Appendix E

Pipeline Restrictive Layer Areas Crossings

KEYSTONE PIPELINE PROJECT

Pipeline Restrictive Layer Areas Crossings MP Mainline CL based on November 17, 2006 Filing and the Cushing Extension CL based on Dec 15, 2006 Filing

REVISION 0

I I		l E	LENGTH			AESINICIAE LA IEN	בֿוֹ		> <u>+</u>	DT-V-F0
U Z	FROM	၀	W	OOIL WAIME	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION		∐ € •
14-ML	32.97	33.17	1095.4	Kloten	Bedrock (paralithic)	3 8	20 to 40	RIP	Walsh	North Dakota
14-ML	35.20	35.23	159.8	Kloten	Bedrock (paralithic)	2 2 2	9 to 20	RIP	Walsh	North Dakota
14-ML	35.26	35.29	154.8	Kloten	Bedrock (paralithic)	:	9 to 20	RIP	Walsh	North Dakota
14-ML	36.33	36.41	407.0	Kloten	Bedrock (paralithic)		20 to 40	RIP	Walsh	North Dakota
14-ML	36.51	36.59	393.7	Kloten	Bedrock (paralithic)		20 to 40	쮼	Walsh	North Dakota
14-ML	37.52	37.76	1284.2	Kloten	Bedrock (paralithic)		20 to 40	RIP	Walsh	North Dakota
14-ML	41.13	41.33	1031.7	Kloten	Bedrock (paralithic)		20 to 40	AR PR	Walsh	North Dakota
14-ML	41.56	41.73	893.2	Kloten	Bedrock (paralithic)		9 to 20	RIP	Walsh	North Dakota
14-ML	41.73	42.11	2031.4	Kloten	Bedrock (paralithic)	:	20 to 40	RIP	Walsh	North Dakota
14-ML	42.11	42.16	263.9	Kloten	Bedrock (paralithic)		9 to 20	RIP	Walsh	North Dakota
14-ML	42.48	42.58	553.5	Kloten	Bedrock (paralithic)	# # #	20 to 40	RIP	Walsh	North Dakota
14-ML	46.28	46.34	310.4	Kloten	Bedrock (paralithic)	:	9 to 20	뮨	Walsh	North Dakota
14-ML	54.15	54.19	183.1	Kloten	Bedrock (paralithic)	: :	9 to 20	RP	Walsh	North Dakota
14-ML	54.32	54.44	661.1	Kloten	Bedrock (paralithic)		9 to 20	RIP	Walsh	North Dakota
14-ML	54.48	54.60	643.4	Kloten	Bedrock (paralithic)		9 to 20	RIP	Walsh	North Dakota
14-ML	63.00	63.08	431.4	Cavour	Natric	Noncemented	7 to 17	RIP	Nelson	North Dakota
14-ML	64.36	64.51	792.3	Cavour	Natric	Noncemented	7 to 17	RIP	Nelson	North Dakota
14-ML	86.99	67.03	264.8	Divide	Strongly contrasting textural stratification	* * *	20 to 40	RIP	Nelson	North Dakota
14-ML	76.56	76.59	183.4	Divide	Strongly contrasting textural stratification	1 1	20 to 40	RIP	Nelson	North Dakota
14-ML	77.88	77.91	159.3	Cavour	Natric	Noncemented	7 to 17	짬	Nelson	North Dakota
14-ML	84.75	84.82	376.7	Divide	Strongly contrasting textural stratification	1	20 to 40	RIP	Nelson	North Dakota
14-ML	104.15	104.41	1401.2	Divide	Strongly contrasting textural stratification		20 to 40	쮼	Steele	North Dakota
14-ML	104.59	104.65	267.7	Divide	Strongly contrasting textural stratification		20 to 40	RIP	Steele	North Dakota
14-ML	104.65	104.70	304.7	Divide	Strongly contrasting textural stratification	1	20 to 40	RIP	Steele	North Dakota
14-ML	104.70	105.01	1641.3	Divide	Strongly contrasting textural stratification	:	20 to 40	RIP	Steele	North Dakota
14-ML	105.55	105.73	940.8	Divide	Strongly contrasting textural stratification	1	20 to 40	RIP	Steele	North Dakota
14-ML	105.88	106.07	6.066	Cavour	Natric	Noncemented	7 to 17	RIP	Steele	North Dakota
14-ML	106.27	106.30	182.4	Divide	Strongly contrasting textural stratification		20 to 40	RIP	Steele	North Dakota
14-ML	106.30	106.74	2303.6	Divíde	Strongly contrasting textural stratification	: :	20 to 40	RIP	Steele	North Dakota
14-ML	106.74	107.06	1685.7	Divide	Strongly contrasting textural stratification		20 to 40	RIP	Steele	North Dakota
14-ML	107.23	107.29	339.7	Divide	Strongly contrasting textural stratification		20 to 40	RIP	Steele	North Dakota
14-ML	109.50	109.61	551.1	Divide	Strongly contrasting textural stratification		20 to 40	RIP	Steele	North Dakota
14-ML	439.31	439.35	213.8	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	439.70	439.72	85.2	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	AIS.	Cedar	Nebraska
14-ML	439.77	439.81	191.9	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	뮨	Cedar	Nebraska
14-ML	439.81	439.83	134.9	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	439.90	439.99	501.7	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	AIN.	Cedar	Nebraska
14-ML	441.22	441.26	211.7	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	ᅋ	Cedar	Nebraska
14-ML	441.55	441.70	828.1	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	441.78	441.87	488.1	Hord	Bedrock (paralithic)	: :	40 to 60	RIP	Cedar	Nebraska
14-ML	441.87	441.95	427.8	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	441.95	442.05	492.1	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	442.05	442.11	317.8	Hord	Bedrock (paralithic)	-	40 to 60	RIP	Cedar	Nebraska
14-Mi	442 11	442.17	338.7	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	dis.	Cedar	Nebraska
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	FROM	TO	E	OCIL NAME	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION		0 A I
14-ML	442.25	442.30	229.2	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	442.30	442.34	211.8	Hord	Bedrock (paralithic)	tt	40 to 60	RIP	Cedar	Nebraska
14-ML	442.34	442.41	387.3	Boyd	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	446.21	446.27	334.3	Gavins	Bedrock (paralithic)	Moderately cemented	10 to 20	묎	Cedar	Nebraska
14-ML	446.42	446.50	420.1	Gavins	Bedrock (paralithic)	Moderately cemented	10 to 20	ᄱ	Cedar	Nebraska
14-ML	446.50	446.55	267.5	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RP	Cedar	Nebraska
14-ML	448.20	448.27	414.5	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Cedar	Nebraska
14-ML	448.47	448.56	476.0	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	뮵	Cedar	Nebraska
14-ML	448.92	448.98	332.9	Redstoe	Bedrock (paralithic)	Moderately cemented	20 to 40	찚	Cedar	Nebraska
14-ML	635.36	635.39	194.3	Hedville	Bedrock (lithic)	Moderately cemented	4 to 20	BLAST	Jefferson	Nebraska
14-ML	635.47	635.56	452.1	Hedville	Bedrock (lithic)	Moderately cemented	4 to 20	BLAST	Jefferson	Nebraska
14-ML	635.56	635.56	4.0	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	쮼	Jefferson	Nebraska
14-ML	635.59	635.65	322.8	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	쬬	Jefferson	Nebraska
14-ML	635.77	635.88	605.3	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	635.88	635.95	352.4	Edalgo	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	635.95	636.07	663.5	Hedville	Bedrock (lithic)	Moderately cemented	4 to 20	BLAST	Jefferson	Nebraska
14-ML	636.07	636.13	292.7	Edalgo	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	636.13	636.13	24.2	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	636.13	636.22	441.1	Hedville	Bedrock (lithic)	Moderately cemented	4 to 20	BLAST	Jefferson	Nebraska
14-ML	636.22	636.33	587.1	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	636.33	636.43	527.7	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	637.49	637.56	389.1	Lancaster variant	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	637.70	638.01	1638.1	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	638.06	638.29	1237.4	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Jefferson	Nebraska
14-ML	638.29	638.34	268.7	Edalgo	Bedrock (paralithic)	Moderately cemented	20 to 40	RP	Jefferson	Nebraska
14-ML	638.62	638.62	39.1	Lancaster variant	Bedrock (paralithic)	Moderately cemented	20 to 40	쮼	Jefferson	Nebraska
14-ML	638.95	639.01	285.0	Lancaster variant	Bedrock (paralithic)	Moderately cemented	20 to 40	물	Jefferson	Nebraska
14-ML	639.18	639.24	285.8	Lancaster variant	Bedrock (paralithic)	Moderately cemented	20 to 40	쮼	Jefferson	Nebraska
14-ML	639.27	639.34	391.2	Lancaster variant	Bedrock (paralithic)	Moderately cemented	20 to 40	AB I	Jefferson	Nebraska
14-ML	639.39	639.45	342.4	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	AIN I	Jefferson	Nebraska
74-W	639.67	639.78	596.2	Edalgo	Bedrock (paralithic)	Moderately cemented	20 to 40	AND C	Jefferson	Nebraska
14-ML	658.22	658.33	2.866	Kipson	Bedrock (paralithic)	Moderately cemented	7 10 20	Ž į	Marshall	Kansas
14-ML	658.46	658.50	212.2	Kipson	Bedrock (paralithic)	Moderately cemented	7 to 20		Marshall	Kansas
14-ML	659.19	659.29	495.6	Kipson	Bedrock (paralithic)	Moderately cemented	/ to 20		Marshall	Kansas
14-ML	659.40	659.43	169.2	Kipson	Bedrock (paralithic)	Moderately comented	7 to 20	712 010	Marshall	Kansas
14-MI	662 14	662.16	100.6	Kinson	Bedrock (paralithic)	Moderately cemented	7 to 20	2 2	Marshall	Kansas
14-ML	685.37	685.40	195.0	Kipson	Bedrock (paralithic)	Weakly cemented	7 to ~~	물	Nemaha	Kansas
15-ML	704.09	704.15	332.6	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	704.37	704.38	13.1	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	704.38	704.47	480.8	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	704.51	704.62	584.7	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	704.62	704.73	550.7	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	AIS.	Brown	Kansas
15-ML	704.82	704.88	338.0	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	704.93	705.08	776.4	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	705.08	705.10	96.4	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	705.10	705.15	288.0	Padonía	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	705.15	705.27	615.8	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	705.27	705.37	542.1	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	705.46	705.47	47.7	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	705.53	705.67	739.6	Kipson	Bedrock (paralithic)	Noncemented	7 to 20	RIP	Brown	Kansas
15-ML	707.51	707.58	344.0	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
15-ML	710.23	710.33	495.5	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RP	Brown	Kansas

FROM TO.81 710.65 710.81 714.39 714.43 715.28 717.72 717.84 717.72 717.84 717.84 717.72 717.84 717.73 717.84 720.47 720.54 720.78 724.02 724.50 724.28 724.50 724.62 724.50 724.62 724.50 724.63 724.51 724.63 724.52 724.63 724.53 725.56 724.64 724.65 725.54 725.56 726.44 727.85 727.51 727.85 727.51 727.85 727.54 727.86 727.54 727.86 727.54 727.85 727.54 727.86 727.73 727.86 747.62 747.43 747.62 747.43 754.86 754.81 754.87	LENGTH COLL NAME		RESTRICTIVE LAYER	YER		COUNTY	STATE
710.85 710.81 714.39 714.43 714.39 714.43 714.43 714.43 714.43 714.43 714.43 714.43 717.28 717.28 717.28 717.84 718.91 710.047 720.64 720.74 720.76 720.76 720.76 724.12 724.16 724.50 724.50 724.50 724.50 724.50 724.50 725.84 725.86 725.84 725.86 725.84 725.86 725.84 725.96 727.51 720.64 720.22 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.02 747.03 754.36 754.56 754.56 754.56 754.57 754.56 754.57 754.56 754.57 754.56 754.57 7		KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION		<u> </u>
714.39 714.43 714.43 717.28 717.84 717.78 717.72 717.72 717.73 717.72 717.74 717.72 717.74 717.72 717.74 717.74 717.74 717.74 717.74 717.74 7120.54 720.74 720.74 720.74 720.74 720.74 720.74 720.74 720.75 724.50 724.50 724.50 724.50 724.50 724.50 725.56 725.64 725.56 725.64 720.75 720.74 720.75 7	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
715.28 717.72 717.68 717.72 717.78 717.72 717.78 717.72 718.44 718.41 720.41 720.71 720.75 720.72 724.12 724.02 724.12 724.02 724.12 724.02 724.28 724.02 724.28 724.02 724.28 724.02 724.28 724.02 724.83 725.38 725.36 725.38 725.36 725.38 725.36 725.38 725.36 725.38 725.36 725.40 725.36 725.41 727.35 725.42 725.36 725.43 725.36 725.44 725.36 725.44 747.77 725.45 747.62 747.71 726.48 747.62 747.62 747.62 747.62 747.43 747.62 744.31 756.24 756.39 756.24 756.39 756.24 756.39 756.24 756.39 764.36 764.69 764.36 764.69 764.36 764.69 764.36 764.69 764.36 764.69 764.36 764.69 764.36 764.69 764.36 764.69 764.37 764.69 764.36 764.69 764.37 764.69 764.36 764.69 764.37 764.69 764.37 764.69 768.37 764.69 798.42 798.44 798.42 798.44 798.59 798.42 799.52 801.59 801.59	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
717.68 717.72 718.81 718.81 718.81 718.81 718.81 718.81 718.81 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.61 720.62 724.12 724.12 724.12 724.13 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.40 725.36 725.40 725.40 725.40 720.41 747.02 747.03 747.02 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 747.03 744.04 756.30 766.37 766.37 766.37 766.37 766.37 766.37 766.37 766.37 766.37 798.42 798.42 798.42 798.42 798.42 798.42 798.59 801.59 801.59		Bedrock (paralithic)	Noncemented	20 to 40	ЯВ	Brown	Kansas
717.78 717.84 718.91 719.00 720.47 720.54 720.61 720.54 720.78 724.12 724.02 724.12 724.15 724.83 724.15 724.83 724.16 724.83 724.16 724.83 724.16 724.83 725.38 725.36 725.38 725.36 725.84 727.95 727.51 727.58 727.51 727.58 727.61 740.41 740.41 740.46 747.02 747.77 740.41 740.46 740.41 740.40 740.41 740.40 740.41 765.09 754.94 755.09 754.94 756.89 764.57 764.59 764.53 764.59 764.51 764.59 764.51 766.89 764.51 766.89 764.52 798.68 798.78 798.78 798.78 798.78 798.78 798.78 798.78 801.59 801.59		Bedrock (paralithic)	Noncemented	20 to 40	RP	Brown	Kansas
718.91 719.00 718.91 720.47 720.47 720.54 720.54 720.54 720.54 720.54 720.54 720.54 720.54 720.54 720.78 720.01 724.02 724.12 724.15 724.28 725.29 725.38 725.84 725.95 725.56 725.84 725.95 725.84 725.95 725.56 725.64 720.22 747.13 747.02 747.02 747.13 747.02 747.02 747.13 747.02 747.02 747.13 747.02 747.02 747.13 747.02 747.03 764.57 764.57 764.57 764.57 764.57 764.57 764.57 764.59 798.56 798.56 798.56 798.56 798.56 798.56 798.56 799.54 799.52 801.59 801.59 801.59	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
720.47 720.54 720.61 720.75 720.78 721.01 724.10 724.12 724.15 724.28 724.50 724.28 724.50 724.32 725.36 725.56 725.34 725.56 725.34 725.56 725.44 725.56 727.33 725.56 727.54 727.59 727.54 727.56 727.54 727.56 727.54 727.56 727.54 727.56 727.56 727.56 727.57 727.56 747.02 747.13 747.02 747.13 747.03 765.16 754.86 756.16 754.86 756.16 756.84 756.16 756.84 766.89 764.57 764.69 764.57 764.69 764.57 764.69 764.57 764.69 764.57 764.69 764.57 798.68 798.68 798.68 798.68 798.68 798.68 798.69 798.79 801.24 801.59 801.59	Wamego	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
720.61 720.75 720.75 720.76 720.78 721.01 724.02 724.12 724.02 724.02 724.02 724.02 724.65 724.65 724.65 724.65 724.83 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.40 72	Wamego	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
720.78 721.01 724.75 724.12 724.75 724.28 724.76 724.82 724.77 724.83 725.29 725.36 725.84 725.95 725.84 725.95 727.34 727.95 727.34 727.95 729.64 727.95 729.64 727.95 729.64 729.78 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 754.86 754.86 754.86 754.86 754.94 755.09 754.94 755.09 754.94 755.09 754.94 756.89 754.94 756.89 764.69 764.54 764.57 764.69 764.59 764.59 764.69 764.54 764.50 764.59 764.69 764.54 764.50 764.59 764.69 764.59 764.69 764.59 764.69 764.59 764.50 768.84 798.50 798.64 798.80 798.89 798.80 798.89 801.59 801.59	Wamego	Bedrock (paralithic)	Noncemented	20 to 40	RP	Brown	Kansas
724.02 724.12 724.12 724.15 724.16 724.16 724.28 724.28 724.83 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.48 729.56 729.36 720.36 72		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
724.15 724.28 724.50 724.62 724.50 724.83 725.84 725.96 725.84 725.96 727.848 725.56 727.848 728.51 727.84 728.51 729.64 729.78 740.22 747.13 747.02 747.13 754.94 758.16 754.94 758.16 763.61 764.89 763.61 764.89 764.57 764.69 764.79 764.57 764.69 764.79 764.57 764.69 764.79 764.57 764.69 764.89 764.57 764.69 764.89 768.84 798.89 768.84 768.89 768.84 768.89 768.84 768.89 768.80 768.89 768.80 798.68 798.70 798.68 798.70 798.70 801.24 801.59		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
724,50 724,62 724,62 724,75 724,83 725,36 725,36 725,36 725,56 725,44 725,56 727,38 725,56 727,38 727,39 727,39 727,39 729,50 729,40 729,50 729,40 729,50 729,50 729,40 729,50 72		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
724.75 724.83 725.36 725.38 725.36 725.38 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 725.36 729.56 72		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
725.29 725.36 725.84 725.56 727.54 725.56 727.54 725.56 727.56 727.56 1 729.50 729.55 1 729.54 729.78 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 754.26 754.81 754.26 754.81 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 754.94 755.09 756.24 756.89 764.59 764.54 764.50 764.54 764.50 764.54 764.50 764.54 764.50 764.54 764.50 764.54 764.51 766.89 764.52 798.58 798.55 798.64 798.56 798.64 798.56 798.64 798.57 798.68 798.58 798.68 798.59 798.64 798.59 798.64 799.52 801.59 801.59 801.59	Padonia	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
726.38 725.56 726.84 725.96 727.73 727.95 1 728.48 728.51 729.60 729.56 729.64 729.78 740.21 740.31 740.22 740.31 740.21 747.13 747.62 747.77 754.26 754.81 754.26 754.81 754.26 754.81 754.26 754.81 754.26 754.81 754.26 754.81 754.26 754.81 754.26 754.81 754.36 756.09 755.46 756.46 757.37 758.66 757.37 758.66 757.37 764.66 764.57 764.53 764.56 764.57 764.53 764.56 764.57 764.53 764.56 764.57 764.53 764.56 764.57 764.89 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 766.89 764.57 768.89 768.80 798.68 798.70 798.89 798.70 798.70 798.89 798.70 798.89 798.70 798.89 798.70 798.89 798.70 798.89 798.70 798.89		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
726.84 725.95 727.51 727.58 727.51 727.58 727.51 727.58 728.48 728.51 729.55 729.56 729.64 729.56 729.64 729.56 729.64 729.56 729.64 729.78 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.13 747.02 747.02 747.13 747.02 747.02 747.13 747.02 747.02 747.13 747.02 756.24 756.24 756.24 756.24 756.24 756.24 756.24 756.24 756.24 756.24 756.24 756.24 766.89 766.89 764.57 764.59 766.89 766.59 801.59 801.59	Γ	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
727.51 727.58 727.58 727.58 727.59 727.50 728.48 728.51 729.55 729.46 729.55 729.56 729.46 729.78 740.22 740.31 740.41 740.41 740.42 747.02 747.77 747.77 747.77 754.78 754.78 754.78 755.24 755.24 755.24 755.24 755.24 755.24 755.46 755.46 755.46 755.46 755.46 755.46 755.47 756.46 755.47 756.46 756.47 764.57 764.57 764.57 764.57 764.57 764.59 766.89 764.79 768.80 798.42 798.42 798.42 798.42 798.42 798.42 801.59 801.59 801.59 801.59		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
727.73 727.95 7 728.48 728.51 729.56 729.56 729.56 729.56 729.78 729.78 740.41 740.46 747.02 747.77 747.62 747.77 747.62 747.77 747.62 747.77 754.96 754.94 756.99 756.49 756.49 756.49 756.84 756.89 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.50		Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
728.48 728.51 729.64 729.78 740.41 740.41 740.41 740.46 747.02 747.13 747.02 747.13 747.62 747.13 754.26 754.81 754.86 754.81 754.86 756.99 756.49 756.51 756.49 756.51 756.49 756.84 756.40 756.84 757.77 758.96 757.77 764.59 764.59 764.54 764.59 764.59 764.69 764.79 764.89 764.79 764.89 764.79 764.89 764.89 764.89 764.84 764.89 764.84 764.89 764.84 764.89 764.84 764.89 764.84 764.89 768.80 764.89 768.80 764.89 768.80 764.89 768.80 768.80 798.68 798.68 798.68 798.68 798.68 801.27 801.59 801.59	Wamego	Bedrock (paralithic)	Noncemented	20 to 40	RIP	Brown	Kansas
729.50 729.55 729.64 729.78 740.31 740.22 740.31 740.41 740.41 740.46 747.02 747.13 747.62 747.13 747.62 747.13 747.62 747.13 754.26 754.32 754.36 755.46 755.46 755.41 755.46 757.73 758.84 755.66 757.73 758.86 757.87 764.56 76		Bedrock (paralithic)	Weakly cemented	10 to 20	RIP	Doniphan	Kansas
729.64 729.78 740.22 740.31 740.21 740.46 740.41 740.46 747.02 747.13 747.62 747.77 754.26 754.37 754.78 754.89 754.78 755.09 756.34 755.09 755.46 755.51 757.73 757.86 757.73 758.66 757.73 758.66 757.73 758.66 764.66 764.66 764.57 764.66 764.59 764.59 764.59 764.59 764.59 764.59 764.50 764.59 764.50 764.59 764.51 766.89 764.52 764.54 764.53 764.54 764.54 768.89 764.57 764.66 764.69 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.59 764.59 798.44 798.59 798.44 798.59 798.45 801.59 801.57 801.59 801.59 801.59	Vinland	Bedrock (paralithic)	Weakly cemented	10 to 20	쮼	Doniphan	Kansas
740.22 740.31 740.41 740.46 747.02 747.13 747.02 747.13 754.26 754.32 754.26 754.89 754.24 755.09 756.21 755.09 756.21 755.09 756.21 755.09 756.21 756.09 757.37 758.15 757.37 758.16 757.97 758.16 763.61 764.69 764.57 764.69 764.57 764.69 764.59 764.69 764.69 766.89 764.69 766.89 764.69 766.89 764.69 766.89 764.69 766.89 764.69 766.89 764.69 766.89 764.69 798.68 798.66 798.68 798.66 798.69 798.79 801.59 801.59 801.59	Vinland	Bedrock (paralithic)	Weakly cemented	10 to 20	RIP	Doniphan	Kansas
740.41 740.46 747.02 747.13 747.02 747.13 754.26 754.32 754.78 754.81 754.84 755.09 755.21 755.24 755.21 755.51 755.21 755.51 755.46 755.51 757.37 758.15 757.37 758.16 763.61 764.43 764.57 764.69 764.57 764.69 764.69 764.79 764.89 764.79 764.89 764.79 764.89 764.79 764.89 764.79 764.89 764.79 764.89 764.79 764.89 764.89 798.10 798.21 798.10 798.24 798.80 798.54 801.59 801.59 801.59 801.59 801.59 801.59	Vinland	Bedrock (paralithic)	Weakly cemented	10 to 20	RIP	Doniphan	Kansas
747.02 747.13 747.62 747.77 754.26 754.81 754.86 754.81 754.84 755.09 755.24 755.04 755.46 755.51 755.46 755.51 757.73 757.86 757.73 758.16 757.73 758.16 757.74 758.16 758.84 758.96 764.54 764.64 764.57 764.69 764.59 764.79 764.89 764.79 764.89 768.81 764.89 768.81 768.81 768.82 768.81 798.56 798.62 798.68 798.63 798.64 798.63 798.64 798.64 798.65 801.59 801.59 801.59 801.59	Vinland	Bedrock (paralithic)	Weakly cemented	10 to 20	RIP	Doniphan	Kansas
747.62 747.77 754.26 754.32 754.78 754.81 754.84 754.89 754.94 755.09 755.21 755.24 755.46 755.51 757.73 757.86 757.73 758.15 757.73 758.16 754.36 764.54 764.53 764.54 764.53 764.54 764.54 768.89 764.57 766.89 764.57 766.89 764.57 766.89 764.57 766.89 764.57 766.89 764.57 764.66 764.57 764.66 764.57 764.66 764.59 764.59 764.50 764.54 764.50 764.54 764.50 764.54 764.50 764.59 764.50 764.59 764.50 798.56 798.56 798.56 798.56 798.56 798.56 798.56 801.57 801.57 801.57 801.57	Rock outcrop	Bedrock (lithic)	1		BLAST	Doniphan	Kansas
754.26 754.32 754.78 754.81 754.84 754.89 754.94 755.09 755.46 755.24 755.46 755.54 757.73 758.15 757.97 758.16 757.97 758.16 763.61 764.53 764.53 764.54 764.53 764.56 764.57 764.89 764.57 764.89 764.57 764.89 764.57 768.89 764.57 768.89 764.57 768.89 764.57 768.89 764.57 768.89 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.66 764.57 764.89 798.78 798.78 798.78 78 798.78 7	Rock outcrop	Bedrock (lithic)	1		BLAST	Doniphan	Kansas
754.78 754.81 754.84 755.09 756.49 755.09 755.46 755.24 755.46 755.51 757.73 757.86 757.97 758.96 763.61 763.68 764.53 764.53 764.53 764.59 764.57 764.66 764.69 764.89 764.87 766.89 764.87 766.89 764.87 798.89 798.79 798.89 798.79 798.64 798.79 798.89 798.70 798.89	Gosport	Bedrock (paralithic)	1	32 to 32	RIP	Buchanan	Missouri
754.85 754.89 754.94 755.09 756.24 755.09 756.24 755.04 757.46 755.51 758.84 758.96 763.61 764.43 764.57 764.57 764.57 764.69 764.69 764.89 764.89 798.69 798.18 798.54 798.56 798.54 798.56 798.54 801.54 801.55 801.54 801.55	Gosport	Bedrock (paralithic)	1	32 to 32	RIP	Buchanan	Missouri
754.94 755.09 756.21 755.24 755.24 755.51 757.37 755.51 756.84 758.16 763.61 763.68 763.61 764.43 764.57 764.54 764.59 764.79 764.59 764.79 764.89 764.79 768.81 798.21 798.16 798.68 798.68 798.64 798.80 798.89 798.42 798.68 798.58 798.68 801.59 801.59 801.59 801.59	Gosport	Bedrock (paralithic)	1	32 to 32	찞	Buchanan	Missouri
755.24 755.46 755.46 755.51 757.73 758.16 758.84 758.84 763.86 763.81 764.35 764.53 764.54 764.57 764.59 764.89 768.81 798.18 798.18 798.55 798.68 798.80 798.80 798.80 798.80 798.80 798.80 798.80 801.27 801.59 801.59 801.59	Gosport	Bedrock (paralithic)	1	32 to 32	- A	Buchanan	Missouri
755.46 755.51 757.73 757.86 757.97 758.15 758.14 758.96 763.61 763.68 764.53 764.64 764.53 764.66 764.53 764.66 764.53 764.66 764.53 764.66 764.53 764.89 764.89 798.18 798.56 798.64 798.56 798.64 798.56 798.64 798.56 798.64 801.54 801.57 801.54 801.57 801.59 801.59		Bedrock (paralithic)		32 to 32	B	Buchanan	Missouri
757.73 757.86 757.97 758.15 758.84 758.96 764.36 764.43 764.53 764.54 764.53 764.54 764.57 764.66 764.87 766.89 764.87 766.89 766.87 796.89 798.56 798.54 798.56 798.54 798.56 798.64 798.56 798.56 801.54 801.57 801.54 801.57 801.59 801.59		Bedrock (paralithic)	1	32 to 32	RIP	Buchanan	Missouri
758.84 758.16 763.61 763.68 763.61 764.68 764.53 764.54 764.57 764.66 764.57 766.89 766.87 766.89 796.56 798.56 798.56 798.64 798.50 798.64 798.50 798.64 798.50 798.64 801.51 801.55 801.51 801.59		Bedrock (paralithic)	Moderately cemented	27 to 40	AN I	Buchanan	Missouri
758.84 758.96 763.61 763.68 764.35 764.43 764.57 764.56 764.69 764.89 766.87 766.89 798.18 798.56 798.56 798.64 798.80 798.89 798.50 798.64 798.50 798.64 801.59 801.59		Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
763.61 763.68 764.36 764.43 764.57 764.64 764.69 764.79 766.87 766.89 798.18 798.21 798.56 798.64 798.60 798.84 798.60 798.84 798.60 798.84 799.52 799.44 801.54 801.55 801.59 801.59		Bedrock (paralithic)	Moderately cemented	27 to 40	SP SP	Buchanan	Missouri
764.35 764.43 764.53 764.54 764.57 764.66 764.87 764.66 766.89 766.89 798.18 798.58 798.64 798.50 798.89 798.80 798.89 799.42 799.54 801.24 801.27 801.59 801.59 801.59 801.59	Gosport	Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
764.53 764.54 764.57 764.66 764.69 764.66 764.79 764.66 768.87 768.89 798.56 798.58 798.58 798.64 798.20 798.42 799.42 799.44 799.42 799.54 801.51 801.55 801.51 801.55	Gosport	Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
764.57 764.66 764.69 764.79 766.87 766.89 7788.56 798.58 798.58 798.64 798.80 798.89 799.52 799.44 799.52 799.54 801.51 801.55 801.51 801.55		Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
764.69 764.79 766.87 766.89 798.18 798.58 798.80 798.64 798.80 798.64 799.42 799.44 799.52 799.54 801.51 801.55 801.51 801.59		Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
766.87 766.89 798.18 798.21 788.28 798.64 798.80 798.89 799.42 799.44 799.52 799.54 801.51 801.55 801.59 801.59 801.59 801.67		Bedrock (paralithic)	Moderately cemented	27 to 40	RIP	Buchanan	Missouri
798.18 798.58 798.56 798.68 798.80 798.89 799.42 799.44 799.52 799.54 801.54 801.55 801.59 801.59		Bedrock (lithic)	Indurated	14 (0.2)	BLA31	Coldwall	Missouri
788.58 798.64 798.86 798.80 799.42 799.52 799.54 801.27 801.59 801.59 801.59 801.59 801.59	Someol	Bodrock (naralithic)	Moderately computed	40 to 80	2 2	Caldwell	Missouri
799.42 799.44 799.42 799.44 7799.52 799.54 801.24 801.27 801.59 801.59 801.59 801.65		Bedrock (paralithic)	Weakly cemented	31 to 33	쮼	Caldwell	Missouri
799.42 799.44 799.52 799.54 801.27 801.27 801.55 801.55 801.59 801.59 801.59		Bedrock (paralithic)	Moderately cemented	40 to 80	RP	Caldwell	Missouri
799.52 799.54 801.27 801.27 801.51 801.55 801.59 801.59 801.59		Bedrock (lithic)		0 to 60	BLAST	Caldwell	Missouri
801.24 801.27 801.51 801.55 801.59 801.69 801.59 801.67	Γ	Bedrock (lithic)	1 2 1	0 to 60	BLAST	Caldwell	Missouri
801.51 801.55 801.59 801.59 801.59 801.67		Bedrock (paralithic)	Weakly cemented	31 to 33	RIP	Caldwell	Missouri
801.59 801.59 801.59 801.67	Snead	Bedrock (paralithic)	Weakly cemented	31 to 33	찚	Caldwell	Missouri
801.59 801.67		Bedrock (paralithic)	Weakly cemented	31 to 33	쮼	Caldwell	Missouri
		Bedrock (paralithic)	Moderately cemented	40 to 80	AR.	Caldwell	Missouri
15-ML 807.30 807.32 125.6	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri

	1	MP	LENGTH	DW VIV		RESTRICTIVE LAYER	YER		COLINTY	STATE
	FROM	2	E	SOIL INAIME	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION		5
15-ML	807.66	807.70	224.5	Rock land	Bedrock (lithic)		0 to 60	BLAST	Caldwell	Missouri
15-ML	807.74	807.81	363.2	Rock land	Bedrock (lithic)		0 to 60	BLAST	Caldwell	Missouri
15-ML	807.87	807.94	382.3	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	808.16	808.21	262.9	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	808.24	808.26	94.2	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	808.33	808.37	209.4	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	808.68	808.72	209.7	Rock land	Bedrock (lithic)		0 to 60	BLAST	Caldwell	Missouri
15-ML	808.82	808.89	322.9	Rock land	Bedrock (lithic)	1 1	0 to 60	BLAST	Caldwell	Missouri
15-ML	808.96	809.10	744.0	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	809.42	809.48	316.5	Sampsel	Bedrock (paralithic)	Moderately cemented	40 to 80	RIP	Caldwell	Missouri
15-ML	809.62	809.72	521.8	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	809.72	809.92	1057.8	Sampsel	Bedrock (paralithic)	Moderately cemented	40 to 80	RIP	Caldwell	Missouri
15-ML	809.92	810.03	578.4	Rock land	Bedrock (lithic)	: :	0 to 60	BLAST	Caldwell	Missouri
15-ML	810.12	810.16	248.0	Rock land	Bedrock (lithic)		0 to 60	BLAST	Caldwell	Missouri
15-ML	810.16	810.18	71.2	Snead	Bedrock (paralithic)	Weakly cemented	31 to 33	RIP	Caldwell	Missouri
15-ML	810.18	810.24	329.3	Rock land	Bedrock (lithic)	1 1	0 to 60	BLAST	Caldwell	Missouri
15-ML	810.29	810.42	676.5	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	810.43	810.51	422.6	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	810.60	810.72	628.0	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	812.72	812.77	253.5	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	812.77	812.86	497.9	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	812.86	812.87	55.7	Snead	Bedrock (paralithic)		16 to 36	RIP	Caldwell	Missouri
15-ML	812.87	813.03	821.1	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	813.03	813.06	158.9	Snead	Bedrock (paralithic)		16 to 36	RIP	Caidwell	Missouri
15-ML	813,44	813.48	255.8	Snead	Bedrock (paralithic)	Weakly cemented	31 to 33	RIP	Caldwell	Missouri
15-ML	813.48	813.59	576.8	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	813.73	813.74	37.1	Snead	Bedrock (paralithic)	Weakly cemented	31 to 33	RIP	Caldwell	Missouri
15-ML	813.74	813.87	7.007	Rock land	Bedrock (lithic)	1	0 to 60	BLAST	Caldwell	Missouri
15-ML	813.87	813.92	262.2	Snead	Bedrock (paralithic)	Weakly cemented	31 to 33	ᄱ	Caldwell	Missouri
15-ML	813.97	814.07	541.0	Gosport	Bedrock (paralithic)		31 to 64	RIP	Caldwell	Missouri
15-ML	814.07	814.10	181.5	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	RIP	Caldwell	Missouri
15-ML	814.15	814.19	225.8	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	뮵	Caldwell	Missouri
15-ML	814.24	814.29	262.3	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to 67	絽	Caidwell	Missouri
15-ML	814.29	814.32	170.4	Sampsel	Bedrock (paralithic)	Moderately cemented	40 to 80	쮼	Caldwell	Missouri
15-ML	814.32	814.38	296.8	Gosport	Bedrock (paralithic)	1	31 to 64	묩	Caldwell	Missouri
15-ML	814.51	814.92	2145.2	Gosport	Bedrock (paralithic)	1 6 3	31 to 64	RIP	Carroll	Missouri
15-ML	815.43	815.54	607.3	Gosport	Bedrock (paralithic)	1	31 to 64	RIP	Carroll	Missouri
15-ML	815.63	815.67	233.4	Gosport	Bedrock (paralithic)	1	31 to 64	RIP	Carroll	Missouri
15-ML	815.78	815.83	269.8	Gosport	Bedrock (paralithic)	1	20 to 40	RIP	Carroll	Missouri
15-ML	815.87	815.93	287.1	Gosport	Bedrock (paralithic)	1 1	20 to 40	F 1	Carroll	Missouri
15-ML	816.01	816.15	7.66.2	Gosport	Bedrock (paralithic)	1 1 2	20 10 40		Carroll	Missouri
15-ML	816.16	816.17	39.4	Gosport	Bedrock (paralithic)	1 1 1 1	31 10 64	AN C	Carroll	MISSOUI
15-ML	816.21	816.23	102.0	Gosport	Bedrock (paralithic)		31 to 64		Carroll	MISSOULI
15-ML	816.28	816.43	767.3	Gosport	Bedrock (paralithic)	3	31 to 64	AIN III	Carroll	Missouri
15-ML	816.49	816.52	160.9	Gosport	Bedrock (paralithic)	1	31 to 64	F	Carroll	Missouri
15-ML	816.56	816.72	845.9	Gosport	Bedrock (paralithic)	1	31 to 64	A II	Carroll	Missouri
15-ML	816.75	816.81	339.0	Gosport	Bedrock (paralithic)		31 to 64		Carroll	Missouri
15-ML	820.50	820.58	413.6	Gosport	Bedrock (paralithic)		31 to 64	콜	Carroll	Missouri
15-ML	820.74	821.31	3044.5	Gosport	Bedrock (paralithic)	I I	31 to 64		Carroll	Missouri
15-ML	821.56	821.69	697.3	Gosport	Bedrock (paralithic)		20 to 40		Carroll	Missouri
15-ML	821.76	821.82	334.5	Gosport	Bedrock (paralithic)		20 to 40	KIP	Carroll	Missouri

