	Alkalinity	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Calcium	Magnesium	Potassium	Sodium	Nitrate	Total Iron	Total Manganese	Dissolved Iron	Dissolved Manganese
MW-5-OBa-07	1/17/2008	6.9	1,171	128	26	32	<1	8	0.1	10	5	5	11	11	1.1	16.30	0.40	0.37	0.29
	4/2/2008	6.7	1,142	124	10	12	<1	8	<0.1	4	6	5	8	5	4	3.90	0.26	<0.05	0.29
	7/10/2008	6.9	1,080	50	2	2	<1	7	<0.1	3	4	2	2	3	4.6	0.44	0.11	<0.05	0.11
	10/8/2008	6.7	1,130	39	4	5	<1	3	<0.1	4	2	<1	<1	2	0.3	<0.05	0.05	0.08	0.04
MW-5-OBb-07	1/17/2008	6.8	661	153	46	57	<1	6	0.2	34	9	6	9	9	<0.1	5.06	0.60	3.55	0.52
	4/2/2008	6.8	751	132	46	56	<1	4	0.3	28	9	6	4	12	<0.1	6.18	0.65	0.44	0.60
	7/10/2008	6.8	715	102	48	59	<1	4	0.3	20	7	5	3	12	<0.1	5.47	0.55	2.23	0.58
	10/8/2008	6.9	675	115	53	65	<1	4	0.3	11	7	5	3	12	<0.1	4.38	0.42	6.71	0.43
MW-6-OB-07	1/24/2008	6.6	824	422	22	27	<1	220	<0.1	3	25	16	3	89	<0.1	4.67	2.08	6.40	2.13
	4/8/2008	6.8	774	528	41	50	<1	236	<0.1	<2	25	16	3	94	<0.1	16.80	1.65	14.80	1.65
	7/16/2008	6.8	745	600	13	15	<1	262	<0.1	<2	28	18	3	99	<0.1	23.50	1.20	10.40	1.16
	10/14/2008	7.0	660	461	26	31	<1	202	<0.1	<2	17	11	2	92	<0.1	17.80	0.92	9.46	0.78
MW-7-OB-07	1/22/2008	6.9	776	86	38	47	<1	5	<0.1	15	5	2	1	15	<0.1	0.78	0.19	<0.05	0.16
	4/1/2008	6.7	729	80	39	48	<1	8	0.1	7	7	2	1	11	<0.1	0.37	0.59	0.09	0.59
	7/10/2008	6.9	745	87	40	49	<1	9	0.1	8	6	2	1	12	<0.1	1.18	0.10	1.67	0.08
	10/7/2008	6.8	710	32	8	10	<1	7	<0.1	6	3	1	1	5	0.1	<0.05	0.03	1.15	0.12

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Well No.	Date	Field pH (std. units)	Field EC (µmhos)	TDS	Alkalinity	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Calcium	Magnesium	Potassium	Sodium	Nitrate	Total Iron	Total Manganese	Dissolved Iron	Dissolved Manganese
MW-8-OB-07	1/17/2008	6.9	1,126	344	21	26	<1	128	<0.1	6	12	8	2	68	<0.1	19.10	0.27	0.18	0.15
	4/1/2008	6.9	1,043	356	24	29	<1	155	0.1	5	12	7	1	83	<0.1	3.49	0.13	<0.05	0.11
	7/10/2008	6.8	1,075	426	15	18	<1	193	<0.1	6	17	10	1	93	0.2	2.64	0.05	<0.05	0.04
	10/7/2008	6.8	1,140	357	17	20	<1	140	<0.1	7	13	8	2	77	0.2	<0.05	0.02	1.46	0.03
MW-8-UB-07	1/17/2008	7.1	827	547	434	529	<1	42	1.1	<2	9	4	3	200	<0.1	0.87	0.04	<0.05	0.02
	4/1/2008	7.2	773	550	434	521	4	43	1.1	<2	10	4	3	197	<0.1	0.11	0.03	<0.05	0.03
	7/10/2008	7.1	790	543	438	514	10	42	1	<2	9	3	3	193	<0.1	0.14	0.03	<0.05	0.01
	10/7/2008	7.2	750	530	434	529	<1	42	1.1	<2	11	4	3	204	<0.1	<0.05	<0.01	0.14	0.03
MW-9-OB-07	1/22/2008	7.0	685	44	5	7	<1	7	<0.1	<1	2	1	<1	4	0.9	0.56	0.11	<0.05	0.01
	4/1/2008	6.9	645	91	36	44	<1	4	0.1	4	2	1	2	12	0.2	1.00	0.11	<0.05	0.10
	7/9/2008	6.8	580	86	36	44	<1	4	0.1	4	2	1	2	13	<0.1	3.92	0.15	2.60	0.13
	10/7/2008	6.9	670	90	36	43	<1	4	0.1	4	3	1	2	14	<0.1	2.34	0.13	1.74	0.11
MW-9-UB-07	1/22/2008	6.9	542	501	369	451	<1	39	1.7	7	5	2	3	186	<0.1	0.20	0.04	<0.05	0.04
	4/1/2008	6.7	580	487	377	459	<1	40	1.8	6	5	2	3	176	<0.1	0.32	0.05	0.06	0.04
	7/9/2008	6.7	610	486	369	450	3	39	1.8	6	5	2	3	182	<0.1	0.28	0.04	0.09	0.04
	10/7/2008	6.9	785	502	365	445	<1	40	1.8	5	7	3	4	204	<0.1	0.06	0.04	0.17	0.04

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MW-10-OB-07	1/24/2008	6.7	566	117	54	66	<1	3	<0.1	14	11	4	10	8	0.2	5.55	0.20	0.29	0.16
	4/3/2008	6.6	593	35	11	13	<1	1	<0.1	3	2	1	3	1	0.3	4.09	0.04	0.13	<0.01
	7/10/2008	6.7	615	31	12	15	<1	<1	<0.1	5	2	1	4	1	0.1	9.97	0.09	<0.05	<0.01
	10/8/2008	6.7	640	37	12	15	<1	1	<0.1	6	3	2	4	1	0.3	<0.05	<0.01	4.66	0.06
MW-10-UB-07	1/24/2008	6.6	747	392	330	402	<1	17	1	3	4	2	4	152	<0.1	0.62	0.04	<0.05	0.03
	4/3/2008	6.5	826	398	332	400	3	18	1.1	3	5	2	4	149	<0.1	0.38	0.05	0.09	0.04
	7/10/2008	6.6	910	387	323	389	<1	17	1	3	5	2	3	151	<0.1	0.35	0.11	<0.05	0.04
	10/8/2008	6.6	980	398	322	392	<1	18	1	3	6	3	3	154	<0.1	<0.05	0.02	0.20	0.09
MW-11-OB-07	1/21/2008	6.7	762	28	<1	<1	<1	9	<0.1	<1	<1	<1	<1	5	0.6	<0.05	0.02	<0.05	0.01
	4/2/2008	6.8	777	64	<1	<1	<1	23	0.2	<1	1	2	<1	9	1.4	<0.05	<0.01	<0.05	<0.01
	7/14/2008	6.9	775	31	<1	<1	<1	10	<0.1	<1	<1	<1	<1	6	1.8	<0.05	<0.01	<0.05	<0.01
	10/9/2008	6.9	865	49	<1	<1	<1	9	0.1	<1	<1	<1	<1	6	1.9	<0.05	<0.01	<0.05	<0.01
MW-12-OB-07	1/21/2008	6.8	901	100	34	41	<1	11	0.1	<1	2	2	<1	15	<0.1	7.95	0.05	2.51	0.04
	4/2/2008	6.8	931	92	34	42	<1	11	0.1	1	2	3	<1	14	<0.1	15.90	0.05	2.69	0.04
	7/14/2008	6.9	975	91	31	37	<1	11	0.1	<1	2	2	<1	15	<0.1	1.78	0.01	2.13	0.03
	10/9/2008	6.9	890	94	31	37	<1	11	0.1	<1	2	3	<1	13	0.1	1.15	0.02	1.25	<0.01

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MW-12-UB-07	1/21/2008	6.7	1,082	371	305	373	<1	13	1.1	8	4	3	2	138	<0.1	0.60	0.03	0.07	0.02
	4/2/2008	6.8	951	379	305	373	<1	13	1.2	7	4	3	2	135	<0.1	0.43	0.04	0.34	<0.01
	7/14/2008	6.8	925	89	298	357	4	13	1.1	8	5	3	2	143	<0.1	0.63	0.07	<0.05	<0.01
	10/9/2008	6.8	980	366	307	375	<1	13	1.1	9	6	3	2	137	<0.1	<0.05	<0.01	0.17	0.02
MW-13-OB-07	1/23/2008	6.7	816	39	6	7	<1	5	<0.1	2	2	1	<1	2	<0.1	0.09	0.02	<0.05	0.02
	4/2/2008	6.8	779	36	4	5	<1	4	<0.1	2	1	1	<1	2	<0.1	0.07	0.01	<0.05	0.02
	7/16/2008	6.8	730	42	4	5	<1	5	<0.1	2	2	1	<1	1	<0.1	0.29	0.01	<0.05	0.01
	10/9/2008	6.7	775	45	6	8	<1	6	<0.1	1	2	2	<1	2	0.2	<0.05	<0.01	<0.05	<0.01
MW-13-UB-07	1/23/2008	6.8	659	336	248	302	<1	12	0.6	14	5	2	3	115	<0.1	0.38	0.03	0.08	0.03
	4/2/2008	6.7	703	329	253	309	<1	13	0.6	11	5	3	4	112	<0.1	0.42	0.04	0.07	0.04
	7/16/2008	6.8	715	340	257	314	<1	12	0.6	9	6	3	3	112	<0.1	0.23	0.04	0.07	0.04
	10/9/2008	6.8	755	351	256	313	<1	12	0.6	9	6	3	3	115	<0.1	0.12	0.04	0.51	0.05
MW-14-OB-07	1/17/2008	6.7	877	37	<1	<1	<1	4	<0.1	1	<1	<1	<1	2	0.5	<0.05	<0.01	<0.05	<0.01
	4/4/2008	6.8	933	55	<1	<1	<1	4	<0.1	1	<1	<1	<1	2	0.7	<0.05	<0.01	<0.05	<0.01
	7/14/2008	6.8	905	38	<1	<1	<1	4	<0.1	2	<1	<1	<1	3	0.5	<0.05	<0.01	<0.05	<0.01
	10/14/2008	6.9	975	43	<1	<1	<1	4	<0.1	1	<1	<1	<1	3	0.6	<0.05	<0.01	<0.05	<0.01