SOIL NAME
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Newcomer
1114.6 Gosport 1114.6 Gosport 1114.6 Gosport 1114.6 Gosport 1114.6 Gosport 1027.1 Gosport 1027.1 Gosport 1027.1 Gosport 1027.1 Gosport 1027.1 Gosport 1027.8 Gosport 1027.9 Go

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Ц Д	FROM	10	E		KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION] [
15-ML	854.46	854.55	475.6	Newcomer	Bedrock (lithic)	Indurated	40 to 80	BLAST	Chariton	Missouri
15-ML	854.57	854.62	250.5	Newcomer	Bedrock (lithic)	Indurated	40 to 80	BLAST	Chariton	Missouri
15-ML	854.70	854.76	336.4	Newcomer	Bedrock (lithic)	Indurated	40 to 80	BLAST	Chariton	Missouri
15-ML	854.84	854.90	298.2	Newcomer	Bedrock (lithic)	Indurated	40 to 80	BLAST	Chariton	Missouri
15-ML	856.82	857.00	968.3	Triplett	Abrupt textural change	Noncemented	1 1	dIN	Chariton	Missouri
15-ML	871.38	871.40	72.9	Newcomer	Bedrock (lithic)	Indurated	40 to 80	BLAST	Chariton	Missouri
15-ML	871.40	871.43	162.5	Newcomer	Bedrock (lithic)	Indurated		BLAST	Chariton	Missouri
15-ML	876.12	876.17	231.6	Gosport	Bedrock (paralithic)	, 1	20 to 40	dIA	Randolph	Missouri
15-ML	876.23	876.30	364.7	Gosport	Bedrock (paralithic)	1 1	20 to 40	AIP.	Randolph	Missouri
15-ML	876.37	876.44	349.1	Gosport	Bedrock (paralithic)	E & E	20 to 40	RIP	Randolph	Missouri
15-ML	877.01	877.11	544.0	Reger	Bedrock (paralithic)		16 to 40	RIP	Randolph	Missouri
15-ML	877.18	877.41	1241.2	Reger	Bedrock (paralithic)		16 to 40	RIP	Randoiph	Missouri
15-ML	877.55	877.59	216.8	Reger	Bedrock (paralithic)	1	16 to 40	잼	Randolph	Missouri
15-ML	877.62	877.84	1171.5	Reger	Bedrock (paralithic)	1	16 to 40	RIP	Randolph	Missouri
15-ML	877.85	877.87	9.99	Reger	Bedrock (paralithic)	1 1	16 to 40	AIN.	Randolph	Missouri
15-ML	879.52	879.68	826.8	Gosport	Bedrock (paralithic)	1 1	20 to 40	AIN.	Randolph	Missouri
15-ML	880.16	880.40	1259.7	Gosport	Bedrock (paralithic)	1	20 to 40	RIP	Randolph	Missouri
15-ML	880.44	880.72	1507.0	Gosport	Bedrock (paralithic)	1 1	20 to 40	RIP	Randoiph	Missouri
15-ML	881.25	881.45	1028.5	Gosport	Bedrock (paralithic)	1	20 to 40	RIP	Randolph	Missouri
15-ML	882.52	882.60	421.8	Gosport	Bedrock (paralithic)	1	20 to 40	RIP	Randolph	Missouri
15-ML	882.69	882.79	542.1	Gosport	Bedrock (paralithic)		20 to 40	RIP	Randolph	Missouri
15-ML	883.06	883.20	749.9	Gosport	Bedrock (paralithic)	1 1	20 to 40	RP	Randolph	Missouri
15-ML	886,47	887.41	4974.6	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Randolph	Missouri
15-ML	887.86	888.05	1013.1	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Randolph	Missouri
15-ML	888.12	888.47	1869.3	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Randolph	Missouri
15-ML	889.16	889.74	3098.9	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Randolph	Missouri
15-ML	890.15	890.83	3581.0	Putnam	Abrupt textural change	Noncemented	10 to 20	RP	Randolph	Missouri
15-ML	898.63	899.18	2899.5	Putnam	Abrupt textural change	Noncemented	10 to 20	RP	Audrain	Missouri
15-ML	901.95	902.04	494.9	Putnam	Abrupt textural change	Noncemented	10 to 20	ᄱ	Audrain	Missouri
15-ML	902.18	902.27	484.2	Putnam	Abrupt textural change	Noncemented	10 to 20	RP	Audrain	Missouri
15-ML	902.53	902.74	1112.2	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	904.50	904.59	493.5	Putnam	Abrupt textural change	Noncemented	10 to 20	AN I	Audrain	Missouri
15-ML	904.67	904.95	1454.0	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	906.19	906.45	1363.3	Putnam	Abrupt textural change	Noncemented	10 to 20	귶	Audrain	Missouri
15-ML	906.85	907.04	1002.2	Putnam	Abrupt textural change	Noncemented	10 to 20	AN I	Audrain	Missouri
15-ML	909.12	911.25	11211.2	Putnam	Abrupt textural change	Noncemented	10 to 20	AIP I	Audrain	Missouri
15-ML	911.90	912.11	1140.3	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	917.99	918.02	156.5	Marion	Abrupt textural change	Noncemented		RIP	Audrain	Missouri
19-ML	918,41	918,43	120.6	Winnegan	Bedrock (lithic)	Very strongly cemented	35 (0 33	BLASI	Audrain	Wilssouri
15-ML	919.03	919.14	561.4	Winnegan	Bedrock (lithic)	Very strongly cemented		BLASI	Audrain	Missouri
19-ML	919.26	919.28	102.3	Warion	Abrupt textural change	Very strongly cemented		TAN IA	Audrain	Missouri
15-MI	920.32	921.18	4549 4	Pufnam	Abrupt textural change	Noncemented		AB BB	Audrain	Missouri
15-MI	924.01	924.07	324.4	Putnam	Abruot textural change	Noncemented	10 to 20	RP	Audrain	Missouri
15-ML	924.31	924.42	583.8	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	925.52	925.70	933.9	Putnam	Abrupt textural change	Noncemented	10 to 20	RP	Audrain	Missouri
15-ML	926.46	926.53	368.3	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	927.43	927.66	1214.9	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	929.80	930.23	2239.6	Putnam	Abrupt textural change	Noncemented	10 to 20	RIP	Audrain	Missouri
15-ML	931.82	932.13	1636.9	Putnam	Abrupt textural change	Noncemented	10 to 20	RP	Audrain	Missouri
15-ML	932.67	932.82	785.3	Putnam	Abrupt textural change	Noncemented	10 to 20	뮨	Audrain	Missouri

15-ML 15-ML	FROM 932.82 934.30 935.98 936.60 939.58 941.92 942.24 942.24 948.51 948.51 949.25 949.25 949.25 950.51 950.51 950.91 950.91 950.97 950.97 950.97 950.97	TO 933.89 934.41 936.45 936.70 939.74 942.81	5624.2	SOIL NAME	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION	E COON	OIAIE
15-ML 15-ML	932.82 934.30 935.98 935.98 941.92 942.24 942.24 942.24 943.04 949.25 949.40 949.25 949.40 960.40 960.61 960.61 960.61 960.61 960.61 960.61 960.61 960.61 960.61	933.89 934.41 936.45 936.70 939.74 941.96 942.31	5624.2	Dutnam			00 -1 07			4.41
15-ML 15-ML	934.30 935.98 935.98 930.60 941.92 942.24 942.24 943.04 948.59 949.40 950.40 950.64 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61	934.41 936.45 936.70 939.74 941.96 942.31			Abrupt textural change	Noncemented	10 to 20	RIP	Montgomery	Missouri
15-ML 15-ML	935.98 936.60 939.58 941.92 942.24 942.24 942.04 943.04 948.51 948.59 949.40 950.54 950.54 950.61 950.91 950.91 950.91 951.26	936.45 936.70 939.74 941.96 942.31	553.1	Putnam	Abrupt textural change	Noncemented	1 1 1	RIP	Montgomery	Missouri
15-ML 15-ML	936.60 939.58 941.92 942.24 942.24 948.51 948.51 949.40 950.54 950.54 950.61 950.61 950.91 950.91 950.91 950.91 950.91 950.91	936.70 939.74 941.96 942.31	2460.7	Putnam	Abrupt textural change	Noncemented	1	RIP	Montgomery	Missouri
15-ML 15-ML	939.58 941.92 942.24 942.24 943.04 948.51 948.59 949.25 949.40 960.40 960.61 960.61 960.91 960.91 960.91 960.91 960.91 960.91 960.91 960.91	939.74 941.96 942.31 942.81	507.4	Putnam	Abrupt textural change	Noncemented		RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	941.92 942.24 942.24 943.04 948.59 949.25 949.40 950.40 950.61 950.61 950.91 950.91 950.91 950.91 950.91 950.91 950.91 950.91 950.91	941.96 942.31 942.81	868.3	Auxvasse	Abrupt textural change	Noncemented	12 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	942.24 942.69 942.69 943.04 948.59 949.25 960.40 960.61 960.61 960.61 960.91 960.91 960.91 960.91 960.91 960.91 960.91 960.91 960.91	942.31	235.1	Auxvasse	Abrupt textural change	Noncemented	12 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	942.69 943.04 948.51 948.51 948.51 949.25 949.40 960.40 960.61 960.61 960.61 960.91 960.91 960.91 961.36 961.36	942.81	339.1	Hatton	Dense material	Noncemented	27 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	943.04 948.51 948.53 949.25 949.25 950.40 950.54 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61 950.61		629.5	Hatton	Dense material	Noncemented	27 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	948.51 948.59 948.59 949.40 950.54 950.54 950.61 950.91 950.91 951.26 951.26	943.15	551.8	Hatton	Dense material	Noncemented	27 to ~~	쮼	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	948.59 949.25 949.25 949.40 950.40 950.59 960.59 960.91 960.97 960.97 960.97 961.36 961.36	948.54	199.8	Hatton	Dense material	Noncemented	27 to ~~	AR P	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	949.25 949.40 960.40 960.54 960.61 960.61 960.91 960.91 960.97 961.13 961.36	948.62	149.8	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	949.40 960.40 960.54 960.59 960.61 960.61 960.91 961.13 961.26 961.36	949.30	256.7	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.40 950.54 950.59 950.61 950.91 950.97 951.26 951.26 951.36	949.44	227.0	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to ~~	AF.	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.54 950.59 950.61 950.91 950.97 951.13 951.26 951.26	950.54	767.2	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to ~~	AR.	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.59 950.61 950.91 950.97 951.13 951.26	950.57	156.2	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missourí
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.61 950.91 950.97 951.13 951.26 951.36	950.61	85.5	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.91 950.97 951.13 951.26 951.36	950.85	1296.4	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	950.97 951.13 951.26 951.36	950.97	322.8	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	951.13 951.26 951.36 951.50	951.00	154.1	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	951.26 951.36 951.50	951.20	406.4	Auxvasse	Abrupt textural change	Noncemented	12 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML 15-ML 15-ML	951.36 951.50	951.36	546.0	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML 15-ML	951,50	951.39	134.5	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML		951,52	144.2	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML 15-ML 15-ML	951.52	951.55	114.4	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML 15-ML 15-ML	951.60	951.98	2012.2	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
15-ML 15-ML	952.02	952.03	63.8	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
15-ML	952.29	952.51	1150.5	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
7E NA	952.51	952.56	264.4	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
10-IVIL	952.61	952.64	153.7	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML	952.64	952.64	41.8	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RP	Montgomery	Missouri
15-ML	952.64	952.69	245.8	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLAST	Montgomery	Missouri
15-ML	952.69	952.79	539.7	Snead	Bedrock (paralithic)	Weakly cemented	31 to ~~	RIP	Montgomery	Missouri
15-ML	952.79	952.89	530.3	Sampsel	Bedrock (paralithic)	Moderately cemented	63 to ~~	RIP	Montgomery	Missouri
13-ML	953.20	953.23	1.94.1	Gasconade	Bedrock (IRNIC)	Indurated	4 10 ~~	BLAS!	Montgomery	Missouri
13-ML	953.23	953.31	288.8	Gasconade	Begrock (lithic)	Indurated	4 10 ~~	BLASI	Monigornery	Missouri
15-ML	953.38	953.42	275.3	Gasconade	Bedrock (lithic)	Indurated	4 to ~~	BLASI	Montgomery	Missouri
19-ML	953.45	953.46	440.5	Gasconade	Bedrock (IIIIIc)	Indurated	4 to ~~	BLASI	Montgomery	Missouri
10-MI	955,50	953.52	528.2	Gasconade	Bedrock (lithic)	Indurated	4 10 ~~	BLAS I	Montgomeny	Missouri
12 MI	953.77	953.82	276.0	Haffon	Dealock (minc)	Noncemented	27 to ~~	ola Ola	Montgomen	Missouri
15.MI	953.82	954 01	984.1	Hatton	Dense material	Noncemented	27 to 38	Z dX	Lincoln	Missouri
15-ML	954.02	954.04	121.1	Hatton	Dense material	Noncemented	27 to 38	AR -	Lincoln	Missouri
15-ML	954.04	954.10	315.6	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
15-ML	954.20	954.29	454.8	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
15-ML	954.94	955.09	755.7	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
15-ML	955.21	955.27	315.6	Hatton	Dense material	Noncemented	27 to 38	RP	Líncoln	Missouri
15-ML	957.22	957.29	348.1	Gasconade	Bedrock (lithic)	Indurated	4 to 20	BLAST	Lincoln	Missouri
15-ML	959.95	60'096	722.6	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
15-ML	960.43	960.52	466.6	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
15-ML	961,63	961.69	336.8	Gasconade	Bedrock (lithic)	Indurated	4 to 20	BLAST	Lincoln	Missouri
15-ML	961.69	961.74	270.3	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri

Heading 100 All All	5-ML 5-ML 5-ML										
98,13.4 98,14.2 98,14.2 14,15.2 14,14.2 <	5-ML 5-ML 5-ML	FROM	TO	B		KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION		
98.2.2. 98.2.2. 98.2.2. 18.0.0. Hallon Densa material Noncemented 27.0.93 RPP Lincoh 98.2.0. 98.2.2.0 98.2.2.0 98.2.2.0 98.2.0 18.0.0.0 11.000 h 98.2.0. 98.2.2.0 98.2.2.0 98.2.0 11.000 h 11.000 h 11.000 h 98.2.0. 98.2.0. 12.0.0. 18.0. 11.000 h 12.0.0.30 18.0. 11.000 h 98.2.0. 98.2.0. 18.0. 18.0. 11.000 h 12.0.0.30 18.0. 11.000 h 98.2.0. 98.2.0. 18.0.	5-ML 5-ML	961.74	961.83	469.5	Gasconade	Bedrock (lithic)	Indurated	4 to 20	BLAST	Lincoln	Missouri
98.2.3.0 98.2.1 m. 18.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	5-ML 5-MI	962.23	962.26	170.9	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
98.27.1 98.27.1 28.6.1 1400m Durse material Noncementarial 7.7 to 3.8 RPP Licrosin 98.5.2.1 98.5.0.8 58.5.0.9 51.0.4 1400m Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 98.5.2.0 58.5.0.9 51.0.4 Helmon Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 98.5.2.0 58.5.1 54.0.0 Helmon Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 58.6.1 4.0.0 Helmon Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 58.6.1 4.0.0 Helmon Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 58.6.1 4.0.0 Helmon Durse material Noncementarial 27 to 3.8 RPP Licrosin 98.5.2.1 58.6.2. 4.0.0 Helmon Durse material Noncementarial <	F-MI	962.30	962.38	389.1	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
98.92.14 98.92.24 98.92.24 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.15 98.92.25 1440m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.15 98.92.35 15.02.3 1440m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 98.82.3 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 98.82.10 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 1400m Dues meletial Noncemented 27 to 3.8 RIP Lincoin 98.92.12 1400m </td <td>1</td> <td>962.71</td> <td>962.77</td> <td>294.1</td> <td>Hatton</td> <td>Dense material</td> <td>Noncemented</td> <td>27 to 38</td> <td>RIP</td> <td>Lincoln</td> <td>Missouri</td>	1	962.71	962.77	294.1	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
966.23 66.22.24 66.22.24 66.22.24 66.22.24 66.22.24 141.0 Holton Choose material Noncommented 27.10.28 RIPP Unicol 968.24.3 96.54.3 96.72.0 Halton Dones material Noncommented 27.10.28 RIPP Unicol 966.4.3 96.4.30 1410 Dones material Noncommented 27.10.28 RIPP Unicol 966.4.3 96.4.30 1410 Dones material Noncommented 27.10.28 RIPP Unicol 966.4.7 96.6.20 1410 Dones material Noncommented 27.10.28 RIPP Unicol 966.4.7 96.6.20 1410 Dones material Noncommented 27.10.28 RIPP Unicol 966.4.7 96.6.20 1410 Dones material Noncommented 27.10.28 RIPP Unicol 96.6.2 96.6.2 1410 Dones material Noncommented 27.10.38 RIPP Unicol 96.6.2 96.6.2 1410 <	5-ML	963.04	963.08	205.1	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
98.5.3.1 68.5.3.2 68.9.3.3 Helium Doines maderial Noncommented 27.10.28 RIP Unionin 98.6.3.4.3 68.3.3 98.3.9 87.10.0 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.3 68.4.3 1.86.2 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.7 58.6.3 58.4.3 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.7 58.6.3 58.4.3 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.0 58.6.3 77.2 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.0 58.6.3 24.2.0 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn 98.6.3.0 58.6.3 24.2.0 Helium Doines maderial Noncommented 27.10.28 RIP Lincohn	5-ML	963.23	963.25	114.2	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
586,245 56,10 Halton Dense mentania Noncemented 27 to 38 RIP Lincoln 586,44 586,43 286,43 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 586,44 984,54 286,51 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 586,47 984,54 143,10 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 986,38 985,4 781,20 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 986,38 986,34 781,21 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 986,38 986,34 782,1 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 986,37 986,34 186,04 Halton Dense metrania Noncemented 27 to 38 RIP Lincoln 986,37 986,32 186,04	5-ML	963.51	963.63	593.3	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
864.26 964.50 266.34 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.17 964.50 264.51 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.17 966.18 443.1 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.28 966.18 37.20 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.28 966.28 37.00 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.28 966.28 966.26 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.28 966.28 966.28 966.20 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.28 966.20 Halton Denies material Noncemented 27 to 38 RIP Lincon 966.20 966.20	5-ML	963.83	963.99	871.0	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
666.476 566.456 26.44 Helton Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.577 966.378 964.38 44.31 Helton Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.570 966.37 966.38 44.31 Helton Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.38 37.31 Helton Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.38 366.44 1410 Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.48 17.00 Helton Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.48 1410 Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.47 1410 Denes mentaal Non-centreled 27.0 28 RPP Lincoin 966.280 966.47	5-ML	964.29	964.34	266.3	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
964.75 964.35 94.43 44.41 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 965.30 965.31 24.20 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 965.42 965.43 17.76 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 966.43 966.44 17.76 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 966.43 966.44 18.04 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 966.45 966.45 18.04 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 966.54 967.20 18.04 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 966.74 967.20 18.04 Helton Deres material Noncemented 27.0 p.38 RPP Lincoln 967.74	5-ML	964.46	964.50	204.3	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
96.6.77 96.5.16 4.2.20 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.47 96.6.16 2.4.20 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.23 96.6.24 7.17.5 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.30 96.6.25 96.2.5 1.4100 Designation Noncemented 27 to 38 RIP Lincoin 96.6.30 96.6.25 96.2.1 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.31 96.6.25 96.4.1 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.32 96.6.25 19.4.1 Halton Designation Noncemented 27 to 38 RIP Lincoin 96.6.37 19.6.2.47 Julian Designation Beaching RIP Lincoin 96.2.47 19.6.2.47 Julian Designation	5-ML	964.75	964.83	443.1	Hatton	Dense material	Noncemented	27 to 38	쮼	Lincoln	Missouri
965.30 SE64.0 READ Halton Dense maretal Noncemented 27 to 38 RIP Lincohn 965.30 965.45 77.61 Halton Dense material Noncemented 27 to 38 RIP Lincohn 965.30 965.45 77.51 Halton Dense material Noncemented 27 to 38 RIP Lincohn 965.30 965.45 24.02 Helton Dense material Noncemented 27 to 38 RIP Lincohn 965.30 965.40 1981 Helton Dense material Noncemented 27 to 38 RIP Lincohn 966.31 965.40 4100 Local Memory RIP Lincohn 966.32 965.40 4100 Dense material Noncemented 27 to 38 RIP Lincohn 966.34 967.40 4100 Dense material Noncemented 27 to 38 RIP Lincohn 967.42 967.40 967.40 967.40 Process RIP Lincohn	5-ML	965.07	965.15	423.0	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
98.54.1 98.54.4 77.7 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.52.3 98.54.4 71.7.3 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.53.9 98.54.5 2.0.2 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.53.8 98.64.5 2.86.4 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.64.8 98.64.5 1.86.4 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.64.8 98.64.5 1.86.4 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.64.1 98.74.1 1.86.4 Helton Dense material Noncemented 27.0 53 RIP Linchin 98.64.2 98.74.1 1.86.4 Beach Dense material Noncemented 27.0 53 RIP Linchin 98.64.2 98.84.2 <td>5-ML</td> <td>965.30</td> <td>965.35</td> <td>264.0</td> <td>Hatton</td> <td>Dense material</td> <td>Noncemented</td> <td>27 to 38</td> <td>RIP</td> <td>Lincoln</td> <td>Missouri</td>	5-ML	965.30	965.35	264.0	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
986.28.9 98.54.2 78.13 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.38.9 986.25 2.02.2 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.38.9 986.25 1.86.4 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.38.9 986.25 1.86.4 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.38.1 986.25.0 1.86.1 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.37.1 1.86.2 Hatton Dense material Noncemented 27.10.28 RIP Lincoin 986.37.2 1.86.2. Bucklick Bedrock (IIII) Industrial 40.10.60 BLAST Lincoin 988.24.2 1.86.2. Bucklick Bedrock (IIII) Industrial 40.10.60 BLAST Lincoin 988.24.2 1.86.2. Bucklick Bedrock	5-ML	965.41	965.45	177.6	Hatton	Dense material	Noncemented	27 to 38	RP	Lincoln	Missouri
986.28 986.24 Halton Danes material Noncemented 27 to 38 RPP Lincoin 986.88 986.66 386.44 Halton Danes material Noncemented 27 to 38 RPP Lincoin 986.89 986.80 1884 Halton Danes material Noncemented 27 to 38 RPP Lincoin 986.89 986.80 1881 Halton Danes material Noncemented 27 to 38 RPP Lincoin 986.89 987.70 237.4 Bouckick Bedrox (lithic) Industrial 40 to 60 BLAST Lincoin 988.30 988.20 227.8 Bouckick Bedrox (lithic) Industrial 40 to 60 BLAST Lincoin 988.30 988.20 227.8 Bouckick Bedrox (lithic) Industrial 40 to 60 BLAST Lincoin 988.30 988.20 227.8 Buddick Bedrox (lithic) Industrial 40 to 60 BLAST Lincoin 988.30 988.21 327.8 <td>5-ML</td> <td>965.69</td> <td>965.84</td> <td>781.3</td> <td>Hatton</td> <td>Dense material</td> <td>Noncemented</td> <td>27 to 38</td> <td>RIP</td> <td>Lincoln</td> <td>Missouri</td>	5-ML	965.69	965.84	781.3	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
966.58 966.56 966.56 966.56 966.56 PHRION Dones making Noncemented 27 to 38 RIPP Lincoin 966.58 966.58 198.41 Hatton Dones making Noncemented 27 to 38 RIP Lincoin 966.58 198.11 Hatton Dones making Noncemented 27 to 38 RIP Lincoin 966.58 198.11 Hatton Dones making Noncemented 27 to 38 RIP Lincoin 967.74 188.01 188.02 188.02 18.04 Bedroof (IIIn) Indianated 40 to 60 BLAST Lincoin 968.24 986.25 166.25 Bucklick Bedroof (IIIn) Indianated 40 to 60 BLAST Lincoin 968.24 986.25 186.27 Bucklick Bedroof (IIIn) Indianated 40 to 60 BLAST Lincoin 988.24 986.26 186.27 Bucklick Bedroof (IIIn) Indianated 40 to 60 BLAST Lincoin 988.27	5-ML	966.20	966.25	240.2	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
966.56 966.66 356.41 Helton Dones malerial Noncemented 27 to 38 RIP Lincoin 966.57 967.00 477.0 Boddick Bodd	5-ML	966.38	966.55	902.9	Hatton	Dense material	Noncemented	27 to 38	쬬	Lincoln	Missouri
966.86 198.1 Haltin Dorse meterial Noncemented 27 to 36 RIP Lincoln 966.81 967.00 427.0 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 967.70 967.74 228.0 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.30 968.28 168.25 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.30 968.28 168.25 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.31 271.8 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.32 277.8 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.34 968.34 277.8 Buckleck Bedrook (lithe) Indurated 40 to 60 BLAST Lincoln 968.35 277.1 Buckleck Bedrook (lithe)	5-ML	966.58	966.65	396.4	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
966 51 987 00 427.0 Blocklick Bedrock (filth) Indurated 40 to 50 BLAST Lincoin 967.74 967.74 202.0 Bucklick Bedrock (filth) Indurated 40 to 50 BLAST Lincoin 968.70 968.77 202.0 Bucklick Bedrock (filth) Indurated 40 to 50 BLAST Lincoin 968.72 968.22 182.23 Bucklick Bedrock (filth) Indurated 40 to 50 BLAST Lincoin 969.24 968.26 182.23 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 969.24 969.26 252.83 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 969.24 969.26 252.83 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 969.24 969.26 252.83 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 969.24	5-ML	966.85	966.89	198.1	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
987,44 987,52 23.44 Blocklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 986,39 986,39 986,30 988,10 18,62 Blocklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 988,39 988,20 186,83 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 988,02 988,02 186,83 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 989,24 989,22 227,9 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 989,24 989,28 227,9 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 989,34 989,39 277,1 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin 989,83 97,21 Bucklick Bedrock (filth) Indurated 40 to 60 BLAST Lincoin	5-ML	966.91	967.00	427.0	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
987.74 208.0 Blucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.39 986.21 752.6 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.39 986.39 186.8 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.34 986.36 186.8 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.34 986.32 237.8 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.37 986.34 986.34 40 to 60 BLAST Lincoin 986.34 986.34 180.0 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.35 97.07 47.5 Bucklick Bedrock (filthe) Indurated 40 to 60 BLAST Lincoin 986.39 97.07 47.5 Bucklick Bedrock (filthe) <	5-ML	967.48	967.53	231.4	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
968.06 968.21 773.6 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 966.23 966.26 168.21 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 966.24 966.26 273.8 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 968.24 969.28 273.8 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 969.57 969.62 277.9 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 969.57 969.62 277.9 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 976.86 975.41 976.44 976.44 976.64 Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 976.45 976.46 976.46 976.46 976.46 976.64 976.64 976.64 976.64 976.64 97	5-ML	967.70	967.74	208.0	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
968.39 1882.3 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.32 58.36 Lisé.3 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.34 585.36 223.8 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.34 586.34 586.38 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.35 127.08 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.36 141.0 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 971.36 975.40 150.0 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 975.37 975.40 150.0 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 977.32 976.40 150.0 Bucklick	5-ML	968.08	968.21	728.6	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoin	Missouri
965.02 968.06 165.8 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 965.34 969.28 227.8 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 965.34 969.28 227.8 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 965.35 969.24 58.9 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 965.36 970.07 447.6 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 975.37 970.07 447.6 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 976.37 976.37 976.27 18.0 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 977.30 977.24 40.0 60 60 BLAST Lincoln 976.25 976.24 40.0 <	5-ML	968.39	968,69	1582.3	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
969.24 988.28 223.8 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.54 986.54 986.58 227.8 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.54 986.56 227.9 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 968.93 989.94 586.8 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 976.37 976.37 976.40 18.6 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 976.37 976.36 977.20 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 977.30 977.22 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 977.30 977.22 Bucklick Bedrock (fiftie) Indurated 40 to 60 BLAST Lincoln 977.30	5-ML	969.02	969.05	165.8	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
968.34 968.34 968.34 968.34 968.34 968.34 968.34 968.34 968.37 Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 968.37 969.37 969.37 969.37 10 to 60 BLAST Lincoln 968.38 969.02 10 to 60 BLAST Lincoln Lincoln 968.38 970.07 447.6 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 976.34 976.34 40.0 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 976.34 976.34 978.34 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.30 Bucklick Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.30 977.30 Bedrock (filtic) Indurated 40 to 60 BLAST Lincoln	19-ML	969.24	969.28	223.8	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
969.87 969.82 227.9 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 969.98 970.97 475 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 971.36 970.97 476 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 971.36 972.11 860.8 Hatton Dense material Noncemented 27 to 38 RIP Lincoln 976.46 976.40 401.3 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 977.02 977.02 18.0 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 977.02 977.02 977.02 18.0 Bucklick Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln 977.02 977.02 977.04 977.02 18.0 Bedrock (filthic) Indurated 40 to 60 BLAST Lincoln	15-ML	969.34	969.38	237.8	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
998.33 988.94 588.8 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 975.37 972.11 40.0 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 976.37 976.40 150.0 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 976.37 976.34 471.3 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.30 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.30 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.30 977.30 Bucklick Bedrock (fiftic) Indurated 40 to 60 BLAST Lincoln 977.30 176.50 176.50 Bucklick Bedrock (fiftic) Indurated 40 to 60<	2-ML	969.57	969.62	227.9	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
988.39 970.07 447.6 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 976.36 978.11 850.8 Hatton Denote material Noncemented 27 to 38 RIP Lincoln 976.36 976.31 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 976.36 976.34 401.3 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.31 977.35 256.1 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.35 256.1 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.70 977.36 977.36 174.2 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.70 977.31 174.2 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln	18-ML	969.83	969.94	598.8	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
971.36 972.11 850.8 Hatton Dense material Noncemented 27 to 38 RIP Lincoln 976.40 166.0 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 976.46 976.54 401.3 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 977.03 977.22 138.2 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 977.10 977.22 138.2 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.32 225.0 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 977.39 977.30 977.31 174.2 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 977.39 977.30 174.2 Bucklick Bedrock (Ithic) Indurated 40 to 60 BLAST Lincoln 978.97 97	15-ML	969.99	970.07	447.6	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
976.37 976.40 150.0 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 976.46 976.46 976.46 40 to 60 BLAST Lincoln 976.46 976.46 40 to 60 BLAST Lincoln 977.03 977.09 378.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.01 977.02 138.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.01 977.02 977.04 977.05 177.15 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.02 977.02 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.09 977.01 977.00 977.00 Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 978.97 174.50 Gosport Bedrock (lithic) Indurated 40 to 60 RLA	19-ML	971.95	972.11	850.8	Hatton	Dense material	Noncemented	27 to 38	RIP	Lincoln	Missouri
976.846 976.54 401.3 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 976.82 976.86 213.7 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.03 977.25 138.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.35 250.1 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.35 292.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.89 977.91 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.89 977.91 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1046.59 16.8 Gosport Bedrock (lithic) 20 to 40 RIP Madison 1045.90 1045.90 <	19-ML	976.37	976.40	150.0	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
976.82 976.86 213.7 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.03 977.09 318.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.10 977.20 977.20 138.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.30 977.30 977.40 977.30 BLAST Lincoln 977.30 977.31 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.31 135.4 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.89 977.91 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.87 1045.90 1045.90 Gosport Bedrock (lithic) 20 to 40 RIP Madison 1045.90 1045.90 134.1 Gosport <td>19-ML</td> <td>976.46</td> <td>976.54</td> <td>401.3</td> <td>Bucklick</td> <td>Bedrock (lithic)</td> <td>Indurated</td> <td>40 to 60</td> <td>BLAST</td> <td>Lincoln</td> <td>Missouri</td>	19-ML	976.46	976.54	401.3	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
977.03 318.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.19 977.22 138.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.10 977.35 292.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.10 977.35 977.01 114.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 978.97 978.97 978.97 1045.06 Gosport Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.69 1045.70 16.0 Gosport Bedrock (parallithic) 20 to 40 RIP Madison 1045.90 1045.9 134.1 Gosport Bedrock (parallithic) 20 to 40 RIP Madison 1045.90 134.1 Gosport Bedrock (parallithic) 20 to 40 RIP Madison 1045.90 <t< td=""><td>15-ML</td><td>976.82</td><td>976.86</td><td>213.7</td><td>Bucklick</td><td>Bedrock (lithic)</td><td>Indurated</td><td>40 to 60</td><td>BLAST</td><td>Lincoln</td><td>Missouri</td></t<>	15-ML	976.82	976.86	213.7	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
977.19 977.22 138.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.35 256.1 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.30 977.31 135.4 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 978.37 978.97 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.67 176.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 136.6 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedr	15-ML	977.03	977.09	318.6	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
977.30 977.35 256.1 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.70 977.75 292.6 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 977.89 977.91 175.4 Bucklick Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 1045.47 1045.50 116.0 Gosport Bedrock (fithic) Indurated 40 to 60 BLAST Lincoln 1045.68 1045.70 160 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134	15-ML	977.19	977.22	138.2	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
977.75 222.6 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 977.89 977.91 135.4 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.97 175.0 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.97 176.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.93 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.96 134.1 Gosport Gosport Bedrock (paralithic) 20 to 40 RIP Madison TOTAL BEDROCK OCCURRENCE= 227851.4 feet OR	15-ML	977.30	977.35	250.1	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
977.89 977.91 135.4 Bucklick Bedrock (filtric) Indurated 40 to 60 BLAST Lincoln 1978.97 979.01 174.2 Bucklick Bedrock (filtric) Indurated 40 to 60 BLAST Lincoln 1045.47 1045.68 165.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.90 1045.91 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.92 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison	15-ML	977.70	977.75	292.6	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
978.97 979.01 174.2 Bucklick Bedrock (lithic) Indurated 40 to 60 BLAST Lincoln 1045.47 1045.50 116.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.93 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.93 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison TOTAL BEDROCK OCCURRENCE 227851.4 feet OR 4.03% FROM ML TOTAL LENGTH ROGON TOTAL LENGTH RIP Madison	15-ML	977.89	977.91	135.4	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
1045.47 1045.50 116.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.68 1045.70 105.8 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.93 1045.93 1045.93 1045.93 RIP Madison TOTAL BEDROCK OCCURRENCE 227851.4 feet OR 4.03% FROM ML TOTAL LENGTH TOTAL LENGTH RIP Madison	15-ML	978.97	979.01	174.2	Bucklick	Bedrock (lithic)	Indurated	40 to 60	BLAST	Lincoln	Missouri
1045.68 1045.68 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.90 1045.93 125.0 Gosport Bedrock (paralithic) 20 to 40 RIP Madison 1045.93 1045.93 1045.96 134.1 Gosport Bedrock (paralithic) 20 to 40 RIP Madison TOTAL BEDROCK OCCURRENCE= 227851.4 feet OR 4.03% FROM ML TOTAL LENGTH RIP Amadison	16-ML	1045.47	1045.50	116.0	Gosport	Bedrock (paralithic)	1	20 to 40	뭠	Madison	Illinois
1045.90 1045.91 125.0 Gosport Bedrock (paralithic)	16-ML	1045.68	1045.70	105.8	Gosport	Bedrock (paralithic)	1 1 1	20 to 40	쮼	Madison	Illinois
1045.93	16-ML	1045.90	1045.93	125.0	Gosport	Bedrock (paralithic)	1	20 to 40	쮼	Madison	Illinois
227851.4 feet OR 4.03% 34312.3 feet OR 0.60%	16-ML	1045.93	1045.96	134.1	Gosport			20 to 40	RIP	Madison	Illinois
34312.3 feet OR 0.60%		TOTAL E	SEDROCK OC	CURRENCE:		OR 4.03%	AL LENGTH				
7007 0 00 00 00 00 00 00 00 00 00 00 00			TOTAL	- BLASTING		OR 0.60%	AL LENGTH				
/02 / C C C +00+			F		•	7007 6 00	UT CAR I I A				

VALUE TANDAM NANDO TANDAM ANDO TANDAM ANDOM ANDOW ANDOM ANDOM ANDOM ANDOM ANDOM ANDOM ANDOM ANDOW <	Ļ	2	МР	LENGTH			RESTRICTIVE LAYER	YER		ATIMITO O	1 F 4 F 6
4.00 6.05 6.25.4 howless Budocot, (filting) Indicate the to 20 6.05 6.25.4 howless Budocot, (filting) Indicate the to 20 10.20 Budocot 1.6.00 1.6.20		FROM	Ф	Ξ	DO OIL	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION	5000	o 4 □
5.5.00 55.50 55.50 CARDAD RAPP RAPP 5.5.00 1.5.50 55.50 1.5.50	14-CE	0.50	0.65	825.4	Hedville	Bedrock (lithic)	Moderately cemented	4 to 20	BLAST	Jefferson	Nebraska
(18.7) (18.8)<	14-CE	14.90	15.00	535.6	Sogn	Bedrock (lithic)	Indurated	4 to 20	BLAST	Washington	Kansas
15.57 15.58 69.06. Limination Holometry (Impulsion) Molecularly (Impulsion) Holometry (I	14-CE	15.00	15.20	1085.4	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Washington	Kansas
(16.22 (18.27) (18.28) <th< td=""><td>14-CE</td><td>15.57</td><td>15.69</td><td>659.6</td><td>Lancaster</td><td>Bedrock (paralithic)</td><td>Moderately cemented</td><td>20 to 40</td><td>찞</td><td>Washington</td><td>Kansas</td></th<>	14-CE	15.57	15.69	659.6	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	찞	Washington	Kansas
(4.58) (4.58)<	14-CE	15.82	15.87	278.8	Sogn	Bedrock (lithic)	Indurated	4 to 20	BLAST	Washington	Kansas
36.70 26.00 41.00 RAPT 36.00 42.00 42.00 42.00 RAPT 41.2 42.20 Honologie Bedrock (linic) Silvorigy commented 4 to 27 BLAST 41.2 42.20 Honologie Bedrock (linic) Silvorigy commented 4 to 27 BLAST 41.2 42.20 42.20 Honologie Bedrock (linic) Silvorigy commented 4 to 27 BLAST 44.2 42.20 42.20 Honologie Bedrock (linic) Silvorigy commented 2 to 20 to 40 RIP 45.2.1 42.20 Honologie Bedrock (linic) Silvorigy commented 2 to 20 to 40 RIP 45.2.2 42.2.3 Bedrock (linic) Silvorigy commented 2 to 20 to 40 RIP 45.2.3 42.2.4 Spring Bedrock (linic) Montal (linic) Silvorigy commented 2 to 20 to 40 RIP 45.2.3 42.2.4 Appended Bedrock (linic) Montal (linic) Newby commented 4 to 20 RIP 45.2.3 </td <td>14-CE</td> <td>15.87</td> <td>15.99</td> <td>656.2</td> <td>Lancaster</td> <td>Bedrock (paralithic)</td> <td>Moderately cemented</td> <td>20 to 40</td> <td>RIP</td> <td>Washington</td> <td>Kansas</td>	14-CE	15.87	15.99	656.2	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Washington	Kansas
9.97.7. 38.56 4.0.2.0. Habbillia Battorio, (filtro) Strongly commender 4 to 20 BLAST 4.1.3.6 4.0.3.8 4.0.3.8 4.0.3.8 1.0.2.7 Hebrillia Battorio, (filtro) Strongly commender 4 to 20 BLAST 4.1.3.2 4.1.2.2 1.1.2.6 </td <td>14-CE</td> <td>26.00</td> <td>26.03</td> <td>157.6</td> <td>Lancaster</td> <td>Bedrock (paralithic)</td> <td>Moderately cemented</td> <td>20 to 40</td> <td>잼</td> <td>Washington</td> <td>Kansas</td>	14-CE	26.00	26.03	157.6	Lancaster	Bedrock (paralithic)	Moderately cemented	20 to 40	잼	Washington	Kansas
4,12.2. 4,12.2. 1,12.2. 1,10.2. <t< td=""><td>14-CE</td><td>39.77</td><td>39.85</td><td>432.0</td><td>Hedville</td><td>Bedrock (lithic)</td><td>Strongly cemented</td><td>4 to 20</td><td>BLAST</td><td>Clay</td><td>Kansas</td></t<>	14-CE	39.77	39.85	432.0	Hedville	Bedrock (lithic)	Strongly cemented	4 to 20	BLAST	Clay	Kansas
41.34 4 41.12 5 11.23 1 11.03 1 <t< td=""><td>14-CE</td><td>40.25</td><td>40.38</td><td>701.7</td><td>Hedville</td><td>Bedrock (lithic)</td><td>Strongly cemented</td><td>4 to 20</td><td>BLAST</td><td>Clay</td><td>Kansas</td></t<>	14-CE	40.25	40.38	701.7	Hedville	Bedrock (lithic)	Strongly cemented	4 to 20	BLAST	Clay	Kansas
41.33 41.12 7179.18 Hendulle Bestrock (filling) Stromyly camenated 4 to 20 BLAST 44.12 44.23 44.24 14.04	14-CE	41.04	41.26	1124.3	Hedville	Bedrock (lithic)	Strongly cemented	4 to 20	BLAST	Clay	Kansas
41.59 42.53 179.69 a Hendelle Bedrock (infinite) Schongly Generated 4 to 20 RAST 44.21 44.22 47.52 b Hendelle Bedrock (insulfinic) Wadnell communicat 20 to 40 RBP 44.21 44.22 27.52 b Brindel Bedrock (insulfinic) Wadnell communicat 20 to 40 RBP 45.35 45.47 170.22 b Brindel Bedrock (insulfinic) Wadnell communicat 20 to 40 RBP 45.38 45.47 170.22 b Brindel Bedrock (insulfinic) Wadnell communicat 20 to 40 RBP 55.38 55.36 65.07 170.22 Brindel Bedrock (insulfinic) Wadnell communicat 7.0 to 70 RBP 55.38 55.34 65.04 65.04 RBP RBP 7.0 to 70 RBP 56.34 56.34 65.04 RBP CBP CBP CBP RBP 56.34 56.34 65.04 RBP CBP CBP RBP RBP 56.34 56.34 65.04 RBP	14-CE	41.38	41.72	1791.6	Hedville	Bedrock (lithic)	Strongly cemented	4 to 20	BLAST	Clay	Kansas
44.12 4.25.0 6.42.0 4.25.0 6.42.0 Rathold Cleantiflicity Washly currented 22 to 4-0 RIP 45.20 4.52.4 4.52.5 Bernied Bedrück (pauliflicity Washly currented 22 to 4-0 RIP 45.30 4.52.4 4.60.2 Bernied Bedrück (pauliflicity Washly currented 22 to 4-0 RIP 45.31 4.55.6 1.67.1.5 Kippor Bernied Berlück (pauliflicity Washly currented 22 to 4-0 RIP 45.33 5.55.6 1.67.1.5 Kippor Berlück (pauliflicity Washly currented 7.00.20 RIP 56.37 5.55.9 68.1.7 1.67.1.5 Kippor Berlück (pauliflicity Washly currented 7.00.20 RIP 56.34 56.5.9 48.1.7 Kippor Berlück (pauliflicity Washly currented 7.00.20 RIP 56.34 56.5.9 48.1.7 Kippor Berlück (pauliflicity Washly currented 7.00.20 RIP 56.3.4 56.5.7 Kippor <	14-CE	41.99	42.33	1790.9	Hedville	Bedrock (lithic)	Strongly cemented	4 to 20	BLAST	Clay	Kansas
44.23 47.54.5 Standal Beatronic (paralliho) Wassky commented 20 to 40 RIP 45.26 44.42.8 73.5.5 Berrilled Bedronic (paralliho) Wassky commented 20 to 40 RIP 45.30 44.5.4 70.2 Derrilled Bedronic (paralliho) Wassky commented 20 to 40 RIP 45.30 55.29 Grand Ripson Bedronic (paralliho) Wassky commented 20 to 40 RIP 65.30 65.40 85.50 Grand RIP Co. 20 GRAP 65.31 65.20 65.30 Grand RIP Co. 20 RIP 65.32 65.40 85.20 Grand RIP Co. 20 RIP 66.41 65.40 65.40 85.40 Accounted RIP RIP 66.53 66.41 66.40 RIP Co. 20 RIP 66.54 66.55 Grand RIP Co. 20 RIP 66.54 66.54 Grand RIP <th< td=""><td>14-CE</td><td>44.12</td><td>44.20</td><td>426.3</td><td>Benfield</td><td>Bedrock (paralithic)</td><td>Weakly cemented</td><td>20 to 40</td><td>RP</td><td>Clay</td><td>Kansas</td></th<>	14-CE	44.12	44.20	426.3	Benfield	Bedrock (paralithic)	Weakly cemented	20 to 40	RP	Clay	Kansas
45.20 45.24 45.24 45.24 50.2 Definition Desiration Probation (paralliho) Wheeley commented 20.0 to 40 RPP 64.55 44.64 46.02 Benfinide Benfinide Benfinide To 20 to 40 RPP 64.38 63.46 16.95 Herrinal Benfinide Benfinide To 20 to 40 RPP 65.39 63.46 16.95 Herrinal Benfinide Benfinide To 20 To 20 to 40 RPP 65.43 65.46 16.95 Herrinal Benfinide Benfinide To 20 To 20 TO 40 RPP 65.46 16.95 46.06 Herrinal Benfinide Benfinide To 20 TO 80 RPP 65.47 16.06 46.06 Member Benfinide Benfinide TO 80 RPP 65.48 16.06 46.06 Member Benfinide Benfinide TO 80 RPP 65.47 16.06 46.06	14-CE	44.21	44.28	375.5	Benfield	Bedrock (paralithic)	Weakly cemented	20 to 40	뫒	Clay	Kansas
445.36 45.45 45.60 Benfinled Bedfrock (benaffin) Weakly commented 20 to 40 RIP 55.38 55.38 1877.5 Kipson Bedfrock (benaffin)	14-CE	45.20	45.24	203.2	Benfield	Bedrock (paralithic)	Weakly cemented	20 to 40	찚	Clay	Kansas
44.55 4.65 T 719.9 Benfinided Bendrok (paralithic) Vesato connected 20 to 4.0 RIP 64.38 53.46 36.56 Kipporn Bendrok (paralithic)	14-CE	45.36	45.45	460.2	Benfield	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Clay	Kansas
63.38 53.58 10.77.5 Kippon Bedrock (paralliho)	14-CE	45.53	45.67	719.9	Benfield	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Clay	Kansas
64.39 64.40 386.54 Kipson Beatrok (paralliho) 7 to 20 RP 64.27 66.59 61.11 Kipson Beatrok (paralliho) 7 to 20 RP 65.47 66.59 61.11 Kipson Beatrok (paralliho) 7 to 20 RP 65.46 66.59 46.50 Kipson Beatrok (paralliho) 7 to 20 RP 67.38 57.27 10.21 Kipson Beatrok (paralliho) 7 to 20 RP 67.39 67.27 10.20 RP RP 7 to 20 RP 67.30 67.27 10.20 RP RP 7 to 20 RP 67.30 67.27 10.20 RP RP 7 to 20 RP 67.30 67.27 10.20 RP 7 to 20 RP 67.30 67.27 10.20 RP 7 to 20 RP 67.31	14-CE	53.38	53.59	1077.5	Kipson	Bedrock (paralithic)	1	7 to 20	RIP	Clay	Kansas
65.23 66.10 89.18 Kippon Bedrock (parallihe)	14-CE	54.39	54.46	365.9	Kipson	Bedrock (paralithic)	1 1	7 to 20	뮨	Clay	Kansas
66.27 66.27 66.27 66.27 7 to 20 RIP 66.46 66.54 66.50 (48.50 (Kipson) Bedrook (parallirlo) 7 to 20 RIP 66.46 56.57 48.50 (Kipson) Bedrook (parallirlo) 7 to 20 RIP 67.38 57.57 107.18 Kipson Bedrook (parallirlo) 7 to 20 RIP 68.39 66.71 56.68 Kipson Bedrook (parallirlo) 7 to 20 RIP 60.89 60.71 56.68 Kipson Bedrook (parallirlo) 7 to 20 RIP 60.80 60.71 56.68 Kipson Bedrook (parallirlo) 7 to 20 RIP 60.81 60.72 60.80 Kipson Bedrook (parallirlo) 7 to 20 RIP 60.82 60.73 60.80 Ciline Bedrook (parallirlo) 7 to 20 RIP 61.32 62.50 Ciline Bedrook (parallirlo) <td>14-CE</td> <td>55.93</td> <td>56.10</td> <td>891.8</td> <td>Kipson</td> <td>Bedrock (paralithic)</td> <td></td> <td>7 to 20</td> <td>쮼</td> <td>Clay</td> <td>Kansas</td>	14-CE	55.93	56.10	891.8	Kipson	Bedrock (paralithic)		7 to 20	쮼	Clay	Kansas
56.46 56.55 48.40 (Risson) Bedrook (paralith)	14-CE	56.27	56.39	613.1	Kipson	Bedrock (paralithic)		7 to 20	RIP	Clay	Kansas
66.64 66.71 38.12 (Risson) Bedrock (paralith) 7 to 20 RIP 67.78 56.78 1127.6 Kipson Bedrock (paralith) 7 to 20 RIP 67.38 56.76 1127.6 Kipson Bedrock (paralith) 7 to 20 RIP 66.19 66.26 Kipson Bedrock (paralith) 7 to 20 RIP 66.19 66.27 176.22 Kipson Bedrock (paralith) 7 to 20 RIP 60.29 60.39 4.33.4 Kipson Bedrock (paralith) Moderately cemented 20 to 40 RIP 68.17 66.17 176.2 Kipson Bedrock (paralith) Moderately cemented 20 to 40 RIP 88.13 82.12 67.0 Clime Bedrock (paralith) Moderately cemented 20 to 40 RIP 81.39 82.14 87.2 Clime Bedrock (paralith) Moderately cemented 20 to 40 RIP 81.34 82.6	14-CE	56,46	56,55	485.0	Kipson	Bedrock (paralithic)	1	7 to 20	RIP	Clay	Kansas
56.36 56.88 1127.5 Kippon Bedrock (paralliho) 1 7 to 20 RIP 68.39 55.47 55.55 Kippon Bedrock (paralliho) 1 7 to 20 RIP 68.39 63.43 525.5 Kippon Bedrock (paralliho) 1 7 to 20 RIP 60.59 60.31 179.2 Kippon Bedrock (paralliho) 1 7 to 20 RIP 60.71 67.80 444.5 Ciline Bedrock (paralliho) Moderably cemented 20 to 40 RIP 68.31 68.21 56.5 Ciline Bedrock (paralliho) Moderably cemented 20 to 40 RIP 81.33 82.12 56.5 Ciline Bedrock (paralliho) Moderably cemented 20 to 40 RIP 91.43 10.00 10.00 Moderably cemented 20 to 40 RIP 91.43 10.00 10.00 Moderably cemented 20 to 40 RIP 91.44 10.00 10.00 10.00 RIP RIP </td <td>14-CE</td> <td>56,64</td> <td>56.71</td> <td>381.2</td> <td>Kipson</td> <td>Bedrock (paralithic)</td> <td>:</td> <td>7 to 20</td> <td>RIP</td> <td>Clay</td> <td>Kansas</td>	14-CE	56,64	56.71	381.2	Kipson	Bedrock (paralithic)	:	7 to 20	RIP	Clay	Kansas
59.7.39 51.7.5 Element Electrock (paralithic) Weakly semented 7.0 to 40 RIP 60.39 60.31 557.5 Kissen Bedrock (paralithic) 7 to 20 RIP 60.39 60.38 Kissen Bedrock (paralithic) 7 to 20 RIP 60.30 60.38 Kissen Bedrock (paralithic) 7 to 20 RIP 60.30 60.38 Kissen Bedrock (paralithic) 7 to 20 RIP 60.30 60.38 Gilme Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.32 80.49 56.55 Olime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.33 80.49 56.70 Olime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.34 81.32 Gilme Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.34 81.34 Kilme Bedrock (paralithic) Moderately cemen	14-CE	56.76	56.98	1127.6	Kipson	Bedrock (paralithic)		7 to 20	뮨	Clay	Kansas
60.149 60.54.9 6.54.3 Kipson Bedrock (paralithic) 7 to 20 RIP 60.68 60.71 189.68 Kipson Bedrock (paralithic) 7 to 20 RIP 60.68 60.71 189.68 Kipson Bedrock (paralithic) 7 to 20 RIP 67.71 67.80 444.6 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 86.13 566.5 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 80.38 80.43 550.7 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 91.34 91.43 475.2 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.30 97.10 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.31 96.40 371.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.32	14-CE	57.38	57.57	1031.8	Bentield	Bedrock (paralithic)	Weakly cemented	20 to 40	AP I	Clay	Kansas
60.86 60.71 75.22 Kipson Bedrock (parallinic) 7 to 20 RIP 60.80 60.37 77.22 Kipson Bedrock (parallinic) 7 to 20 RIP 60.80 60.98 443.2 Kipson Bedrock (parallinic) 7 to 20 RIP 67.71 67.80 444.5 Cline Bedrock (parallinic) Moderately cemented 20 to 40 RIP 80.38 80.49 550.7 Cline Bedrock (parallinic) Moderately cemented 20 to 40 RIP 91.44 91.42 97.78 Cline Bedrock (parallinic) Moderately cemented 20 to 40 RIP 92.46 92.61 830.6 Cline Bedrock (parallinic) Moderately cemented 20 to 40 RIP 96.70 96.73 96.70 SIP RIP RIP RIP 96.74 96.74 RIP RIP RIP RIP RIP 96.75 96.76 10.04 RIP RIP </td <td>14-</td> <td>58.39</td> <td>58.49</td> <td>525.5</td> <td>Kipson</td> <td>Bedrock (paralithic)</td> <td>1 1 1</td> <td>/ to 20</td> <td></td> <td>Clay</td> <td>Kansas</td>	14-	58.39	58.49	525.5	Kipson	Bedrock (paralithic)	1 1 1	/ to 20		Clay	Kansas
60.70 67.71 Cho 20 RIP 60.70 67.80 44.45 Clime Dedrock (paralithic) 7 to 20 RIP 67.71 67.80 44.45 Clime Dedrock (paralithic) Moderably camended 20 to 40 RIP 80.38 68.21 56.57 Clime Dedrock (paralithic) Moderably camended 20 to 40 RIP 81.39 82.12 87.78 Clime Dedrock (paralithic) Moderably camended 20 to 40 RIP 92.45 82.61 65.06 Clime Dedrock (paralithic) Moderably camended 20 to 40 RIP 96.50 86.50 66.00 86.50 <td>14-CE</td> <td>60.19</td> <td>60.31</td> <td>596.8</td> <td>Kipson</td> <td>Bedrock (paralithic)</td> <td>1</td> <td>7 to 20</td> <td>RIP</td> <td>Clay</td> <td>Kansas</td>	14-CE	60.19	60.31	596.8	Kipson	Bedrock (paralithic)	1	7 to 20	RIP	Clay	Kansas
68.11 68.24 Kipson Dedrock (paralithic) Moderately cennented 20 to 40 RIP 68.11 68.21 566.5 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 80.33 68.14 56.7 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 81.33 82.12 97.73 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 96.33 82.14 478.2 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 96.33 98.40 377.9 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 96.33 98.57 16.10 RIP RIP RIP RIP 96.34 97.25 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 96.35 46.76 Ciline Bedrock (paralithic) Moderately cennented 20 to 40 RIP 96.37 99.58	14-CE	60.68	60.71	1/9.2	Kipson	Bedrock (paralithic)	* * * * * * * * * * * * * * * * * * * *	/ to 20		Clay	Kansas
67.71 67.80 564.5 Cliffie Destrock (paralithic) Moderately cemented 210 640 RIP 80.34 550.7 Cliffie Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.32 81.22 550.7 Cliffie Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.34 91.26 Gime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 92.45 92.61 30.6 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.76 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.76 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.76 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.76 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP	14-CE	60.90	60.98	433.4	Kipson	Bedrock (paralithic)	:	7 to 20	RIP	Clay	Kansas
60.31 80.49 595.3 Olime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.33 82.12 977.8 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 81.34 91.43 478.2 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.35 96.40 371.9 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.37 96.40 371.9 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.70 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 97.23 102.12 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 97.23 102.12 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 101.89 102.12 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP	7 5	60.44	66.24	444.5	Cillae	Bedrock (paralithic)	Moderately cemented	20 to 40	7 2	Dickinson	Kansas
81.34 82.12 97.0 Unitre Enclock (paralithic) Moderately generated 2010 40 RIP 81.34 81.43 478.2 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 86.34 85.40 371.9 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 86.30 86.50 462.5 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 96.50 86.50 462.5 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 96.71 96.76 131.0 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 97.23 96.76 176.2 Clime Bedrock (paralithic) Moderately cennented 2010 40 RIP 96.37 96.76 176.2 Clime Bedrock (paralithic) Weakly cennented 2010 40 RIP 106.47 176.40 RIP Moderately cennented 2010 40 RIP	1 2	00.11	00.40	220,2	S C C	Bedrock (parallulic)	Moderately cemented	20 10 40	Ž (DICKINSON	Kansas
91.34 91.45 97.7.8 Culine Bedrock (paralithic) Moderately cemented 20 to 40 RIP 92.45 92.61 830.6 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.53 96.59 46.50 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.78 131.0 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.78 136.2 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 98.72 10.2.12 1224.1 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 104.93 102.12 1224.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 106.18 Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 106.18 Bedrock (paralithic) Weakly cemented 20 to 40 RIP	7 5	80.38	80.49	550.7	. Cilme	Bedrock (paralitric)	Moderately cemented	20 to 40		Dickinson	Kansas
93.245 92.61 92.61 92.64 87.72 Moderately cemented of 20 to 40 RIP 98.33 96.40 371.9 Clime Bedrock (paralithic) Moderately cemented of 20 to 40 RIP 96.50 48.59 482.5 Clime Bedrock (paralithic) Moderately cemented of 20 to 40 RIP 96.50 131.0 Clime Bedrock (paralithic) Moderately cemented of 20 to 40 RIP 97.23 97.25 148.2 Clime Bedrock (paralithic) Moderately cemented of 20 to 40 RIP 101.88 17.25 16.6 Clime Bedrock (paralithic) Woderately cemented of 20 to 40 RIP 104.93 104.13 22.7 Clime Bedrock (paralithic) Woeskly cemented of 20 to 40 RIP 106.40 107.22 106.19 3747.4 Clime Bedrock (paralithic) Woeskly cemented of 20 to 40 RIP 106.40 107.22 106.19 107.22 106.10 RIP RIP 106.41 106.18 106.18 Bedrock (paralithic)	7 5	81.93	82.12	977.8	Cilme	Bedrock (paralithic)	Moderately cemented	20 to 40	돌	Dickinson	Kansas
96.50 96.50 37.13 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.50 96.50 462.5 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 96.73 96.50 462.5 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 97.72 136.7 136.2 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 101.8 102.12 1294.1 Clime Bedrock (paralithic) Woekly cemented 20 to 40 RIP 104.93 22.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 107.22 1794.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 107.22 106.18 374.4 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 107.22 108.57 Clime Bedrock (paralithic) Weakly cemented <t< td=""><td>1 7 7</td><td>91.34</td><td>67.64</td><td>470.4</td><td>Cillie</td><td>Dodrock (paralletic)</td><td>Moderately certified</td><td>20 10 40</td><td>מומ</td><td>Dickinson</td><td>Vanisas</td></t<>	1 7 7	91.34	67.64	470.4	Cillie	Dodrock (paralletic)	Moderately certified	20 10 40	מומ	Dickinson	Vanisas
96.50 96.50 96.50 96.70 Order all Processing State of the Control	14.01	96.33	96.40	374.0	Climo	Bedrock (paralithic)	Moderately certified	20 to 40	000	Dickinson	Kansas
96.73 96.76 13.10 Clime Bedrock (parallihic) Moderately cemented 20 to 40 RIP 97.23 97.25 136.2 Clime Bedrock (parallihic) Moderately cemented 20 to 40 RIP 98.07 98.07 328.3 Clime Bedrock (parallihic) Moderately cemented 20 to 40 RIP 104.93 102.12 1294.1 Clime Bedrock (parallihic) Weakly cemented 20 to 40 RIP 105.47 106.18 3747.4 Clime Bedrock (parallihic) Weakly cemented 20 to 40 RIP 105.40 107.22 4304.0 Clime Bedrock (parallihic) Weakly cemented 20 to 40 RIP 107.22 107.82 186.5 Rosehill Bedrock (parallihic) Weakly cemented 20 to 40 RIP 107.82 108.09 1477.7 Clime Bedrock (parallihic) Weakly cemented 20 to 40 RIP 108.57 16.6 Rosehill Bedrock (parallihic) Weakly cemented 20 to 40	14-CF	96.50	96.59	462.5	Clime	Redrock (paralithic)	Moderately comented	20 to 40	dia	Dickinson	Kansas
97.23 97.25 136.2 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 98.07 98.13 328.3 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 104.93 102.12 1294.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 105.93 106.19 3747.4 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 107.22 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.22 107.82 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.53 108.65 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 11.68 11.1.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 <t< td=""><td>14-CE</td><td>96.73</td><td>96.76</td><td>131.0</td><td>Clime</td><td>Bedrock (paralithic)</td><td>Moderately cemented</td><td>20 to 40</td><td>RP</td><td>Dickinson</td><td>Kansas</td></t<>	14-CE	96.73	96.76	131.0	Clime	Bedrock (paralithic)	Moderately cemented	20 to 40	RP	Dickinson	Kansas
98.07 98.13 328.3 Clime Bedrock (paralithic) Moderately cemented 20 to 40 RIP 101.88 102.12 1284.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 104.93 22.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 105.40 107.22 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.22 107.82 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 108.71 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 110.80 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.81 111.77 480.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.24	14-CE	97.23	97.25	136.2	Clime	Bedrock (paralithic)	Moderately cemented	20 to 40	뫒	Dickinson	Kansas
101.88 102.12 1294.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 104.93 22.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 105.40 107.22 4304.4 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.22 107.82 4304.4 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 110.07 7156.6 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.89 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.26 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40	14-CE	98.07	98.13	328.3	Clime	Bedrock (paralithic)	Moderately cemented	20 to 40	RIP	Dickinson	Kansas
104,93 122,7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106,47 106,18 3747,4 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106,40 4304,0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.22 107.82 3164,4 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 110.07 Ti56.6 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.8 111.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.66 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 116.4	14-CE	101.88	102.12	1294.1	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
105.47 106.18 3747.4 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 106.40 107.22 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.53 108.57 166.6 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 110.07 7156.6 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20	14-CE	104.93	104.93	22.7	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
106.40 107.22 4304.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.22 107.82 1874.4 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.71 110.07 7156.6 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 111.68 111.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.66 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 112.66 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Weakly cemented 20	14-CE	105.47	106.18	3747.4	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
107.22 107.82 3184.4 Rosehill Bedrock (paralithic) Weakly emented 20 to 40 RIP 107.82 108.09 1417.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 108.73 10.65.7 7156.6 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 111.68 111.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.66 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.47 116.06 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 115.46 116.06 491.0 Clime Bedrock (paralithic) Meakly cemented 20 t	14-CE	106.40	107.22	4304.0	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
107.52 108.09 1417.7 Clime Eddrock (paralithic) Weakly cemented 20 to 40 RIP 108.13 108.57 166.6 Rosehill Bedrock (paralithic) Weakly cemented 20 to 40 RIP 111.68 111.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP	14-CE	107.22	107.82	3184.4	Rosehill	Bedrock (paralithic)	Weakly cemented	20 to 40	AN I	Marion	Kansas
108.53 108.54 Flosenili Endrock (paralithic) Weakly cemented 20 to 40 RIP 110.83 110.07 7156.6 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.66 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.66 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 115.47 116.66 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 115.47 116.06 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP	14-0	107.82	108.09	141/./	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40		Marion	Kansas
108.71 110.0f 779.5b Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 112.65 919.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 115.41 116.50 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP	14-C	108.53	108.57	166.6	Koseniii	Bedrock (paralithic)	Weakly cemented	20 to 40		Marion	Kansas
111.68 111.77 480.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 112.23 112.29 293.9 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.97 436.0 120 to 40 RIP Redrock (paralithic) Meakly cemented 20 to 40 RIP 116.16 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 116.16 491.0 Riph Riph Riph Riph Riph	14-CE	108.71	110.07	7156.6	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
11.2.53 112.24 293.9 Clime Bedrock (paralithic) Weakly Gemented 20 to 40 RIP 115.48 116.06 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 115.97 436.6 Indirected 20 to 40 RIP 116.16 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 116.16 491.0 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP 116.16 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP 116.16 491.0 Clime Bedrock (paralithic) Meakly cemented 20 to 40 RIP	14-CE	111.68	111.77	480.2	Cilme	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
115.70 210.10 2010.40 Right Redrock (paralithic) Vesakly cemented 2010.40 RIP Right Right	7-4-	112,23	112.29	293.9	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	돌	Marion	Kansas
110.50	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	115.40	116.05	1919.1		Bodrock (paralithic)	Weakly cemented	20 to 40	7 0	Marion	Kansas
	1 7 7	116.16	116.25	436.6	1 abotto	Bodrock (lithic)	weakly celllelited	20 to 40	TSV ICE	Marion	Kaneas

FROM TO [ft] COLINAMIE KIND HARDNESS DEPTH TO TOP - [in] COUNTY 116.24 116.54 156.61 Labettee Bedrock (lithic) Industed 20 to 40 RIP Marion 116.54 116.54 156.10 Inchestee Bedrock (parallithic) Weakly cemented 20 to 40 RIP Marion 118.90 120.00 150.45 Clime Bedrock (parallithic) Weakly cemented 20 to 40 RIP Marion 120.19 120.19 100.08 120.40 RIP Marion 120.10 120.19 100.08 Redrock (parallithic) Weakly cemented 20 to 40 RIP Marion 120.10 120.19 100.08 Redrock (parallithic) Weakly cemented 20 to 40 RIP Marion 261.15 261.20 240.2 Glime Bedrock (parallithic) Very weakly cemented 20 to 40 RIP Noble 261.15 261.20 240.2 Grainola Bedrock (parallithic) Very weakly ce	<u> </u>		MP	LENGTH			RESTRICTIVE LAYER	YER		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	DT A T
116.54 116.54 156.1 Labette Bedrock (tithic) Indurated 20 to 40 BLAST Marion 118.54 116.54 16.61 340.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 119.50 120.10 158.7.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 110.00 120.19 100.08 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.10 120.19 120.26 347.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.10 261.26 347.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.10 261.26 303.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.12 261.26 303.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40	<u> </u>	FROM	TO	E	SOL NAME	KIND	HARDNESS	DEPTH TO TOP - [in]	CONSTRUCTION	- - - - - - - - - - - - - - - - - - -	∐ ₹ ?
116.54 116.61 340.2 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 119.26 179.00 1857.7 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 119.90 120.01 120.10 Glime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.00 120.19 120.10 Glime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.02 120.10 120.10 Glime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.12 261.28 120.24 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 178.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 178.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP <td< td=""><td>14-CE</td><td>116.25</td><td>116,54</td><td>1556.1</td><td>Labette</td><td>Bedrock (lithic)</td><td>Indurated</td><td>20 to 40</td><td>BLAST</td><td>Marion</td><td>Kansas</td></td<>	14-CE	116.25	116,54	1556.1	Labette	Bedrock (lithic)	Indurated	20 to 40	BLAST	Marion	Kansas
19.26 119.60 1857.1 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 179.30 120.00 524.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.01 120.19 120.19 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.19 120.18 120.49 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.12 120.14 Clime Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Mobie 261.12 261.20 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.12 261.20 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.20 261.20 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.20 261.20	14-CE	116.54	116.61	340.2	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RP	Marion	Kansas
119.00 524.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.10 120.10 120.10 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.10 120.10 120.10 120.10 RIP Marion Marion 120.10 120.10 120.24 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.10 240.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.20 261.20 240.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.20 261.30 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 Grainola Bedrock (paralithic) Very w	14-CE	119.25	119.60	1857.1	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
120.00 120.10 120.10 RIP Marion 120.10 120.10 120.10 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.10 120.26 120.44 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.15 261.20 240.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.26 261.26 261.26 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.20 261.30 261.30 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 264.62 Sab.sa Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 280.58 280.58 280.58	14-CE	119.90	120.00	524.5	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	AP.	Marion	Kansas
120.19 120.26 347.5 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 120.26 120.49 120.49 120.40 RIP Marion 120.26 120.49 1224.4 Clime Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.26 261.28 171.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 172.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.30 135.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.36 34.4 Renfrow Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.36 34.4 Renfrow Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Payne 261.30 261.36	14-CE	120.00	120.19	1000.8	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
120.26 120.49 122.4.4 Clime Bedrock (paralithic) Weakly cemented 20 to 40 RIP Marion 261.15 261.20 240.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 112.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 112.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.36 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.36 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.36 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 280.58 498.3 Zaneis Bedrock (paralithic) Very weakly cemented 20 to 40 <	14-CE	120.19	120.26	347.5	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
261.16 261.20 240.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.26 261.26 303.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.26 261.30 136.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 136.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.36 277.9 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 266.46 280.49 280.49 280.64 34.4 Renifow Bedrock (paralithic) Very weakly cemented 40 to 60 RIP Payne 280.72 280.65 280.6 324.0 Stephenville Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Payne 281.04 281.04 324.3 Coyle Bedrock (paralithic) </td <td>14-CE</td> <td>120.26</td> <td>120.49</td> <td>1224.4</td> <td>Clime</td> <td>Bedrock (paralithic)</td> <td>Weakly cemented</td> <td>20 to 40</td> <td>RIP</td> <td>Marion</td> <td>Kansas</td>	14-CE	120.26	120.49	1224.4	Clime	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Marion	Kansas
261.26 303.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.28 112.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.30 136.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.30 136.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 280.49 280.58 498.3 Zaneis Bedrock (paralithic) Very weakly cemented 40 to 60 RIP Payne 280.78 280.78 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.78 280.78 324.3 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.04 280.78 280.78 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP	14-CE	261.15	261.20	240.2	Grainola	Bedrock (paralithic)	Very weakly cemented	20 to 40	RIP	Noble	Oklahoma
261.26 261.28 112.2 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.28 261.30 135.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 264.13 261.36 135.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 264.13 264.63 94.4 Renfrow Bedrock (paralithic) Very weakly cemented 40 to 60 RIP Payne 280.49 280.58 498.3 Zaneis Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.72 280.78 280.78 Siephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.04 281.04 Siephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.8 260.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne <td>14-CE</td> <td>261.20</td> <td>261.26</td> <td>303.0</td> <td>Grainola</td> <td>Bedrock (paralithic)</td> <td>Very weakly cemented</td> <td>20 to 40</td> <td>RIP</td> <td>Noble</td> <td>Oklahoma</td>	14-CE	261.20	261.26	303.0	Grainola	Bedrock (paralithic)	Very weakly cemented	20 to 40	RIP	Noble	Oklahoma
261.28 261.30 135.3 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 261.30 261.36 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 264.62 264.62 264.63 94.4 Renfrow Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 280.46 280.63 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.72 280.78 280.78 280.79 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.04 281.20 284.0 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.73 287.82 280.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.82 280.6 Darnell Bedrock (paralithic)	14-CE	261.26	261.28	112.2	Grainola	Bedrock (paralithic)	Very weakly cemented	20 to 40	RIP	Noble	Oklahoma
261.30 261.36 278.0 Grainola Bedrock (paralithic) Very weakly cemented 20 to 40 RIP Noble 264.62 264.63 94.4 Renfrow Bedrock (paralithic) Very weakly cemented 61 to 80 RIP Noble 280.49 280.48 280.63 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.72 280.78 280.78 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.73 281.20 844.0 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.73 287.73 287.82 280.6 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.82 280.6 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.82 280.6 Grainola Bedrock (paralithic) Weakly cemented	14-CE	261.28	261.30	135.3	Grainola	Bedrock (paralithic)	Very weakly cemented	20 to 40	RIP	Noble	Oklahoma
264.62 264.63 94.4 Renfrow Bedrock (paralithic) Very weakly cemented 61 to 80 RIP Noble 280.49 280.49 280.58 498.3 Zaneis Bedrock (paralithic) Weakly cemented 40 to 60 RIP Payne 280.40 280.63 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.04 281.04 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.78 280.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.78 287.8 280.6 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.78 287.8 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 10 to 20 20 to 40 RIP Payne Payne Payne Payne	14-CE	261.30	261.36	278.0	Grainola	Bedrock (paralithic)	Very weakly cemented	20 to 40	RIP	Noble	Oklahoma
280.49 280.56 498.3 Zaneis Bedrock (paralithic) Weakly cemented 40 to 60 RIP Payne 280.58 280.58 280.78 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.72 280.78 844.0 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.78 260.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.78 260.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.78 287.8 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 10 Lo 20 RIP Payne Payne Payne Payne Payne	14-CE	264.62	264.63	94.4	Renfrow	Bedrock (paralithic)	Very weakly cemented	61 to 80	RIP	Noble	Oklahoma
280.58 280.63 237.9 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 280.72 280.78 324.3 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.10 287.12 287.81 260.6 Darnell Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.82 260.6 Darnell Bedrock (paralithic) Weakly cemented 10 to 20 RIP Payne 287.78 287.82 288.78 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne TOTAL BEDROCK OCCURRENCE= 59503.3 feet OR 3.85% FROM CETOTAL LENGTH	14-CE	280.49	280.58	498.3	Zaneis	Bedrock (paralithic)	Weakly cemented	40 to 60	뮨	Payne	Oklahoma
280.72 280.78 324.3 Coyle Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 281.04 281.12 844.0 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.73 287.82 20.6 Darnell Payne Payne 287.74 287.82 208.5 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne TOTAL BEDROCK OCCURRENCE= 59503.3 feet OR 3.85% FROM CETOTAL LENGTH	14-CE	280.58	280.63	237.9	Coyle	Bedrock (paralithic)	Weakly cemented	20 to 40	뮨	Payne	Oklahoma
281.04 281.20 844.0 Stephenville Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne 287.73 287.78 260.6 Darnell Bedrock (paralithic) Weakly cemented 10 to 20 RIP Payne 287.78 287.82 208.5 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne TOTAL BEDROCK OCCURRENCE= 59503.3 feet OR 3.85% FROM CE TOTAL LENGTH	14-CE	280.72	280.78	324.3	Coyle	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Payne	Oklahoma
287.73 287.78 260.6 Dannell Bedrock (paralithic) Weakly cemented 10 to 20 RIP Payne 287.78 287.82 208.5 Grainola Bedrock (paralithic) Weakly cemented 20 to 40 RIP Payne TOTAL BEDROCK OCCURRENCE= 59503.3 feet OR 3.85% FROM CE TOTAL LENGTH	14-CE	281.04	281.20	844.0	Stephenville	Bedrock (paralithic)	Weakly cemented	20 to 40	물	Payne	Oklahoma
287.78 287.82 2010 degree of the control of the contro	14-CE	287.73	287.78	260.6	Darnell	Bedrock (paralithic)	Weakly cemented	10 to 20	RIP	Payne	Oklahoma
59503.3	14-CE	287.78	287.82	208.5	Grainola	Bedrock (paralithic)	Weakly cemented	20 to 40	RIP	Payne	Oklahoma
		TOTAL	BEDROCK OC	CURRENCE=		feet OR 3.85% FROM CE TOTAL	L LENGTH				

feet OR 3.85% FROM CE TOTAL LENGTH feet OR 0.61% FROM ML TOTAL LENGTH feet OR 3.24% FROM ML TOTAL LENGTH 9473.0 50030.2 TOTAL RIPPING=

TOTAL BLASTING=

(1) This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

(2) A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, both of which significantly affect the ease of excavation.

(3) "Depth to top" is the vertical distance from the soil surface to the upper boundary of the restrictive layer measured in inches.