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MW-15-OB-07	1/17/2008	6.9	717	74	<1	<1	<1	4	<0.1	14	<1	<1	1	5	0.2	0.75	<0.01	0.77	<0.01
	4/4/2008	7.0	689	76	<1	<1	<1	5	<0.1	15	<1	<1	1	4	0.2	0.88	<0.01	0.90	0.02
	7/14/2008	6.9	665	89	<1	<1	<1	4	<0.1	18	<1	<1	1	2	0.3	1.30	<0.01	1.19	0.01
	10/8/2008	6.8	675	61	<1	<1	<1	5	0.1	16	<1	<1	1	2	0.5	1.11	0.01	1.47	0.01
MW-16-OB-07	1/24/2008	6.9	809	722	162	197	<1	116	0.2	252	61	30	8	154	0.1	0.23	0.19	0.05	0.18
	4/7/2008	6.7	769	751	162	197	<1	127	0.2	256	61	28	8	145	0.4	0.08	0.13	<0.05	0.10
	7/15/2008	6.8	720	644	188	229	<1	99	0.1	171	50	21	5	142	0.2	<0.05	0.06	<0.05	0.01
	10/10/2008	6.8	820	526	198	242	<1	83	0.1	111	38	17	5	139	0.3	<0.05	0.03	<0.05	<0.01
MW-17-OB-07	1/24/2008	6.7	836	417	67	81	<1	106	0.3	68	18	22	3	76	<0.1	0.70	0.63	<0.05	0.58
	4/3/2008	6.8	859	388	64	78	<1	113	0.3	58	17	20	3	70	<0.1	0.13	<0.01	<0.05	0.03
	7/15/2008	6.9	825	394	62	76	<1	110	0.3	59	21	20	3	70	<0.1	0.14	0.03	0.11	0.08
	10/8/2008	6.9	740	377	63	77	<1	110	0.3	57	16	19	3	70	<0.1	<0.05	0.02	0.09	0.03
MW-17-UB-07	1/23/2008	6.7	1,041	297	179	218	<1	16	0.3	27	6	3	4	89	<0.1	0.49	0.08	0.16	0.08
	4/3/2008	6.7	1,119	268	183	223	<1	16	0.4	23	7	4	4	86	<0.1	0.78	0.15	0.10	0.08
	7/15/2008	6.8	1,130	297	185	226	<1	16	0.3	24	8	5	4	87	0.2	0.56	0.17	<0.05	<0.01
	10/8/2008	6.8	1,050	280	186	227	<1	15	0.4	23	7	4	4	93	0.3	<0.05	<0.01	0.17	0.06

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MW-18-OB-07	1/23/2008	6.9	719	594	10	12	<1	228	<0.1	9	34	30	8	34	<0.1	34.40	1.58	33.20	1.46
	4/3/2008	7.0	674	452	32	38	<1	167	0.2	1	25	21	7	26	<0.1	19.30	1.24	24.60	1.10
	7/15/2008	6.9	665	330	24	30	<1	137	0.2	1	20	18	6	25	<0.1	29.30	1.03	22.20	0.99
	10/10/2008	6.7	630	349	40	49	<1	124	0.2	4	18	15	6	23	<0.1	24.60	0.99	23.70	0.89
MW-18-UB-07	1/23/2008	7.0	478	343	271	328	1	6	0.4	17	1	<1	2	131	<0.1	0.39	0.02	<0.14	0.02
	4/3/2008	7.2	404	346	274	322	<1	6	0.5	16	1	<1	2	131	<0.1	0.20	0.02	1.72	0.10
	7/15/2008	7.1	445	361	268	318	<1	7	0.4	17	1	<1	2	131	<0.1	0.29	0.02	0.10	0.01
	10/10/2008	7.1	415	279	31	38	<1	96	0.1	2	14	12	4	18	<0.1	12.40	0.48	12.80	0.50
MW-19-OB-07	1/23/2008	6.7	814	73	34	42	<1	5	<0.1	5	2	1	5	10	<0.1	1.89	0.17	1.25	0.15
	4/4/2008	6.7	808	73	15	19	<1	5	<0.1	4	2	<1	2	6	0.6	0.22	0.12	0.29	0.10
	7/16/2008	6.7	855	120	11	13	<1	4	<0.1	3	3	1	2	6	0.9	0.27	0.04	<0.05	0.04
	10/14/2008	6.8	830	36	14	17	<1	4	<0.1	3	2	1	2	5	1.1	<0.05	0.03	<0.05	0.03

Notes:

All units in mg/L unless otherwise indicated.

Well locations are shown in **Figure 3.2-7**.

Source: Sabine 2009a.

Table D-2 Groundwater Trace Metals Sampling Results – Rusk Permit Area

Well No.	Date	Dissolved Metals (mg/L)											
		Aluminum	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Silver	Selenium	Zinc
MW-1-A-07	1/17/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-1-B-07	1/17/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-2-OB-07	1/18/2008	0.45	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	0.03	<0.002	<0.005	0.03
MW-2-UB-07	1/18/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-3-OB-07	1/18/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-3-UB-07	1/18/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-4-A-07	1/24/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-4-B-07	1/24/2008	<0.03	0.007	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-5-OBa-07	1/17/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	0.007
MW-5-OBb-07	1/17/2008	<0.03	0.006	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	0.04	<0.002	<0.005	<0.005
MW-6-OB-07	1/24/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	0.07	<0.002	<0.005	0.007
MW-7-OB-07	1/22/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-8-OB-07	1/17/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	0.014
MW-8-UB-07	1/17/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-9-OB-07	1/22/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-9-UB-07	1/22/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-10-OB-07	1/24/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-10-UB-07	1/24/2008	0.04	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-11-OB-07	1/21/2008	0.13	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-12-OB-07	1/21/2008	0.13	0.03	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	0.01	<0.002	<0.005	<0.005
MW-12-UB-07	1/21/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-13-OB-07	1/23/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005

Table D-2 Groundwater Trace Metals Sampling Results – Rusk Permit Area

Well No.	Date	Dissolved Metals (mg/L)											
		Aluminum	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Silver	Selenium	Zinc
MW-13-UB-07	1/23/2008	<0.03	0.01	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-14-OB-07	1/17/2008	0.09	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-15-OB-07	1/17/2008	0.19	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	0.028
MW-16-OB-07	1/24/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	0.003	<0.005	<0.005
MW-17-OB-07	1/23/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-17-UB-07	1/24/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-18-OB-07	1/23/2008	<0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	0.01	<0.002	<0.005	0.008
MW-18-UB-07	1/23/2008	0.03	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005
MW-19-OB-07	1/23/2008	0.08	<0.005	<0.001	<0.01	<0.01	<0.005	<0.001	<0.05	<0.01	<0.002	<0.005	<0.005

Note:

Well locations are shown in **Figure 3.2-7**.

Source: Sabine 2009a.

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
201	35-36-7	Y	R M E Petroleum	Ark-La-Tex Boring, Inc.	11/20/2002	440	C/S	4	80	11/20/2002	Industrial
202	WIID-72953	Y	Anadarko E & P Company, Inc.	Ark-La-Tex Boring, Inc.	12/16/2005	500	C/S	4	90	12/15/2005	Rig Supply
203	35-36-7A	Y	Jet Drilling Co.	Crockett Drilling Co	7/31/1979	465	C/S	4	0	8/2/1979	Industrial
204	35-36-7	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	11/13/2002	380	C/S	4	75	11/13/2002	Industrial
205	35-36-701	Y	Alfred Jones		1/1/1959	39	B	30	25.4	8/31/1966	Unused
401	106626	Y	Valence Operating Company	Pinnergy, Ltd	3/9/2007	470	C/S	4	70	3/9/2007	Rig Supply
402	108166	Y	Valence Operating Company	Pinnergy, Ltd	4/2/2007	270	C/S	4	45	4/2/2007	Rig Supply
403	89950	Y	Valence Operating Company	Pinnergy, Ltd	7/3/2006	340	C/S	4	70	7/3/2006	Rig Supply
404	89793	Y	Valence Operating Company	Pinnergy, Ltd	6/17/2006	240	C/S	4	45	6/17/2006	Rig Supply
405	WIID-44717	Y	Valence Operating	Ark-La-Tex Boring, Inc.	8/20/2003	320	C/S	4	80	8/20/2003	Industrial
406	35-36-8	Y	R & C Petroleum	Custom Water Well Drilling	8/17/1992	300	C/S	4	5	8/17/1992	Rig Supply
407	WIID-67257	Y	Anadarko E & P Company, Inc.	Ark-La-Tex Boring, Inc.	8/10/2005	260	C/S	4	25	8/10/2005	Rig Supply
408	78483	Y	Anadarko E & P Production Co.	Ark-La-Tex Boring, Inc.	2/6/2006	260	C/S	4	45	2/6/2006	Rig Supply
409	35-36-9	Y	Patterson UTI Drilling Co.	East Texas Drilling	6/29/2001	180	C/S	4	18	6/29/2001	Industrial
410	35-36-8	Y	Union Pacific Resources Co.	Custom Water Well Drilling	9/23/1993	400	C/S	4	84	9/25/1995	Rig Supply
411	125757	Y	Sandridge Energy	LTW Services	10/25/2007	160	C/S	4	45	10/25/2007	Rig Supply
501	WIID-50817	Y	Aaron Justice	C. Miller Drilling	12/21/2005	262	C/S	4	31	12/30/2005	Domestic
502	35-36-901	Y	R.B. Jay	Clark & Butler	1/1/1959	200		10			Livestock
503	118552	Y	Comstock Oil & Gas LP	Bennet Drilling Services	6/29/2007	180	C/S	4	10	6/29/2007	Rig Supply

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
504	35-37-7	Y	Amoco Production Company	Fas-Line Services	4/7/1992	287	C/S	4	85	4/7/1992	Rig Supply
505	35-37-7	Y	Amoco Production Company	Fas-Line Services	10/4/1989	360	C/S	4	25	10/7/1989	Rig Supply
601	35-377-7	Y	Kim Childress	Allen Drilling Company	4/22/1986	30	B	36	17	4/22/1996	Domestic
602	35-37-7	Y	B & E Drilling Company	East Texas Drilling	7/18/1989	300	C/S	4	65	7/18/1989	Industrial
701	WIID-29006	Y	Patterson UTI Drilling Co.	Ark-La-Tex Boring, Inc.	10/6/2003	460	C/S	4	55	10/6/2003	Industrial
702	35-37-8	Y	Grace Drilling	Custom Water Well Drilling	11/12/1992	300	C/S	4	15	11/12/1992	Rig Supply
703	35-37-8	Y	Grace Drilling	Custom Water Well Drilling	10/8/1992	280	C/S	4	23	10/8/1992	Rig Supply
704	35-37-8	Y	GMX Resources, Inc.	Keithville Well Service	5/8/2001	270	C/S	4	80	5/8/2001	Industrial
705	35-37-8E	Y	Amoco Production Co.	Keithville Well Service	8/2/1985	130	C/S	4			Rig Supply
706	118554	Y	Comstock Oil & Gas LP	Bennet Drilling Services	7/2/2007	308	C/S	4	30	7/2/2007	Rig Supply
801	92713	Y	Comstock Oil and Gas Co.	Pinnergy, Ltd	9/13/2006	180	C/S	4	15	9/13/2006	Rig Supply
802	89168	Y	Patterson UTI Drilling	Ark-La-Tex Boring, Inc.	9/10/2003	460	C/S	4	85	9/10/2003	Industrial
803	100190	Y	Comstock Oil and Gas Co.	Pinnergy, Ltd	8/29/2006	360	C/S	4	75	8/29/2006	Rig Supply
804	88699	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	6/27/2006	380	C/S	4	65	6/27/2006	Rig Supply
901	99393	Y	Valence Operating Company	Pinnergy, Ltd	12/1/2006	280	C/S	4	70	12/1/2006	Rig Supply
902	35-36-8	Y	Chandler Nelson	C. Miller Drilling	3/23/2000	42	C/S	4	20	3/30/2000	Domestic
903	35-44-3		J.R. Smith		7/19/1986	69					Domestic
904	89795	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	6/26/2006	320	C/S	4	68	6/26/2006	Rig Supply
905	89953	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/6/2006	300	C/S	4	45	7/7/2006	Rig Supply

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
906	WIID-39780	Y	Anadarko	Ark-La-Tex Boring, Inc.	5/1/2004	260	C/S	4	50	5/1/2004	Rig Supply
907	35-44-2D	Y	Noble Drilling Co. (Amoco Lease)	Keithville Well Service	12/9/1980	260	C/S	4			Rig Supply
908	35-44-2D	Y	Reynolds Drlg Co. & ENI Expl Co.	Keithville Well Service	7/7/1982	340	C/S	4			Rig Supply
909	35-44-2D	Y	Reynolds Drig Co. & ENI Expl Co.	Keithville Well Service	5/31/1982	300	C/S	4			Rig Supply
1001	35-36-4	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	11/12/2002	520	C/S	4	80	11/12/2002	Industrial
1002	114267	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	6/2/2007	380	C/S	4	170	6/2/2007	Rig Supply
1003	WIID-47183	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	9/28/2004	300	C/S	4	60	9/28/2004	Rig Supply
1004	35-36-8	Y	Scan Drilling Co., Inc.	Fas-Line Services	11/5/1989	323	C/S	4	20	11/9/1989	Rig Supply
1005	WIID-73555	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	4/9/2004	240	C/S	4	25	4/9/2004	Industrial
1006	35-36-7	Y	UPRC	Custom Water Well Drilling	10/13/1992	300	C/S	4	15	10/13/1992	Rig Supply
1007	35-36-8		Ernest Williams		7/11/1996	128					Domestic
1008	35-36-8A	Y	Jordan Bldg. & Supply	Allen Lumber Co.	3/5/1968	54	B	36	45	3/5/1968	Domestic
1009	115490	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	6/22/2007	410	C/S	4	70	6/22/2007	Rig Supply
1010	122761	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	9/12/2007	560	C/S	4	110	9/12/2007	Rig Supply
1011	125076	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	10/12/2007	340	C/S	4	80	10/12/2007	Rig Supply
1012	124999	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	10/16/2007	240	C/S	4	70	10/16/2007	Rig Supply
1013	123000	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	9/17/2007	310	C/S	4	80	9/17/2007	Rig Supply
1014	WIID-47355	Y	Anadarko E & P Company, LP	Ark-La-Tex Boring, Inc.	10/19/2004	300	C/S	4	35	10/19/2004	Rig Supply
1015	*		Zeole James				T	30			Abandon

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1016	*		Quincy Robertson				T	30			Abandon
1017	*		Zeole James				C	4			Domestic
1018	*										Domestic
1019	*										Domestic
1101	35-36-4	Y	Union Pacific Resources Co.	Fas-Line Services	10/12/1994	383	C/S	4	80	10/12/1994	Rig Supply
1102	75461		Classic Energy		6/2/2004	60					Rig Supply
1103	35-36-7	Y	RME Petroleum	Ark-La-Tex Boring, Inc.	8/1/2002	600	C/S	4	100	8/1/2002	Industrial
1104	35-36-7	Y	R M E Petroleum	Ark-La-Tex Boring, Inc.	10/22/2002	460	C/S	4	100	10/22/2002	Industrial
1105	35-36-7	Y	Union Pacific Resources	Hydro Serve	8/11/1989	265	C/S	4	95	8/10/1989	Industrial
1106	35-36-7	Y	Torch Operating	Fas-Line Services	3/3/1998	523	C/S	4	200	3/3/1998	Rig Supply
1107	35-44-1	Y	National Energy Group, Inc.	Fas-Line Services	8/6/1996	343	C/S	4	100	8/6/1996	Rig Supply
1108	35-36-7	Y	R M E	Fas-Line Services	11/11/2001	383	C/S	4			Industrial
1109	35-36-7	Y	Union Pacific Resources Co	Fas-Line Services	12/11/2000	223	C/S	4	60	12/11/2000	Industrial
1110	35-36-7	Y	R M E	Fas-Line Services	11/10/2001	383	C/S	4			Industrial
1111	106103	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	2/21/2007	455	C/S	4	70	2/21/2007	Rig Supply
1112	96179	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	10/23/2006	440	C/S	4	95	10/23/2006	Rig Supply
1113	35-36-7	Y	R M E	Fas-Line Services	12/21/2001	507	C/S	4	210	12/21/2001	Industrial
1114	83356	Y	Samson Lone Star	LTW Services	5/17/2006	410	C/S	4	180	5/17/2006	Rig Supply
1115	35-36-7	Y	Adcor-Nicklos	Fas-Line Services	12/2/1996	431	C/S	4	180	12/2/1996	Industrial

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1116	35-36-7	Y	R M E Petroleum	Ark-La-Tex Boring, Inc.	7/2/2002	320	C/S	4	25	7/2/2002	Industrial
1117	35-36-7	Y	Wendell D. Daniels M D	Custom Water Well Drilling	3/27/1992	320	C/S	4	93	4/29/1992	Domestic
1118	118027	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/10/2007	360	C/S	4	75	7/10/2007	Rig Supply
1119	125081	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	10/16/2007	360	C/S	4	80	10/16/2007	Rig Supply
1120	113992	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	5/31/2007	480	C/S	4	180	5/31/2007	Rig Supply
1121	WIID-43143	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	8/9/2004	440	C/S	4	80	8/9/2004	Rig Supply
1122	35-36-7	Y	Union Pacific Resources Co.	Fas-Line Services	3/29/1995	403	C/S	4	60	3/23/1995	Rig Supply
1123	35-36-7	Y	Scan Drilling Co. Inc.	Fas-Line Services	8/18/1989	283	C/S	4	40	8/19/1989	Rig Supply
1124	35-44-1C	Y	Jordan Bldg. & Supply	Allen Lumber Co.	4/11/1968	50	B	36	41	4/11/1968	Domestic
1125	35-44-1B	Y	Jordan Bldg & Supply Co	Allen Lumber Co.	10/5/1967	28	B	36	18	10/5/1967	Domestic
1126	35-36-7A	Y	Jordan Bldg. & Supply	Allen Lumber Co.	11/24/1967	30	B	36	18	11/24/1967	Domestic
1127	35-36-7B	Y	Jordan Bldg. & Supply	Allen Lumber Co.	3/4/1968	30	B	36	22	3/4/1968	Domestic
1128	35-36-7	Y	Lang & Mitchell Contractors	Fas-Line Services	10/29/1990	507	C/S	4	125	10/29/1990	Rig Supply
1129	35-36-7	Y	Union Pacific Resources Co.	Custom Water Well Drilling	1/2/1994	450	C/S	4	107	1/2/1994	Rig Supply
1201	86459	Y	XTO Energy Inc	Pinnergy, Ltd	6/16/2006	480	C/S	4	85	6/16/2006	Rig Supply
1202	110682	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	4/20/2007	390	C/S	4	75	4/20/2007	Rig Supply
1401	35-44-1A	Y	Mrs. A. C Howk	Southerland WW Drilling	6/29/1967	25	B	38	13	6/29/1967	Domestic
1402	35-44-1	Y	Cherokee Farms	Glenn Water Well Drilling	4/28/1986	378	C/S	4	67	5/2/1986	Domestic
1403	35-44-1	Y	Mustang Drilling	Custom Water Well Drilling	7/5/1991	300	C/S	4	30	7/5/1991	Rig Supply

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1404	WIID-42356	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	7/23/2004	480	C/S	4	130	7/23/2004	Rig Supply
1405	35-44-1	Y	Union Pacific Resources Co.	Custom Water Well Drilling	8/22/1994	350	C/S	4	75	8/22/1994	Public Supply
1406	35-44-1	Y	Joe Beckworth	Smith Water Wells	10/25/1996	60	B	34	40	10/25/1996	Domestic
1407	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	9/29/2000	235	C/S	4	50	9/29/2000	Industrial
1408	35-44-1D	Y	Noble Drilling Co.	Keithville Well Service	11/30/1978	420	C/S	4			Rig Supply
1409	109016	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	4/7/2007	350	C/S	4	105	4/7/2007	Rig Supply
1410	122723	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	9/17/2007	140	C/S	4	15	9/17/2007	Rig Supply
1411	112373	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	5/7/2007	340	C/S	4	70	5/7/2007	Rig Supply
1412	104358	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	2/13/2007	315	C/S	4	68	2/13/2007	Rig Supply
1413	110616	Y	Energen c/o Brammer	Pinnergy, Ltd	4/25/2007	330	C/S	4	75	4/25/2007	Rig Supply
1414	108778	Y	Energen c/o Brammer	Pinnergy, Ltd	4/4/2007	540	C/S	4	320	4/4/2007	Rig Supply
1415	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	10/10/2000	267	C/S	4	150	10/10/2000	Industrial
1416	35-44-1D	Y	Ruff Realtors	Allen Lumber Co.	2/4/1970	21	B	36	13	2/4/1970	Domestic
1417	35-44-1E	Y	David Maxwell	Allen Water Wells Co.	9/22/1982	31	B	28	9	9/22/1982	Domestic
1418	35-11-4E	Y	Jerry Randolph	Allen Water Wells Co.	9/30/1982	65	B	36	dry	9/30/1982	Domestic
1419	35-44-1	Y	Willie Sammans	Smith Water Wells	10/18/1996	51	B	34	30	10/18/1996	Domestic
1420	35-44-1E	Y	Jack Harris	Kissien Drilling	2/18/1977	170	C/S	4	75	2/22/1977	Domestic
1421	35-44-1	Y	W. F. Garrett	Smith Water Wells	7/22/1998	50	B	34	42	7/22/1998	Domestic
1422	35-44-1	Y	Amoco Production Company	Keithville Well Service	6/20/1998	370	C/S	4	205	6/20/1998	Industrial