(4) Data Source: Natural Resources Conservation Service (NRCS) http://soils.usda.gov/survey/geography/

(5) NOTE: Absence of an entry (- - -) indicates that the feature is not a concern or that data were not estimated.

Appendix F

Soil Associations along the Keystone Pipeline Project Route

Appendi	د F: Soil Ass	Appendix F: Soil Associations Along the Propsed Keystone	ong the Pr	opsed Key	stone Pipeline Project							
	×0.00	Acros	Approx			Highly Erodible	Compaction Prone	Low Revegetation Potential	A-Horizon >12" Deep	Prime Farmland	Hydric	Shallow (<60") Bedrock
State	Start MP	End MP	Miles	MUID	Name	%	%	%	%	%	%	%
MAINLINE					TO THE RESERVE TO THE PARTY OF	ļ		C	u t	c	0	
2	0	1.3	1.3	ND012	GLYNDON-GILBY-GARDENA (ND012)	0	71	> <	<u>.</u>	100	2 %	0 0
2 2		4. 0	2.0	ND004	HEC: A-HAMAR-LII FN (ND021)	0	-	0	49		32	0
S	. 9	7.4	12		BRANTFORD-VANG-WALSH (ND027)	2	2	98	33	0	2	0
2 2	7.4	8.2	0.7	ND066	LA PRAIRIE-FAIRDALE-GARDENA (ND066)	-	0	12	19	0	ည	0
2	8.2	14	5.8		BRANTFORD-VANG-WALSH (ND027)	2	2	98	33	0	2	0
2	14	32.5	18.5		KELVIN-WAUKON-OLGA (ND061)	30	0	59	ω	29	0	7
9	32.5	34.7	2.2	l l	BARNES-SVEA-TONKA (ND045)	2	∞	56	1	84	11	0
Q.	34.7	35.4	0.7		EDGELEY-KLOTEN-SVEA (ND038)	27	5	29	က	56	2	09
Q	35.4	37.6	2.1		BARNES-SVEA-TONKA (ND045)	2	ω	26	=	84	=	0
ΩN	37.6	38	0.5		EDGELEY-KLOTEN-SVEA (ND038)	27	4	99	က	56	ഹ	09
2	38	41.3	3.2		BARNES-SVEA-TONKA (ND045)	2	ω	26	=	84		0
Q.	41.3	43	1.8		EDGELEY-KLOTEN-SVEA (ND038)	27	2	67	2	56	5	90
Q	43	44.3	1.3		SVEA-BUSE-HAMERLY (ND043)	o	10	30	21	55	21	0
S	44.3	46	1.7		SVEA-CRESBARD-HAMERLY (ND051)	0	വ	ω ;	9	28	χ ζ	
2	46	53.7	7.7		SVEA-BUSE-HAMERLY (ND043)	တ	9	30	21	55	21	0
2	53.7	55.4	1.7		BRANTFORD-RENSHAW-LANKIN (ND025)	80	æ	31	34	32	17	0
S	55.4	57.1	1.6		SVEA-BUSE-HAMERLY (ND043)	თ	10	30	21	22	21	0
QN	57.1	57.6	0.5		HAMERLY-TONKA-SVEA (ND040)	0	23	19	30	73	30	0
Q	57.6	58	0.4		SVEA-BUSE-HAMERLY (ND043)	10	9	29	21	22	21	0
Q	58	58.7	0.7	ND040	HAMERLY-TONKA-SVEA (ND040)	0	23	48	30	73	30	0
Q	58.7	59.9	1.2		SVEA-BUSE-HAMERLY (ND043)	თ	10	30	21	55	21	0
2	59.9	61.6	1.8		CRESBARD-BARNES-CAVOUR (ND053)	_	7	33	7	46	7	0
2	61.6	61.7	0		SVEA-BUSE-HAMERLY (ND043)	0	0	0	21	55	21	0
2	61.7	99	4.4	i i	CRESBARD-BARNES-CAVOUR (ND053)	_	7	33	7	46	7	0
S	99	9.99	0.5		BARNES-SVEA-HAMERLY (ND046)	0	9	43	6	80	6	0
2	9.99	69.2	2.6	ND037	BARNES-BUSE-PARNELL (ND037)	51	7	22	16	21	7	2
Ω	69.2	73.6	4.5	i	BARNES-SVEA-HAMERLY (ND046)	0	9	43	6	80	6	0
Q.	73.6	74.7	1.1	1	HAMERLY-TONKA-SVEA (ND040)	0	23	19	30	73	99	0
9	74.7	78.7	4		SVEA-BUSE-HAMERLY (ND043)	6	10	30	21	55	21	0
9	78.7	79.5	0.8		SVEA-CRESBARD-HAMERLY (ND051)	0	5	7	9	28	ω	0
2	79.5	83.8	4.3		SVEA-BUSE-HAMERLY (ND043)	6	10	80	21	55	21	0
S	83.8	84.9			CRESBARD-BARNES-CAVOUR (ND053)	*-	7	33	7	46	, ;	0
9	84.9	87.1	2.2		SVEA-BUSE-HAMERLY (ND043)	6	9	30	21	22	7	0.0
2	87.1	87.8	0.7	- 1	SVEA-CRESBARD-HAMERLY (ND051)	0	2	∞ 3	9 7	22	0 3	0
2	87.8	90.4	2.6		SVEA-BUSE-HAMERLY (ND043)	o (10	30	- 7	22	7	> 0
2	90.4	90.9	0.5		HAMERLY-IONKA-SVEA (ND040)		77	30	24	כית	3 5	
2 2	90.9	10.2		ND043	BOANTEODD DENSHAW! ANKIN (ND025)	0 1	2 /	31	34	35	17	0
2 2	101	1	2.7		SVEA-CRESBARD-HAMFRIY (ND051)	. c	· LC	8	9	58	60	0
2 2	101	\perp	1,		HEIMDAL-EMRICK-ESMOND (ND057)	20	2	37	13	54	10	0
2 2	1093	+	10	1	SVEA-CRESBARD-HAMERLY (ND051)	0	0	0	ဖ	58	∞	0
S	109.4	<u> </u>	1.2	ND043	SVEA-BUSE-HAMERLY (ND043)	6	10	30	21	55	21	0
Q	110.5	L	18	ND047	BARNES-BUSE-SVEA (ND047)	28	5	78	വ	30	2	0
Q	128.6		-	ND046	BARNES-SVEA-HAMERLY (ND046)	0	9	43	თ	80	o	0
Ω	129.6		0.5	ND047	BARNES-BUSE-SVEA (ND047)	29	4	77	2	30	2	0
2	130	132		ND046	BARNES-SVEA-HAMERLY (ND046)	0	ဖ	43	6	80	ص ا	0
2	132			ND047		28	വ	78	2	30	2	0 0
9	134.2	+	1	ND026	NSHAW-A	2	2	30	16	ج ح	9 6	0 6
2	134.8	+	4	ND011		4 0	77	6 6	55 16	3 0	5 4	0
2 2	135.5	136.8	1.3	ND026	CAPPEN CLYNDON BABNES (ND026)	7 6	27	20	2 66	5 0	5 6	2
S S	130.0	\dashv	4	NDOLL	GARDENA-GLYNDON-BARNES (NDOTT)	2	1	77	??	,	;	1

Appendix	Appendix F: Soil Associations Along the Propsed Keystone	ociations Al	ong the Pr	opsed Key	stone Pipeline Project			1100				
						Highly	Compaction	Revegetation	A-Horizon	Prime	Circuit.	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Fotential %	%	"	» «	% %
9	137.4	140.4	2.9	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	2	5	31	16	34	16	0
9	140.4	141.9	1.5	ND046	BARNES-SVEA-HAMERLY (ND046)	0	9	43	o !	80	თ (0
9	141.9	142.3	4.0	ND054	VALLERS-PARNELL-GLYNDON (ND054)	0	25	α (74	87	22	0
9	142.3	144.6	2.3	ND046	BARNES-SVEA-HAMERLY (ND046)	0	φ.	5 6	33	8 0	2 6	2
2	144.6	144.7	0.2	1100N	GARDENA-GLYNDON-BARNES (NDOLL)	0	<u>0</u> u	73	3 0	8) o	0
2	144.7	145.4	7.0	ND046	BAKNES-SVEA-HAMERLY (INDO46)		22	2 0	33.	3 0	13	2
2	145.4	148.9	3.5		GARDENA-GLYNDON-BARNES (NDOLL)	1	37	73	3 0	80) o	0
2	148.9	149.4	0.5		BAKNES-SVEA-HAMIEKLY (ND046)	+	20	ξ α	23	3 c	13	2
2	149.4	150	0.5		GARDENA-GLYNDON-BARNES (NDOTT)		77	2 5	3 0	2 08	σ	
2	150	162.5	12.5		BARNES-SVEA-HAMIERLY (ND046)	0 00	טע	78	ם ע	8 8) L	0
Q	162.5	164	1.5		BARNES-BUSE-SVEA (NDU47)	1	o (0	200	0 0	8 8	σ	0
2	164	165.2	1.2		BAKNES-SVEA-HAMERLY (NDC46)	5 8	0 0	1,5	o (8 6	, ,	0 0
9	165.2	166.3	1.2		LA PRAIRIE-BARNES-RENSHAW (ND039)	-	7	10	5 0	20 08	10	0
2	166.3	167,4	-		BARNES-SVEA-HAMERLY (ND046)	0 8	٥	40	n (8 6) C
2	167.4	169.1	1.7		LA PRAIRIE-BARNES-RENSHAW (NDUSS)	_	7	0	0 0	20.00	1 0	0
2	169.1	179.9	10.9		BARNES-SVEA-HAMERLY (ND046)	0	٥	5	D 6	2 6	9 9	0
읟	179.9		0.3	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	_	و و	32	٥	200	2 ₀	> 0
ᄝ	180.2		3.6		BARNES-SVEA-HAMERLY (ND046)		9	43	ъ (;	8 3	D (
9	183.8		-	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	-	4	32	9	5	ه ۵	> 0
9	184.1				BARNES-SVEA-HAMERLY (ND046)	-	9	43	ъ ;	200	D (
9	186.6			ND040	HAMERLY-TONKA-SVEA (ND040)		23	19	30	(3	જ)
윤	188.6			ND046	BARNES-SVEA-HAMERLY (ND046)		9	43	D) .	08 3	5	
9	192.7		6.8	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)		2	31	91	31	٥	
9	199.5			ND046	BARNES-SVEA-HAMERLY (ND046)		9	43	ი :	200	D 6	> 0
2	204.3		12.6	ND021	HECLA-HAMAR-ULEN (ND021)	0	-	0	49	ກ (32.	0
SD	216.8			SD142	HECLA-HAMAR-ULEN (SD142)			0	46	ספ	35	0
SD	217.5	_	_	SD141	SERDEN-HAMAR-MADDOCK (SD141)		0	0	040		200	0
S	222.6	-		SD142	HECLA-HAMAR-ULEN (SD142)		-	0 8	9 6	D 6	200	
S	225.9	228.9	4	SD145	BEARDEN-GREAT BEND-OVERLY (SD145)	1	47	35	27	1 00	. C	5 6
S	228.9	231.4	2.4	SD144	GARDENA-ECKMAN-GLYNDON (SD144)	0	5 م	7 00	8 8	80	07	
S	231.4	243.4	-	SD145	BEARDEN-GREAT BEND-OVERLY (SD145)		47	25	23	200	יט מ	
SD	243.4	247		SD146	ABERDEEN-HARMONY-BEOTIA (SD146)		5 6	77	2 6	8 6	0	
SD	24.7	258.4	_	SD126	BARNES-KRANZBURG-BROOKINGS (SD126)		D 6	/0	200	8	97	
SD	258.4	259.2	1	SD134	FORMAN-BUSE-SOUTHAM (SUITA)	1	46	200	2 4	27.5	17	> 0
SD	259.2	261.7	2.4	SD128	FORDVILLE-RENSHAW-SOUTHAM (SD128)	57	0 6	0 1	5 6	2 2	Ξ α)
SD	261.7	+		SD148	FORMAN-CAVOUR-PEEVER (SD 148)	1	10	1 6	15	24	17	0 0
SD	261.9	+	1	SD128	FORDVILLE-RENOHAW-SOOTHAM (SD 120)	67	2 7	2 2	22	42	. «	0
SO	270.5	289.3		SD148	FORMAN-CAVOUR-PEEVER (3D 140)			12	25.0	58	2 6	0
OS C	289.3	+	4.0	SU135	FORMAN-AAS LAD-BOSE (SD 133)	t C		53	22	42	2 &	0
2 0	200.7	÷	-	SD146	DEEVER-FORMAN-TONKA (SD136)		16	19	20	63	19	0
3 6	2000	+	+	20123	READI F-DIIDI EY-BON (SD153)		6	71	10	2	6	0
9 5	316.2	329.5	73.0	SD155	READI F-DUDI FY-BON (SD154)	2	1	48	19	2	-	0
3 6	329.5	+	<u> </u>	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)		12	48	18	∞	7	0
6	337	<u> </u>	<u> </u>	SD083	BON-ETHAN-DAVIS (SD083)	<u> </u>	12	90	53	48	2	0
SD	337.7		<u> </u>	SD089	CLARNO-CROSSPLAIN-HOUDEK (SD089)		23	22	13	73	24	0
S	339.6	<u> </u>	Table 1	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)		12	48	18	ω	=	0
SD	342.3	_	-	SD089	CLARNO-CROSSPLAIN-HOUDEK (SD089)		23	21	13	73	24	0
SD	342.9	<u> </u> 	_	SD083	BON-ETHAN-DAVIS (SD083)		12	09	53	48	2	0
SD	344.3	_		SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	12	48	. 9	ω !		0
SD	349.9			SD241	CLARNO-PROSPER-TETONKA (SD241)	1	ω :	29	15	77	- 7	
SD	350.1	350.6	0.5	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	-	48	198	σ,		
SD	350.6		-	SD241	CLARNO-PROSPER-TETONKA (SD241)		D	ng	GI.	/7	-	>

Appendi	x F: Soil Ass	ociations Al	ong the Pi	ropsed Key	Appendix F: Soil Associations Along the Propsed Keystone Pipeline Project			ino				
						Highly	Compaction	Revegetation	A-Horizon	Prime	Hvario	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	%	, wallinging	, w	% %
G	355 1	360.7	5.6	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	12	48	18	8	11	0
SOS	360.7	361.3	9.0	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	10	40	26	65	13	0
SD	361.3	362.8	1.5	SD083	BON-ETHAN-DAVIS (SD083)	24	12	90	53	48	2	0
SD	362.8	366.6	3.8	SD088	CLARNO-ETHAN-BONILLA (SD088)	4	10	69	19	99	7.	0
SD	366.6	369.6	က	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	10	36	26	65	5 3	0
SD	369.6	370.4	0.8	SD087	CLARNO-BONILLA-TETONKA (SD087)	0	13	62	24	6/	9 9	
SD	370.4	371.2	0.9	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	7	39	26	65	13	0
SD	371.2	375.3	4.1	SD087	CLARNO-BONILLA-TETONKA (SD087)	0	13	62	24	62	16	0 (
SD	375.3	375.9	9.0	SD097	HAND-CLARNO-ETHAN (SD097)	0	18	71	4	63	21	0
S	375.9	376.6	0.7	1	BON-ETHAN-DAVIS (SD083)	23	12	09	53	48	2	0
5 6	3766	376.9	0.3		HAND-CLARNO-ETHAN (SD097)	0	16	71	7	63	21	0
6	376.9	+	10	1	BON-ETHAN-DAVIS (SD083)	24	12	09	53	48	2	0
6	3787	H	2.6		CLARNO-CROSSPLAIN-HOUDEK (SD089)	0	23	22	13	73	24	0
8	3813	1	80		CLAMO-ETHAN-LAMO (SD095)	26	42	42	24	16	9	0
2	382.1	-	17		CLARNO-CROSSPLAIN-HOUDEK (SD089)	0	23	22	13	73	24	0
8 6	383.8	+	0.7		CLAMO-ETHAN-LAMO (SD095)	27	42	42	24	16	9	0
3 6	384 5		5.7	1	CI ARNO-BONIL LA-TETONKA (SD087)	0	13	62	24	79	16	0
8 6	300.5	Ŧ	0		CI AMO-FTHAN-I AMO (SD095)	26	42	41	24	16	9	0
2 6	390.2	1	2 4		CLARNO-PROSPER-STICKNEY (SD090)	0	10	39	26	65	13	0
9 6	0.00	+			CLADING PONIT A TETONIKA (SD087)		13	62	24	79	16	0
3 6	3.46.6	+	4 0	- 1	OLANIO-BOINIELA-(ELONIA (SDOS)	7.0	42	40	24	16	9	0
S	398.3	+	Q t		CLAMIC-EI HAN-LAMIC (SDOSS)	73	10	200	26	92	13	0
S	398.7	+	ρ.		CLARNO-PROSPER-SILONNEI (SDOSO)	> <	2 5	000	10	99	12	
SO	406.5	+	2.6		CLARNO-ETHAN-BOINILLA (SD009)	r	13	200	24	79	2	0
2 6	411./	+	000	2000	CLARING-BOINILLA-TETOINTA (SDOOT)	90	42	41	24	16	9	0
S	418.5	+	20.00		CLAMO-E I HAN-LAMO (SDUSS)	07	4 4	69	24	79	16	0
S	422.3	7	0.0	SD087	CLARNO-BONILLA-1E1OINA (SDOOT)	2 2	27	11	24	2 4	2 (0	0
200	423.2		s. c		CLAINO-EI TAN-LAMO (SDOSS)	67	13	62	24	79	16	0
SO	474	420	7 0	2000	CERTINO DO ADNO BETTO (COOC)	5	L.	62	6	32	7	0
2 6	470	+	7.0		CLADNO DONILLA TETONIKA (SD087)	7 0	13	62	24	79	16	0
OS C	420.0	$^{\perp}$	- C		CLANIAC-BOINTER- IE CINICA (CDOOF)	30	42	41	24	19	9	0
200	430.7	6.15	0.0		CLAMO-E I MAIN-LAMO (SD085)	2	12	62	24	79	16	0
2 6	431.5	+	0.0		CLARING-DOMILLA-TETONINA (SD007)	0 "	4 6	2000	-	63	13	0
טא ז	432.3	+	0.0	SDUSS	PODDY ONAWA HAYNIF (NE112)	0 0	0 0	3	16	55	12	3
비 L	433.0	+	7.7		ACMA ALCESTED KENNEBEC (NECOS)	6	0	62	21	93	0	0
빌	438	4.00.4	+		COCETON ALCESTED MODA (MEDOS)	2 8	0	82	0	10	0	0
U L	4.00.4	+	+		MOODY, THIRMAN-CROSTON (NEOS)	35	c	24	8	35	0	0
2 2	440.0	÷		NEO26	CROFTON-AI CESTER-NORA (NE029)	83	0	82	0	10	0	0
J U	270.0	1	_	NEO92	MOODY-THIRMAN-CROFTON (NE092)	37	0	28	ω	35	0	0
i Z	446.3	447.6		NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
I L	447 6	\perp	<u> </u>	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	79	21	93	0	0
Į Ľ	448.6	L	0.8	NE092	MOODY-THURMAN-CROFTON (NE092)	36	0	28	۵	35	0	0
Į Ľ	449.4	H	1.2	NE117	SIMEON-MEADIN-BETTS (NE117)	94	0	74	വ	ဖ	0	-
Z.	450.6	-	0.7	NE092	MOODY-THURMAN-CROFTON (NE092)	36	0	29	ω	35	0	0
뮏	451.2	H	0.5	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	78	21	63	0	0
쒿	451.7		1.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
W W	453.4	-	0.3	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	က	0	79	21	93	0	0
E E	<u> </u>	<u> </u>		NE092	MOODY-THURMAN-CROFTON (NE092)	53	0	53	8	35	0	0
빌		<u> </u>		NE094		39	0	53	0	35	0 0	0
빙		<u> </u>	1.6	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	79	21	93	0	0 0
빌				NE094		39	0	53	0 7	32		O
빙	460	461	0.4	NE003	- 1	m (0	5 2	5	93	0	o c
Ä	-	466.7	5.7	NE094		AS.	0	22		3	,	>

Sunt Mp			Coldinary		Appelluix F. Soil Associations Along the Fropset registrone	stone i penne i reject			1				
Appril Matter Appril Appril<							Highly	Compaction	Revegetation	A-Horizon	Prime	Ci-Pro	Shallow (<60")
467.3 467.3 <th< th=""><th>State</th><th>Approx. Start MP</th><th>Approx. End MP</th><th>Approx. Miles</th><th>MUID</th><th>Name</th><th>Erodible %</th><th>Prone %</th><th>Fotential %</th><th>% neep</th><th>rariiiaiiu %</th><th>nyanc %</th><th>bediock %</th></th<>	State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Fotential %	% neep	rariiiaiiu %	nyanc %	bediock %
477 37 NERMA (NORA-CID-PTOMODON NEIGNAL) 39 0 53 0 470 477 27 NERMA (NORA-CID-OTHORDON NEIGNAL) 3 4 4 66 60 473 473 12 NERMA (NORA-MODON NEIGNAL) 15 34 4 66 60 64 473 473 12 NERMA (NORA-MODON NEIGNAL) 15 34 4 66 60 4 4773 4773 12 NERMA (NORA-MODON NEIGNAL) 16 34 4 66 60 4 4773 4775	N.	466.7	467.3	9.0	NE072	KENNEBEC-WABASH-ZOOK (NE072)	3	39	2	88	69	43	0
470.7 471.0 MERCH SERVANDON MERCH STATE AND SERVED	밀	467.3	470	2.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
47.75 47.7	빙	470	470.7	0.7	NE072	KENNEBEC-WABASH-ZOOK (NE072)	က	39	-	88	69	43	0
473.9 473.0 <th< td=""><td>빙</td><td>470.7</td><td>473.9</td><td>3.2</td><td></td><td>NORA-MOODY-JUDSON (NE096)</td><td>16</td><td>4</td><td>4</td><td>16</td><td>40</td><td>4 5</td><td>0</td></th<>	빙	470.7	473.9	3.2		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4 5	0
474.3 475.7 11.8 REPOSE CARAMACONAL DESCRIPTION 18 9 4 4 477.5 475.7 11.8 REPOSE CARAMACONAL MERGEN 15 3.9 2 2 6 6 4 477.5 477.6 11.8 REPOSE CHARAMACONAL MERGEN 15 5 6 6 6 6 4 477.5 477.6 11.8 REPOSE CHARAMACONAL MERGEN 15 6 <	뮏	473.9	474.3	0.3		KENNEBEC-WABASH-ZOOK (NE072)	က	36	· .	88	<u> </u>	43	0 0
4775 4775 <th< td=""><td>岁</td><td>474.3</td><td>475.7</td><td>1.5</td><td></td><td>NORA-MOODY-JUDSON (NE096)</td><td>16</td><td>4</td><td>4</td><td>16</td><td>40</td><td>4 5</td><td>0 (</td></th<>	岁	474.3	475.7	1.5		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4 5	0 (
477.6 0.1 Number NUMANAMENDON-LUDSON 15 7 7 16 4 4 4 4 4 4 4 4 4	焸	475.7	477.5	1.8		KENNEBEC-WABASH-ZOOK (NE072)	က	39	2	88	69	43	0
477.6 478.3 0.6 4.3 4.3 4.9 4.9 4.3 477.6 478.3 0.6 18.2 4.0 9.0 9.0 4.0 4.0 4.0 9.0 4.0	빙	477.5	477.6	0.1		NORA-MOODY-JUDSON (NE096)	15	7	7	16	40	4	0
478.3 480.4 1.2 NERBOR MORA-MODON/UNICEDANI (MEGRA) 16 4<	빙	477.6	478.3	9.0		KENNEBEC-WABASH-ZOOK (NE072)	ဂ	39	2	88	69	43	0
400.3 402.4 2.1 MERIOR MORAGE PROPONAMION (NEGRAL) 59 0 55 0 35 0 435 0 44 44 44 44 44 44 44 44 44 44 44 44 46 5 6 6 6 6 6 6 6 6 6 6 6 6 7 44 46 5 6 <td>뮏</td> <td>478.3</td> <td>490.3</td> <td>12</td> <td></td> <td>NORA-MOODY-JUDSON (NE096)</td> <td>16</td> <td>4</td> <td>4</td> <td>16</td> <td>40</td> <td>4</td> <td>0</td>	뮏	478.3	490.3	12		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4	0
492.4 494.1 1, NECTOR THYMACPOLICA-VALE (1967) 59 0 51 50 64 65 65 65 65 65 65 65	밀	490.3	492.4	2.1		NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
4941 4955 55 NIED94 NORA-CRECIAL MANONOON (VIED94) 39 0 55 0 0	빙	492.4	494.1	1.7		THURMAN-BOELUS-VALENTINE (NE122)	36	0	16	4	18	0	0
4985 502.3 2.7 NREG49 HOBESH-APRIALI (NICED) 0 9.8 444 22 0 503.1 503.8 0.2 NREG49 HOBESH-APRIALI (NICED) 1.2 0 9.8 44 22 1.0 503.1 505.8 0.7 NREG4 HOBESH-APRIALI (NICED) 9.9 6 4 1.6 0 505.6 516.8 0.5 NREG4 HOLL (NICEDHA) 9.9 0 6 4 1.6 0 516.8 516.8 0.5 NREG4 RECORDANIALO (NICED) 39 0 6 0 0 6 0 0 6 0 0 0 9 6 0	빙	494.1	499.5	5.5		NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
90.2.3 90.9 NEGRIA INVALE-CASS-BARREY (NED19) 12 0 3 4.0 4.2 10 90.3.1 69.3.1 0.0 NEGRIA INVALE-CASS-BARREY (NED19) 0	焸	499.5	502.3	2.7		HOBBS-HORD-HALL (NE049)	0	0	98	44	92	0	0
90.03.1 50.7 80.03.8 4.4 9.0 <t< td=""><td>N.</td><td>502.3</td><td>503.1</td><td>0.9</td><td></td><td>INAVALE-CASS-BARNEY (NE018)</td><td>12</td><td>0</td><td>3</td><td>40</td><td>42</td><td>10</td><td>0</td></t<>	N.	502.3	503.1	0.9		INAVALE-CASS-BARNEY (NE018)	12	0	3	40	42	10	0
500.8 500.6 1.3 NILTAT VALENTRE—TUNAMA-DOCER (NE141) 95 0 0 5 0 506.6 51.5 NEGA 18.4 MILTAT VALENTRE—TUNAMA-DOCER (NE040) 39 0 53 0 35 0 516.6 516.8 0.5 NE006 BELLOCARE-MODOLY-RILLMORE (NE000) 6 0 72 35 0	Ä	503.1	H	0.7	NE049	HOBBS-HORD-HALL (NE049)	0	0	98	44	85	0	0
Signatary Signature Sign	빙	503.8		1.3	NE141	VALENTINE-THURMAN-DOGER (NE141)	95	0	0	വ	0	0	0
566.3 516.3 <th< td=""><td>Ä</td><td>505.1</td><td>$\frac{1}{1}$</td><td>1.5</td><td>NE122</td><td>THURMAN-BOELUS-VALENTINE (NE122)</td><td>38</td><td>0</td><td>16</td><td>4</td><td>18</td><td>0</td><td>0</td></th<>	Ä	505.1	$\frac{1}{1}$	1.5	NE122	THURMAN-BOELUS-VALENTINE (NE122)	38	0	16	4	18	0	0
516.8 50.04 50.6 NEGORA NEGOR	빌	506.6		9.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
516.8 520.4 53.6 1 Nedod NORPA-GEOTON-MACDORY (NEGOd4) 39 0 53 0 35 0 521.4 521.1 0.6 NEGODA BELCORE-MOCDOY-FILLMORE (NEGOd4) 4.4 5 5 7 2 5 521.1 521.1 0.1 NEGODA BELCORE-MOCDOY-FILLMORE (NEGOD4) 4.4 5 5 0 3 6 521.1 521.2 0.1 NEGODA BELCORE-MOCDOY (NEGOD4) 4.1 5 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 6 0 0 3 6 6 5 0 3 6 6 6 0 0 0 6 6 0 0 0 0 0 0 0 0 0 0 0 0 <	뮏	516.3	-	0.5	NE006	BELFORE-MOODY-FILLMORE (NE006)	9	9	0	72	92	5	0
\$224 \$224 \$22 \$2 <t< td=""><td>뮏</td><td>516.8</td><td>+</td><td>3.6</td><td>NE094</td><td>NORA-CROFTON-MOODY (NE094)</td><td>39</td><td>0</td><td>53</td><td>0</td><td>35</td><td>0</td><td>0</td></t<>	뮏	516.8	+	3.6	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
\$211 \$211 \$211 \$211 \$211 \$211 \$221 \$221 \$221 \$2224 \$222 \$223 \$223 \$222 \$222 \$222 \$223 \$222 \$222 \$223 \$222 \$222 \$223 \$222 <t< td=""><td>ш</td><td>520.4</td><td><u> </u>-</td><td>0.6</td><td>NE006</td><td>BELFORE-MOODY-FILLMORE (NE006)</td><td>5</td><td>2</td><td>0</td><td>72</td><td>95</td><td>5</td><td>0</td></t<>	ш	520.4	<u> </u> -	0.6	NE006	BELFORE-MOODY-FILLMORE (NE006)	5	2	0	72	95	5	0
\$2214 \$2224 \$12 NEGOR BELFCRE-MOODY-FILL/MORE (NEGOR) \$5 \$6 \$7 \$5 \$6 \$227.4 \$227.7 \$23.2 \$6.3 NEGOR BELFCRE-MOODY-FILL/MORE (NEGOR) \$6	빌 본	521				NORA-CROFTON-MOODY (NE094)	44	0	55	0	35	0	0
522.4 522.7 0.3 NED94 NORPACROPITOM/MOODY (RICBA) 41 0 54 0 0 522.7 5.23 0.3 NEG04 NREDAR CROPTOM/MOODY (RICBA) 39 6 0 72 36 6 523.4 5.23.4 0.4 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.4 5.23.8 0.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.9 5.23.9 1.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.9 5.31.3 3.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 6 30 0 72 36 6 537.1 5.37 6.0 NEG08 HICACROPTOM-MOODY (NEG04) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	뮏	521.1	<u> </u> .	<u> </u>	1	BELFORE-MOODY-FILLMORE (NE006)	5	2	0	72	95	2	0
\$227 \$23 0.3 NICOR BELL-CARE-MOODY-FILL MORRE (NEDGA) 6 0 72 95 5 \$23.4 623.4 0.4 NIEGOS BELL-CARE-MOODY-FILL MORRE (NEDGA) 39 0 0 35 0 \$23.4 \$23.9 0.6 NIEGOS BELL-CARE-MOODY-FILL MORRE (NEDGA) 39 0 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 0 35 0	빙	522.4	<u> </u>	-	1	NORA-CROFTON-MOODY (NE094)	4	0	54	0	35	0	0
\$2.3.4 0.0.4 NIEGGA NORAA-CROFTONAMOODY (NEED94) 39 0 52 0 0 \$2.3.4 5.3.5 0.6 NIEGGA NORA-CROFTONAMOODY (NEED94) 39 0 52 0 35 0 \$2.3.3 5.2.9 3.6 NEGOB BELFORE-MOODY-FILLMORE (NEOGO) 5 0 0 35 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0	빌	522.7			{	BELFORE-MOODY-FILLMORE (NE006)	9	9	0	72	95	2	0
523.4 522.8 0.6 MEDOR RELECARE-MORDY-FILLMORE (NEOGE) 5 5 6 7 95 5 523.4 522.8 52.8 6 53 0 72 95 5 525.6 522.6 523 3.6 NEOGA NEOGA-CROTON-MODOY (NEOGA) 5 0 72 95 5 533.3 53.3 4.1 NEOGA HORDA-HALL WORLE (NEOGA) 0 0 98 44 92 0 537.7 537. 0.7 NEOGA HORD-HALL WORLE (NEOGA) 0 0 96 59 9 0 537.7 538.9 1 NEOGA HORD-HALL WORLE (NEOGA) 0 0 95 59 9 0 0 0 0 95 59 9 0<	핃	523				NORA-CROFTON-MOODY (NE094)	39	0	52	0	35	0	0
\$23.9 \$25.8 \$1.8 NEG94 NORA-CROFTON-MOODY (NER094) \$39 \$0 \$53 \$0 <td>뮏</td> <td>523.4</td> <td></td> <td></td> <td>- 1</td> <td>BELFORE-MOODY-FILLMORE (NE006)</td> <td>5</td> <td>5</td> <td>0</td> <td>72</td> <td>92</td> <td>2</td> <td>0</td>	뮏	523.4			- 1	BELFORE-MOODY-FILLMORE (NE006)	5	5	0	72	92	2	0
\$5.5.8 \$5.3.3 \$1.6 NEGOR BELFORM-MOODY (REGOR) \$5 \$5 \$7	뮏	523.9	1	_	- 1	NORA-CROFTON-MOODY (NE094)	39	0	53	0 9	35	0	0
529.3 53.3 2 NEGB4 NORA-CPOTON-MODY (NEGB4) 39 0 53 0 0 53 0 53 0 53 0 0 53 0 0 53 0 0 53 0 0 53 0 0 53 0 0 0 53 0 0 0 53 0 0 0 0 0 98 44 32 0 <t< td=""><td>뮏</td><td>525.8</td><td>-</td><td>_</td><td></td><td>BELFORE-MOODY-FILLMORE (NE006)</td><td>5</td><td>2</td><td>0 %</td><td>7,0</td><td>C C</td><td>ဂ</td><td>0</td></t<>	뮏	525.8	-	_		BELFORE-MOODY-FILLMORE (NE006)	5	2	0 %	7,0	C C	ဂ	0
531.3 533 1.6 NE049 HOBBS-HORD-HALL (NE049) 0 0 95 44 92 10 537 53.7 4.1 NE094 MODOPACH (NE049) 0 0 95 59 93 10 537 53.7 0.7 NE090 HORD-HALL-WOOD RIVER (NE090) 0 0 95 59 59 93 0 538.9 53.7 53.9 1.1 NE098 HORD-HALL-WOOD RIVER (NE090) 0 0 95 59 58 0 538.9 541.2 538.9 541.2 1.5 0 29 63 0 539.9 541.2 542. 0.8 NE018 NEOTRALL-BROCKSBURG-HORD (NE1007) 12 0 4 4 0 0 542.2 542. 0.8 NEOTR NEOTR NEOTRALL-MORD 1 4 40 42 10 542.2 0.1 NEOTRAL NEOTRAL NEOTRAL NEOTRAL NEOTRA	씯	529.3	1	-		NORA-CROFTON-MOODY (NE094)	39	0	53	э;	35	0	
533 537 4.1 NEG91 MOODY-FILLMORE-NORM (NEG91) 10 10 90 12 82 10 53.77 538.9 1.0 NEG98 HORDA-FILLMORE-NORM (NEG91) 10 10 96 59 93 0 53.77 538.9 1.0 NEG98 GIBBON-LUTON-SALTINE (NEG98) 6 42 3 91 63 2 538.9 539.9 1.0 NEG10 ONEILL-BROCKSBURG-HORD (NE100) 4 0 65 39 63 0 539.9 544.2 0.8 NEG18 NAVALE-CASS-BARNEY (NE018) 12 0 4 40 42 10 542.2 542.2 0.1 NEW MAYTER (NEW) 1.3 1.6 0	뮏	531.3	-	_		HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0 9	0 0
537 537.7 0.7 NEGOD HORD-HALL-WOOD RIVER (NEGOG) 0 95 59 59 93 0 538.9 1.1 NEGOB GIBBON-LUTON-SALTINE (NEGOB) 6 42 3 91 63 27 538.9 538.9 1.1 NEGOB GIBBON-LUTON-SALTINE (NEGOB) 4 2 65 39 68 0 538.9 541.2 1.3 NEGOO ALDA-PLATTE-LESHARA (NETOT) 27 16 0 2 6 0	빙	533				MOODY-FILLMORE-NORA (NE091)	10	10	0	12	82	9	0
537.7 538.9 1.1 NEGOR GIBBON-LUTON-SALTINE (NEGORS) 6 42 3 9 57.7 538.9 1.1 NEGOR O'NEILL-BARAC (NETOT) 4 0 655 39 58 0 538.9 543.2 1.3 NEGOR NEGOR NEGOR ALDA-PLATTE-CESHARA (NETOT) 27 16 0 4 4 0	밀	537		_		HORD-HALL-WOOD RIVER (NE060)	0	0	95	59	93	0 2	0
588.9 538.9 1 NETOO ONEIL-BROCKSBURG-HORD (NETOO) 4 0 65 39 58 0 538.9 543.2 1.3 NEOTA IADA-PLATTE-LESHARG (NETOR) 27 15 0 <t< td=""><td>믣</td><td>537.7</td><td>+</td><td>4</td><td></td><td>GIBBON-LUTON-SALTINE (NE038)</td><td>9</td><td>42</td><td>ი [</td><td>56</td><td>50</td><td>77</td><td>0</td></t<>	믣	537.7	+	4		GIBBON-LUTON-SALTINE (NE038)	9	42	ი [56	50	77	0
539.9 541.2 1.3 NE107 ALDA-PLATI E-LESHARA (NE107) 27 15 0 4 40 62 0 7 4 40 4 42 10 7 10 7 10 7 10 7 10 7 10 7 10 7 10 0	뮏	538.9	+			O'NEILL-BROCKSBURG-HORD (NE100)	4	0 4	200	8 6	200	0	
541.2 542.2 0.8 Ne018 INAVALE-CASS-BARNEY (NE018) 12 0 4 40 42 10 645.2 542.2 542.2 6.1 NEOTR INAVARIE-CASS-BARNEY (NE018) 13 0 4 40 42 10 542.2 542.7 543.1 0.4 NEOTR INAVAILE-CASS-BARNEY (NE018) 13 0 4 40 42 10 542.7 543.1 0.4 NEOTS INEOTR INEOTR INEOTR 1 0 4 40 42 10 543.1 545.6 2.5 NEOSB HORD-LUTON-SALTINE (NE038) 6 42 3 99 77 99 7 543.5 548.7 1.5 NEOSB HORD-HALL-HOBBS (NE023) 80 0 0 10 7 11 0 548.5 548.7 548.7 5.1 NEOSB HOLD-R-FILLMORE-BUTLE (NEO49) 79 14 79 13 89 11 <tr< td=""><td>빌!</td><td>539.9</td><td>1</td><td>_</td><td></td><td>ALDA-PLAI IE-LESHARA (NE107)</td><td>77</td><td>2</td><td>0 3</td><td>87</td><td>00</td><td>> 5</td><td>> 0</td></tr<>	빌!	539.9	1	_		ALDA-PLAI IE-LESHARA (NE107)	77	2	0 3	87	00	> 5	> 0
542.2 542.2 54.1 NEGN WATER (NECN) 1 0 4 40 42 10 542.7 543.1 0.5 NEGOS ALDA-PLATTE-LESHARA (NE107) 27 16 0 4 40 42 10 542.7 543.1 0.4 NE107 ALDA-PLATTE-LESHARA (NE107) 27 16 0 29 63 0 543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE058) 6 42 3 91 63 27 545.6 5.48.7 1.5 NE053 HORD-HALL-HOBBS (NE023) 1 1 0 0 1 0 7 11 0 1 0 7 11 0 1 0 7 11 0 1 1 1 1 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <	IJ Z	241.2	1	- Valence - Vale		INAVALE-CASS-BARINET (INECTO)	7	0	rc	Ç c	70	2 0	100
542.7. 543.1 0.4 NE107 ALDA-PLATTE-LESHARA (NE107) 27 16 0 29 63 0 543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE058) 6 42 3 91 63 27 545.6 2.5 NE038 HORD-HALL-HOBBS (NE058) 6 42 3 91 63 27 546.5 3.47.1 1.5 NE058 HORD-HALL-HOBBS (NE058) 6 9 7 99 1 548.7 548.6 5.48.7 0.2 NE054 HOLDER-FILLMORE-BUTLER (NE051) 5 88 7 93 5 548.7 549.4 5.7 NE049 HOLDER-FILLMORE-BUTLER (NE054) 10 14 7 11 0 549.4 554.5 5.1 NE049 HOBSS-HORD-HALL (NE049) 0 0 98 44 92 0 555.5 2.3 NE049 HOBSS-HORD-HALL (NE049) 0 0 98 44 <td< td=""><td>1 L</td><td>542 2</td><td>+</td><td>+</td><td></td><td>INAVALE-CASS-BARNEY (NEO18)</td><td>7 2</td><td>0</td><td>4</td><td>40</td><td>42</td><td>10</td><td>0</td></td<>	1 L	542 2	+	+		INAVALE-CASS-BARNEY (NEO18)	7 2	0	4	40	42	10	0
543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE038) 6 42 3 91 63 27 545.6 547.1 1.5 NE038 GIBBON-LUTON-SALTINE (NE058) 1 1 99 77 99 1 547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.7 549.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 548.7 549.4 554.5 5.1 NE044 HOSPS-HORD-HALL (NE049) 0 0 98 44 92 0 554.5 557.5 2.3 NE044 HOSBS-HORD-HALL (NE044) 0 0 98 44 92 0 557.5 2.2 NE044 HOSBS-HORD-HALL (NE044) 0 0 98 44 92 0 559.5 577.8 12.2 NE044 HOSBS-HORD-HALL (NE044) 0	Į į	542.7	-	_	4	ALDA-PLATTE-LESHARA (NE107)	27	16	0	29	63	0	0
545.6 547.1 1.5 NE058 HORD-HALL-HOBBS (NE058) 1 1 99 77 99 1 547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.5 548.7 0.2 NE054 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.7 0.7 NE024 HOLDER-FILLMORE-BUTLER (NE051) 79 0 101 7 11 0 548.7 554.5 5.1 NE044 HOSTINGS-FILLMORE-CRETE (NE044) 0 0 98 44 92 0 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 555.5 55.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 557.5 559.5 57.1 NE044 HASTINGS-FILLMORE-CRET	l H	543.1	-	2.5	1	GIBBON-LUTON-SALTINE (NE038)	9	42	ო	9	63	27	0
547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.6 548.7 0.2 NE051 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.7 0.2 NE053 HOLDER-FILLMORE-BUTLER (NE051) 79 0 101 7 11 0 548.7 554.5 5.1 NE044 HOSTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 555.3 559.5 2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 555.3 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 556.5 571.8 12.2 <td>NE</td> <td>545.6</td> <td>1</td> <td>_</td> <td></td> <td>HORD-HALL-HOBBS (NE058)</td> <td></td> <td>-</td> <td>66</td> <td>77</td> <td>66</td> <td>_</td> <td>0</td>	NE	545.6	1	_		HORD-HALL-HOBBS (NE058)		-	66	77	66	_	0
548.5 548.7 0.2 Ne061 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 0 0 98 44 92 0 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-	빙	547.1		<u> </u>		COLY-ULY-HOBBS (NE023)	80	0	100	7	7	0	0
548.7 549.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 5.57.5 5.59.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 5.71.8 12.2 NE049 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 559.5 571.8 12.2 NE049 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4	빙	548.5				HOLDER-FILLMORE-BUTLER (NE051)	വ	5	88	7	93	2	0
549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 554.5 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 551.5 571.8 571.8 572.4 0 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 79 89 11 571.8 572.4 0 NE049 HASTINGS-PILLMORE-CRETE (NE045) 30 2 53 0 65 2	빙	548.7				COLY-ULY-HOBBS (NE023)	79	0	101	7		0	0
554.5 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 555.3 0.7 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4 0.6 NE044 HASTINGS-FILLMORE-CRETE (NE045) 30 2 53 0 65 2 571.8 572.4 0.6 NE045 HASTINGS-PILLMORE-CRETE (NE045) 0 0 0 0 0 0	뮏	549.4	-	_		HASTINGS-FILLMORE-CRETE (NE044)	10	4	79	13	88	11	0
555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4 0.6 NE049 HASTINGS-GEARY-CRETE (NE045) 30 2 53 0 65 2 571.4 7.0 NE049 HASTINGS-DATA (ME045) 0 0 0 0 0 0	뮏	554.5	1	-		HOBBS-HORD-HALL (NE049)	0	0	86	44	92	> ;	0
557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 0 96 44 92 0 559.5 577.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4 0.6 NE049 HASTINGS-GEARY-CRETE (NE045) 30 2 53 0 65 2 571.4 0.6 NE049 LADER	밀	555.3	-	4		HASTINGS-FILLMORE-CRETE (NE044)	10	41	D 0	5. 5.	200		0
559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	¥ !	557.5	+		NE049	HOBBS-HORD-HALL (NE049)	0 6	2 5	30	4 4 4	80	5 5	O
0.11.0 0.12.4 0.0 NIEGAS UNDER	뷜	559.5	\perp	7 0	NEO44	HASTINGS-FILLMORE-CRETE (NE044)	3 -0	±1 °	53	2 0	55	2	0
	뷜	5/1.8	1	0,	N 1045	HASTINGS-GEARY-CRETE (NEO43)	000	۷ ۵	60	2	86	1 C	0 0

Appendi	Appendix F: Soil Associations Along the Propsed Keystone	ociations Al	ong the Pr	opsed Ke	ystone Pipeline Project			****				
						Highly	Compaction	Revegetation	A-Horizon	Prime	1	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	%	rarmiand %	nyarıc %	%
L Z	574.4	575.2	0.8	۱۵	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0
뮏	575.2	577.1	1.9	1	HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0	0
Ä	577.1	578.1	-	1 3	HASTINGS-CRETE-HOLDER (NE042)	12	2	87	2	88	რ :	0
뷔	578.1	578.8	0.7		HASTINGS-FILLMORE-CRETE (NE044)	9	14	79	13	88	1	0
뮏	578.8	579.3	0.5		HASTINGS-CRETE-HOLDER (NE042)	12	ဖ	87	2	88 6	n ;)
岁	579.3	280	9.0		HASTINGS-FILLMORE-CRETE (NE044)	10	14	8,18	2.	2000	= 6	5 6
뮏	280	580.4	4.0	- 1	HASTINGS-CRETE-HOLDER (NE042)	12	5	8/	۵;	8 6	2	5 0
빌	580.4	581.2	0.8		HOBBS-HORD-HALL (NE049)	0	0	86	4 -	92	0	
뮏	581.2	581.5	0.4		HASTINGS-CRETE-HOLDER (NE042)	13	2	87	2	88	n :	0.0
빙	581.5	585.5	4		HASTINGS-FILLMORE-CRETE (NE044)	10	14	79	13	68	11	0.0
빌	585.5	586.5	6.0		HASTINGS-CRETE-HOLDER (NE042)	12	5	87	5	88	ო :	0
밀	586.5	588.5	2	NE044	HASTINGS-FILLMORE-CRETE (NE044)	10	14	79	13	88	11	0
岁	588.5	290			HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	7 (0
빌	290	591.9			HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0 (0
빙	591.9	592.3			HASTINGS-GEARY-CRETE (NE045)	31	3	54	0	65	2	0
믣	592.3	593.2			HASTINGS-CRETE-FILLMORE (NE043)	10	21	36	19	69	12	0
빌	593.2	594.7			CRETE-HASTINGS-BUTLER (NE027)	22	7	19	2	93	4	0
岁	594.7		0.4		HASTINGS-GEARY-CRETE (NE045)	90	က	52	0	92	2	0
빙	595.1	<u> </u>		NE027	CRETE-HASTINGS-BUTLER (NE027)	വ	7	11	വ	93	4	0
岁	595.6	<u> </u>			HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0
빙	596.9	_			HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0	0
岁	597.6	<u> </u>			HASTINGS-GEARY-CRETE (NE045)	29	-	53	0	65	2	0
빌	598.2				HOBBS-HORD-HALL (NE049)	0	0	66	44	92	0	0
빙	598.9			NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	52	0	65	2	0
岁	599.4				CRETE-HASTINGS-BUTLER (NE027)	2	7	10	2	93	4 (0 0
빌	9.009				HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0 (
뮏	603.2	<u> </u>		NE027	CRETE-HASTINGS-BUTLER (NE027)	5	ω	9	2	93	4 (0
빙	604.2			NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	7	0 0
빌	605.2	605.5		NE049	HOBBS-HORD-HALL (NE049)	0	0	97	44	92	0	5 6
뿐	605.5			NE045	HASTINGS-GEARY-CRETE (NE045)	33	0	20	0	65	7	
뿐	605.6			NE027	CRETE-HASTINGS-BUTLER (NE027)	4	_	6	2	60.0	4 (
Ä	909	<u> </u>		NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0
빌	607.3			NE027	CRETE-HASTINGS-BUTLER (NE027)	0	13	13	5	93	4 (0 0
빌	607.4	8.709	_	NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	54	0 1	200	7)
뮏	607.8	-	_	NE027		စ္	/	10	ς (20 0	4 0	> 0
뮏	608.5		_	NE045		30	7	53	5 1	62	7	
岁	609.5	_	-	NE027		5	,	202	c c	683	4 c	0 0
岁!	610.3	+	+	NE045		000	7	50	2 5	8.8	٥ ٧	0
빌	612.1	613.6	τ. τ.	NE048		30	0	223	ţc	65	2	0
u u	614.0	1	1	NE027		3 4	7	10	2	93	4	0
I II	621.2	+	+	NE049		0	0	86	44	92	0	0
벌	622.4		-	NE093		46	2	7	63	23	2	0
빌	624.9	<u> </u>	-	NE027		2	7	10	ഹ	93	4	0
빙	628.4	<u></u>		NE028		9	0	σ	12	9/	0	0
Ä	635.2			NE077		29	0	84	22	33	0	69
岁	636			NE028		22	0	6	12	9/	0	0
빙	636.6			NE037		48	0	84	J. C.	200		0
뮏	638.1	1		NE028		2 2	0	D 5	71.	33	5 C	0 80
	638.6	640.5	25. C	NEO77	CONTINUATION (NEO/1)	07		5 0	12	76	0	0
7 2	640.5	+	+	KC338		9	0	6	12	76	0	0
2 5	0.49.0	+	+	KC374			0	69	69	100	0	0
2	0.000	1	-	1000								

Appendi:	Appendix F: Soil Associations Along the Propsed Keystone	ociations Ak	ong the Pr	opsed Keys	stone Pipeline Project			inc				
						Highly	Compaction	Revegetation	A-Horizon	Prime	1	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	>12" Deep %	rarmiand %	nyaric %	»earock
Ϋ́S	659.4	663.2	3.8	KS344	PAWNEE-WYMORE-KENNEBEC (KS344)	28	0	4	0	26	0	2
KS	663.2	670.1	6.9	1 1	WYMORE-MAYBERRY-PAWNEE (KS310)	30	0	0		28	0	0
Š	670.1	674.6	t. 5	KS344	DAMMEE-WYMORE-KENNEBEC (KS344)	28	0 0	4 0	0 0	28	0	0
S S	6795	679.8	y. C.	- 1	PAWNEE-BORCHARD-W IMONE (N3311) PAWNEE-WYMORE-KENNEBEC (KS344)	26	0	4	0	29	0	2
S	679.8	683.8	4	1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	2	0	28	0	0
\$	683.8	689.2	5.4	1 1	PAWNEE-WYMORE-KENNEBEC (KS344)	28	0	4	0	59	0	2
κS	689.2	690.1	6.0	1 1	KENNEBEC-WABASH-ZOOK (KS376)	က	39	2	88	69	43	0 0
ΚS	690.1	692	1.9	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	2	0	87 8	0	> 0
κS	692	697.2	5.2	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	7	0 0	70	0	0 0
Ş	697.2	705.1	7.9		PAWNEE-WYMORE-KENNEBEC (KS344)	28	5	4	5 0	80	> 0	7 0
Ş	705.1	705.3	0.2	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	40	0	5 0	100	000	77	0
SS :	705.3	706	0.7	- 1	WABASH-KEADING-KENNEBEC (KS194)	0 6	0	5 4	2	200	c	
S	700	745.5	4.0	KS344	COLIND DAWNER SHE SEC (NO. 244)	77	29	0	27	50	0	0
2 5	7,00.0	710.3	0.0		MADOLANI MADDII SHADDORIDO (KS105)	0 10	5	77	06	29	-	4
0 0	718.8	716.0	5 6		WARASH-READING-KENNEREC (KS194)		7	0	100	66	44	0
2 2	716.0	721.8	0.0		MARSHAI I -MORRIL I -SHARPSBURG (KS105)	2	2	77	06	29	-	4
S S	721.8	722.2	0.4	1	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	20	0	0
S	722.2	723.4	1.3	1	MARSHALL-MORRILL-SHARPSBURG (KS105)	2	2	77	06	29		4
S	723.4	723.7	0.3	KS104	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	20	0	0
KS	723.7	726	2.3	KS105	MARSHALL-MORRILL-SHARPSBURG (KS105)	ß	2	77	06	29	-	4
ξŠ	726	726.5	0.5	KS104	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	50	0	0
KS	726.5	739	12.6	KS105	MARSHALL-MORRILL-SHARPSBURG (KS105)	2	2	77	06	29		4
ξŞ.	739	741.4	2.3	KS110	KNOX-MORRILL-ARMSTER (KS110)	61	- 0	32	44		- 0	<u>†</u> c
SS.	741.4	743	9.	KS101	MONONA-MARSHALL-HAMBURG (KS101)	18	0 7	78	00	34 0	7	71
S	743	+	4.9	KS110	KNOX-MORRILL-ARIMS I EK (KST 10)	0	- c	32	7 28	5 8	12	
\$ 5	747.9	+	4.0	NS192	MATNIE-LE IA-WALDRON (NO 182)		0	0 0	3 0	3 0	2 0	100
2 2	748.5	+	5 5	MOM	WATER (MOW)	C	0	0	0	Ö	0	100
2 2	7.40.5	+	41	MOON	HAYNIE-I ETA-WAI DRON (MO001)	0	∞	0	38	86	12	0
2 2	752.6	+	- 00	MO008	KNOX-HIGGINSVILLE-SIBLEY (MO008)	35	24	40	73	26	0	4
S	754.4	+	2 8	MO006	MARSHALL-EXIRA-SHELBY (MO006)	2		11	31	30	ဖ	0
QV QV	756.2	761.2	2	MO008	KNOX-HIGGINSVILLE-SIBLEY (MO008)	35	24	40	73	26	0	4
WO	761.2		1.7	MO034	NODAWAY-COLO-ZOOK (MO034)	0	61	0	09	100	51	0
Q W	762.9		က	MO006	MARSHALL-EXIRA-SHELBY (MO006)	2	2		31	30	9 5	0
Ø Ø	2992	771.9	9	MO007	SHARPSBURG-SHELBY-COLO (MO007)	16	21	5 6	48	S 6	<u>y</u> 0	- 0
9	771.9	+	0.5	MO013	GARA-ARMS I RONG-PERSHING (MOUTS)	48	67	0	07	<u> </u>	1,0	7
Q :	772.4	772.5	0.7	MO007	SHAKFSBURG-SHELBY-COLO (MOUV)	77	27	0	28	1 2	<u>4</u> (C	2
2 2	777 3	+	0. 1.	ACCOM	SHARPSRIEG-SHE BY-COLO (MO007)	19	21	0	48	36	12	-
2 2	776		4.3		GRUNDY-LAGONDA-LAMONI (MO012)	0	9	0	7	54	က	0
QW	780.3	1	2	1	GARA-ARMSTRONG-PERSHING (MO013)	47	24	0	28	16	စ	2
QW W	782.3		2.1	3	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	24	3	0
Ø W	784.4	785.2	0.8		LAMONI-SHELBY-ADAIR (MO009)	10	51	0	2	9	ഗ	0 0
8	785.2	787.1	2	- 1	GARA-ARMSTRONG-PERSHING (MO013)	47	24	0	28	16	ט ע	7
Ø Ø	787.1	787.4	0.2		LAMONI-SHELBY-ADAIR (MO009)	0	53	0	1 2	ړ د	0 0	
Q	787.4	-	0.5		GRUNDY-LAGONDA-LAMONI (MO012)	710	5 6	> 0	000	40,7	ი დ	
Q :	787.9	788.4	0.5	MO013	GARA-ARMS I RONG-PERSHING (MOU13)	/4	91	0	207	5.45	o (n	0
SS	789.7	+	0.0	MO013	GARA-ARMSTRONG-PERSHING (MOO13)	47	24	0	28	16	9	2
2 2	790	+	0.8	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	06	0	7	54	က	0
№	790.8	791.4	9.0	MO014	ARMSTER-SNEAD-LADOGA (MO014)	52	23	0	43	7	2	31

Appendix F: Soil Associations Along the Propsed Keystone	7. GUI 766	OCIALIOIIS A			stolle ripellie rioject			WO				
	2	200	Approx			Highly Erodible	Compaction Prone	Revegetation Potential	A-Horizon >12" Deep	Prime Farmland	Hydric	Shallow (<60") Bedrock
State	Start MP	End MP	Miles	MUID	Name	%	%	%	%	%	%	%
MO	791.4	792.3	6.0	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
QW	792.3	792.7	4.0	MO014	ARMSTER-SNEAD-LADOGA (MO014)	51	23	0	43	7	2	31
Q	792.7	793.9	1.3	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
õ	793.9	796.7	2.7	MO014	ARMSTER-SNEAD-LADOGA (MO014)	51	23	0	43	,	7	3.1
8	796.7	798.3	1.6	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	3	o ;
8	798.3	800	1.7	MO014	ARMSTER-SNEAD-LADOGA (MO014)	51	23	0	43	7	2	31
8	800	801.1	1.1	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
Ç	801.1	801.7	0.6	MO014	ARMSTER-SNEAD-LADOGA (MO014)	52	23	0	43	7	2	31
S	8017	807	27.33	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
2 2	807	810.8	0 00	MO014	ARMSTER-SNEAD-I ADOGA (MO014)	51	23	0	43	7	2	31
2 2	210 8	210.0	2.0	MO012	GRINDY-I AGONDA-I AMONI (MO012)	0	91	0	7	54	3	0
2 2	25.0	812 0	4.0	4000M	COLO-NODAWAY-70OK (MO004)	C	65	0	85	100	50	0
2 2	0 17	017.9	0.00	2000	ADMOTED SNEAD LADOGA (MODIA)	57.	23	C	43	7	2	31
2	812.9	015.0	9 5	4008	ARMOTER-SINEAD-CADOGA (INOUTA)	5 5	27		2 5	σ	ı cc	44
2	813.8	816.9	3.7	MO016	GREEN CON-GOOPOR I -SINEAD (MICCIO)	, c	6 4		3 1	2 2	o en	C
Q N	816.9	820.1	3.2		GRUNDY-LAGONDA-LAMONI (MODIZ)	> 9	- 6		100	5 0	0	74
Q	820.1	826.9	8.9	- [GREEN I ON-GOSPOR I -SNEAD (MOUTE)	84	0 40	0 0	25 1	9 7	0 0	F C
Q N	826.9	831.6	4.8		GRUNDY-LAGONDA-LAMONI (MO012)	0	5 6	0	_ 0	4 6	0 7	0 0
Q N	831.6	832.4	0.8		NODAWAY-COLO-ZOOK (MO034)	0	61	0 0	00	212	0 0	0
Q	832.4	840.5	8.2	- 1	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	\	50	n	D
Q	840.5	846.7	6.2		CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	88	,,	7
8	846.7	857.1		MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	n	0
8	857.1	858.4		MO020	CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	88	77	7
8	858.4	860.7		MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
Ø	860.7	865.5	4.8		CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	86		2
§	865.5	867.4	1.9	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	3	0
8	867.4	868.5	1.1	MO020	CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	86	<u></u>	2
Q	868.5	869.1	9.0	MO018	LINDLEY-KESWICK-GOSS (MO018)	75	10	29	3	6	2	7
8	869.1	871.1		MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	3	0
8	871.1	871.2	0.1	MO018	LINDLEY-KESWICK-GOSS (MO018)		14	28	က	ი (7	7 0
Q Q	871.2			MO020	CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	86	,,	7.
Q	872.7	876.5		MO082	MACKSBURG-MARSHALL-GRUNDY (MO082)	-	20	22	29	61	13	15
QW	876.5			MO018	LINDLEY-KESWICK-GOSS (MO018)	75	11	29	დ -	e	7 2	7
QW Q	883.7		14.2	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	-		20	32	0 (
Ø	897.9	9.668		MO022	MEXICO-PUTNAM-LEONARD (MO022)	0	86	0	0	86	48	0
Θ	9.668			MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89		-	20	32	0
õ	901.5	_	_	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0	86	0	0	80 6	48	0
S S	907.8		T-LOCAL DESIGNATION OF THE PERSON OF THE PER	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89		(200	32	
8	909.1	+	_	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0 ;	32	5 0	>	0 0	0 6	> 0
9	911.6		0.2	MOOZ3	MEXICO-LEONARD-ARMS I RONG (MOUZS)	0 0	0.0		- c	88	48	0
2 :	811.8	-	+	MOOZZ	MENICO-PULINAMI-LECINARD (MOUZZ)	410	000	> ~	> -	25 25	32	0
2 2	912.3	0.00	_	MOOKS	INEXICO-LEGINARD-ANIMS INCING (MICOZS)	77	18	20	- (*	3 m	2	2
2 2	0.00	1	0.7	00000	EATIMA ABBELA VESSEB (MOO29)	2 0	- 2	2	53	66	67	
2 2	910.7	+	0	MO048	I ATTIMOTAL TO LEGAL (MODES)	75	=	30	8 60	6	5	2
2 5	919.	+	+	MO023	MEXICO-I FONARD-ARMSTRONG (MO023)	17	99	-	-	20	32	0
2 2	920.6	1	+	MO022	MEXICO-PUTNAM-LEONARD (M0022)	0	86	0	0	86	48	0
8	921.6		<u> </u>	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	_	20	32	0
9	923.1	-	2.6	MO022	×	0	86	0	0	86	48	0
8	925.7		_	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	-	-	20	32	0
Q W	926.6		_	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0	86	0	0	86	48	0
Q W	928.4		1.7	MO023	1:.31	17	68	-	-	20	32	0 0
Q	930.1	934.4	_	MO022		0	86	0	0	80 0	84 6	0
Q W	934.4	\dashv	4	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	١,٢	00	-	-	ne	25	>

ğ	Appendix F: Soil Associations Along the Propsed Reyslone	מע פווסווא		וחשפמו וירא	arone i penne i rojeci			/4/0					
						Highly	Compaction	Revegetation	A-Horizon	Prime	:	Shallow (<60")	
	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	>12" Deep %	Farmland %	Hydric %	Bedrock %	
	941.8	1	2.2	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	1	56	
	944	948.3	4.3	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	-	20	32	0	
	948.3	949.3	τ-	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	ν-	56	
	949.3	950.7	1.5	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	-	20	32	0	
	950.7	951.5	0.8	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	-	56	
	951.5	952.4	6.0	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	-	50	32	0	
MO	952.4	965.3	12.9	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	-	56	
MO	965.3	970.9	5.6	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	_	20	32	0	
	970.9	984.8	13.9	MO021	MENFRO-WINFIELD-WELLER (MO021)	21	0	4	58	18	0		
	984.8	998.6	13.8	MO027	CARLOW-PORTAGE-CHEQUEST (MO027)	0	88	_	86	100	65	0	
	9886	1002.1	3.5	MO026	LOMAX-BLASE-BOOKER (MO026)	0	50	40	55	100	15	0	
Q	1002.1	1021.1	19	MO065	HAYNIE-WALDRON-BLAKE (MO065)	0	32	2	21	94	18	0	
C	1021 1	10213	0.2	MOM	WATER (MOW.)	0	0	0	0	0	0	100	
	1021.3	1021.5	0.0	3		0	0	0	0	0	0	100	
	1021 5	1024 5		11 029	BEALICOID AWSON-DARWIN (II 029)	С	45	22	84	97	09	0	
_ اي	1024 5	1027.6	0 0	1000	WAKEI AND BIRDS BEI KNAP (II 068)	0	75	5	29	66	32	0	
	1027.8	1027.7	5	1034	POZETTA_FAVETTE_HICKORY (II 034)	24	000	48	10	49	0	0	
	1027.7	1028 1	5 6	1001	POZETTA_FAVETTE_HICKORY (II 034)	25		47	10	49	0	0	
	1020.1	1020.7	5 0		WAKEI AND-BIRDS-BEI KNAP (II 068)		75	6	29	66	32	0	
	1020.1	1033.6	1 6		ROZETTA_FAYETTE_HICKORY (II 034)	24		48	10	49	0	0	
	4000.4	1000	7		TAMA MISCATINE SARIE (11 000)	; c	. 2	3	98	86	15	0	
	1033.0	1004.9	5 0		DOZETTA EAVETTE HICKOBY (II 034)	24	. c	49	10	49	0	0	
	1004.0	1000.2	5 .	1	הסקברו לבייון ביווביון (ובסק)	000	20	20	. «	48		0	
	1033.2	1030.0	t. C		MAZEL I PERECIMALE I IIONOLI (IEDOS)	3	75	ß	29	66	32	0	
	1000.0	1000	200	1000	DOZETTA EAVETTE HICKOBY (11 034)	24	2	48	10	49	0	0	
	1007.3	1039.3	7.7	1001		Ţ c	42	2 c	5 8	76	46	0	
The same	0.000.0	1040.0		1000	DOZETTA VEOMAL LICKOBY (11 096)	000	20	000	α	48		0	
	0.040.0	1041.7	- 0	1000	COMPENIONOMER DADMOTANT (11005)	07	20	3	, 4	2 0	20	0	
	1041.7	1042.3	5 4		DOVIDEN-COONEE-DARMISTADI (15005)	000	200	20	2 α	48	-	0	
	1042.3	1043.4	- 0		LEBBICK VIDDEN BIASA (1100A)	27	25	3 0	80	76	46	0	
1	1043.4	1040.5	5 2	ı	POZETTA_KEOMAH_HICKORY (II 036)	200	29	29	0	48	-	0	
	1040.7	1040.7	2.6	on the same	HERRICK-VIRDEN-PIASA (II 004)		97	0	89	94	46	0	
	1040.7	1049.5	0 6	1	COMPEN-OCONFE-DARMSTADT (II 005)	0	96	0	16	80	50	0	
1	1049.5	1050 7	2.0		ROZETTA-FAYETTE-HICKORY (II 034)	24	7	48	10	49	0	0	
	1050 7	1052.2	, r.	İ	COWDEN-OCONEE-DARMSTADT (IL005)	0	97	-	16	80	20	0	
	1052.2	1054	2 00		HOSMER-STOY-HICKORY (IL037)	20	47	20	43	09	80	0	
	1054	1055.7	17	11,068	WAKELAND-BIRDS-BELKNAP (IL068)	0	75	6	29	66	32	0	
	1055.7	1056.8	-	IL037	HOSMER-STOY-HICKORY (IL037)	20	47	20	43	90	80	0	
	1056.8	1058.6	1.8	11005	COWDEN-OCONEE-DARMSTADT (IL005)	0	97	-	16	80	20	0	
	1058.6	1062.2	3.6	IL038	BLUFORD-AVA-HICKORY (IL038)	17	62	13	12	55	10	0	
	1062.2	1067.2	4.9	1L006	CISNE-HOYLETON-DARMSTADT (IL006)	0	100	0	က	82	62	0 .	
	1067.2	1069.4	2.3	11,038	BLUFORD-AVA-HICKORY (IL038)	17	62	13	12	55	4	0	
	1069.4	1070.1	0.7	1L068	WAKELAND-BIRDS-BELKNAP (IL068)	0	75	6	29	66	32	0	
	1070.1	1070.1	0	1L068	WAKELAND-BIRDS-BELKNAP (IL068)	0	0	0	29	66	32	0	
	1070.1	1072.3	L	1L068	WAKELAND-BIRDS-BELKNAP (IL068)	0	75	6	29	66	32	0	
	1072.3	1073.2	0.8	IL038		17	62	13	12	55	10	0	
	1073.2	1077.8		1L006	CISNE-HOYLETON-DARMSTADT (IL006)	0	100	0	က	82	62	0	
	1077.8	1077.9		IL038	BLUFORD-AVA-HICKORY (IL038)	14	61	14	12	55	10	0	