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1423	WIID-55823	Y	National Energy Group, Inc.	Ark-La-Tex Boring, Inc.	3/17/2005	380	C/S	4	105	3/17/2005	Rig Supply
1424	35-44-1	Y	Energen Resources	Keithville Well Service	7/10/1999	340	C/S	4	165	7/10/1999	Industrial
1425	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	10/10/2000	367	C/S	4	85	10/10/2000	Industrial
1426	35-44-103	Y	Chalk Hill Special Utility District		10/7/1984	387	C/S	7	87.73	3/14/1988	Public Supply
1427	35-44-1A	Y	John Morton	Howeth's Water Well	4/19/1967	92	C/S	2	63	4/19/1967	Domestic
1428	35-44-101	Y	Boy Scouts of America		1/1/1947	421	C/S	4	70	5/30/1947	Abandon
1429	35-44-1	Y	Torch Operating	Fas-Line Services	8/30/1997	110	C/S	4	30	8/20/1997	Domestic
1430	35-44-1	Y	Energen Resources	Keithville Well Service	6/14/1999	380	C/S	4	180	6/14/1999	Industrial
1431	35-44-1	Y	Amoco Production Company	Keithville Well Service	6/14/1999	60	C/S	4	28	6/14/1999	Industrial
1432	35-44-1	Y	Verado Energy	Scruggs, Inc.	2/7/2000	130	C/S	4	7	2/7/2000	Industrial
1433	35-44-1F	Y	Texas International Petro. Co.	Keithville Well Service	7/1/1981	405	C/S	4			Rig Supply
1434	35-44-1F	Y	T & P Co.	Keithville Well Service	8/28/1981	420	C/S	4			Rig Supply
1435	35-44-1	Y	Energy Resources Brammer Engineering	Keithville Well Service	5/13/1999	380	C/S	4	280	5/13/1999	Industrial
1436	35-44-1	Y	Energen Resources	Keithville Well Service	8/6/1999	440	C/S	4	270	8/6/1999	Industrial
1437	35-44-1	Y	Energen Resources	Keithville Well Service	9/18/1999	460	C/S	4	280	9/18/1999	Industrial
1438	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	10/19/2000	343	C/S	4	150	10/19/2000	Industrial
1439	112008	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	5/9/2007	400	C/S	4	90	5/9/2007	Rig Supply
1440	35-44-102	Y	Chalk Hill Special Utility District	Powell Drilling Co.	9/8/1984	386	C/S	14	89	3/14/1988	Public Supply

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1441	35-44-1C	Y	R. W. Cole	Howeth's Water Well	12/6/1967	224	C/S	2	70	12/6/1967	Domestic
1442	*		M. Kennedy				C/S	4			Domestic
1443	*		Bartley				C/S	4			Irrigation
1444	*		Johnson				T	30			Abandon
1445	*		Dan Haskell				T	30			Domestic
1446	*		Kareapher Sammons			52	T	30			Domestic
1447	*		Ross Brewster								Domestic
1501	35-44-2	Y	Scan Drilling Co., Inc.	Fas-Line Services	5/1/1989	323	C/S	4	39	5/2/1989	Rig Supply
1502	WIID-60927	Y	Anadarko E & P Company, Inc.	Ark-La-Tex Boring, Inc.	6/15/2005	300	C/S	4	65	6/15/2005	Rig Supply
1503	35-44-2	Y	Scan Drilling Co., Inc.	Fas-Line Services	3/12/1989	320	C/S	4	60	3/13/1989	Rig Supply
1504	WIID-43139	Y	Anadarko E & P Co., LP	Ark-La-Tex Boring, Inc.	8/6/2004	260	C/S	4	40	8/6/2004	Rig Supply
1505	119041	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	8/3/2007	320	C/S	4	70	8/3/2007	Rig Supply
1506	35-44-2	Y	Energen Resources	Keithville Well Service	7/26/2000	380	C/S	4	130	7/26/2000	Industrial
1507	110027	Y	Anadarko E & P Production Co.	Pinnergy, Ltd	4/14/2007	250	C/S	4	40	4/14/2007	Rig Supply
1508	35-44-2	Y	GNR Drilling Company, Inc.	Fas-Line Services	9/18/1988	216	C/S	4	16	9/19/1988	Rig Supply
1509	35-44-2	Y	Mustang Drilling, Inc.	Fas-Line Services	10/18/1989	290	C/S	4	124	10/20/1989	Rig Supply
1510	35-44-2	Y	Scan Drilling Co., Inc.	Fas-Line Services	1/24/1989	283	C/S	4	10	2/2/1989	Rig Supply
1511	35-44-2	Y	RME Petroleum Co.	Chris Jordan	3/20/2001	307	C/S	4	125	3/20/2001	Industrial
1512	35-44-2	Y	Mustang Drilling, Inc.	Fas-Line Services	9/9/1988	296	C/S	4	74	9/9/1988	Rig Supply

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1513	35-44-2	Y	Gibson Drilling Co.	W.L. Rehkop Drilling Co.	10/12/1987	285	C/S	4	60	10/12/1987	Industrial
1514	WIID-60955	Y	Anadarko E & P Company, Inc	Ark-La-Tex Boring, Inc.	5/31/2005	380	C/S	4	70	5/31/2007	Rig Supply
1515	123381	Y	BP America	Keithville Well Service	3/22/2005	300	C/S	4	60	3/22/2005	Rig Supply
1516	WIID-62224	Y	Samson Lone Star	LTW Services	6/14/2005	380	C/S	4	120	6/14/2005	Rig Supply
1517	35-44-2	Y	Union Pacific	Fas-Line Services	11/8/2000	423	C/S	4	200	11/8/2000	Industrial
1518	WIID-72368	Y	Samson Lone Star	LTW Services	12/12/2005	280	C/S	4	45	12/12/2005	Rig Supply
1519	98950	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/22/2006	220	C/S	4	20	11/22/2006	Rig Supply
1520	116358	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/2/2007	370	C/S	4	75	7/2/2007	Rig Supply
1521	35-44-2E	Y	T & P Co.	Keithville Well Service	12/18/1981	420	C/S	4			Rig Supply
1522	35-44-2E	Y	T & P Co.	Keithville Well Service	12/17/1981	440	C/S	4			Rig Supply
1523	35-44-2	Y	Samson Resources	Fas-Line Services	1/17/2002	543	C/S	4	200	1/17/2002	Industrial
1524	106109	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	2/22/2007	275	C/S	4	75	2/22/2007	Rig Supply
1525	127851	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/9/2007	240	C/S	4	70	11/9/2007	Rig Supply
1526	97773	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/13/2006	370	C/S	4	75	11/13/2006	Rig Supply
1527	118839	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/18/2007	340	C/S	4	70	7/18/2007	Rig Supply
1528	35-44-2	Y	Amoco Production Company	Fas-Line Services	12/15/1989	323	C/S	4	40	12/18/1989	Rig Supply
1529	*		Nash Odom								Domestic
1530	*		Joe Dodson				C/S	4			Abandon
1531	*		Joe Dodson			400	C/S	4			Domestic

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
1532	*						C/S	4			Abandon
1533	*		Helen Dodson			400	C/S	4			Abandon
1534	*		Williams				T	30			Abandon
1535	*		James Allen			40	C/S	4			Domestic
1536	*		Wright				C/S	4			Abandon
1537	*		Willie Sammons			55	T	30			Domestic
1538	*		Bobby Huntley			100	C/S	4			Abandon
1539	*		Roger Grett			28	T	36			Domestic
1540	*		William Barrett			300	C/S	4			Abandon
1541	*		Ruby Simpson	Jones Supply		49	T	36			Domestic
1542	*		William Barrett				T	36			Abandon
1601	35-44-2C	Y	Jordan Bldg & Supply Co.	Allen Lumber Co.	6/2/1967	37	B	36	24	6/2/1967	Domestic
1602	92499	Y	H&T Exploration	Fas-Line Services	7/31/2006	383	C/S	4	140	7/31/2006	Industrial
1603	WIID-7214	Y	Pioneer Drilling	Ark-La-Tex Boring, Inc.	4/13/2002	260	C/S	4	80	4/13/2002	Industrial
1604	35-44-2B	Y	M Jessie Adams	John C. Reedy	4/14/1973	34	B	36	14	4/14/1973	Domestic
1605	35-44-2B	Y	Everett Sharp	Allen Lumber Co.	1/24/1979	36	B	36	27	1/24/1979	Domestic
1606	130190	Y	Anadarko E & P Company, Inc.	Pinnergy, Ltd	11/26/2007	260	C/S	4	80	11/26/2007	Rig Supply
1607	121954	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	8/16/2007	320	C/S	4	70	8/16/2007	Rig Supply
1608	119567	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	8/10/2007	350	C/S	4	70	8/10/2007	Rig Supply

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									Depth Below Ground Surface (feet)	Date Measured	
1609	124047	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	9/29/2007	300	C/S	4	45	9/29/2007	Rig Supply
1610	35-44-2B	Y	Kemper-Webber Lumber Co.	Allen Lumber Co.	7/23/1968	35	B	36	26	7/23/1968	Domestic
1611	35-44-2A	Y	Mitchell Simpson	Allen Lumber Co.	10/12/1981	40	B	36	28	10/12/1981	Domestic
1612	111495	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	5/1/2007	420	C/S	4	75	5/1/2007	Rig Supply
1613	102100	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	1/4/2007	350	C/S	4	70	1/4/2007	Rig Supply
1614	WIID-53254	Y	Anadarko E & P Company, Inc.	Ark-La-Tex Boring, Inc.	1/27/2005	360	C/S	4	70	1/27/2005	Rig Supply
1615	35-44-2	Y	Sampson Resources Co.	Fas-Line Services	12/11/2000	643	C/S	4	111	12/10/2000	Industrial
1616	*		Orig. Zion Hill Baptist Church				T	48			Abandon
1617	*		M K Findley				T	30			Domestic
1618	*		Betty Glaspie Adams			30	T	30			Abandon
1619	*						T	30			Abandon
1620	*		Patricia Adams			90	T	36			Abandon
1621	*						T	30			Domestic
1622	*		Billy Cole			40	T	30			Domestic
1623	*		Billy Cole			252	C/S	4			Abandon
1624	*					25	T	30			Abandon
1625	*		Anisan Walker			250	C/S	4			Domestic
1626	*		Anisan Walker				T	30			Abandon
1627	*		Billy Cole			250	C/S	4			Domestic