Highly Companies Prince	Append	Appendix F: Soil Associations Along the Propsed Keystone	sociations Al	ong the Pr	opsed K		Pipeline Project			Low				
Mathema								Highly	Compaction	Revegetation Potential	A-Horizon	Prime Farmland	Hydric	Shallow (<60") Bedrock
2.2 2.2 NEGDY GEARY-ANSERNA/MOIN NEGDY, ASSESSION OF CONTROL OF	State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID		Name	%	%	%	%	%	%	%
2.2 2.2 2.2 2.2 4.2 0.0 64 19 7.6 0 3.7 1.3 RESZB GREFLAWYBERFLYMYDGE (RSSZB) 6 0	VINOLIO	CISNATENSIO	Ž											
2.4 3.7 1.3 MESSA CRITERAA/MERINA/WANGE (NEZOR) 5 0 0 10 10 10 10 10	E P	0	L	2.2	NE037	GEA	8	48	0	84	19	56	0	0
2.4 3.7 1.8 MSSS22 GORGE-GAM/PREMY/MODE (MSSS2) 6 0 9 61 70 0	ľ	_	2.4	0.2	NE028	CRE	11	2	0	10	12	9/	0	0
3.7 6.5 6.14 6.83871 6.0 6.	ξŞ.		3.7	1.3	KS328	CRE	TE-MAYBERRY-WYMORE (KS328)	9	0	6	12	92	0	0
6.5 9.6 7.8 9.6 9.0 <td>KS</td> <td></td> <td>5.5</td> <td>1.8</td> <td>KS371</td> <td>Ī</td> <td>ORA-MUIR-NODAWAY (KS371)</td> <td>0</td> <td>0</td> <td>69</td> <td>69</td> <td>100</td> <td>0</td> <td>0</td>	KS		5.5	1.8	KS371	Ī	ORA-MUIR-NODAWAY (KS371)	0	0	69	69	100	0	0
15.2 6.7 15.323 12.2 6.7 15.323 12.2 6.7 6.7 6	ξŞ		8.5	9	KS328	SR	TE-MAYBERRY-WYMORE (KS328)	9	0	6	12	9/	0	0
15.2 16.3 11.4 18.2322 J.A.C.A.C.S.T.E.R.H.E.D.M.L.E.C.A.C.O.(8302) 2.6	KS		15.2	6.7	KS371	1	OORA-MUIR-NODAWAY (KS371)	0	0	69	69	100	0	0
19.4 3.14 3.14 3.328 Cheff E-GRAV-LORGON (KS201) 6 0 0 26 4 775 0 0 1 1 1 1 1 1 1 1	ξ		16.3	1.1	KS302	1	ICASTER-HEDVILLE-EDALGO (KS302)	28	0	84	22	27	0	69
194 231 18 18 18 18 18 18 18	ΚS		19.4	3.1	KS328	1	TE-MAYBERRY-WYMORE (KS328)	9	0	6	12	92	0	0
23.1 2.2 2.2 KSSDT ORFIEL-MANAFIRE (MSSZD) 6 0 9 1.2 776 0 23.5 3.5 1.0 KSSDT ORFIEL-MANAFIRE (MSSZD) 1.3 0 2.3 7.7 0 2.3 7.7 0 0 0 2.3 7.7 0 0 0 2.3 7.7 0 0 0 0 0 2.3 7.7 0	Ş		21.1	1.8	KS301	1	TE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	2
23.3 33.5 10.2 KSSSOT CAPTER_LAMACRETER_PAYMER (KSSOT) 15 0 46 9 71 0 36.5 36.5 36.5 AKSSOT CAPTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 36.5 3.3 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 4.2.4 4.9.8 7.4 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 4.2.4 4.9.8 7.4 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 5.1.7 2.6 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 2 0 7 <	X S		23.3	2.2	KS328		ETE-MAYBERRY-WYMORE (KS328)	9	0	6	12	76	0	0
3.6	K.S.	1	33.5	10.2	KS307	1	TE-LANCASTER-EDALGO (KS307)	r.	0	46	6	71	0	29
36.6 36.8 3.3 Kassan Chelle Gelek-Lico/CHORD (18501) 4 0 26.6 4 7.7 0 3.6 4.6 3.3 Kassan Chelle Gelek-Lico/CHORD (18501) 2.6 4 7.7 0 4.0 5.6.1 3.4 Kassan Chelle Gelek-Lico/CHORD (18501) 4 0 2.6 4 7.7 0 5.1 5.6.1 3.4 Kassan Chelle Gelek-Lico/CHORD (18501) 6 7 6 7 0 6 7 0 7 6 7 0 0 2.6 4 7.2 0 5.1 5.5 3.4 Kassan Chille Sold-Martin (18501) 6 6 7 7 2 6 7 7 0 7 6 7 7 0 0 6 6 7 7 0 0 6 7 7 0 0 6 7 7 0 0 6 7 7 0 0 6 7 <td>X S</td> <td></td> <td>36.5</td> <td>8</td> <td>KS373</td> <td></td> <td>SON-CRETE-PAWNEE (KS373)</td> <td>13</td> <td>0</td> <td>30</td> <td>23</td> <td>43</td> <td>0</td> <td>40</td>	X S		36.5	8	KS373		SON-CRETE-PAWNEE (KS373)	13	0	30	23	43	0	40
42.4 2.6 KR392 LANGASTER-HUGKSTON (KSSOL) 4.0 6.6 4.2 2.7 0 4.0 6.6 4.2 2.7 0 4.0 <td>KS</td> <td></td> <td>39.8</td> <td>3.3</td> <td>KS301</td> <td></td> <td>TE-GEARY-LONGFORD (KS301)</td> <td>4</td> <td>0</td> <td>26</td> <td>4</td> <td>72</td> <td>0</td> <td>5</td>	KS		39.8	3.3	KS301		TE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	5
4.2.4 4.6.8 7.4 KKSSNO GERET GEREN-LOGGEROR (KSSZOL) 4 0 2.6 4 7.2 0 5.7.1 5.6.1 3.4 KKSSNO GERET GEREN-LOGGEROR (KSSZOL) 6 7	X S	_	42.4	2.6	KS302	1	ICASTER-HEDVILLE-EDALGO (KS302)	28	0	84	22	27	0	69
49.6 61.7 19 65.7 7 2 2 51.7 26 KSS372 MINERLODGA-SUPHEN (KSS72) 4 0 78 56 92 2 55.7 26 KSS300 CUREFECEARY-LONG-CORD (KSS20) 67 0 26 7 7 20 0 57.7 26 KSS300 CUREFECEARY-LONG-CORD (KSS20) 4 0 26 7 20 0 61.8 63.1 1.2 KSS300 CUREFECEARY-LONG-CORD (KSS20) 4 0 26 7 20 0 61.8 63.1 1.2 KSS30 CURPLE-GEARY-LONG-CORD (KSS20) 4 0 26 4 7 20 0 7.1 7.1 1.6 KS330 CURPLE-GEARY-LONG-CORD (KSS20) 4 0 0 7 4 7 20 0 7.1 7.2 1.6 KS330 CORD-CORD-CORD-CORD-CORD-CORD-CORD-CORD-	KS		49.8	7.4	KS301	1	ETE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	2
617 56.1 3.4 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 26 4 72 0 617 56.1 57.7 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 72 0 61.7 56.4 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 72 0 61.8 6.1 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 6.1 6.1 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 6.1 6.1 6.1 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 7.1 1.6 KRS302 INHW-HAPPON-LONG-FORD (KS301) 1.6 0 2.6 4 7.2 0 0 7.1 1.6 KRS302 INHW-HAPPON-LONG-FORD (KS302)	KS		51.7	1.9	KS372	1	R-EUDORA-SUTPHEN (KS372)	0	0	78	26	92	2	0
56.1 57.7 58.4 67.7 6. Ka301 CLIMES-CONMARATINI (SS230) 67 0 5 7 20 0 58.4 61.7 68.3001 CLIMES-CONMARATINI (SS230) 67 0 5 7 7 0 58.4 61.7 68.3001 CLIMES-CONMARATINI (SS230) 6 7 7 2 0 67.8 61.8 68.3301 CLIMES-CONMARATINI (SS230) 6 7 7 2 0 67.8 62.9 1.3 KS301 CRITE-GEARY-LONG-PORD (KS230) 6 0 7 6 6 2 2 2 70.3 7.1 10.8 KS301 CRITE-GEARY-LONG-PORD (KS230) 6 0 7 6 6 2 2 2 7 7 7 7 7 6 6 9 6 6 9 6 6 9 6 6 9 7 7 7 7 7 7 <td< td=""><td>SX SX</td><td></td><td>55.1</td><td>3.4</td><td>KS301</td><td></td><td>ETE-GEARY-LONGFORD (KS301)</td><td>4</td><td>0</td><td>26</td><td>4</td><td>72</td><td>0</td><td>2</td></td<>	SX SX		55.1	3.4	KS301		ETE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	2
58.4 61. KSS00 CRENE-GEAVILONG/POR (KSS10) 4 0 26 4 72 0 61.4 61.6 KSS00 CUIME-GOON-MARTIN (KSS20) 4 0 26 4 72 0 61.4 61.8 KSS07 MIRE-EUORA-LONG-POR (KSS10) 4 0 26 4 72 0 61.7 61.8 KSS07 MIRE-EUORA-SUTH-HIN (KSS27) 4 0 26 4 72 0 70.3 71.1 CRETE-GEARY-LONG-POR (KSS17) 6 6 26 2 2 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS27) 16 7 6 6 22 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS28) 3 7 7 4 72 0 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS28) 3 1 4 72 6 70.2 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS38) 3 7 <th< td=""><td>Ş</td><td><u> </u></td><td>57.7</td><td>2.6</td><td>KS330</td><td></td><td>ME-SOGN-MARTIN (KS330)</td><td>29</td><td>0</td><td>2</td><td>7</td><td>20</td><td>0</td><td>80</td></th<>	Ş	<u> </u>	57.7	2.6	KS330		ME-SOGN-MARTIN (KS330)	29	0	2	7	20	0	80
584 61 26 KSS30 CLIME-SOCRAMARTIN (KSS32) 67 0 5 7 20 0 67.8 69.1 1.3 KSS37 QLIME-SOCRAMARTIN (KSS37) 0 0 78 66 92 2 67.8 1.3 KSS37 ALMIPE-UDORA-SUTPHEN (KSS37) 0 0 78 66 92 2 70.3 7.1.1 LSS37 MURE-UDORA-SUTPHEN (KSS37) 0 0 78 66 92 2 7.1.1 7.3.7 7.3.4 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS37) 0 77 4 72 0 7.3.1 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.2 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.2 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.4 KSS30 M	S S		58.4	0.7	KS301		ETE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	5
61 67.8 6.8 6.3 7.8 6.8 4 7.2 7 69.1 67.8 68.1 4.3 4.3 6.2 4 7.2 0 69.1 70.3 1.2 K8320 MUNIE-UDGR-ASUTPHEN (K8321) 4 0 7.6 56 4 7.2 0 70.3 1.2 K8320 MUNIE-UDGR-ASUTPHEN (K8321) 1.6 0 7 6 6 2.2 2 7.1 1.0 4 K8320 MUNIE-UDGR-ASUTPHEN (K8320) 1.6 0 7 4 72.7 7.7 4 7.2 4 7.2 6 6 0 7 6 6 0 6 6 0 7 7 6 6 0 7 7 6 6 0 7 7 6 6 0 6 0 7 7 6 6 0 6 0 6 0 6 0 0 </td <td>Š</td> <td></td> <td>61</td> <td>2.6</td> <td>KS330</td> <td></td> <td>ME-SOGN-MARTIN (KS330)</td> <td>- 67</td> <td>0</td> <td>ည</td> <td></td> <td>20</td> <td>0</td> <td>08</td>	Š		61	2.6	KS330		ME-SOGN-MARTIN (KS330)	- 67	0	ည		20	0	08
67.8 69.1 1.3 K8372 MUNICATEDIORA-SUTPHEN (K8337) 0 0 78 56 92 2 70.3 77.1 0.8 K8307 MINICATEDIORA-SUTPHEN (K8337) 0 0 78 4 72 0 77.1 73.1 7.6 K8307 MINICATEDORA-SUTPHEN (K8339) 18 0 77 5 1 6 92 2 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 18 0 27 4 72 0 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 18 0 27 4 72 0 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 10 0 7 5 6 6 0 7 5 6 6 0 0 7 5 6 6 0 0 0 7 5 6 0 0 7 6	ξŠ		67.8	6.8	KS301		ETE-GEARY-LONGFORD (KS301)	4	0	26	4	72	0	o o
69.1 70.3 1.2 K\$301 CMRETC-GRAY-LONGFORD (K\$301) 4 0 26 4 7.2 0 7.1.1 72.7 1.6 K\$303 CARETC-GRAY-LONGFORD (K\$301) 1.8 0 7.8 56 9.2 2 7.1.1 72.7 7.3.1 0.4 K\$303 RWINK-EUDORA-SUTPHEN (K\$302) 1.8 0 7.6 51 62 0 7.3.9 0.8 K\$303 RRVINK-RPSON-CIME (K\$303) 1.8 0 7.6 51 63 0 7.5.9 7.4.8 0.9 K\$303 RRVINK-RPSON-CIME (K\$303) 1.8 0 7.6 66 0 7.6.6 8.2.2 6.4 K\$303 RWINK-RPSON-CIME (K\$303) 1.8 0 7.6 6.6 0 8.8.1 8.8.2 8.4.8 8.8.9 2.1 K\$304 RWINK-RPSON-CIME (K\$303) 1.8 0 7.6 6.6 0 8.8.2 8.4.8 8.8.2 1.8 K\$303 RWINK-RPSON-CIME	KS		69.1	1.3	KS372		IR-EUDORA-SUTPHEN (KS372)	0	0	78	- 56	92	2	0 1
70.3 71.1 0.8 K63378 IMUNR-LIDORA-SULTHEN (K5372) 1 0 7 5 1 5 6 2 7 5 1 6 8 2 2 7 7 1 7 7 1 6 83388 IRWINAHVH/PSON-CLIME (K5389) 1 6 0 2 7 5 1 4 75 0 7.3.4 7.3.9 7.4.6 0.9 K5389 RAMENINE-MELS-ORFELLO (K5389) 3 0 9 2 7 4 7 5 1 6 9 2 7 6 9 2 7 8 9 9 2 7 8 9 9 2 7 8 9 9 2 7 8 9 9 9 2 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 <td>ΚS</td> <td></td> <td>70.3</td> <td>1.2</td> <td>KS301</td> <td></td> <td>ETE-GEARY-LONGFORD (KS301)</td> <td>4</td> <td>0</td> <td>26</td> <td>4</td> <td>7/2</td> <td>o (</td> <td>מי</td>	ΚS		70.3	1.2	KS301		ETE-GEARY-LONGFORD (KS301)	4	0	26	4	7/2	o (מי
7.1.1 7.2.7 1.6 KS338 IRWIN-KNOR-ORD/CLIME (KS338) 18 0 7 31 0.5 7.3.1 7.2.7 1.4 KS338 IRWIN-KNOR-ORD (KS338) 18 0 7 4 7.2 0 7.3.9 7.48 0.9 KS338 IRWIN-KNOR-ORD (KS338) 18 0 7 6 2 2 2 7.4.8 0.9 KS338 IRWIN-KNOR-ORD CLIME (KS338) 18 0 7 6 6 0 2 2 2 2 6 6 0 7 6 6 0 7 6 0 0 0 7 6 0 <td>KS</td> <td></td> <td>71.1</td> <td>0.8</td> <td>KS372</td> <td></td> <td>IR-EUDORA-SUTPHEN (KS372)</td> <td>0</td> <td>0</td> <td>78</td> <td>56</td> <td>85</td> <td>7</td> <td>0.6</td>	KS		71.1	0.8	KS372		IR-EUDORA-SUTPHEN (KS372)	0	0	78	56	85	7	0.6
73.7 73.4 0.4 KS330 REPERCACEAN/LONG-ROSA) 5 0 2/7 4 72.7 73.4 0.9 KS330 RRS30 RRS30 RRS30 RRS30 RAPERCACEA/LONG-ROSA) 31 0 2/7 4 72.7 7 4 72.7 7 4 72.7 7 4 7 6 6 92.2 2 2 2 2 2 2 2 2 2 2 2 4 8 10 4 9 10 4 9 10 4 8 10 2 7 4 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 10 10 10 10 10 <th< td=""><td>δ</td><td></td><td>72.7</td><td>1.6</td><td>KS338</td><td></td><td>VIN-KIPSON-CLIME (KS338)</td><td>18</td><td>0</td><td>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \</td><td></td><td>300</td><td>0</td><td>70</td></th<>	δ		72.7	1.6	KS338		VIN-KIPSON-CLIME (KS338)	18	0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		300	0	70
73.1 73.9 0.8 KS338 RAWINHA/FIRSONOLIME (KS381) 31 0 6 0 0 7 6 9 1 4 9 10 7.4.8 7.4.8 0.9 KS338 RWINHA/FIRSONOLIME (KS338) 1 0 7 56 92 2 2 7 56 92 2 2 6 6 0 7 56 6 0 0 8 8 2 2 2 6 6 0 0 7 51 6 0 0 8 8 0 0 0 7 51 6 0 <td< td=""><td>χS</td><td></td><td>73.1</td><td>0.4</td><td>KS301</td><td>- 1</td><td>ETE-GEARY-LONGFORD (KS301)</td><td>2</td><td>0</td><td>77</td><td>4 5</td><td>7)</td><td></td><td>5.2</td></td<>	χS		73.1	0.4	KS301	- 1	ETE-GEARY-LONGFORD (KS301)	2	0	77	4 5	7)		5.2
73.9 74.8 0.9 KS369 VALENTEW/RELORARELLO (KS389) 31 0 74 30 49 0 73.8 76.8 2.1 KS372 MAINTE-EUDORA-SUTPHEN (KS323) 18 0 7 51 62 0 76.8 8.2.2 5.4 KS328 IRWIN-KIPSON-CLIME (KS338) 6 0 7 51 65 0 84.8 2.6 KS338 IRWIN-KIPSON-CLIME (KS338) 6 0 7 51 63 0 87.8 89.9 2.1 KS338 IRWIN-CLIME-ROSEHILL (KS338) 6 0 7 51 65 0 89.9 92.2 2.4 KS338 IRWIN-CLIME-ROSEHILL (KS334) 6 0 8 56 6 0 92.2 101.6 9.3 KS341 IRWIN-CLIME-ROSEHILL (KS349) 2 3 4 4 7 6 6 6 6 6 6 6 6 6 6 6	ξŠ		73.9	0.8	KS338		VIN-KIPSON-CLIME (KS338)	18	0	∞ :	50	8 9	0 5	30
74.8 76.8 2.1 KS372 MUNR-LENDORA-SUPHEN (KS372) 0 0 7 6 0 7 6 0 7 6 0 7 6 0 7 6 0 0 7 6 0 0 8 2 6 6 0 8 6 6 0 6 0 6 6 0 0 7 51 63 0 84.8 87.8 2.9 KS336 IRWIN-LIME-ROSEHILL (KS381) 18 0 7 51 63 0 0 8 6 66 0 0 8 6 66 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 6<	ξŠ		74.8	6.0	KS365		ENTINE-WELLS-ORTELLO (KS369)	31	0	14	25 5	9 6	2 6	0
76.8 82.2 54.4 KS338 IRWINI-KIPSON-CLIME (KS338) 18 0 7 51 65 0 84.8 87.8 2.9 KS348 IRWINI-CLIME-ROSEHILL (KS341) 18 0 7 51 66 0 84.8 87.8 2.9 KS348 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 92.2 101.6 3.2 KS348 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 92.2 101.6 3.2 KS349 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 101.6 104.3 2.7 KS349 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 101.6 104.3 2.7 KS349 IRWINI-CLIME-ROSEHILL (KS341) 0 5 49 48 86 0 104.3 1.7 1.6 3 4 7 7 </td <td>δÃ</td> <td></td> <td>76.8</td> <td>2.1</td> <td>KS372</td> <td></td> <td>IR-EUDORA-SUTPHEN (KS372)</td> <td>0</td> <td>0</td> <td>8/</td> <td>92</td> <td>38.7</td> <td>7 0</td> <td>0 70</td>	δÃ		76.8	2.1	KS372		IR-EUDORA-SUTPHEN (KS372)	0	0	8/	92	38.7	7 0	0 70
82.2 84.8 2.6 KS351 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 50 0 0 8 0 0 8 0	ξŠ		82.2	5.4	KS338		VIN-KIPSON-CLIME (KS338)	18	0	7	51	63	5	37
84.8 87.8 2.9 KS3538 RWINN-CIME (KS38) 18 0 7 51 65 0 89.9 92.2 2.4 KS354 RWINN-CLIME (KS38) 16 0 8 56 66 0 89.9 92.2 2.4 KS354 RWINN-CLIME (KS381) 6 0 8 56 66 0 92.2 101.6 9.3 KS354 RWINN-CLIME (KS351) 6 0 8 56 66 0 104.3 112.1 7.8 KS354 RWINN-CLIME (KS351) 6 0 8 66 0 105.4 115.1 7.8 MELIS-VERDIGRIS-IRWIN (KS354) 0 5 49 48 66 0 115.3 116.3 1.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 0 8 66 0 116.9 118.3 1.6 MELS-VERDIGRIS-IRWIN (KS354) 0 18 8 66 0	χS		84.8	2.6	KS351		VIN-CLIME-ROSEHILL (KS351)	9 ,	0	x 1	2 2	9 6	> 0	57
87.8 89.9 2.1 KSS361 IRWIN-LIGNE-ROSEHILL (KSS31) 6 0 7 51 63 0 89.9 92.2 2.4 KSS36 IRWIN-LEIME-ROSEHILL (KSS31) 6 0 7 56 66 0 92.2 101.6 104.3 2.7 KSS34 IRWIN-LEME-ROSEHILL (KSS31) 6 0 8 66 0 104.3 12.1 7.8 KS354 IRWIN-LEME-ROSEHILL (KS351) 6 0 8 56 66 0 116.3 116.3 1.6 3.1 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.3 116.3 1.4 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.9 0.6 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.9 1.6 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 <t< td=""><td>δ</td><td></td><td>87.8</td><td>2.9</td><td>KS338</td><td></td><td>VIN-KIPSON-CLIME (KS338)</td><td>18</td><td>5 0</td><td>,</td><td>- 0</td><td>00</td><td>> 0</td><td>27</td></t<>	δ		87.8	2.9	KS338		VIN-KIPSON-CLIME (KS338)	18	5 0	,	- 0	00	> 0	27
89.9 92.2 4 KS338 IRWIN-CLIME (KS351) 16 0 6 0 6 0 6 0 0 7 0 <	SS		89.9	2.1	KS35		VIN-CLIME-ROSEHILL (KS351)	٦ ٩	0	1 0	20	000		37
92.2 1016 9.3 KS351 IRWIN-CLIME-ROSEHIL (KS351) 0 4 70 70 0 101.6 104.3 2.7 KS354 IRWIN-LADYSMITH-LABETTE (KS349) 6 0 8 56 66 0 101.6 112.1 7.8 KS354 IRWIN-CLIME-ROSEHIL (KS351) 6 0 8 56 66 0 115.3 1.1 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 5 49 48 86 3 116.3 1.16.3 1.1 KS354 IRWIN-CLIME-ROSEHIL (KS351) 0 6 0 8 56 66 0 116.3 1.16.3 1.16.3 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 0 8 56 66 0 116.3 1.16.3 1.20.7 KS354 REVINIA-CLIME-ROSEHILL (KS351) 17 0 5 19 56 66 0 120.7 1.26.4 5.6 KS354 REVINIA-CLIME-ROSEHILL (KS331	SS	+	92.2	+	K533		VIN-KIPSON-CLIME (KSSSS)	0 0		- 0	2 2	2 8	0	37
1016 104.3 2.7 K8349 RWINLLANDYSMITH-LABET IE (K8349) 6 5 49 48 66 0 0 6 104.3 112.1 7.8 K8354 WELLS-VERDIGRIS-RWIN (K8354) 6 5 49 48 86 3 3 112.1 115.3 116.3 1.1 K8354 WELLS-VERDIGRIS-RWIN (K8354) 6 0 6 6 6 6 6 6 6 6	S.	1	+	+	KS35.		VIN-CLIME-KOSEHILL (KOSSI)	0 0	0 00	0 8	2.8	200	0 0	200
104.3 112.1 7.8 NS351 INWIN-CLIME-ROSEHILL (KS354) 0 5 49 48 86 3 3 115.3 1.1 KS354 INWIN-CLIME-ROSEHILL (KS354) 0 5 6 66 0 0 6 8 8 6 6 0 0 115.3 1.1 KS354 INWIN-CLIME-ROSEHILL (KS354) 0 5 6 66 0 0 116.9 0.6 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 6 6 0 0 8 8 56 66 0 0 118.3 118.8 0.5 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 6 8 56 66 0 0 8 8 56 66 0 0 118.3 118.8 0.5 KS354 IRWIN-CLIME-ROSEHILL (KS351) 17 0 5 79 96 10 0 11 0 0 1 0 1 0 0 1 0 0 1 0 0 1 0	δ.	-		+	KS345		VIN-LADYSMITH-LABELLE (NO349)	7	00	t α	‡ u	2 %	o c	37
15.3 116.3 1.5 1	\$ 5	+		+	N333		VIN-CLIME-ROSEHICL (NSSS1)	o	0 (0	49	48	88	, e	5
116.9 116.	2 5	+	+	<u> </u>	KC354	- 1	VIN.C. IME.BOSEHILL (KS351)	9 6	o	2 00	56	99	0	37
116.9 118.3 1.4 KS361 READING-IVAN-CHASE (KS361) 0 18 73 96 100 1 118.3 1.6 KS351 READING-IVAN-CHASE (KS361) 6 0 8 56 66 0 118.8 120.7 1.9 KS351 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 1.26.4 5.6 KS351 REVININ-CLIME-ROSEHILL (KS351) 17 0 5 19 29 0 126.1 1.26.4 1.28.1 1.7 KS354 READING-LABETTE-TULLY (KS331) 17 0 5 50 48 86 3 128.1 1.28.5 1.3 3.4 KS350 TULLY-SORNICKE-LABETTE-TULLY (KS349) 1 0 5 50 48 86 3 128.5 131.9 3.4 KS350 TULLY-SORNICKE-LABETTE (KS349) 2 30 4 77 78 0 131.9 1.2 <td< td=""><td>2 8</td><td>+</td><td>-</td><td>-</td><td>KS354</td><td></td><td>TI S-VERDIGRIS-IRWIN (KS354)</td><td>0</td><td>5</td><td>48</td><td>48</td><td>86</td><td>ო</td><td>2</td></td<>	2 8	+	-	-	KS354		TI S-VERDIGRIS-IRWIN (KS354)	0	5	48	48	86	ო	2
118.3 118.8 0.5 KS351 IRWIN-CLIME-ROSEHIL (KS351) 6 0 8 56 66 0 118.8 120.7 1.9 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS351 RWIN-CLIME-ROSEHILL (KS331) 17 0 5 19 29 0 126.4 128.1 1.2 KS354 WELLS-VENDIGRIS-IRWIN (KS354) 0 5 5 48 86 3 128.5 13.9 3.4 KS356 IVILLY-SOGN-CLIME (KS350) 10 5 19 3 0 13.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) <	2 2	+	+	1	KS361		ADING-IVAN-CHASE (KS361)	0	18	73	96	100	-	0
118.8 120.7 1.9 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS351 RWINN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 126.4 128.1 1.2 KS354 HEADENTE-TULLY (KS331) 17 0 5 18 66 0 128.1 128.1 1.2 KS354 WELLS-VERDIGERS-IRWIN (KS354) 10 5 50 48 86 3 128.5 13.9 3.4 KS359 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 13.9 1.2 KS349 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRVIN-LADYSMITH-LABET (KS349) 0	X X	1	-		KS351		VIN-CLIME-ROSEHILL (KS351)	9	0	8	56	99	0	37
120.7 126.4 5.6 KS351 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 126.4 128.1 1.7 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 128.1 128.5 3.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 10 5 50 48 86 3 13.9 13.9 142.4 10.5 KS349 IRWIN-LAGNYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349	XS.		<u> </u>		KS33.		DRENCE-LABETTE-TULLY (KS331)	17	0	2	19	29	0	99
126.4 128.1 1.7 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 128.1 128.5 0.4 KS354 WELLS-VERDIORIS-IRWIN (KS344) 0 5 50 48 86 3 128.5 131.9 3.4 KS346 WELLS-VERDIORIS-IRWIN (KS349) 2 30 4 47 78 0 131.9 142.4 10.5 KS349 IRWIN-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-	XS			<u> </u>	KS35		VIN-CLIME-ROSEHILL (KS351)	9	0	ھ	26	99	0	37
128.1 128.5 0.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 5 50 48 86 3 128.5 131.9 3.4 KS350 TULLY-SOGN-CLIME (KS350) 10 0 3 19 33 0 131.9 142.4 10.5 KS349 IRWINL-LAPYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 14.9 14.5 14.9 14.5	X	_	<u> </u>		KS33		DRENCE-LABETTE-TULLY (KS331)	17	0	2	19	29	0	99
128.5 131.9 3.4 KS350 TULLY-SOGN-CLIME (KS350) 10 0 3 19 33 0 131.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 0 18 73 96 10 1 143.5 144.9 1.4 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.2 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.2 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0	KS		<u> </u> 	<u></u>	KS354		:LLS-VERDIGRIS-IRWIN (KS354)	0	2	20	48	86	က	2
131.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS361 READING-IVAN-CHASE (KS361) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 147 78 0 18 74 96 100 1	ΥŠ				KS35(LLY-SOGN-CLIME (KS350)	10	0	8	19	33	0	55
142.4 143.5 1.2 KS361 READING-IVAN-CHASE (KS361) 0 18 73 90 100 11 143.5 144.9 174.0 174.0 0 1	χS	131			KS34		WIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
143.5 144.9 14 KS349 IRVINIC-LADYSMILL-LADELIE (KS349) 2 30 4 4 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	χS	142		1	KS36	NE.	ADING-IVAN-CHASE (KS361)	0	18	(3	90	100	- c	0 %
	XS.	143	+	1	KS34	61 년 2	WIN-LADYSMITH-LABELTE (KS349)	7	30	4 1	47	100	5	2 0

the state of the s								710				
						Highly	Compaction	Revegetation	A-Horizon	Prime	1	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	% %	rarmiand %	nyarıc %	bedrock %
ξ	145.6	-	3.9	KS349	(IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
KS	149.5		0.7	KS232	DWIGHT-LABETTE-SOGN (KS232)	0	0	0	င	25	0	97
κS	150.3	151.2	6.0		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
ΚS	151.2		0.5		READING-IVAN-CHASE (KS361)	0	17	73	96	100	- (0 8
ΚS	151.7		3.1		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	70
κS	154.7		വ		READING-IVAN-CHASE (KS361)	0	18	73	96	100	- 1	0
š	159.8		-		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
ξŠ	160.7	<u> </u>	-		READING-IVAN-CHASE (KS361)	0	18	73	96	100	_	0
ξS	161.8	163.4	1.6		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
χS	163.4	-	-	KS361	READING-IVAN-CHASE (KS361)	0	18	73	96	100	-	0
KS.	164.4	<u> </u>	3.5	KS349	IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
X X	167.9		9.0	KS361	READING-IVAN-CHASE (KS361)	0	19	73	96	100	-	0
Š	168.6		0.8		DWIGHT-LABETTE-SOGN (KS232)	0	0	0	က	22	0	26
XX XX	169.4	<u> </u>	5		IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	ო	59	71	0	27
X	174.4	<u> </u>	0.2		NORGE-IRWIN-LADYSMITH (KS237)	0	18	36	99	74	0	14
Ş	174.6	176.7	2.1	1	VERDIGRIS-BREWER-NORGE (KS235)	0	0	138	100	66	9	0
Ş	176.7		0.0	1	IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	8	59	71	0	27
Š	178.6	-	3.5	1	VERDIGRIS-BREWER-NORGE (KS235)	0	0	18	100	66	9	0
SX	182.1		2.3	1	IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	က	59	71	0	27
ξŞ.	184.4	<u> </u>	10.2		VERDIGRIS-BREWER-NORGE (KS235)	0	0	18	100	66	9	0
SX.	194.6		10.2	1	VANOSS-BETHANY-TABLER (KS242)	0	0	74	32	100	0	0
KS	204.8	\perp	1.5	1	CANADIAN-DALE-LINCOLN (KS243)	0	0	33	85	85	0	0
S S	2063	$\frac{1}{1}$	62	1	KIRKI AND-BETHANY-TABLER (KS241)	0	0	76	38	93	0	0
Š	2126	+	20.8		KIRKLAND-BETHANY-TABLER (OK093)	0	0	76	38	93	0	0
Š	233	ľ	2 2 8	1	NORGE-VANOSS-VERDIGRIS (OK106)	2	0	85	63	81	0	2
Š	238.7	1	-		REINACH-ELANDCO-BREWER (OK114)	0	9	20	100	92	0	0
Š	239.7		9.0	1	GOODNIGHT-YAHOLA-GADDY (OK080)	16	0	0	0	43	0	0
š	240.3		0.8	OK093	KIRKLAND-BETHANY-TABLER (OK093)	0	0	75	38	93	0	0
š	241.1	_	1.4	OK114	REINACH-ELANDCO-BREWER (OK114)	0	9	20	100	92	0	0
ş	242.5		5	OK093	KIRKLAND-BETHANY-TABLER (OK093)	0	0	76	38	93	0	0
ð	247.4	<u> </u>	9.0	OK106	NORGE-VANOSS-VERDIGRIS (OK106)	2	0	85	63	81	0	2
š	247.9		1.6	OK112	PORT-PULASKI-ASHPORT (OK112)	0	5	49	63	82	0	0
ð	249.5		1.4	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73	7	42	0	20
š	250.9		1.3	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	7	0	63	12	62	0	27
ð	252.2		1.6	OK117	Z	12	0	73		42	0	09
š	253.8	1	0.3	OKW	WATER (OKW)	0	0	0	0;	0 5	0 (100
ð	254.2	1	2.9	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73	13	47	0	06
š	257		4.0	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	80 0	0	79	7.7	70	0 0	17
Š	257.4	1	7.7	OK106	KGE-VANOSS-VEKDIG	7 0	5 4	000	00	60	0 0	7
5 8	707	+	0. 7	2112	PORI-POLASKI-ASHPORT (OR.12)	2 5	ם כ	43	0 +	45 65	0	D 12
5 8	7.090	202.7	- -	0777	DENEROW-ZANEIS-GRAINOLA (OKT.17)	7	o c	2 8	12	25	0	22
5 5	262.7		- 6	0,6413	PORT-PILI ASKI-ASHPORT (OK119)	- 0) v.	49	63	82	0	0
5 8	2602.	$\frac{\perp}{1}$	5 5	OK117	RENEROW-ZANFIS-GRAINOI A (OK117)	12	0	73	-	42	0	50
Š	266.1	<u> </u>	1.2	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	7	0	63	12	62	0	27
Š	267.3	268.9	1.6	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73	1	42	0	20
Š	268.9	+	90	OK116		7	0	63	12	62	0	27
Š	269.5	L	13.4	OK117		12	0	73	1	42	0	20
ş	282.6		1.9	OK146	KONAWA-EUFAULA-DOUGHERTY (OK146)	-	0	2	54	32	0	5
Š	284.5		-	OK079	GRACEMORE-GADDY-GOODNIGHT (OK079)	16	-	0	30	30		0
š	285.6		5.6	OK119	SEMINOLE-CHICKASHA-GOWTON (OK119)	17	0	17	22	26	0	33
Š	291.1	292.2	1.2	OK131	AGRA-STEEDMAN-COYLE (OK131)	0	О	16	Ç	36	Э	37

Appendix F

Soil Associations along the Keystone Pipeline Project Route

Appendi	د F: Soil Ass	Appendix F: Soil Associations Along the Propsed Keystone	ong the Pr	opsed Key	stone Pipeline Project							
	×0.00	Acros	Approx			Highly Erodible	Compaction Prone	Low Revegetation Potential	A-Horizon >12" Deep	Prime Farmland	Hydric	Shallow (<60") Bedrock
State	Start MP	End MP	Miles	MUID	Name	%	%	%	%	%	%	%
MAINLINE					TO THE RESERVE TO THE PARTY OF	ļ		C	u t	c	0	
2	0	1.3	1.3	ND012	GLYNDON-GILBY-GARDENA (ND012)	0	71	> <	<u>.</u>	100	2 %	0 0
2 2		4. 0	2.0	ND004	HEC: A-HAMAR-LII FN (ND021)	0	-	0	49		32	0
S	. 9	7.4	12		BRANTFORD-VANG-WALSH (ND027)	2	2	98	33	0	2	0
2 2	7.4	8.2	0.7	ND066	LA PRAIRIE-FAIRDALE-GARDENA (ND066)	-	0	12	19	0	ည	0
2	8.2	14	5.8		BRANTFORD-VANG-WALSH (ND027)	2	2	98	33	0	2	0
2	14	32.5	18.5		KELVIN-WAUKON-OLGA (ND061)	30	0	59	ω	29	0	7
9	32.5	34.7	2.2	l l	BARNES-SVEA-TONKA (ND045)	2	∞	56	1	84	11	0
Q.	34.7	35.4	0.7		EDGELEY-KLOTEN-SVEA (ND038)	27	5	29	က	56	2	09
Q	35.4	37.6	2.1		BARNES-SVEA-TONKA (ND045)	2	ω	26	=	84	=	0
ΩN	37.6	38	0.5		EDGELEY-KLOTEN-SVEA (ND038)	27	4	99	က	56	ഹ	09
2	38	41.3	3.2		BARNES-SVEA-TONKA (ND045)	2	ω	26	=	84		0
Q.	41.3	43	1.8		EDGELEY-KLOTEN-SVEA (ND038)	27	2	67	2	56	5	90
Q	43	44.3	1.3		SVEA-BUSE-HAMERLY (ND043)	o	10	30	21	55	21	0
S	44.3	46	1.7		SVEA-CRESBARD-HAMERLY (ND051)	0	വ	ω ;	9	28	χ ζ	
2	46	53.7	7.7		SVEA-BUSE-HAMERLY (ND043)	တ	9	30	21	55	21	0
2	53.7	55.4	1.7		BRANTFORD-RENSHAW-LANKIN (ND025)	80	80	31	34	32	17	0
S	55.4	57.1	1.6		SVEA-BUSE-HAMERLY (ND043)	თ	10	30	21	22	21	0
QN	57.1	57.6	0.5		HAMERLY-TONKA-SVEA (ND040)	0	23	19	30	73	30	0
Q	57.6	58	0.4		SVEA-BUSE-HAMERLY (ND043)	10	9	29	21	22	21	0
Q	58	58.7	0.7	ND040	HAMERLY-TONKA-SVEA (ND040)	0	23	48	30	73	30	0
Q	58.7	59.9	1.2		SVEA-BUSE-HAMERLY (ND043)	თ	10	30	21	55	21	0
2	59.9	61.6	1.8		CRESBARD-BARNES-CAVOUR (ND053)	_	7	33	7	46	7	0
2	61.6	61.7	0		SVEA-BUSE-HAMERLY (ND043)	0	0	0	21	55	21	0
2	61.7	99	4.4	i i	CRESBARD-BARNES-CAVOUR (ND053)	_	7	33	7	46	7	0
S	99	9.99	0.5		BARNES-SVEA-HAMERLY (ND046)	0	9	43	6	80	6	0
2	9.99	69.2	2.6	ND037	BARNES-BUSE-PARNELL (ND037)	51	7	22	16	21	7	2
Ω	69.2	73.6	4.5	i	BARNES-SVEA-HAMERLY (ND046)	0	9	43	6	80	6	0
Q.	73.6	74.7	1.1	1	HAMERLY-TONKA-SVEA (ND040)	0	23	19	30	73	99	0
9	74.7	78.7	4		SVEA-BUSE-HAMERLY (ND043)	6	10	30	21	55	21	0
9	78.7	79.5	0.8		SVEA-CRESBARD-HAMERLY (ND051)	0	5	7	9	28	ω	0
2	79.5	83.8	4.3		SVEA-BUSE-HAMERLY (ND043)	6	10	90	21	55	21	0
S	83.8	84.9			CRESBARD-BARNES-CAVOUR (ND053)	*-	7	33	7	46	, ;	0
9	84.9	87.1	2.2		SVEA-BUSE-HAMERLY (ND043)	6	9	30	21	22	7	0.0
2	87.1	87.8	0.7	- 1	SVEA-CRESBARD-HAMERLY (ND051)	0	2	∞ 3	9 7	22	0 3	0
2	87.8	90.4	2.6		SVEA-BUSE-HAMERLY (ND043)	o (10	30	- 7	22	7	> 0
2	90.4	90.9	0.5		HAMERLY-IONKA-SVEA (ND040)		77	30	24	כית	3 5	
2 2	90.9	10,00		ND043	BOANTEODD DENSHAW! ANKIN (ND025)	0 1	2 /	31	34	35	17	0
2 2	101	1	2.7		SVEA-CRESBARD-HAMFRIY (ND051)	. c	· LC	8	9	58	60	0
2 2	101	\perp	1,		HEIMDAL-EMRICK-ESMOND (ND057)	20	2	37	13	54	10	0
2 2	1093	+	10	1	SVEA-CRESBARD-HAMERLY (ND051)	0	0	0	ဖ	58	∞	0
S	109.4	<u> </u>	1.2	ND043	SVEA-BUSE-HAMERLY (ND043)	6	10	30	21	55	21	0
Q	110.5	L	18	ND047	BARNES-BUSE-SVEA (ND047)	28	5	78	വ	30	2	0
Q	128.6		_	ND046	BARNES-SVEA-HAMERLY (ND046)	0	9	43	თ	80	o	0
Ω	129.6		0.5	ND047	BARNES-BUSE-SVEA (ND047)	29	4	77	2	30	2	0
2	130	132		ND046	BARNES-SVEA-HAMERLY (ND046)	0	ဖ	43	6	80	ص ا	0
2	132			ND047		28	വ	78	2	30	2	0 0
9	134.2	+	1	ND026	NSHAW-A	2	2	30	16	ج ح	9 6	0 6
2	134.8	+	4	ND011		4 0	77	6 6	55 16	3 0	5 4	0
2 2	135.5	136.8	1.3	ND026	CAPPEN CLYNDON BABNES (ND026)	7 6	27	20	2 66	5 0	5 6	2
S S	130.0	\dashv	4	NDOLL	GARDENA-GLYNDON-BARNES (NDOTT)	2	1	77	??	,	;	1

Appendix	Appendix F: Soil Associations Along the Propsed Keystone	ociations A	ong the Pr	opsed Key	stone Pipeline Project			1100				
						Highly	Compaction	Revegetation	A-Horizon	Prime	Circuit.	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Fotential %	%	"	» «	% %
9	137.4	140.4	2.9	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	2	5	31	16	34	16	0
9	140.4	141.9	1.5	ND046	BARNES-SVEA-HAMERLY (ND046)	0	9	43	o !	80	თ (0
9	141.9	142.3	4.0	ND054	VALLERS-PARNELL-GLYNDON (ND054)	0	25	α (74	87	22	0
ᄝ	142.3	144.6	2.3	ND046	BARNES-SVEA-HAMERLY (ND046)	0	φ.	5 6	33	8 0	2 6	2
2	144.6	144.7	0.2	1100N	GARDENA-GLYNDON-BARNES (NDOLL)	0	<u>0</u> u	73	3 0	8) o	0
2	144.7	145.4	7.0	ND046	BAKNES-SVEA-HAMERLY (INDO46)		22	2 0	33.	3 0	13	2
2	145.4	148.9	3.5		GARDENA-GLYNDON-BARNES (NDOLL)	1	37	73	3 0	80) o	0
2	148.9	149.4	0.5		BAKNES-SVEA-HAMIEKLY (ND046)	+	20	ξ α	23	3 c	13	2
2	149.4	150	0.5		GARDENA-GLYNDON-BARNES (NDOTT)		77	2 5	3 0	2 08	σ	
2	150	162.5	12.5		BARNES-SVEA-HAMERLY (ND046)	0 00	טע	78	ם ע	8 8) L	0
Q	162.5	164	1.5		BARNES-BUSE-SVEA (NDU47)	1	o (0	200	0 0	8 8	σ	0
2	164	165.2	1.2		BAKNES-SVEA-HAMERLY (NDC46)	5 8	0 0	1,5	o (8 6	, ,	0 0
9	165.2	166.3	1.2		LA PRAIRIE-BARNES-RENSHAW (ND039)	-	7	10	5 0	20 08	10	0
2	166.3	167,4	-		BARNES-SVEA-HAMERLY (ND046)	0 8	٥	40	n (d	8 6) C
2	167.4	169.1	1.7		LA PRAIRIE-BARNES-RENSHAW (NDUSS)	_	7	0	0 0	20.00	1 0	0
2	169.1	179.9	10.9		BARNES-SVEA-HAMERLY (ND046)	0	٥	5	D 6	2 6	9 9	0
읟	179.9		0.3	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	_	و و	32	٥	200	2 ₀	> 0
ᄝ	180.2		3.6		BARNES-SVEA-HAMERLY (ND046)		9	43	ъ (;	8 3	D (
9	183.8		-	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)	-	4	32	9	5	ه ۵	> 0
9	184.1				BARNES-SVEA-HAMERLY (ND046)	-	9	43	ъ ;	200	D (
9	186.6			ND040	HAMERLY-TONKA-SVEA (ND040)		23	19	30	(3	જ)
윤	188.6			ND046	BARNES-SVEA-HAMERLY (ND046)		9	43	D) .	08 3	5	
9	192.7		6.8	ND026	RENSHAW-ARVILLA-DIVIDE (ND026)		2	31	91	31	٥	
9	199.5			ND046	BARNES-SVEA-HAMERLY (ND046)		9	43	ი :	200	D 6	> 0
2	204.3		12.6	ND021	HECLA-HAMAR-ULEN (ND021)	0	-	0	49	ກ (32.	0
SD	216.8			SD142	HECLA-HAMAR-ULEN (SD142)			0	46	ספ	35	0
SD	217.5	_	_	SD141	SERDEN-HAMAR-MADDOCK (SD141)		0	0	040		200	0
S	222.6	-		SD142	HECLA-HAMAR-ULEN (SD142)		-	0 8	9 6	D 6	200	
S	225.9	228.9	4	SD145	BEARDEN-GREAT BEND-OVERLY (SD145)	1	47	35	27	1 00	. C	5 6
S	228.9	231.4	2.4	SD144	GARDENA-ECKMAN-GLYNDON (SD144)	0	5 م	7 00	8 8	80	07	
S	231.4	243.4	-	SD145	BEARDEN-GREAT BEND-OVERLY (SD145)		47	25	23	200	יט מ	
SD	243.4	247		SD146	ABERDEEN-HARMONY-BEOTIA (SD146)		5 6	77	2 6	8 6	0	
SD	24.7	258.4		SD126	BARNES-KRANZBURG-BROOKINGS (SD126)		D 6	/0	200	8	97	
SD	258.4	259.2	1	SD134	FORMAN-BUSE-SOUTHAM (SU134)	1	46	200	2 4	27.5	17	> 0
SD	259.2	261.7	2.4	SD128	FORDVILLE-RENSHAW-SOUTHAM (SD128)	57	0 6	0 1	5 6	2 2	Ξ α)
SD	261.7	+		SD148	FORMAN-CAVOUR-PEEVER (SD 148)	1	10	1 6	15	3,4	17	0 0
SD	261.9	+	1	SD128	FORDVILLE-RENOHAW-SOOTHAM (SD 120)	67	2 7	2 2	22	42	. «	0
SO	270.5	289.3		SD148	FORMAN-CAVOUR-PEEVER (3D 140)			12	25.0	58	2 6	0
OS C	289.3	+	4.0	SU135	FORMAN-AAS LAD-BOSE (SD 133)	t C		53	22	42	2 &	0
2 0	200.7	÷	-	SD146	DEEVER-FORMAN-TONKA (SD136)		16	19	20	63	19	0
3 6	200.0	+	+	20123	READI F-DIIDI EY-BON (SD153)		6	71	10	2	6	0
9 5	316.2	329.5	73.0	SD155	READI F-DUDI FY-BON (SD154)	2	1	48	19	2	-	0
3 6	329.5	+	<u> </u>	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)		12	48	18	∞	7	0
6	337	<u> </u>	<u> </u>	SD083	BON-ETHAN-DAVIS (SD083)	<u> </u>	12	90	53	48	2	0
SD	337.7		<u> </u>	SD089	CLARNO-CROSSPLAIN-HOUDEK (SD089)		23	22	13	73	24	0
S	339.6	<u> </u>	Table 1	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)		12	48	18	ω	=	0
SD	342.3	_	-	SD089	CLARNO-CROSSPLAIN-HOUDEK (SD089)		23	21	13	73	24	0
SD	342.9	<u> </u> 	_	SD083	BON-ETHAN-DAVIS (SD083)		12	09	53	48	2	0
SD	344.3	_		SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	12	48	. 9	ω !		0
SD	349.9			SD241	CLARNO-PROSPER-TETONKA (SD241)	1	ω :	29	15	77	- 7	
SD	350.1	350.6	0.5	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	-	48	198	σ,		
SD	350.6		-	SD241	CLARNO-PROSPER-TETONKA (SD241)		D	ng	GI.	/7	-	>

Appendi	x F: Soil Ass	ociations Al	ong the Pi	ropsed Key	Appendix F: Soil Associations Along the Propsed Keystone Pipeline Project			ino				
						Highly	Compaction	Revegetation	A-Horizon	Prime	Hvario	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	%	, wallinging	, w	% %
G	355 1	360.7	5.6	SD118	HOUDEK-DUDLEY-STICKNEY (SD118)	0	12	48	18	8	11	0
SOS	360.7	361.3	9.0	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	10	40	26	65	13	0
SD	361.3	362.8	1.5	SD083	BON-ETHAN-DAVIS (SD083)	24	12	90	53	48	2	0
SD	362.8	366.6	3.8	SD088	CLARNO-ETHAN-BONILLA (SD088)	4	10	69	19	99	7.	0
SD	366.6	369.6	က	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	10	36	26	65	5 3	0
SD	369.6	370.4	0.8	SD087	CLARNO-BONILLA-TETONKA (SD087)	0	13	62	24	6/	9 9	
SD	370.4	371.2	0.9	SD090	CLARNO-PROSPER-STICKNEY (SD090)	0	7	39	26	65	13	0
SD	371.2	375.3	4.1	SD087	CLARNO-BONILLA-TETONKA (SD087)	0	13	62	24	62	16	0 (
SD	375.3	375.9	9.0	SD097	HAND-CLARNO-ETHAN (SD097)	0	18	71	4	63	21	0
S	375.9	376.6	0.7	1	BON-ETHAN-DAVIS (SD083)	23	12	09	53	48	2	0
5 6	3766	376.9	0.3		HAND-CLARNO-ETHAN (SD097)	0	16	71	7	63	21	0
6	376.9	+	10	1	BON-ETHAN-DAVIS (SD083)	24	12	09	53	48	2	0
6	3787	H	2.6		CLARNO-CROSSPLAIN-HOUDEK (SD089)	0	23	22	13	73	24	0
8	3813	1	80		CLAMO-ETHAN-LAMO (SD095)	26	42	42	24	16	9	0
2	382.1	-	17		CLARNO-CROSSPLAIN-HOUDEK (SD089)	0	23	22	13	73	24	0
8 6	383.8	+	0.7		CLAMO-ETHAN-LAMO (SD095)	27	42	42	24	16	9	0
3 6	384 5		5.7	1	CI ARNO-BONIL LA-TETONKA (SD087)	0	13	62	24	79	16	0
8 6	300.5	Ŧ	0		CI AMO-FTHAN-I AMO (SD095)	26	42	41	24	16	9	0
2 6	390.2	+	2 4		CLARNO-PROSPER-STICKNEY (SD090)	0	10	39	26	65	13	0
9 6	0.00	+			CLADING PONIT A TETONIKA (SD087)		13	62	24	79	16	0
3 6	3.46.6	+	4 0	- 1	OLANIO-BOINIELA-(ELONIA (SDOS)	7.0	42	40	24	16	9	0
S	398.3	+	Q t		CLAMIC-EI HAN-LAMIC (SDOSS)	73	10	200	26	92	13	0
S	398.7	+	ρ.		CLARNO-PROSPER-SILONNEI (SDOSO)	> <	2 5	000	10	99	12	
SO	406.5	+	2.6		CLARNO-ETHAN-BOINILLA (SD009)	r	13	200	24	79	2	0
2 5	411./	+	000	2000	CLARING-BOINILLA-TETOINTA (SDOOT)	90	42	41	24	16	9	0
S	418.5	+	20.00		CLAMO-E I HAN-LAMO (SDUSS)	07	4 4	69	24	79	16	0
S	422.3	7	0.0	SD087	CLARNO-BONILLA-1E1OINA (SDOOT)	2 2	27	11	24	2 4	2 (0	0
200	423.2		s. c		CLAINO-EI TAN-LAMO (SDOSS)	67	13	62	24	79	16	0
SO	474	420	7 0	2000	CERTINO DO ADNO BETTO (COOC)	5	L.	62	6	32	7	0
2 6	470	+	7.0		CLADNO DONILLA TETONIKA (SD087)	7 0	13	62	24	79	16	0
OS C	420.0	$^{\perp}$	- C		CLANIAC-BOINTER- IE CINICA (CDOOF)	30	42	41	24	19	9	0
200	430.7	6.15	0.0		CLAMO-E I MAIN-LAMO (SD085)	2	12	62	24	79	16	0
2 6	431.5	+	0.0		CLARING-DOMILLA-TETONINA (SD007)	0 "	4 6	2000	-	63	13	0
טא ז	432.3	+	0.0	SDUSS	PODDY ONAWA HAYNIF (NE112)	0 0	0 0	3	16	55	12	3
비 L	433.0	+	7.7		ACMA ALCESTED KENNEBEC (NECOS)	6	0	62	21	93	0	0
빌	438	4.00.4	+		COCETON ALCESTED MODA (MEDOS)	2 8	0	82	0	10	0	0
U L	4.00.4	+	+		MOODY, THIRMAN-CROSTON (NEOS)	35	c	24	8	35	0	0
2 2	440.0	÷		NEO26	CROFTON-AI CESTER-NORA (NE029)	83	0	82	0	10	0	0
J U	270.0	1	_	NEO92	MOODY-THIRMAN-CROFTON (NE092)	37	0	28	ω	35	0	0
i H	446.3	447.6		NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
I L	447 6	\perp	<u> </u>	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	79	21	93	0	0
Į Ľ	448.6	L	0.8	NE092	MOODY-THURMAN-CROFTON (NE092)	36	0	28	۵	35	0	0
Į Ľ	449.4	H	1.2	NE117	SIMEON-MEADIN-BETTS (NE117)	94	0	74	വ	ဖ	0	-
Z.	450.6	-	0.7	NE092	MOODY-THURMAN-CROFTON (NE092)	36	0	29	ω	35	0	0
뮏	451.2	H	0.5	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	78	21	63	0	0
쒿	451.7		1.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
W W	453.4	-	0.3	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	က	0	79	21	93	0	0
E E	<u> </u>	<u> </u>		NE092	MOODY-THURMAN-CROFTON (NE092)	53	0	53	8	35	0	0
빌		<u> </u>		NE094		39	0	53	0	35	0 0	0
빙		<u> </u>	1.6	NE003	AOWA-ALCESTER-KENNEBEC (NE003)	2	0	79	21	93	0	0 0
빌				NE094		39	0	53	0 7	32		O
빙	460	461	0.4	NE003	- 1	m (0	5 2	5	93	0	o c
Ä	-	466.7	5.7	NE094		AS.	0	22		3	,	>

Sunt Mp			Coldinary		Appelluix F. Soil Associations Along the Fropset registrone	stone i penne i reject			1				
Appril Matter Appril Appril<							Highly	Compaction	Revegetation	A-Horizon	Prime	Ci-Pro	Shallow (<60")
467.3 467.3 <th< th=""><th>State</th><th>Approx. Start MP</th><th>Approx. End MP</th><th>Approx. Miles</th><th>MUID</th><th>Name</th><th>Erodible %</th><th>Prone %</th><th>Fotential %</th><th>% neep</th><th>rariiiaiiu %</th><th>nyanc %</th><th>bediock %</th></th<>	State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Fotential %	% neep	rariiiaiiu %	nyanc %	bediock %
477 37 NERMA (NORA-CID-PTOMODON NEIGNAL) 39 0 53 0 470 477 27 NERMA (NORA-CID-OTHORDON NEIGNAL) 3 4 4 66 60 473 473 12 NERMA (NORA-MODON NEIGNAL) 15 34 4 66 60 64 473 473 12 NERMA (NORA-MODON NEIGNAL) 15 34 4 66 60 4 4773 4773 12 NERMA (NORA-MODON NEIGNAL) 16 34 4 66 60 4 4773 4775	N.	466.7	467.3	9.0	NE072	KENNEBEC-WABASH-ZOOK (NE072)	3	39	2	88	69	43	0
470.7 471.0 MERCH SERVANDON MERCH STATE AND SERVED	밀	467.3	470	2.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
47.75 47.7	빙	470	470.7	0.7	NE072	KENNEBEC-WABASH-ZOOK (NE072)	က	39	-	88	69	43	0
473.9 473.0 <th< td=""><td>빙</td><td>470.7</td><td>473.9</td><td>3.2</td><td></td><td>NORA-MOODY-JUDSON (NE096)</td><td>16</td><td>4</td><td>4</td><td>16</td><td>40</td><td>4 5</td><td>0</td></th<>	빙	470.7	473.9	3.2		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4 5	0
474.3 475.7 11.8 REPOSE CARAMACONAL DESCRIPTION 18 9 4 4 477.5 475.7 11.8 REPOSE CARAMACONAL MERGEN 15 3.9 2 2 6 6 4 477.5 477.6 11.8 REPOSE CHARAMACONAL MERGEN 15 5 6 6 6 6 4 477.5 477.6 11.8 REPOSE CHARAMACONAL MERGEN 15 6 <	뮏	473.9	474.3	0.3		KENNEBEC-WABASH-ZOOK (NE072)	က	36	· .	88	<u> </u>	43	0 0
4775 4775 <th< td=""><td>岁</td><td>474.3</td><td>475.7</td><td>1.5</td><td></td><td>NORA-MOODY-JUDSON (NE096)</td><td>16</td><td>4</td><td>4</td><td>16</td><td>40</td><td>4 5</td><td>0 (</td></th<>	岁	474.3	475.7	1.5		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4 5	0 (
477.6 0.1 Number NUMANAMENDON-LUDSON 15 7 7 16 4 4 4 4 4 4 4 4 4	焸	475.7	477.5	1.8		KENNEBEC-WABASH-ZOOK (NE072)	က	39	2	88	69	43	0
477.6 478.3 0.6 4.3 4.3 4.9 4.9 4.3 477.6 478.3 0.6 18.2 4.0 9.0 9.0 4.0 4.0 4.0 9.0 4.0	빙	477.5	477.6	0.1		NORA-MOODY-JUDSON (NE096)	15	7	7	16	40	4	0
478.3 480.4 1.2 NERBOR MORA-MODON/UNICEDANI (MEGRA) 16 4<	빙	477.6	478.3	9.0		KENNEBEC-WABASH-ZOOK (NE072)	ဂ	39	2	88	69	43	0
400.3 402.4 2.1 MERIOR MORAGE PROPONAMION (NEGRAL) 59 0 55 0 35 0 435 0 44 44 44 44 44 44 44 44 44 44 44 44 46 5 6 6 6 6 6 6 6 6 6 6 6 6 7 44 46 5 6 <td>뮏</td> <td>478.3</td> <td>490.3</td> <td>12</td> <td></td> <td>NORA-MOODY-JUDSON (NE096)</td> <td>16</td> <td>4</td> <td>4</td> <td>16</td> <td>40</td> <td>4</td> <td>0</td>	뮏	478.3	490.3	12		NORA-MOODY-JUDSON (NE096)	16	4	4	16	40	4	0
492.4 494.1 1, NECTOR THYMACPOLICA-VALE (1967) 59 0 51 50 64 65 65 65 65 65 65 65	밀	490.3	492.4	2.1		NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
4941 4955 55 NIED94 NORA-CRECIAL MANONOON (VIED94) 39 0 55 0 0	빙	492.4	494.1	1.7		THURMAN-BOELUS-VALENTINE (NE122)	36	0	16	4	18	0	0
4985 502.3 2.7 NREG49 HOBESH-APRIALI (NICED) 0 9.8 444 22 0 503.1 503.8 0.2 NREG49 HOBESH-APRIALI (NICED) 1.2 0 9.8 44 22 1.0 503.1 505.8 0.7 NREG4 HOBESH-APRIALI (NICED) 9.9 6 4 1.6 0 505.6 516.8 0.5 NREG4 HOLL (NICEDHA) 9.9 0 6 4 1.6 0 516.8 516.8 0.5 NREG4 RECORDANIALO (NICED) 39 0 6 0 0 6 0 0 6 0 0 0 9 6 0	빙	494.1	499.5	5.5		NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
90.2.3 90.9 NEGRIA INVALE-CASS-BARREY (NED19) 12 0 3 4.0 4.2 10 90.3.1 69.3.1 0.0 NEGRIA INVALE-CASS-BARREY (NED19) 0	焸	499.5	502.3	2.7		HOBBS-HORD-HALL (NE049)	0	0	98	44	92	0	0
90.03.1 50.7 80.03.8 4.4 9.0 <t< td=""><td>N.</td><td>502.3</td><td>503.1</td><td>0.9</td><td></td><td>INAVALE-CASS-BARNEY (NE018)</td><td>12</td><td>0</td><td>3</td><td>40</td><td>42</td><td>10</td><td>0</td></t<>	N.	502.3	503.1	0.9		INAVALE-CASS-BARNEY (NE018)	12	0	3	40	42	10	0
500.8 500.6 1.3 NILTAT VALENTRE—TUNAMA-DOCER (NE141) 95 0 0 5 0 506.6 51.5 NEGA 18.4 MILTAT VALENTRE—TUNAMA-DOCER (NE040) 39 0 53 0 35 0 516.6 516.8 0.5 NE006 BELLOCARE-MODOLY-RILLMORE (NE000) 6 0 72 35 0	Ä	503.1	H	0.7	NE049	HOBBS-HORD-HALL (NE049)	0	0	98	44	85	0	0
Signatary Signature Sign	빙	503.8		1.3	NE141	VALENTINE-THURMAN-DOGER (NE141)	95	0	0	വ	0	0	0
566.3 516.3 <th< td=""><td>Ä</td><td>505.1</td><td>$\frac{1}{1}$</td><td>1.5</td><td>NE122</td><td>THURMAN-BOELUS-VALENTINE (NE122)</td><td>38</td><td>0</td><td>16</td><td>4</td><td>18</td><td>0</td><td>0</td></th<>	Ä	505.1	$\frac{1}{1}$	1.5	NE122	THURMAN-BOELUS-VALENTINE (NE122)	38	0	16	4	18	0	0
516.8 50.04 50.6 NEGORA NEGOR	빌	506.6		9.7	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
516.8 520.4 53.6 1 Nedod NORPA-GEOTON-MACDORY (NEGOd4) 39 0 53 0 35 0 521.4 521.1 0.6 NEGODA BELCORE-MOCDOY-FILLMORE (NEGOd4) 4.4 5 5 7 2 5 521.1 521.1 0.1 NEGODA BELCORE-MOCDOY-FILLMORE (NEGOD4) 4.4 5 5 0 3 6 521.1 521.2 0.1 NEGODA BELCORE-MOCDOY (NEGOD4) 4.1 5 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 5 0 3 6 6 6 0 0 3 6 6 5 0 3 6 6 6 0 0 0 6 6 0 0 0 0 0 0 0 0 0 0 0 0 <	뮏	516.3	-	0.5	NE006	BELFORE-MOODY-FILLMORE (NE006)	9	9	0	72	92	5	0
\$224 \$224 \$22 \$2 <t< td=""><td>뮏</td><td>516.8</td><td>+</td><td>3.6</td><td>NE094</td><td>NORA-CROFTON-MOODY (NE094)</td><td>39</td><td>0</td><td>53</td><td>0</td><td>35</td><td>0</td><td>0</td></t<>	뮏	516.8	+	3.6	NE094	NORA-CROFTON-MOODY (NE094)	39	0	53	0	35	0	0
\$211 \$211 \$211 \$211 \$211 \$211 \$221 \$221 \$221 \$2224 \$222 \$223 \$223 \$222 \$222 \$222 \$223 \$222 \$222 \$223 \$222 \$222 \$223 \$222 <t< td=""><td>ш</td><td>520.4</td><td><u> </u>-</td><td>0.6</td><td>NE006</td><td>BELFORE-MOODY-FILLMORE (NE006)</td><td>5</td><td>2</td><td>0</td><td>72</td><td>95</td><td>5</td><td>0</td></t<>	ш	520.4	<u> </u> -	0.6	NE006	BELFORE-MOODY-FILLMORE (NE006)	5	2	0	72	95	5	0
\$2214 \$2224 \$12 NEGOR BELFCRE-MOODY-FILL/MORE (NEGOR) \$5 \$6 \$7 \$5 \$6 \$227.4 \$227.7 \$23.2 \$6.3 NEGOR BELFCRE-MOODY-FILL/MORE (NEGOR) \$6	빌 본	521				NORA-CROFTON-MOODY (NE094)	44	0	55	0	35	0	0
522.4 522.7 0.3 NED94 NORPACROPITOM/MOODY (RICBA) 41 0 54 0 0 522.7 5.23 0.3 NEG04 NREDAR CROPTOM/MOODY (RICBA) 39 6 0 72 36 6 523.4 5.23.4 0.4 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.4 5.23.8 0.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.9 5.23.9 1.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 72 36 6 523.9 5.31.3 3.6 NEG06 BELFORE-MOODY-FILLIA/ORE (NEG06) 39 0 6 30 0 72 36 6 537.1 5.37 6.0 NEG08 HICAPURALIA/ORE (NEG06) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	뮏	521.1	<u> </u> .	<u> </u>	1	BELFORE-MOODY-FILLMORE (NE006)	5	2	0	72	95	2	0
\$227 \$23 0.3 NICOR BELL-CARE-MOODY-FILL MORRE (NEDGA) 6 0 72 95 5 \$23.4 623.4 0.4 NIEGOS BELL-CARE-MOODY-FILL MORRE (NEDGA) 39 0 0 35 0 \$23.4 \$23.9 0.6 NIEGOS BELL-CARE-MOODY-FILL MORRE (NEDGA) 39 0 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 0 35 0	빙	522.4	<u> </u>	-	1	NORA-CROFTON-MOODY (NE094)	4	0	54	0	35	0	0
\$2.3.4 0.0.4 NIEGGA NORAA-CROFTONAMOODY (NEED94) 39 0 52 0 0 \$2.3.4 5.3.5 0.6 NIEGGA NORA-CROFTONAMOODY (NEED94) 39 0 52 0 35 0 \$2.3.3 5.2.9 3.6 NEGOB BELFORE-MOODY-FILLMORE (NEOGO) 5 0 0 35 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0 0 35 0	빌	522.7			{	BELFORE-MOODY-FILLMORE (NE006)	9	9	0	72	95	2	0
523.4 522.8 0.6 MEDOR RELECARE-MORDY-FILLMORE (NEOGE) 5 5 6 7 95 5 523.4 522.8 52.8 6 53 0 72 95 5 525.6 522.6 523 3.6 NEOGA NEOGA-CROTON-MODOY (NEOGA) 5 0 72 95 5 533.3 53.3 4.1 NEOGA HORDA-HALL WORLE (NEOGA) 0 0 98 44 92 0 537.7 537. 0.7 NEOGA HORD-HALL WORLE (NEOGA) 0 0 96 59 9 0 537.7 538.9 1 NEOGA HORD-HALL WORLE (NEOGA) 0 0 95 59 9 0 0 0 0 95 59 9 0<	핃	523				NORA-CROFTON-MOODY (NE094)	39	0	52	0	35	0	0
\$23.9 \$25.8 \$1.8 NEG94 NORA-CROFTON-MOODY (NER094) \$39 \$0 \$53 \$0 <td>뮏</td> <td>523.4</td> <td></td> <td></td> <td>- 1</td> <td>BELFORE-MOODY-FILLMORE (NE006)</td> <td>5</td> <td>5</td> <td>0</td> <td>72</td> <td>92</td> <td>2</td> <td>0</td>	뮏	523.4			- 1	BELFORE-MOODY-FILLMORE (NE006)	5	5	0	72	92	2	0
\$5.5.8 \$5.3.3 \$1.6 NEGOR BELFORM-MOODY (REGOR) \$5 \$5 \$7	뮏	523.9	1	_	- 1	NORA-CROFTON-MOODY (NE094)	39	0	53	0 9	35	0	0
529.3 53.3 2 NEGB4 NORA-CPOTON-MODY (NEGB4) 39 0 53 0 0 53 0 53 0 53 0 0 53 0 0 53 0 0 53 0 0 53 0 0 53 0 0 0 53 0 0 0 53 0 0 0 0 0 98 44 32 0 <t< td=""><td>뮏</td><td>525.8</td><td>-</td><td>_</td><td></td><td>BELFORE-MOODY-FILLMORE (NE006)</td><td>5</td><td>2</td><td>0 %</td><td>7,0</td><td>C C</td><td>ဂ</td><td>0</td></t<>	뮏	525.8	-	_		BELFORE-MOODY-FILLMORE (NE006)	5	2	0 %	7,0	C C	ဂ	0
531.3 533 1.6 NE049 HOBBS-HORD-HALL (NE049) 0 0 95 44 92 10 537 53.7 4.1 NE094 MODOPACH (NE049) 0 0 95 59 93 10 537 53.7 0.7 NE090 HORD-HALL-WOOD RIVER (NE090) 0 0 95 59 59 93 0 538.9 53.7 53.9 1.1 NE098 HORD-HALL-WOOD RIVER (NE090) 0 0 95 59 58 0 538.9 541.2 538.9 541.2 1.5 0 29 63 0 539.9 541.2 542. 0.8 NE018 NEOTRALL-BROCKSBURG-HORD (NE1007) 12 0 4 4 0 0 542.2 542. 0.8 NEOTR NEOTR NEOTRALL-MORD 1 4 40 42 10 542.2 0.1 NEOTRAL NEOTRAL NEOTRAL NEOTRAL NEOTRA	씯	529.3	1	-		NORA-CROFTON-MOODY (NE094)	39	0	53	э;	35	0	
533 537 4.1 NEG91 MOODY-FILLMORE-NORM (NEG91) 10 10 90 12 82 10 53.77 538.9 1.0 NEG98 HORDA-FILLMORE-NORM (NEG91) 10 10 96 59 93 0 53.77 538.9 1.0 NEG98 GIBBON-LUTON-SALTINE (NEG98) 6 42 3 91 63 2 538.9 539.9 1.0 NEG10 ONEILL-BROCKSBURG-HORD (NE100) 4 0 65 39 63 0 539.9 544.2 0.8 NEG18 NAVALE-CASS-BARNEY (NE018) 12 0 4 40 42 10 542.2 542.2 0.1 NEW MAYTER (NEW) 1.3 1.6 0	뮏	531.3	-	_		HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0 9	0 0
537 537.7 0.7 NEGOD HORD-HALL-WOOD RIVER (NEGOG) 0 95 59 59 93 0 538.9 1.1 NEGOB GIBBON-LUTON-SALTINE (NEGOB) 6 42 3 91 63 27 538.9 538.9 1.1 NEGOB GIBBON-LUTON-SALTINE (NEGOB) 4 2 65 39 68 0 538.9 541.2 1.3 NEGOO ALDA-PLATTE-LESHARA (NETOT) 27 16 0 2 6 0	빙	533				MOODY-FILLMORE-NORA (NE091)	10	10	0	12	82	9	0
537.7 538.9 1.1 NEGOR GIBBON-LUTON-SALTINE (NEGORS) 6 42 3 9 57.7 538.9 1.1 NEGOR O'NEILL-BARAC (NETOT) 4 0 655 39 58 0 538.9 543.2 1.3 NEGOR NEGOR NEGOR ALDA-PLATTE-CESHARA (NETOT) 27 16 0 4 4 0	밀	537		_		HORD-HALL-WOOD RIVER (NE060)	0	0	95	59	93	0 2	0
588.9 538.9 1 NETOO ONEIL-BROCKSBURG-HORD (NETOO) 4 0 65 39 58 0 538.9 543.2 1.3 NEOTA IADA-PLATTE-LESHARG (NETOR) 27 15 0 <t< td=""><td>믣</td><td>537.7</td><td>+</td><td>4</td><td></td><td>GIBBON-LUTON-SALTINE (NE038)</td><td>9</td><td>42</td><td>ი [</td><td>56</td><td>50</td><td>77</td><td>0</td></t<>	믣	537.7	+	4		GIBBON-LUTON-SALTINE (NE038)	9	42	ი [56	50	77	0
539.9 541.2 1.3 NE107 ALDA-PLATI E-LESHARA (NE107) 27 15 0 4 40 62 0 7 4 40 4 42 10 7 10 7 10 7 10 7 10 7 10 7 10 7 10 0	뮏	538.9	+			O'NEILL-BROCKSBURG-HORD (NE100)	4	0 4	200	8 6	200	0	
541.2 542.2 0.8 Ne018 INAVALE-CASS-BARNEY (NE018) 12 0 4 40 42 10 645.2 542.2 542.2 6.1 NEOTR INAVARIE-CASS-BARNEY (NE018) 13 0 4 40 42 10 542.2 542.7 543.1 0.4 NEOTR INAVAILE-CASS-BARNEY (NE018) 13 0 4 40 42 10 542.7 543.1 0.4 NEOTS INEOTR INEOTR INEOTR 1 0 4 40 42 10 543.1 545.6 2.5 NEOSB HORD-LUTON-SALTINE (NE038) 6 42 3 99 77 99 7 543.5 548.7 1.5 NEOSB HORD-HALL-HOBBS (NE023) 80 0 0 10 7 11 0 548.5 548.7 548.7 5.1 NEOSB HOLD-R-FILLMORE-BUTLE (NEO49) 79 14 79 13 89 11 <tr< td=""><td>빌!</td><td>539.9</td><td>1</td><td>_</td><td></td><td>ALDA-PLAI IE-LESHARA (NE107)</td><td>77</td><td>2</td><td>0 3</td><td>87</td><td>00</td><td>> 5</td><td>> 0</td></tr<>	빌!	539.9	1	_		ALDA-PLAI IE-LESHARA (NE107)	77	2	0 3	87	00	> 5	> 0
542.2 542.2 54.1 NEGN WATER (NECN) 1 0 4 40 42 10 542.7 543.1 0.5 NEGOS ALDA-PLATTE-LESHARA (NE107) 27 16 0 4 40 42 10 542.7 543.1 0.4 NE107 ALDA-PLATTE-LESHARA (NE107) 27 16 0 29 63 0 543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE058) 6 42 3 91 63 27 545.6 5.48.7 1.5 NE053 HORD-HALL-HOBBS (NE023) 1 1 0 0 1 0 7 11 0 1 0 7 11 0 1 0 7 11 0 1 1 1 1 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <	IJ Z	241.2	1	- Valence - Vale		INAVALE-CASS-BARINET (INECTO)	7,	0	rc	Ç c	70	2 0	100
542.7. 543.1 0.4 NE107 ALDA-PLATTE-LESHARA (NE107) 27 16 0 29 63 0 543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE058) 6 42 3 91 63 27 545.6 2.5 NE038 HORD-HALL-HOBBS (NE058) 6 42 3 91 63 27 546.5 3.47.1 1.5 NE058 HORD-HALL-HOBBS (NE058) 6 9 7 99 1 548.7 548.6 5.48.7 0.2 NE054 HOLDER-FILLMORE-BUTLER (NE051) 5 88 7 93 5 548.7 549.4 5.7 NE049 HOLDER-FILLMORE-BUTLER (NE054) 10 14 7 11 0 549.4 554.5 5.1 NE049 HOBSS-HORD-HALL (NE049) 0 0 98 44 92 0 555.5 2.3 NE049 HOBSS-HORD-HALL (NE049) 0 0 98 44 <td< td=""><td>1 L</td><td>542 2</td><td>+</td><td>+</td><td></td><td>INAVALE-CASS-BARNEY (NEO18)</td><td>73</td><td>0</td><td>4</td><td>40</td><td>42</td><td>10</td><td>0</td></td<>	1 L	542 2	+	+		INAVALE-CASS-BARNEY (NEO18)	73	0	4	40	42	10	0
543.1 545.6 2.5 NE038 GIBBON-LUTON-SALTINE (NE038) 6 42 3 91 63 27 545.6 547.1 1.5 NE038 GIBBON-LUTON-SALTINE (NE058) 1 1 99 77 99 1 547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.7 549.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 548.7 549.4 554.5 5.1 NE044 HOSPS-HORD-HALL (NE049) 0 0 98 44 92 0 554.5 557.5 2.3 NE044 HOSBS-HORD-HALL (NE044) 0 0 98 44 92 0 557.5 2.2 NE044 HOSBS-HORD-HALL (NE044) 0 0 98 44 92 0 559.5 577.8 12.2 NE044 HOSBS-HORD-HALL (NE044) 0	Į į	542.7	-	_	4	ALDA-PLATTE-LESHARA (NE107)	27	16	0	29	63	0	0
545.6 547.1 1.5 NE058 HORD-HALL-HOBBS (NE058) 1 1 99 77 99 1 547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.5 548.7 0.2 NE054 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.7 0.7 NE024 HOLDER-FILLMORE-BUTLER (NE051) 79 0 101 7 11 0 548.7 554.5 5.1 NE044 HOSTINGS-FILLMORE-CRETE (NE044) 0 0 98 44 92 0 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 555.5 55.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 557.5 559.5 57.1 NE044 HASTINGS-FILLMORE-CRET	l H	543.1	-	2.5	1	GIBBON-LUTON-SALTINE (NE038)	9	42	ო	9	63	27	0
547.1 548.5 1.5 NE023 COLY-ULY-HOBBS (NE023) 80 0 100 7 11 0 548.6 548.7 0.2 NE051 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.7 0.2 NE053 HOLDER-FILLMORE-BUTLER (NE051) 79 0 101 7 11 0 548.7 554.5 5.1 NE044 HOSTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 555.3 559.5 2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 555.3 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 556.5 571.8 12.2 <td>NE</td> <td>545.6</td> <td>1</td> <td>_</td> <td></td> <td>HORD-HALL-HOBBS (NE058)</td> <td></td> <td>-</td> <td>66</td> <td>77</td> <td>66</td> <td>_</td> <td>0</td>	NE	545.6	1	_		HORD-HALL-HOBBS (NE058)		-	66	77	66	_	0
548.5 548.7 0.2 Ne061 HOLDER-FILLMORE-BUTLER (NE051) 5 5 88 7 93 5 548.7 548.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 0 0 98 44 92 0 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-	빙	547.1		<u> </u>		COLY-ULY-HOBBS (NE023)	80	0	100	7	7	0	0
548.7 549.4 0.7 NE023 COLY-ULY-HOBBS (NE023) 79 0 101 7 11 0 549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 555.3 5.57.5 5.59.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 5.71.8 12.2 NE049 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 559.5 571.8 12.2 NE049 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4	빙	548.5				HOLDER-FILLMORE-BUTLER (NE051)	വ	5	88	7	93	2	0
549.4 554.5 5.1 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 554.5 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 551.5 571.8 571.8 572.4 0 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 79 89 11 571.8 572.4 0 NE049 HASTINGS-PILLMORE-CRETE (NE045) 30 2 53 0 65 2	빙	548.7				COLY-ULY-HOBBS (NE023)	79	0	101	7		0	0
554.5 555.3 0.7 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 555.3 0.7 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2.3 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4 0.6 NE044 HASTINGS-FILLMORE-CRETE (NE045) 30 2 53 0 65 2 571.8 572.4 0.6 NE045 HASTINGS-PILLMORE-CRETE (NE045) 0 0 0 0 0 0	뮏	549.4	-	_		HASTINGS-FILLMORE-CRETE (NE044)	10	4	79	13	88	11	0
555.3 557.5 2.3 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 557.5 559.5 2 NE049 HOBBS-HORD-HALL (NE049) 0 0 98 44 92 0 559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 13 89 11 571.8 572.4 0.6 NE049 HASTINGS-GEARY-CRETE (NE045) 30 2 53 0 65 2 571.4 7.0 NE049 HASTINGS-DATA (ME045) 0 0 0 0 0 0	뮏	554.5	1	-		HOBBS-HORD-HALL (NE049)	0	0	86	44	92	> ;	0
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559.5 571.8 12.2 NE044 HASTINGS-FILLMORE-CRETE (NE044) 10 14 79 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	¥ !	557.5	+		NE049	HOBBS-HORD-HALL (NE049)	0 6	2 5	30	4 4 4	80	5 5	O
0.11.0 0.12.4 0.0 NIEGAS UNDER	뷜	559.5	\perp	7 0	NEO44	HASTINGS-FILLMORE-CRETE (NE044)	3 -0	±1 °	53	2 0	55	2	0
	뷜	5/1.8	1	0,	N 1045	HASTINGS-GEARY-CRETE (NEO43)	000	۷ ۵	60	2	86	1 C	0 0