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									Depth Below Ground Surface (feet)	Date Measured	
1628	*						T	30			Abandon
1629	*		Fannie Norris				T	30			Abandon
1630	*						T	30			Abandon
1631	*						T	30			Domestic
1632	*		Jerry Busher			65	T	30			Domestic
1633	*		McClelland			27	T	30			Domestic
1634	*		John Lewis				T	36			Domestic
1701	50621		EDG Resources		11/25/2003	340					Industrial
1702	*		Marion Uttley		1940	205	C/S	6			Domestic
1703	*		George Rodgers	Gibson	1996	340	C/S	4			Domestic
1704	*		Morton			315	C/S	4			Domestic
1705	*		Lloyd Fite	Bell Water Well Service	1985	300	C/S	4			Domestic
1801	115344	Y	Comstock Oil & Gas LP	Bennet Drilling Services	6/13/2007	240	C/S	4	100	6/13/2007	Rig Supply
1802	35-45-1		Amoco Production Co.		1/8/1998	165					Industrial
1803	WIID-63495	Y	Will Drill Production	LTW Services	7/13/2005	305	C/S	4	110	7/13/2005	Rig Supply
1804	113748	Y	Comstock Oil & Gas LP	Bennet Drilling Services	5/24/2007	150	C/S	4	30	5/24/2007	Rig Supply
1805	34814	Y	Martex Drlg. Co.	Scruggs, Inc.	7/1/2003	150	C/S	4	18	7/1/2003	Rig Supply
1806	113740	Y	Comstock Oil & Gas LP	Bennet Drilling Services	5/1/2007	152	C/S	4	30	5/1/2007	Rig Supply
1807	*		Loraine Redmon		1950	300	C/S	4			Abandon

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									Depth Below Ground Surface (feet)	Date Measured	
1808	*		Comstock # 2 Hopkins	Fas-Line Services	2002		C/S	4			Rig Supply
1809	*		Comstock #1 Hopkins (T. Williams)		1982		C/S	4			Rig Supply
1810	*		Troy Williams								Domestic
1901	*		Darla Moraw				T	36			Abandon
1902	*		Tommy Lyle			300	C/S	4			Irrigation
1903	*		Gonzales				C/S	4			Domestic
2001	35-44-302	Y	McNaughton		1/1/1935	43			36.89	1/12/1937	Unused
2002	35-44-6		Laverle Johnson		6/20/1996	255					Domestic
2003	35-44-6		John Bartley		8/28/1997	360					Domestic
2004	35-44-6		John Bartley		9/3/1998	400					Domestic
2005	105307	Y	Reed, Ron	Fuller Water Well Drilling	2/14/2007	440	C/S	4	138	2/14/2007	Domestic
2006	125724	Y	B.P. Brammer	Keithville Well Service	5/4/2005	345	C/S	4	70	5/4/2005	Rig Supply
2007	*		Kenneth Branch	Hand Dug		28	T	40			Domestic
2008	*		Kenneth Branch	Hand Dug		62	T	40			Domestic
2009	*		Kenneth Branch	Hand Dug		60	T	40			Domestic
2010	*		Kenneth Branch	Hand Dug		20	T	40			Domestic
2011	*		Irene Whitten	Hang Dug	1970		T	30			Abandon
2012	*				.		C/S	4			Domestic
2013	*				.		T	36			Abandon

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									Depth Below Ground Surface (feet)	Date Measured	
2014	*		James Sandidge	Hartley	2008	185	C/S	4			Domestic
2015	*		Travis Smith		1994		C/S	4			Domestic
2016	*		Darron Riebe	Bell Water Well Service	1978	35	C/S	4			Domestic
2017	*		Irwin			225	C/S	4			Domestic
2018	*		Glenn Williams	Lonestar	1990	50	T	36			Domestic
2019	*		Dorothy Brazeal				T	36			Domestic
2101	35-44-2	Y	Torch Operating	Custom Water Well Drilling	9/12/1997	280	C/S	4	75	9/12/1997	Rig Supply
2102	G2010053B		Stafford Country Estates		1/0/1900	50					Public Supply
2103	G2010053A		Stafford Country Estates		5/31/1989	283					Public Supply
2104	102188	Y	Gary Eberhart	LTW Services	1/13/2007	100	C/S	6	50	1/11/2007	Irrigation
2105	35-44-5		Amoco Production		9/24/1995	315	C/S	4			Rig Supply
2106	126874	Y	Jeff Crooks	LTW Services	11/7/2007	420	C/S	4	205	11/5/2007	Irrigation
2107	35-44-6		Grey Wolf Drilling		11/26/1999	463					Industrial
2108	35-44-606	Y	City of Tatum		1/1/1938	603	C/S	4	87	5/21/1986	Unused
2109	*						T	30			Abandon
2110	*		Floyd James			28	T	36			Abandon
2111	*						T	30			Abandon
2112	*						T	36			Abandon
2113	*					75	T	30			Domestic

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									Depth Below Ground Surface (feet)	Date Measured	
2114	*		Eddie Sipes			16	T	30			Domestic
2115	*		Eddie Sipes			22	T	30			Abandon
2116	*		Shane Crump			35	T	36			Domestic
2117	*		Dennis Hyatt			30	T	30			Domestic
2118	*		Dennis Hyatt			30	T	30			Abandon
2119	*		Billy Ray Tatum			50	T	30			Domestic
2120	*						T	30			Domestic
2121	*						T	30			Domestic
2122	*		Mark Dickson				T	30			Domestic
2123	*		Crawford			8	T	30			Domestic
2124	*		Alvin Martin			43	T	36			Domestic
2125	*		Darwin Redmon	T.W. Jones		50	T	36			Domestic
2126	*		Ted Seeger			350	C/S	4			Abandon
2127	*		Billy Chisem				T	36			Abandon
2128	*		Neil Hyatt	Hyatt (Hand Dug)			None	20			Domestic
2201	WIID-28453	Y	Gaylon Cole	Jordan Water Well	10/22/2003	272	C/S	4	75	10/22/2003	Domestic
2202	35-44-2	Y	Amoco Production Company	Fas-Line Services	10/15/1988	300	C/S	4	119	10/13/1988	Rig Supply
2203	35-44-2	Y	Amoco Production Comapny	Fas-Line Services	10/11/1988	240	C/S	4	119	10/17/1988	Rig Supply
2204	35-44-2	Y	Samson	Fas-Line Services	12/20/2000	383	C/S	4	120	12/10/2000	Industrial

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
2205	77271	Y	Taylor, Wrey	Fuller Water Well Drilling	2/16/2006	280	C/S	4	142	2/16/2006	Domestic
2206	35-44-2	Y	Amoco Production Co.	Fas-Line Services	7/17/1995	303	C/S	4	60	7/17/1995	Rig Supply
2207	35-44-2	Y	Samson Resource Company	Fas-Line Services	3/30/2000	340	C/S	4	100	3/31/2000	Industrial
2208	35-44-2F	Y	T & P Co.	Keithville Well Service	5/3/1982	380	C/S	4			Rig Supply
2209	35-44-2G	Y	R. H. Cole	V&B Water Wells	8/20/1984	252	C/S	4	120	8/23/1984	Domestic
2210	130183	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	12/13/2007	340	C/S	4	45	12/3/2007	Rig Supply
2211	123268	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	9/21/2007	340	C/S	4	80	9/21/2007	Rig Supply
2212	121961	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	8/24/2007	360	C/S	4	75	8/24/2007	Rig Supply
2213	35-44-503	Y	C. L. Cook		1/1/1936	31			32.14	12/2/1936	Unused
2214	35-44-404	Y	Tipco Crane Unit		1/1/1960	400					Industrial
2215	81403	Y	Crystal Farms WSC	Continental Drilling Services	1/4/2006	605	C/S	4	138.4	11/7/2005	Public Supply
2216	112280	Y	Comstock Oil & Gas LP	Bennet Drilling Services	4/4/2007	340	C/S	4	115	4/4/2007	Rig Supply
2217	35-44-5		Energen Resources		6/9/1999	380					Industrial
2218	35-44-5		Eldora Allen		3/20/1997	417					Domestic
2219	*		Liz Merritt				T	30			Abandon
2220	*		D. J and Karen Bartley				T	30			Abandon
2221	*		Bruce Haygood								Abandon
2222	*						Brick	36			Domestic

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
2223	*		Roger McCelland				Brick	36			Abandon
2224	*		Mitchel Courtney				T	36			Abandon
2225	*		Merritt			30	T	36			Abandon
2226	*		Cristine Ferguson			100	C/S	2			Abandon
2227	*		Roy Cole			200	C/S	4			Domestic
2228	*		Betty Cole				C/S	4			Domestic
2229	*		Ray Taylor								Domestic
2230	*		Jacks				C/S	4			Domestic
2301	35-44-1B	Y	A. B. Gray	Bell Water Well Service	9/6/1967	450	C/S	2	75	9/6/1987	Domestic
2302	35-44-1B	Y	Billy J. Tarver	Glenn Water Well Drilling	7/21/1979	425	C/S	2	31	8/4/1979	Domestic
2303	35-44-104	Y	Chalk Hill Special Utility District	Powell Drilling Co.	9/16/1984	284	C/S	14	84	9/16/1984	Public Supply
2304	35-44-1	Y	Union Pacific Resources	Custom Water Well Drilling	11/25/1996	400	C/S	4	76	11/25/1996	Rig Supply
2305	35-44-1	Y	Brammer Engineering, Inc.	Keithville Well Service	9/21/1998	320	C/S	4	180	9/21/1998	Industrial
2306	35-44-1	Y	Martex-Gibson Drlg. Co.	Scruggs, Inc.	3/21/1997	360	C/S	4	20	3/21/1997	Industrial
2307	127101	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	11/7/2007	480	C/S	4	90	11/7/2007	Rig Supply
2308	124261	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	10/3/2007	440	C/S	4	70	10/3/2007	Rig Supply
2309	113989	Y	Energen c/o Brammer	Pinnergy, Ltd	5/31/2007	380	C/S	4	75	5/31/2007	Rig Supply
2310	127098	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	11/2/2007	360	C/S	4	65	11/2/2007	Rig Supply
2311	35-36-7	Y	R M E Petroleum Company	Fas-Line Services	5/23/2001	383	C/S	4	52	5/23/2001	Industrial

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
2312	92505	Y	National Energy Group Inc.	Pinnergy, Ltd	9/8/2006	340	C/S	4	68	9/8/2006	Rig Supply
2313	35-44-4		Martex-Gibson Drilling, Co.		10/16/1997	300					Industrial
2314	35-44-401	Y	Greer and Snow		1/1/1935	320	C/S	10	96.05	9/26/1972	Observation
2315	G2010050D		Chalk Hill Special Utility District		9/16/1984	286					Public Supply
2316	35-44-4		Samson Resources		3/22/1999	483					Industrial
2317	35-44-4		Mustang Drilling, Inc.		6/19/1995	403					Rig Supply
2318	88819	Y	Samson Lone Star	LTW Services	7/20/2006	440	C/S	4	200	7/20/2006	Rig Supply
2319	35-44-4		Mustang Drilling Co.		8/5/1995	303					Rig Supply
2320	*		John Watt	Jack Jennings	1980	200	C/S	4			Abandon
2321	*		M. Horton			35	T	36			Abandon
2322	*		Horton			8	T	36			Abandon
2323	*		Horton			28	T	36			Abandon
2324	*						T	36			Abandon
2325	*		T. R. Shelson			50	T	36			Abandon
2326	*		Jessie Edwards				T	36			Abandon
2327	*		Beckworth				T	36			Abandon
2328	*		Beckworth			75	T	36			Domestic
2329	*		Beckworth				T	36			Abandon
2330	*		Beckworth				T	36			Domestic

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
2331	*						T	36			Abandon
2332	*						T	36			Abandon
2333	*		McIntire				T	36			Abandon
2334	*		Rocha				T	36			Abandon
2335	*		Inman		1977	275	C/S	4			Abandon
2336	*						T	36			Abandon
2337	*		Joe Mooney		1986		C/S	4			Livestock
2338	*		Bobby Joe Pettit				T	42			Abandon
2339	*		Garrett				T	36			Abandon
2340	*						Brick	48			Abandon
2401	G2010054B		Holmes Mobile Home Park		5/31/1989	350					Public Supply
2601	35-36-7	Y	R M E	Fas-Line Services	11/12/2001	583					Industrial
2602	35-44-403	Y	A. J. Williams		11/30/1936	21			16.35	11/30/1936	Unused
2603	*		Donald Lewis	J. R. Pepper	1902	48	T	40			Abandon
2604	*		Donald Lewis			40	T	32			Abandon
2605	*		Billy Hardyway	Clovis Glenn	1973	420	C/S	4			Abandon
2701	35-44-501	Y	Crystal Farms Water Supply Co	Frye Drilling	10/1/1968	418	C/S	2	131.46	5/3/1979	Public Supply
2702	35-44-504	Y	Crystal Farms Water Supply Co	J.N. Shelton Drilling	4/4/1986	601	C/S	4	142	5/19/1986	Public Supply
2703	*		Keltner				T	36			Irrigation

Table D-3 Groundwater Wells Inside and Within 1 Mile of Proposed Rusk Permit Area

Mapped Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth Below Ground Surface (feet)	Date Measured	
2801	35-44-604	Y	I Yorn Est.		1/1/1930	22			20.84	11/5/1936	Unused
2802	118354	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	7/26/2007	420	C/S	4	160	7/26/2007	Rig Supply
2803	108345	Y	Dorado	LTW Services	3/24/2007	380	C/S	4	165	3/24/2007	Rig Supply
2804	35-44-6		Union Pacific Resources		10/27/1997	390					Rig Supply
2805	*		Oris Burck				T	36			Abandon
2806	*						C/S	4			Domestic
2901	WIID-40540	Y	City of Tatum	Powell Drilling Co.	7/2/2004	707	C/S	4	100	4/7/2004	Public Supply
2902	G2010034D		City of Tatum		1/0/1900	435					Public Supply
2903	35-44-601	Y	City of Tatum No. 1		12/14/1938	438	C/S	5.5	109.35	5/21/1986	Public Supply
2904	35-44-605	Y	Granville Nero		1/1/1936	17			16.82	10/25/1936	Abandon

¹ Well locations within the model-predicted 5-foot drawdown contour are shown in **Figure D-1**.

² Asterisk (*) indicates water well identified during door-to-door inventory.

³ T = Tile

C/S = PVC or steel casing and screen

B = brick or concrete

U = unknown

Source: Sabine 2009a.

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
1418	35-11-4E	Y	Jerry Randolph	Allen Water Wells Co.	9/30/1982	65	B	36	dry	9/30/1982	Domestic
1419	35-44-1	Y	Willie Sammans	Smith Water Wells	10/18/1996	51	B	34	30	10/18/1996	Domestic
1420	35-44-1E	Y	Jack Harris	Kissien Drilling	2/18/1977	170	C/S	4	75	2/22/1977	Domestic
1424	35-44-1	Y	Energen Resources	Keithville Well Service	7/10/1999	340	C/S	4	165	7/10/1999	Industrial
1425	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	10/10/2000	367	C/S	4	85	10/10/2000	Industrial
1426	35-44-103	Y	Chalk Hill Special Utility District		10/7/1984	387	C/S	7	87.73	3/14/1988	Public Supply
1427	35-44-1A	Y	John Morton	Howeth's Water Well	4/19/1967	92	C/S	2	63	4/19/1967	Domestic
1428	35-44-101	Y	Boy Scouts of America		1/1/1947	421	C/S	4	70	5/30/1947	Abandon
1429	35-44-1	Y	Torch Operating	Fas-Line Services	8/30/1997	110	C/S	4	30	8/20/1997	Domestic
1430	35-44-1	Y	Energen Resources	Keithville Well Service	6/14/1999	380	C/S	4	180	6/14/1999	Industrial
1435	35-44-1	Y	Energen Resources Brammer Enginee	Keithville Well Service	5/13/1999	380	C/S	4	280	5/13/1999	Industrial
1436	35-44-1	Y	Energen Resources	Keithville Well Service	8/6/1999	440	C/S	4	270	8/6/1999	Industrial
1437	35-44-1	Y	Energen Resources	Keithville Well Service	9/18/1999	460	C/S	4	280	9/18/1999	Industrial
1438	35-44-1	Y	Union Pacific Resources Co.	Fas-Line Services	10/19/2000	343	C/S	4	150	10/19/2000	Industrial
1439	112008	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	5/9/2007	400	C/S	4	90	5/9/2007	Rig Supply
1440	35-44-102	Y	Chalk Hill Special Utility District	Powell Drilling Co.	9/8/1984	386	C/S	14	89	3/14/1988	Public Supply
1441	35-44-1C	Y	R. W. Cole	Howeth's Water Well	12/6/1967	224	C/S	2	70	12/6/1967	Domestic
1442	*		M. Kennedy				C/S	4			Domestic
1443	*		Bartley				C/S	4			Irrigation
1444	*		Johnson				T	30			Abandon
1445	*		Dan Haskell				T	30			Domestic
1446	*		Kareapher Sammons			52	T	30			Domestic
1447	*		Ross Brewster								Domestic
1506	35-44-2	Y	Energen Resources	Keithville Well Service	7/26/2000	380	C/S	4	130	7/26/2000	Industrial
1507	110027	Y	Anadarko E & P Production Company	Pinnergy, Ltd	4/14/2007	250	C/S	4	40	4/14/2007	Rig Supply
1508	35-44-2	Y	GNR Drilling Company, Inc.	Fas-Line Services	9/18/1988	216	C/S	4	16	9/19/1988	Rig Supply
1509	35-44-2	Y	Mustang Drilling, Inc.	Fas-Line Services	10/18/1989	290	C/S	4	124	10/20/1989	Rig Supply
1510	35-44-2	Y	Scan Drilling Co., Inc.	Fas-Line Services	1/24/1989	283	C/S	4	10	2/2/1989	Rig Supply
1511	35-44-2	Y	RME Petroleum Co.	Chris Jordan	3/20/2001	307	C/S	4	125	3/20/2001	Industrial
1512	35-44-2	Y	Mustang Drilling, Inc.	Fas-Line Services	9/9/1988	296	C/S	4	74	9/9/1988	Rig Supply
1513	35-44-2	Y	Gibson Drilling Co.	W.L. Rehkop Drilling Co.	10/12/1987	285	C/S	4	60	10/12/1987	Industrial
1514	WIID-60955	Y	Anadarko E & P Company, Inc	Ark-La-Tex Boring, Inc.	5/31/2005	380	C/S	4	70	5/31/2007	Rig Supply
1515	123381	Y	BP America	Keithville Well Service	3/22/2005	300	C/S	4	60	3/22/2005	Rig Supply
1516	WIID-62224	Y	Samson Lone Star	LTW Services	6/14/2005	380	C/S	4	120	6/14/2005	Rig Supply
1517	35-44-2	Y	Union Pacific	Fas-Line Services	11/8/2000	423	C/S	4	200	11/8/2000	Industrial
1518	WIID-72368	Y	Samson Lone Star	LTW Services	12/12/2005	280	C/S	4	45	12/12/2005	Rig Supply
1519	98950	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/22/2006	220	C/S	4	20	11/22/2006	Rig Supply
1520	116358	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/2/2007	370	C/S	4	75	7/2/2007	Rig Supply

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
1521	35-44-2E	Y	T & P Co.	Keithville Well Service	12/18/1981	420	C/S	4			Rig Supply
1522	35-44-2E	Y	T & P Co.	Keithville Well Service	12/17/1981	440	C/S	4			Rig Supply
1523	35-44-2	Y	Samson Resources	Fas-Line Services	1/17/2002	543	C/S	4	200	1/17/2002	Industrial
1524	106109	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	2/22/2007	275	C/S	4	75	2/22/2007	Rig Supply
1525	127851	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/9/2007	240	C/S	4	70	11/9/2007	Rig Supply
1526	97773	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	11/13/2006	370	C/S	4	75	11/13/2006	Rig Supply
1527	118839	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	7/18/2007	340	C/S	4	70	7/18/2007	Rig Supply
1528	35-44-2	Y	Amoco Production Company	Fas-Line Services	12/15/1989	323	C/S	4	40	12/18/1989	Rig Supply
1529	*		Nash Odom								Domestic
1530	*		Joe Dodson				C/S	4			Abandon
1531	*		Joe Dodson			400	C/S	4			Domestic
1532	*						C/S	4			Abandon
1533	*		Helen Dodson			400	C/S	4			Abandon
1534	*		Williams				T	30			Abandon
1535	*		James Allen			40	C/S	4			Domestic
1536	*		Wright				C/S	4			Abandon
1537	*		Willie Sammons			55	T	30			Domestic
1538	*		Bobby Huntley			100	C/S	4			Abandon
1539	*		Roger Grett			28	T	36			Domestic
1540	*		William Barrett			300	C/S	4			Abandon
1541	*		Ruby Simpson	Jones Supply		49	T	36			Domestic
1542	*		William Barrett				T	36			Abandon
1603	WIID-7214	Y	Pioneer Drilling	Ark-La-Tex Boring, Inc.	4/13/2002	260	C/S	4	80	4/13/2002	Industrial
1604	35-44-2B	Y	M Jessie Adams	John C. Reedy	4/14/1973	34	B	36	14	4/14/1973	Domestic
1605	35-44-2B	Y	Everett Sharp	Allen Lumber Co.	1/24/1979	36	B	36	27	1/24/1979	Domestic
1606	130190	Y	Anadarko E & P Company, Inc.	Pinnergy, Ltd	11/26/2007	260	C/S	4	80	11/26/2007	Rig Supply
1607	121954	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	8/16/2007	320	C/S	4	70	8/16/2007	Rig Supply
1608	119567	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	8/10/2007	350	C/S	4	70	8/10/2007	Rig Supply
1609	124047	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	9/29/2007	300	C/S	4	45	9/29/2007	Rig Supply
1610	35-44-2B	Y	Kemper-Webber Lumber Co.	Allen Lumber Co.	7/23/1968	35	B	36	26	7/23/1968	Domestic
1611	35-44-2A	Y	Mitchell Simpson	Allen Lumber Co.	10/12/1981	40	B	36	28	10/12/1981	Domestic
1612	111495	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	5/1/2007	420	C/S	4	75	5/1/2007	Rig Supply
1613	102100	Y	Anadarko E & P Company Inc.	Pinnergy, Ltd	1/4/2007	350	C/S	4	70	1/4/2007	Rig Supply
1614	WIID-53254	Y	Anadarko E & P Company, Inc.	Ark-La-Tex Boring, Inc.	1/27/2005	360	C/S	4	70	1/27/2005	Rig Supply
1615	35-44-2	Y	Sampson Resources Co.	Fas-Line Services	12/11/2000	643	C/S	4	111	12/10/2000	Industrial
1616	*		Orig. Zion Hill Baptist Church				T	48			Abandon
1617	*		M K Findley				T	30			Domestic
1618	*		Betty Glaspie Adams			30	T	30			Abandon

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
1619	*						T	30			Abandon
1620	*		Patricia Adams			90	T	36			Abandon
1621	*						T	30			Domestic
1622	*		Billy Cole			40	T	30			Domestic
1623	*		Billy Cole			252	C/S	4			Abandon
1624	*					25	T	30			Abandon
1625	*		Anisan Walker			250	C/S	4			Domestic
1626	*		Anisan Walker				T	30			Abandon
1627	*		Billy Cole			250	C/S	4			Domestic
1628	*						T	30			Abandon
1629	*		Fannie Norris				T	30			Abandon
1630	*						T	30			Abandon
1631	*						T	30			Domestic
1632	*		Jerry Busher			65	T	30			Domestic
1633	*		McClelland			27	T	30			Domestic
1634	*		John Lewis				T	36			Domestic
1701	50621		EDG Resources		11/25/2003	340					Industrial
1702	*		Marion Uttley		1940	205	C/S	6			Domestic
1703	*		George Rodgers	Gibson	1996	340	C/S	4			Domestic
1704	*		Morton			315	C/S	4			Domestic
1809	*		Comstock #1 Hopkins (T. Williams)		1982		C/S	4			Rig Supply
1810	*		Troy Williams								Domestic
1901	*		Darla Moraw				T	36			Abandon
1902	*		Tommy Lyle			300	C/S	4			Irrigation
1903	*		Gonzales				C/S	4			Domestic
2001	35-44-302	Y	McNaughton		1/1/1935	43			36.89	1/12/1937	Unused
2002	35-44-6		Laverle Johnson		6/20/1996	255					Domestic
2007	*		Kenneth Branch	Hand Dug		28	T	40			Domestic
2008	*		Kenneth Branch	Hand Dug		62	T	40			Domestic
2009	*		Kenneth Branch	Hand Dug		60	T	40			Domestic
2010	*		Kenneth Branch	Hand Dug		20	T	40			Domestic
2011	*		Irene Whitten	Hang Dug	1970		T	30			Abandon
2012	*						C/S	4			Domestic
2013	*						T	36			Abandon
2014	*		James Sandidge	Hartley	2008	185	C/S	4			Domestic
2015	*		Travis Smith		1994		C/S	4			Domestic
2016	*		Darron Riebe	Bell Water Well Service	1978	35	C/S	4			Domestic
2017	*		Irwin			225	C/S	4			Domestic

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
2018	*		Glenn Williams	Lonestar	1990	50	T	36			Domestic
2019	*		Dorothy Brazeal				T	36			Domestic
2101	35-44-2	Y	Torch Operating	Custom Water Well Drilling	9/12/1997	280	C/S	4	75	9/12/1997	Rig Supply
2102	G2010053B		Stafford Country Estates		1/0/1900	50					Public Supply
2103	G2010053A		Stafford Country Estates		5/31/1989	283					Public Supply
2104	102188	Y	Gary Eberhart	LTW Services	1/13/2007	100	C/S	6	50	1/11/2007	Irrigation
2105	35-44-5		Amoco Production		9/24/1995	315	C/S	4			Rig Supply
2106	126874	Y	Jeff Crooks	LTW Services	11/7/2007	420	C/S	4	205	11/5/2007	Irrigation
2107	35-44-6		Grey Wolf Drilling		11/26/1999	463					Industrial
2109	*						T	30			Abandon
2110	*		Floyd James			28	T	36			Abandon
2111	*						T	30			Abandon
2112	*						T	36			Abandon
2113	*					75	T	30			Domestic
2114	*		Eddie Sipes			16	T	30			Domestic
2115	*		Eddie Sipes			22	T	30			Abandon
2116	*		Shane Crump			35	T	36			Domestic
2117	*		Dennis Hyatt			30	T	30			Domestic
2118	*		Dennis Hyatt			30	T	30			Abandon
2119	*		Billy Ray Tatum			50	T	30			Domestic
2120	*						T	30			Domestic
2121	*						T	30			Domestic
2122	*		Mark Dickson				T	30			Domestic
2123	*		Crawford			8	T	30			Domestic
2124	*		Alvin Martin			43	T	36			Domestic
2125	*		Darwin Redmon	T.W. Jones		50	T	36			Domestic
2126	*		Ted Seeger			350	C/S	4			Abandon
2127	*		Billy Chisem				T	36			Abandon
2128	*		Neil Hyatt	Hyatt (Hand Dug)			None	20			Domestic
2201	WIID-28453	Y	Gaylon Cole	Jordan Water Well	10/22/2003	272	C/S	4	75	10/22/2003	Domestic
2202	35-44-2	Y	Amoco Production Company	Fas-Line Services	10/15/1988	300	C/S	4	119	10/13/1988	Rig Supply
2203	35-44-2	Y	Amoco Production Comapny	Fas-Line Services	10/11/1988	240	C/S	4	119	10/17/1988	Rig Supply
2204	35-44-2	Y	Samson	Fas-Line Services	12/20/2000	383	C/S	4	120	12/10/2000	Industrial
2205	77271	Y	Taylor, Wrey	Fuller Water Well Drilling	2/16/2006	280	C/S	4	142	2/16/2006	Domestic
2206	35-44-2	Y	Amoco Production Co.	Fas-Line Services	7/17/1995	303	C/S	4	60	7/17/1995	Rig Supply
2207	35-44-2	Y	Samson Resource Company	Fas-Line Services	3/30/2000	340	C/S	4	100	3/31/2000	Industrial
2208	35-44-2F	Y	T & P Co.	Keithville Well Service	5/3/1982	380	C/S	4			Rig Supply
2209	35-44-2G	Y	R. H. Cole	V&B Water Wells	8/20/1984	252	C/S	4	120	8/23/1984	Domestic

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
2210	130183	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	12/13/2007	340	C/S	4	45	12/3/2007	Rig Supply
2211	123268	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	9/21/2007	340	C/S	4	80	9/21/2007	Rig Supply
2212	121961	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	8/24/2007	360	C/S	4	75	8/24/2007	Rig Supply
2213	35-44-503	Y	C. L. Cook		1/1/1936	31			32.14	12/2/1936	Unused
2214	35-44-404	Y	Tipco Crane Unit		1/1/1960	400					Industrial
2215	81403	Y	Crystal Farms WSC	Continental Drilling Services	1/4/2006	605	C/S	4	138.4	11/7/2005	Public Supply
2216	112280	Y	Comstock Oil & Gas LP	Bennet Drilling Services	4/4/2007	340	C/S	4	115	4/4/2007	Rig Supply
2217	35-44-5		Energen Resources		6/9/1999	380					Industrial
2218	35-44-5		Eldora Allen		3/20/1997	417					Domestic
2219	*		Liz Merritt				T	30			Abandon
2220	*		D. J and Karen Bartley				T	30			Abandon
2221	*		Bruce Haygood								Abandon
2222	*						Brick	36			Domestic
2223	*		Roger McClland				Brick	36			Abandon
2224	*		Mitchel Courtney				T	36			Abandon
2225	*		Merritt			30	T	36			Abandon
2226	*		Cristine Ferguson			100	C/S	2			Abandon
2227	*		Roy Cole			200	C/S	4			Domestic
2228	*		Betty Cole				C/S	4			Domestic
2229	*		Ray Taylor								Domestic
2230	*		Jacks				C/S	4			Domestic
2301	35-44-1B	Y	A. B. Gray	Bell Water Well Service	9/6/1967	450	C/S	2	75	9/6/1987	Domestic
2302	35-44-1B	Y	Billy J. Tarver	Glenn Water Well Drilling	7/21/1979	425	C/S	2	31	8/4/1979	Domestic
2303	35-44-104	Y	Chalk Hill Special Utility District	Powell Drilling Co.	9/16/1984	284	C/S	14	84	9/16/1984	Public Supply
2304	35-44-1	Y	Union Pacific Resources	Custom Water Well Drilling	11/25/1996	400	C/S	4	76	11/25/1996	Rig Supply
2305	35-44-1	Y	Brammer Engineering, Inc.	Keithville Well Service	9/21/1998	320	C/S	4	180	9/21/1998	Industrial
2306	35-44-1	Y	Martex-Gibson Drlg. Co.	Scruggs, Inc.	3/21/1997	360	C/S	4	20	3/21/1997	Industrial
2307	127101	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	11/7/2007	480	C/S	4	90	11/7/2007	Rig Supply
2308	124261	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	10/3/2007	440	C/S	4	70	10/3/2007	Rig Supply
2309	113989	Y	Energen c/o Brammer	Pinnergy, Ltd	5/31/2007	380	C/S	4	75	5/31/2007	Rig Supply
2310	127098	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	11/2/2007	360	C/S	4	65	11/2/2007	Rig Supply
2311	35-36-7	Y	R M E Petroleum Company	Fas-Line Services	5/23/2001	383	C/S	4	52	5/23/2001	Industrial
2312	92505	Y	National Energy Group Inc.	Pinnergy, Ltd	9/8/2006	340	C/S	4	68	9/8/2006	Rig Supply
2313	35-44-4		Martex-Gibson Drilling, Co.		10/16/1997	300					Industrial
2314	35-44-401	Y	Greer and Snow		1/1/1935	320	C/S	10	96.05	9/26/1972	Observation
2315	G2010050D		Chalk Hill Special Utility District		9/16/1984	286					Public Supply
2316	35-44-4		Samson Resources		3/22/1999	483					Industrial
2317	35-44-4		Mustang Drilling, Inc.		6/19/1995	403					Rig Supply

Table D-4 Groundwater Wells Within the Model-Predicted 5-foot Drawdown Contour

PBW Well ID ¹	State Well No. ²	State of Texas Well Report?	Owner	Driller	Year Completed	Depth of Well (feet)	Casing Type ³	Diameter (inches)	Static Water Level		Use of Water
									Depth BGS (feet)	Date of Measurements	
2318	88819	Y	Samson Lone Star	LTW Services	7/20/2006	440	C/S	4	200	7/20/2006	Rig Supply
2319	35-44-4		Mustang Drilling Co.		8/5/1995	303					Rig Supply
2320	*		John Watt	Jack Jennings	1980	200	C/S	4			Abandon
2321	*		M. Horton			35	T	36			Abandon
2322	*		Horton			8	T	36			Abandon
2323	*		Horton			28	T	36			Abandon
2324	*						T	36			Abandon
2325	*		T. R. Shelson			50	T	36			Abandon
2326	*		Jessie Edwards				T	36			Abandon
2327	*		Beckworth				T	36			Abandon
2328	*		Beckworth			75	T	36			Domestic
2329	*		Beckworth				T	36			Abandon
2330	*		Beckworth				T	36			Domestic
2331	*						T	36			Abandon
2332	*						T	36			Abandon
2333	*		McIntire				T	36			Abandon
2334	*		Rocha				T	36			Abandon
2335	*		Inman		1977	275	C/S	4			Abandon
2336	*						T	36			Abandon
2337	*		Joe Mooney		1986		C/S	4			Livestock
2338	*		Bobby Joe Pettit				T	42			Abandon
2339	*		Garrett				T	36			Abandon
2340	*						Brick	48			Abandon
2601	35-36-7	Y	R M E	Fas-Line Services	11/12/2001	583					Industrial
2602	35-44-403	Y	A. J. Williams		11/30/1936	21			16.35	11/30/1936	Unused
2603	*		Donald Lewis	J. R. Pepper	1902	48	T	40			Abandon
2604	*		Donald Lewis			40	T	32			Abandon
2605	*		Billy Hardyway	Clovis Glenn	1973	420	C/S	4			Abandon
2701	35-44-501	Y	Crystal Farms Water Supply Co	Frye Drilling	10/1/1968	418	C/S	2	131.46	5/3/1979	Public Supply
2703	*		Keltner				T	36			Irrigation
2802	118354	Y	Energen c/o Brammer Engineering	Pinnergy, Ltd	7/26/2007	420	C/S	4	160	7/26/2007	Rig Supply

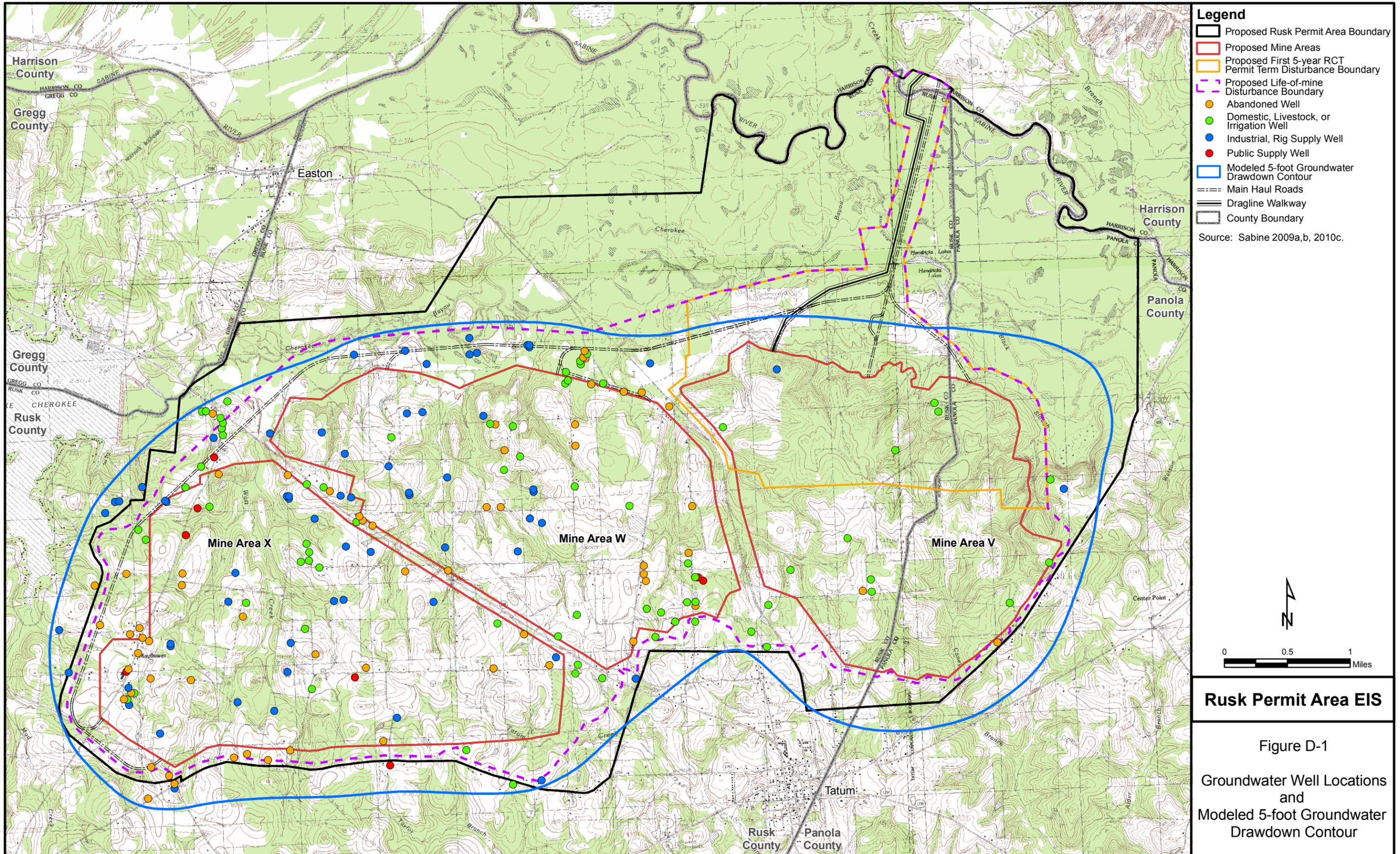
¹ Well locations within the model-predicted 5-foot drawdown contour are shown in **Figure D-1**

² Asterisk (*) indicates water well identified during door-to-door inventory

³ T - tile

C/S - PVC or steel casing and screen

B - brick or concrete



Waters of the U.S.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Fort Worth District File/ORM # SWF-2007-00560 PJD Date: Feb 11, 2010

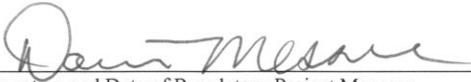
State TX City/County Tatum/Rusk, Panola & Harrison
Nearest Waterbody: Sabine River
Location: TRS, LatLong or UTM: 32.39514
-94.49573
Name/ Address of Person Requesting PJD
Ed Janak on behalf of:
Phil Berry, Environmental Manager
North American Coal Corporation
Sabine Mining Company
6501 Farm Road 968 West
Hallsville, Texas 76560-7413

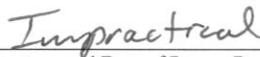
Identify (Estimate) Amount of Waters in the Review Area:
Name of Any Water Bodies Tidal: _____
on the Site Identified as Section 10 Waters: Non-Tidal: Sabine River
Non-Wetland Waters: Stream Flow: _____
530,552 linear ft var width 88.58 acres various
Wetlands: 400.62 acre(s) Cowardin Class: various
 Office (Desk) Determination
 Field Determination: Date of Field Trip: Jun 30, 2009

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Ed Janak, HDR Engineering
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps _____
- Corps navigable waters' study: _____
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite quad name: Darco, Easton, Harris Chapel & Tatum
- USDA Natural Resources Conservation Service Soil Survey. Citation: USDA NRCS Web Soil Survey Data
- National wetlands inventory map(s). Cite name: see USGS quad names
- State/Local wetland inventory map(s): _____
- FEMA/FIRM maps: Rusk/Harrison Counties
- 100-year Floodplain Elevation is: 242.38
- Photographs: Aerial (Name & Date): various
 - Other (Name & Date): various
- Previous determination(s). File no. and date of response letter: _____
- Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


Signature and Date of Regulatory Project Manager
(REQUIRED)


Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office File/ORM # PJD Date:
State City/County Person Requesting PJD

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
ORM2	database				

Notes:

Numerous waters on site detailed in waters upload table in project file and in ORM2 database.