Appendi	Appendix F: Soil Associations Along the Propsed Keystone	ociations Al	ong the Pr	opsed Ke	ystone Pipeline Project			****				
						Highly	Compaction	Revegetation	A-Horizon	Prime	1	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	%	rarmiand %	nyanc %	%
L Z	574.4	575.2	0.8	۱۵	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	99	2	0
뮏	575.2	577.1	1.9	1	HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0	0
Ä	577.1	578.1	-	1 3	HASTINGS-CRETE-HOLDER (NE042)	12	2	87	2	88	რ :	0
뷔	578.1	578.8	0.7		HASTINGS-FILLMORE-CRETE (NE044)	9	14	79	13	89	1	0
뮏	578.8	579.3	0.5		HASTINGS-CRETE-HOLDER (NE042)	12	ဖ	87	2	88 6	n ;)
빌	579.3	280	9.0		HASTINGS-FILLMORE-CRETE (NE044)	10	14	8,18	2	S 0	= 6	5 6
뮏	280	580.4	4.0	- 1	HASTINGS-CRETE-HOLDER (NE042)	12	5	8/	۵;	88 6	2	5 0
빌	580.4	581.2	0.8		HOBBS-HORD-HALL (NE049)	0	0	86	4 -	92	0 0	
뮏	581.2	581.5	0.4		HASTINGS-CRETE-HOLDER (NE042)	13	2	87	5	88	m :	0.0
뷔	581.5	585.5	4		HASTINGS-FILLMORE-CRETE (NE044)	10	14	79	13	68	11	0.0
빌	585.5	586.5	6.0		HASTINGS-CRETE-HOLDER (NE042)	12	5	87	2	88	ო :	0
띨	586.5	588.5	2	NE044	HASTINGS-FILLMORE-CRETE (NE044)	10	14	79	13	68	-	0
岁	588.5	290			HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	7 0	0
빌	290	591.9			HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0 (0
빙	591.9	592.3			HASTINGS-GEARY-CRETE (NE045)	31	3	54	0	65	2	0
믣	592.3	593.2			HASTINGS-CRETE-FILLMORE (NE043)	10	21	36	19	69	12	0
빌	593.2	594.7			CRETE-HASTINGS-BUTLER (NE027)	22	7	19	S	93	4 (0
岁	594.7		0.4		HASTINGS-GEARY-CRETE (NE045)	90	က	52	0	92	2	0
빙	595.1	<u> </u>		NE027	CRETE-HASTINGS-BUTLER (NE027)	വ	7	11	2	93	4	0
岁	595.6	<u> </u>			HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0
빙	596.9	_			HOBBS-HORD-HALL (NE049)	0	0	86	44	92	0	0
岁	597.6	<u> </u>			HASTINGS-GEARY-CRETE (NE045)	29	-	53	0	65	2	0
빙	598.2	1			HOBBS-HORD-HALL (NE049)	0	0	66	44	92	0	0
빙	598.9			NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	52	0	65	2	0
岁	599.4				CRETE-HASTINGS-BUTLER (NE027)	2	7	10	2	93	4 (0 0
쀨	9.009				HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0 (
뮏	603.2	<u> </u>		NE027	CRETE-HASTINGS-BUTLER (NE027)	5	ω	9	2	93	4 (0
빙	604.2			NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	7	0 0
빌	605.2	605.5		NE049	HOBBS-HORD-HALL (NE049)	0	0	97	4,	92	0	5 6
뿐	605.5			NE045	HASTINGS-GEARY-CRETE (NE045)	33	0	20	0	65	7	
뿐	605.6			NE027	CRETE-HASTINGS-BUTLER (NE027)	4	_	6	2	633	4	
Ä	909	<u> </u>		NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	53	0	65	2	0
빌	607.3			NE027	CRETE-HASTINGS-BUTLER (NE027)	0	13	13	5	93	4 (0 0
빌	607.4	8.709	_	NE045	HASTINGS-GEARY-CRETE (NE045)	30	2	54	۱ د	60	7)
뮏	607.8	-	_	NE027		စ္	/	10	a c	20 0	4 0	> 0
뮏	608.5		_	NE045		30	2	53	5	200	7	
岁	609.5	_	-	NE027		5	,	202	٥ ،	500	4 0	0 0
岁!	610.3	+	+	NE045		000	7 0	50	2 5	8.6	7 0	0
빌	612.1	613.6	τ. τ.	NE048		30	0	223	ţ	65	2	0
u u	614.0	1	1	NE027		3 4	7	10	2	93	4	0
I II	6214.3	+	+	NE049		0	0	86	44	92	0	0
벌	622.4		-	NE093		46	2	7	63	23	2	0
빌	624.9	<u> </u>	-	NE027		2	7	10	2	93	4	0
빙	628.4	<u></u>	_	NE028		9	0	σ	12	9/	0	0
Ä	635.2			NE077		29	0	84	22	33	0	69
岁	636			NE028		22	0	6	12	9/	0	0
빙	636.6			NE037		48	0	84	19	200		0
뮏	638.1	1		NE028		2 2	0	D 5	71.	33	> 0	0 80
	638.6	640.5	25. C	NEO77	CONTINUATION (NEO/1)	07		5 0	12	76	0	0
7 2	640.5	+	+	KC338		9	0	6	12	76	0	0
2 5	0.49.0	+	+	KC374			0	69	69	100	0	0
2	0.000	1	-	1000								

Appendi	Appendix F: Soil Associations Along the Propsed Keystone	ociations Alc	ang the Pr	opsed Key	stone Pipeline Project			inc				
						Highly	Compaction	Revegetation	A-Horizon	Prime	(in [1]	Shallow (<60")
State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	>12" Deep %	rarmiand %	Hydric %	Bearock %
ΚS	659.4	663.2	3.8	KS344	PAWNEE-WYMORE-KENNEBEC (KS344)	28	0	4	0	26	0	2
KS	663.2	670.1	6.9	1 1	WYMORE-MAYBERRY-PAWNEE (KS310)	30	0	0		28	0	0
Š	670.1	674.6	5.5	KS344	PAWNEE-WYMORE-KENNEBEC (KS344)	82	0 0	4 0	0	28	0	0
S S	679.5	679.8	y. C.	- 1	PAWNEE-BORCHARD-W (MONE (NO.311)	26	0	4	0	29	0	2
S S	679.8	683.8	4	1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	2	0	28	0	0
Ş	683.8	689.2	5.4	1	PAWNEE-WYMORE-KENNEBEC (KS344)	28	0	4	0	29	0	2
KS	689.2	690.1	0.9	1 1	KENNEBEC-WABASH-ZOOK (KS376)	က	39	2	88	69	43	0
ΚS	690.1	692	1.9	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	2	0	788	> 0	0
KS	692	697.2	5.2	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	62	0	2	5 6	8 2	0	0 0
ξŠ	697.2	705.1	7.9		PAWNEE-WYMORE-KENNEBEC (KS344)	28	0	4	5 0	200	> 0	7 0
Ş	705.1	705.3	0.2	- 1	PAWNEE-BURCHARD-WYMORE (KS311)	64	> 0	5 0	0 0	000	2	0
χ. S	705.3	206	0.7	- 1	WABASH-READING-KENNEBEC (KS194)	0 2	9	0 4	2	60 4	‡ c	0.0
S S	706	706.5	4.0		PAWNEE-WYMORE-KENNEBEC (RS344)	/7	0 8	0 0	27	50	0	0
2 5	747.5	715.3	α c	NST04	MADSHALL MODDII SHADDSBIIDG (KS105)) L	5 0	77	06	29		4
200	716.6	716.0	5 6		WARASH-PEADING-KENNEREC (KS194)		7	0	100	66	44	0
2 2	716.0	721.8	0.0		MARSHAI I -MORRII I -SHARPSBURG (KS105)	2	2	77	06	29	-	4
S	721.8	722.2	0.4	1	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	20	0	0
S	722.2	723.4	1.3	1	MARSHALL-MORRILL-SHARPSBURG (KS105)	2	2	77	06	29	τ-	4
Ş	723.4	723.7	0.3	KS104	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	20	0	0
KS	723.7	726	2.3	KS105	MARSHALL-MORRILL-SHARPSBURG (KS105)	ഹ	2	77	06	29		4
ΚS	726	726.5	0.5	KS104	GRUNDY-PAWNEE-SHELBY (KS104)	0	64	0	27	20	0	0
ξŠ	726.5	739	12.6	KS105	MARSHALL-MORRILL-SHARPSBURG (KS105)	5	2	77	06	29	- ,	4
δ	739	741.4	2.3	KS110	KNOX-MORRILL-ARMSTER (KS110)	61	- 0	32	4)	200	- 0	4 0
Ϋ́S	741.4	743	1.6	KS101	MONONA-MARSHALL-HAMBURG (KS101)	18	0 1	36	27	5 o	7 0	> 7
χ	743	_	4.9	KS110	KNOX-MORRILL-ARMS1EK (KS110)	٥	-	70	74	0	12	t -
\$ 5	747.9	+	4.0	NS192	HAYNE-LEIA-WALDRON (NO 192)	0	0	0 0	3 0	3 0	10	100
2 2	748.5	748.5		MOM	WATER (MOW)	0	0	0	0	0	0	100
2 2	748.5	+	4 1	MOOD	HAYNIE-I FTA-WAI DRON (MO001)	0	∞	0	38	86	12	0
S	752.6	+	18	MO008	KNOX-HIGGINSVILLE-SIBLEY (MO008)	35	24	40	73	26	0	4
9	754.4	+	18	MO006	MARSHALL-EXIRA-SHELBY (MO006)	2	7	-	31	30	9	0
Ø	756.2	1	2	MO008	KNOX-HIGGINSVILLE-SIBLEY (MO008)	35	24	4	73	26	0	4
MO	761.2		1.7	MO034	NODAWAY-COLO-ZOOK (MO034)	0	61	0	09	100	51	0
Q W	762.9		က	MO006	MARSHALL-EXIRA-SHELBY (MO006)	5	2	11	31	90	, Q)
Ø Ø	2992	771.9	9	MO007	SHARPSBURG-SHELBY-COLO (MO007)	19	21	5 6	48	S 6	<u>v</u>	- 0
8	771.9	+	0.5	MO013	GARA-ARMS I RONG-PERSHING (MOU13)	24 0	67	0	07	<u> </u>	1,0	7
9 :	772.4	772.5	0.7	MO00/	SHAKPSBUKG-SHELBY-COLU (MOUU)	777	27	0	28	1 2	<u>4</u> (C	2
2 2	777 3	+	0. 1.	MOON 7	SHARPSRIIRG-SHFI BY-COI O (MO007)	19	21	0	48	36	12	-
2 2	776		4.3		GRUNDY-LAGONDA-LAMONI (MO012)	0	9	0	7	54	က	0
Q	780.3	1	2	1	GARA-ARMSTRONG-PERSHING (MO013)	47	24	0	28	16	စ	2
Q W	782.3		2.1	3	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	24	3	0
Ø.	784.4	785.2	0.8		LAMONI-SHELBY-ADAIR (MO009)	10	51	0	2	9 :	2	0
8	785.2	787.1	2	- 1	GARA-ARMSTRONG-PERSHING (MO013)	47	24	0	28	16	ى ي	7
Q Q	787.1	787.4	0.2		LAMONI-SHELBY-ADAIR (MO009)	ω (53	0	1 2	ړ د	0 0	
Q W	787.4	+	0.5		GRUNDY-LAGONDA-LAMONI (MO012)	0 7	5 6	0	000	7 07	າ ແ	0
Q :	787.9	788.4	0.5	MO013	GARA-ARMS I RONG-PERSHING (MOU13)	/4	91	0	207	5.45	o m	0
2 2	789.7	+	0.0	MO013	GARA-ARMSTRONG-PERSHING (MO013)	47	24	0	28	16	9	2
Q Z	7.60	+	0.8	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	06	0	7	54	ო	0
W W	790.8	791.4	9.0	MO014	ARMSTER-SNEAD-LADOGA (MO014)	52	23	0	43	7	2	31

Appendi;	Appendix F: Soil Associations Along the Propsed Keystone	ociations A	long the Pr	ropsed Key	stone Pipeline Project			WO				
	200	200	Approx			Highly Erodible	Compaction Prone	Revegetation Potential	A-Horizon >12" Deep	Prime Farmland	Hydric	Shallow (<60") Bedrock
State	Approx.	End MP	Miles	MUID	Name	%	%	%	%	%	%	%
Q	791.4	792.3	0.9	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	ო	0
Q	792.3	792.7	4.0	MO014	ARMSTER-SNEAD-LADOGA (MO014)	51	23	0	43	7	2	31
Ø	792.7	793.9	1.3	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	23	0
8	793.9	796.7	2.7	MO014	ARMSTER-SNEAD-LADOGA (MO014)	51	23	0	43	,	7	3.1
8	796.7	798.3	1.6	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	3	0
8	798.3	800	1.7	MO014	ARMSTER-SNEAD-LADOGA (MO014)	21	23	0	43	7	2	31
8	800	801.1	1.1	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
Ç	801.1	801.7	0.6	MO014	ARMSTER-SNEAD-LADOGA (MO014)	52	23	0	43	7	2	31
2	8017	807	27.33	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	က	0
2 2	2007	810.8	0 00	MO014	ARMSTER-SNEAD-I ADOGA (MO014)	51	23	0	43	7	2	31
2 2	2100	210.0	2.0	MO012	GRINDY-I AGONDA-I AMONI (MO012)	0	91	0	7	54	က	0
2 2	2.5	812 0	4.0	A COOM	COLO-NODAWAY-700K (MO004)	0	65	0	85	100	20	0
2 2	0.00	017.9	0.00	WOOD 4	ADMINITED SNEAD LADOGA (MODIA)	57	23	0	43	7	2	31
2	8.7.8	013.0	9 5	4 00 0	ARINO I ER-SINEAU-LADOGA (MODITA)	5 5	CF OF	0	2 5	σ	w w	44
2	813.8	816.9	3.7	MOOTE	GREEN CON-GOOPOR I-SINEAD (MICCIO)	1	5 6		8 1	2 2	o (r	. c
Q N	816.9	820.1	3.2		GRUNDY-LAGUNDA-LAMOINI (MOUIZ)	5	- 6		100	5 0	0	24
9	820.1	826.9	8.9	- [GREEN I ON-GOSPOR I -SNEAD (MOUTS)	84	040	0 0	200	0 1	0 6	F C
õ	826.9	831.6	4.8		GRUNDY-LAGONDA-LAMONI (MO012)	0	5	0	, 0	4 6	0 2	> 0
Ø	831.6	832.4	0.8		NODAWAY-COLO-ZOOK (MO034)	0	61	0 (2 6	313	ם י	> 0
Q	832.4	840.5	8.2	- 1	GRUNDY-LAGONDA-LAMONI (MO012)	0	61	0	,	40 0	0 }	> 0
8	840.5	846.7	6.2		CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	20 1	, ,	7
Q	846.7	857.1		- 1	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	٦,	>
8	857.1	858.4			CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	86),	7
8	858.4	860.7		MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	24	3	0
8	860.7	865.5	4.8		CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	86	11	2
Q	865.5	867.4	1.9	MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	7	54	n	0 0
Ş	867.4	868.5	1.1	MO020	CARLOW-DOCKERY-FATIMA (MO020)	0	25	0	65	85 6		7.0
Q ¥	868.5	869.1	9.0	MO018	<u>Z</u>	75	10	28	n 1	2	7	7
S	869.1	871.1		MO012	GRUNDY-LAGONDA-LAMONI (MO012)	0	91	0	,	54	n (0
<u>Q</u>	871.1	871.2	0.1	MO018	LINDLEY-KESWICK-GOSS (MO018)	14	14	28	f	n 6	7 [7 0
§	871.2	-	4	MO020	CARLOW-DOCKERY-FATIMA (MO020)	0	ç7 -	0 8	200	20.00	,,,	7
8	872.7	876.5	4	MO082	MACKSBURG-MARSHALL-GRUNDY (MO082)	- :	0;	77) 9	0	2 (2.2
Q	876.5	-		MO018	LINDLEY-KESWICK-GOSS (MO018)	75	11	67	20 1	2 (7 6	7
8	883.7	897.9	14.2	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	- (- (20	32	> 0
8	897.9	-	-	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0 ;	86	0	> \	200	84 6	0
8	9.668	-		MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	- (- 0	200	35	0
8	901.5	_	-	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0	98	0	0	20 6	\$ 6	
8	907.8	+	-	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	- (00.00	32	0 0
<u>Q</u>	909.1	1	1	MO022	MEXICO-PUINAM-LEONARD (MOUZZ)	0 2	88	> 0	>	9 2	3.2	o c
2 2	911.6	1	7.0	MOOZS	MEXICO-LECINARD-ARING I RONG (MICOS)	2 0	000	0	- c	88	48	0
2 2	0 0 0	912.3	+	MACOOS	MEXICO-FOUND ADMETDONG (MO022)	17	89	> ~		20	32	0
2 2	912.3	+	1	MO023		75	7 2	29	. 65	(m	2	2
2 2	910.0	1	0.4	MO029	EATIMA_ARREI A_VESSER (MO029)	2	51	0	53	66	29	-
2 2	910.2	+		MOOTE	Ī	75	1	30	6	က	2	2
S	919.8	<u> </u>	+	MO023		17	89	-		20	32	0
Q	920.6		<u></u>	MO022	MEXICO-PUTNAM-LEONARD (MO022)	0	98	0	0	86	48	0
Ø	921.6			MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	-	-	20	32	0
QW	923.1		2.6	MO022		0	86	0	0	86	48	0
Q	925.7	926.6		MO023		17	99	-	_	20	32	0 0
Q Q	926.6		1.7	MO022	MEXICO-PUTNAM-LEONAR	0	86	0	0,	80 6	84 6	0.0
Q W	928.4	-	4	MO023	ME	17	89	- 0	- 0	200	35	0
<u>Q</u>	930.1	934.4	4	MO022	₩:	7 0	χ Σ	0 +	0 *	000	32	> 0
S	934.4	1	4	INICUES	٦		33	-	-	22	3	,

Spart Mp Approx. Evoluble Prome	ξ	Appendix F: Soil Associations Along the Propsed Keystone	ciations Alc	ng the PI	ropsed Key	stone Pipeline Project			Mic					
Maintain							Highly	Compaction	Revegetation	A-Horizon	Prime	:	Shallow (<60")	
94.1 94.2 44.4 25.8 40.0022 71.7 19.9 11.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.6 17.7 41.7		Approx. Start MP		Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	>12" Deep %	Farmland %	Hydric %	Bedrock %	
94.4 9.4. 1.3. 1.0022 BARDAL SALVOLOGY (NAMERISTRONG) 1.7 1.4 1.6 2.2 94.3 9.8.3 1.3 MOOZD BARDAL SALVOLOGY (NAMERISTRONG) 1.7 1.4 1.5 2.2 96.0 1.5 MOOZD MOOZD 1.7 1.4 1.6 2.2 96.0 1.5 MOOZD MOOZD MOOZD 1.7 <	1	941.8	1	2.2	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	1	56	
98.93 98.93 1 MOODE BARRICH CARROLOMOROUS MAN DECEMBARION (MOODE) 77 1 MOODE BARRICH (MOODE) 77 4 MOODE BARRICH (MOODE)		944	948.3	4.3	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	-	20	32	0	
89.93 89.97 1.5 MODOZA MENCHOLOGY/LONDONIA (MODOZA) 17 6.8 1 4.0 2.2 89.94 89.95 1.5 8.0 MODOZA MENCHOLOGY/LONDONIA (MODOZA) 17 1.0 1.7 4 1.0 1.2 2.2 89.54 89.54 0.0 MODOZA MENCHOLOGY/LONDONIA (MODOZA) 1.7 6.0 1.7 4 9.0 1.0 98.54 98.56 1.0 MODOZA MENCHOLOGY/LONDONIA (MODOZA) 1.7 6.0 1.7 4 9.0 0.0 </td <td></td> <td>948.3</td> <td>949.3</td> <td>-</td> <td>MO025</td> <td>BARDLEY-GASCONADE-CEDARGAP (MO025)</td> <td>71</td> <td>10</td> <td>17</td> <td>4</td> <td>12</td> <td>τ-</td> <td>26</td> <td></td>		948.3	949.3	-	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	τ-	26	
99.07 98.15 0.8 MORAZE BARDELLA-ARCONALIZACIONAL (MORZAZIONA) 77 10 17 4 12 3.1 99.15 98.15 0.8 MORZAZIA MARIZO-LEONARO-MARIZINONA (MORZAZIA) 77 10 17 4 12 3.1 98.24 98.63 1.2 9.0 MORZAZIA MARIZO-LEONARO-MARIZINONA (MORZAZIA) 77 10 17 4 12 3.1 98.24 38.63 1.2 1.0 1.0 1.7 4 12 3.1 98.24 38.64 1.3 MORZAZIA MARKOCALEONARO-MARIZACIA 0		949.3	950.7	1.5	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-		20	32	0	
9815 9824 9 90022 9 9 9 9 9 9 9 9 9		950.7	951.5	0.8	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	-	56	
9852 4 9853 129 MODOS BANDLO-LEGNARCO-MOLOSI) 71 71 71 71 71 71 71 7	MO	951.5	952.4	0.9	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	89	-	-	50	32	0	
96.65.3 970.9 9.66.3 970.9 9.66.3 970.9 9.66.3 9.67.9 9.68.9 1.9 1.9 9.0.2	MO	952.4	965.3	12.9	MO025	BARDLEY-GASCONADE-CEDARGAP (MO025)	71	10	17	4	12	-	56	
9878 9868 139 MODOZI MIRNER-CHAULER (MODZI) 21 0 0 0 0 0 0 0 0 0	QW OM	965.3	970.9	5.6	MO023	MEXICO-LEONARD-ARMSTRONG (MO023)	17	68	-	_	20	32	0	
984.6 985.6 13.8 MODOZ CARLOW-PORT-GE-CHEQUES (MODZE) 0 68 1 86 10 65 1021.1 1021.1 13.8 MODOZ CARLOW-PORT-GE-CHEQUES (MODZE) 0		970.9	984.8	13.9	MO021	MENFRO-WINFIELD-WELLER (MO021)	21	0	4	58	18	0		
1922 1021 15 MOOSE HAVINE-WALDRON-BERDOKER (MOOSE) 0 0 0 0 0 0 0 15 1921 1021 1021 102 MOOSE HAVINE-WALDRON-BERDOKER (MOOSE) 0 0 0 0 0 0 0 0 0		984.8	998.6	13.8	MO027	CARLOW-PORTAGE-CHEQUEST (MO027)	0	88	_	98	100	65	0	
10221 1021 102 MOOSE HAVIEWALDEN-BLANE (MOOSE) 0		998.6	1002.1	3.5	MO026	LOMAX-BLASE-BOOKER (MO026)	0	50	40	55	100	15	0	
1021.1 1021 102	Q Q	1002.1	1021.1	19	MO065	HAYNIE-WALDRON-BLAKE (MO065)	0	32	2	21	94	18	0	
1021.5 1021.6 0.2 ILW WATER-HICKOPY (ILOSA) 0.0	C	1021 1	10213	0.2	MOM	WATER (MOW)	0	0	0	0	0	0	100	
10276 3 LODS REALOCOPLEA MOS ON-DEPARMIN (LLOSS) 0 45 5 81 97 60 10276 3 LLOSS WAKELAND-BIRGS-BELKNAP (LLOSS) 24 6 22 20 99 32 1028.1 0.1 LLOSS NOAPELTA-PATETTE-HICKOPK (LLOS4) 24 6 6 99 32 1030.2 2.1 LLOSS NOAPETTE-HICKOPK (LLOS4) 24 7 49 0.0 103.6 2.2 LLOSS LLOSS NOAPETTE-HICKOPK (LLOS4) 24 7 49 0.0 103.6 1.2 LLOSS NOAPETTE-HICKOPK (LLOS4) 24 6 49 0.0 103.6 1.2 LLOSS LLOSS NOAPETTE-HICKOPK (LLOS4) 24 6 49 0.0 103.6 1.3 LLOSS NOAPETTE-HICKOPK (LLOS4) 24 6 49 0.0 103.6 1.3 LLOSS NOAPETTE-HICKOPK (LLOS4) 24 6 49 1.0		1021 3	1021.5	0.0	3		0	0	0	0	0	0	100	
10277 0.1 1.0000 WAKELAND-BIRDS-BELKNAP (ILLOSS) 0.5 0	<u> </u>	1021 5	1024 5		11 029	BEALICOID AWSON-DARWIN (II 029)	С	45	2	84	97	09	0	
1027.7 0.1 11034 ROZETTA-FAVETEE-HICKORY (1034) 24 8 48 10 49 0 10084 10034 ROZETTA-FAVETEE-HICKORY (1034) 25 7 47 10 49 20 20 10036 10034 ROZETTA-FAVETEE-HICKORY (1034) 24 7 48 10 49 20 20 20 20 20 20 20 2	_ ايـ	1024.5	1027.5	0 %	1058	WAKEI AND BIRDS BEI KNAP (II 068)	c	75	5	29	66	32	0	
10261 0.4 1024 ROZETTA-FANETTE-HICKORY (10234) 2.5 7 47 10 10 49 20 10 10 10 10 10 10 10		1027.6	1027.7	, [11 034	ROZETTA-FAVETTE-HICKORY (II 034)	24	000	48	10	49	0	0	
10362 2.1 1.066		1027.7	1028 1	40	11 034	ROZETTA-FAYETTE-HICKORY (II 034)	25	7	47	10	49	0	0	
10336 3.4 1.034 POZETTA-FAVETTE-HICKORY (1.034) 2.4 7 48 10 49 0 0 10343 1.034 POZETTA-FAVETTE-HICKORY (1.034) 2.4 6 6 49 10 10352 0.3 1.003 POZETTA-FAVETTE-HICKORY (1.034) 2.0 2.9 2.9 8 48 1 10352 1.034 POZETTA-FAVETTE-HICKORY (1.034) 2.0 2.9 2.9 8 8 4 1 10373 0.7 1.004 POZETTA-FAVETTE-HICKORY (1.034) 2.4 7 48 10 49 0 10373 0.7 1.004 POZETTA-FAVETTE-HICKORY (1.034) 2.4 7 48 10 49 0 10453 1.004 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10454 1.1034 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10453 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10453 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10454 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 1 10454 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.0 2.9 2.9 8 44 46 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 46 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.9 2.9 8 44 46 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.0 2.9 2.9 8 44 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.4 7 4 8 10 8 10455 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.0 2.0 2.0 2.0 2.0 10550 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.4 7 4 8 10 8 10550 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.0 2.0 2.0 2.0 2.0 10550 1.1 1.005 POZETTA-FORDA-HICKORY (1.035) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 10551 1.1 1.005 POZETTA-FORDA-HICKORY (1.036) 2.0		1028 1	1030.2	2.1		WAKEI AND-BIRDS-BELKNAP (IL068)	0	75	6	29	66	32	0	
1034.5 1.3 1,002 TAMA-MUSCATINE-SABLE (1,1,002) 1034 1.3 1,002 TAMA-MUSCATINE-SABLE (1,1,004) 1.3 1,002 TAMA-MUSCATINE-SABLE (1,1,004) 1.3 1,003 ROZETTA-AFCREM-HICKORPY (1,1,034) 24 6 49 10 49 0 0 1035 1,003 ROZETTA-AFCREM-HICKORPY (1,1,034) 24 7 48 10 49 0 0 1035 1,003 ROZETTA-AFCREM-HICKORPY (1,1,034) 24 7 48 10 49 0 0 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,034) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,036) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,036) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,036) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,036) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORPY (1,1,036) 20 29 29 8 44 46 1041.7 1.1 1,0036 ROZETTA-AFCREM-HICKORY (1,1,036) 20 29 29 8 44 46 1041.7 1.0		1030.2	1033.6	2.4		ROZETTA-FAYETTE-HICKORY (IL034)	24	7	48	10	49	0	0	
1035.2 0.3 1L034 ROZEITA-FAVETTE-HICKORY (IL034) 24 6 49 10 49 10 41 10 10		1033.6	1037	-		TAMA_MISCATINE_SARI F (II 002)	C	27	3	98	98	15	0	
1036.6 1.4 11.036 ROZETTA-KEOMAH-HICKORY (11.036) 20 29 29 8 48 14 14 14 14 14 14		1032.0	1035.2	0 6		ROZETTA-EAYETTE-HICKORY (II 034)	24	9	49	10	49	0	0	
1035.3 0.77 1.1068 WAZELAND-BIROS-BELKNAR (1L068) 0.75	1	1035.2	1030.4	5 5	-	POZETTA_KEOMAH_HICKORY (II 036)	20	29	29	0	48		0	
10305 2.2 10304 HORNEY FETE-HICKORY (11034) 24 7 48 10 49 0 0 10406 1 10004 HERRICK-VIRDER-PLASA (11004) 20 29 29 8 48 1 10406 10005 COWDEN-OCONEE-DARMSTADT (11005) 20 29 29 8 48 1 1 10306 COWDEN-OCONEE-DARMSTADT (11005) 20 29 29 8 48 1 1 10306 HERRICK-VIRDER-PLASA (11004) 20 29 29 8 48 1 1 10434 11 10306 HERRICK-VIRDER-PLASA (11004) 20 29 29 8 8 48 1 1 10434 11 10306 HERRICK-VIRDER-PLASA (11004) 20 29 29 8 8 48 1 1 1 10306 HERRICK-VIRDER-PLASA (11004) 20 29 29 8 8 48 1 1 1 1 1 1 1 1 1	1	4036 B	1037.3	7.0		WAKEI AND-RIRDS-REI KNAP (II 068)		75	6	29	66	32	0	
100.05		1037.3	1030 5	22	11 034		24		48	10	49	0	0	
143.7. 1.1 LO36 ROZETTA-KEOMAHHICKORY (ILO36) 20 29 29 8 48 1 1442.3. 0.6 ILO36 COWDEN-COONEE-DARMSTADT (ILO36) 0 97 2 16 80 50 1442.3. 0.6 ILO36 ROZETTA-KEOMAH-HICKORY (ILO36) 0 97 0 89 94 46 1446.3.4 1.1 ILO36 ROZETTA-KEOMAH-HICKORY (ILO36) 0 97 0 89 94 46 1046.7 1.4 ILO36 ROZETTA-KEOMAH-HICKORY (ILO36) 0 97 0 89 94 46 1046.7 1.4 ILO36 ROZETTA-KEOMAH-HICKORY (ILO34) 0 97 0 16 89 94 46 1046.7 1.2 ILO36 ROVICENCONNEL-DARMSTADT (ILO36) 0 97 1 48 1 1052.1 1.5 ILO37 HOSMER-STOY-HICKORY (ILO34) 0 7 48 1 49 1056.8		1030.5	1040.5	4 -	1 004		c	97	0	88	94	46	0	
1043.3 0.6 ILODG COWDEN-OCONEE-DARMSTADT (ILOS6) 0 97 2 16 80 50 1043.3 1.1 ILOSG ROZETTA-KEOMAH-HICKORY (ILOS6) 29 29 8 46 1 1045.3 1.8 ILOSG ROZETTA-KEOMAH-HICKORY (ILOS6) 20 29 8 46 46 1046.2 2.6 ILOSG ROZETTA-KEOMAH-HICKORY (ILOS6) 0 97 0 89 46 46 1049.2 2.6 ILOSG ROVDEN-OCONEE-DARMSTADT (ILOS6) 0 97 4 8 46 46 1052.2 1.5 ILOSG COVDEN-OCONEE-DARMSTADT (ILOS6) 0 97 1 16 80 50 1052.2 1.5 ILOSG COVDEN-OCONEE-DARMSTADT (ILOS6) 0 77 43 60 8 1052.2 1.5 ILOSG COVDEN-OCONEE-DARMSTADT (ILOS6) 0 77 43 60 8 1052.2 1.5 ILOSG COVDEN	-	1040.8	10417		11 036	ROZETTA-KEOMAH-HICKORY (II 036)	20	29	29	80	48	-	0	
1045.3 1.036 ROZETTA-KEOMAH-HICKORY (ILO36) 20 29 8 48 4 1045.3 1.036 ROZETTA-KEOMAH-HICKORY (ILO36) 20 29 8 46 46 1046.7 1.1 IL036 ROZETTA-KEOMAH-HICKORY (ILO36) 0 97 0 89 94 46 1048.7 1.4 IL036 ROZETTA-REOMAH-HICKORY (ILO36) 0 97 0 16 89 94 46 1049.5 1.2 IL036 ROWDEN-OCONEE-DARMSTADT (ILO36) 0 96 0 16 80 50 1050.7 1.2 IL036 COWDEN-OCONEE-DARMSTADT (ILO37) 20 97 1 16 80 50 1056.7 1.7 IL036 COWDEN-OCONEE-DARMSTADT (ILO37) 20 47 20 43 60 8 1056.8 1.7 IL036 COWDEN-OCONEE-DARMSTADT (ILO37) 20 47 20 43 60 8 1058.8 1.1 IL037 <td></td> <td>1010.0</td> <td>1070</td> <td></td> <td>1005</td> <td>COMPEN-DOONEE-DARMSTADT (II 005)</td> <td>c</td> <td>97</td> <td>2</td> <td>16</td> <td>80</td> <td>50</td> <td>0</td> <td></td>		1010.0	1070		1005	COMPEN-DOONEE-DARMSTADT (II 005)	c	97	2	16	80	50	0	
1045.3 1.8 1LOOA HERRICK-VINDEN-PIASA (ILOOA) 0 97 0 89 94 46 1046.7 1.4 1L036 ROZETTA-KEOMAH-HICKORY (ILO36) 20 29 29 8 48 1 1049.5 2.6 1L004 HERRICK-VINDEN-PIASA (ILO04) 0 97 0 16 80 94 46 1049.5 3. 1L005 COWDEN-OCONEE-DARMSTADT (ILO05) 0 96 0 16 80 96 50 1050.7 1.2 1L034 ROZETTA-FAYETTE-HICKORY (ILO37) 24 7 48 10 49 0 8 1050.7 1.2 1L034 ROZETTA-FAYETTE-HICKORY (ILO37) 20 47 20 43 60 8 1052.2 1.5 1L036 HOSMER-STOY-HICKORY (IL037) 20 47 20 43 60 8 1058.6 1.1 1L037 HOSMER-STOY-HICKORY (IL038) 0 75 9 29 29 <td></td> <td>1042 3</td> <td>1043.4</td> <td>5 5</td> <td></td> <td>ROZETTA-KEOMAH-HICKORY (II 036)</td> <td>20</td> <td>29</td> <td>29</td> <td>8</td> <td>48</td> <td>-</td> <td>0</td> <td></td>		1042 3	1043.4	5 5		ROZETTA-KEOMAH-HICKORY (II 036)	20	29	29	8	48	-	0	
1046.7 1.4 LO36 ROZETTA-KEOMAH-HICKORY (ILO36) 20 29 29 8 48 1 1049.2 2.6 ILO04 HERRICK-VIRDEN-PIASA (ILO34) 0 97 0 89 94 46 1049.5 0.3 ILO06 COWDEN-OCONEE-DARMSTADT (ILO34) 24 7 48 10 49 0 1050.7 1.2 ILO34 ROZETTA-FAYETE-HICKORY (ILO34) 20 47 48 10 49 0 1052.7 1.5 ILO34 ROZMEN-COONEE-DARMSTADT (IL035) 20 47 20 43 60 8 1054.2 1.5 ILO36 ROWDEN-COONEE-DARMSTADT (IL035) 20 47 20 43 60 8 1055.7 1.7 ILO38 HOSMER-STOCH-HICKORY (IL035) 0 97 1 16 80 50 1056.2 3.6 ILO38 BLUFORD-AVA-HICKORY (IL036) 0 97 1 16 80 23 10		1043.4	1045.3			HERRICK-VIRDEN-PIASA (IL004)	0	97	0	89	94	46	0	
1049.2 2.6 IL004 HERRICK-VIRDEN-PIASA (IL004) 0 97 0 89 94 46 1049.5 0.3 IL006 COWDEN-OCONEE-DARMSTADT (IL005) 0 96 0 16 80 50 1050.7 1.2 IL005 COWDEN-OCONEE-DARMSTADT (IL005) 0 97 1 16 80 50 1052.2 1.5 IL008 COMDEN-OCONEE-DARMSTADT (IL005) 0 75 9 29 9 29 99 32 1054.7 1.7 IL068 WAKELAND-BIRDS-BELKNAP (IL088) 0 75 9 29 99 32 1056.6 1.1 IL037 HOSMBR-STOY-HICKORY (IL038) 0 75 9 29 99 32 1056.6 1.3 IL036 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1045.3	1046.7	1.4	İ	ROZETTA-KEOMAH-HICKORY (IL036)	20	29	29	8	48	-	0	
1049.5 0.3 ILOGE COWDEN-OCONEE-DARMSTADT (ILOG5) 0 96 0 16 80 50 1050.7 1.2 ILO34 ROZETTA-FAYETTE-HICKORY (ILO34) 24 7 48 10 49 0 1052.2 1.5 ILO36 COWDEN-OCONEE-DARMSTADT (ILO65) 0 97 4.1 60 8 1054.2 1.5 ILO68 COWDEN-OCONEE-DARMSTADT (ILO65) 0 75 9 29 99 32 1056.7 1.7 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1056.8 1.1 ILO37 HOSMER-STOY-HICKORY (ILO35) 0 75 9 29 99 32 1062.2 3.5 ILO36 COWDEN-OCONEE-DARMSTADT (ILO65) 0 75 9 29 99 32 1062.2 3.5 ILO36 COWDEN-OCONEE-DARMSTADT (ILO68) 0 75 9 29 99 32 1060.7		1046.7	1049.2	2.6	-	HERRICK-VIRDEN-PIASA (IL004)	0	97	0	88	94	46	0	
1056.7 1.2 IL034 ROZETTA-FAYETTE-HICKORY (IL034) 24 7 48 10 49 0 1052.2 1.5 IL006 COWDEN-OCONEE-DARMSTADT (IL005) 0 97 1 16 80 50 1054.4 1.8 IL037 HOSMER-STOY-HICKORY (IL037) 20 47 20 43 60 8 1056.8 1.1 IL037 HOSMER-STOY-HICKORY (IL037) 20 47 20 43 60 8 1056.8 1.1 IL037 HOSMER-STOY-HICKORY (IL038) 0 97 1 16 80 50 1056.2 1.8 IL037 HOSMER-STOY-HICKORY (IL038) 0 97 1 16 80 50 1062.2 3.6 IL038 BIUFORD-AVA-HICKORY (IL038) 0 0 3 82 62 10 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 32 1070.1		1049.2	1049.5	0.3		COWDEN-OCONEE-DARMSTADT (IL005)	0	96	0	16	80	20	0	
1052.2 1.5 ILO05 COWDEN-OCONEE-DARMSTADT (ILL065) 0 97 1 16 80 50 1054 1.8 ILL037 HOSMER-STOY-HICKORY (ILL037) 20 47 20 43 60 8 1056.7 1.1 ILL058 WAKELAND-BIRDS-BELKINAP (ILL068) 0 7 20 43 60 8 1056.8 1.1 ILL068 WAKELAND-BIRDS-BELKINAP (ILL037) 0 97 1 16 80 50 1062.2 3.6 ILL068 COWDEN-OCONEE-DARMSTADT (ILL065) 0 97 1 16 80 50 1062.2 3.6 ILL068 BLUFORD-AVA-HICKORY (ILL038) 0 1 0 0 3 82 62 7 1063.4 2.3 ILL068 WAKELAND-BIRDS-BELKINAP (IL068) 0 0 0 29 99 32 10 1070.1 0 ILL068 WAKELAND-BIRDS-BELKINAP (IL068) 0 0 0 29		1049.5	1050.7	1.2		ROZETTA-FAYETTE-HICKORY (IL034)	24	7	48	10	49	0	0	
1054 1.8 ILO37 HOSMER-STOY-HICKORY (ILO37) 20 47 20 43 60 8 1056.8 1.1 ILO68 WAKELAND-BIRDS-BELKINAPP (ILO88) 0 75 9 29 99 32 1056.8 1.1 ILO36 WAKELAND-BIRDS-BELKINAPP (ILO88) 0 97 1 16 80 50 1058.6 1.8 ILO36 CONDEN-OCONEE-DARMSTADT (ILO36) 0 97 1 16 80 50 1062.2 3.6 ILO36 BLUFORD-AVA-HICKORY (ILO38) 1 62 13 12 55 10 1063.4 2.3 ILO36 BLUFORD-AVA-HICKORY (ILO38) 0 0 0 29 99 32 1070.1 0.7 ILO68 WAKELAND-BIRDS-BELKINAP (ILO68) 0 0 0 29 99 32 1070.1 0.0 0.1 0.0 0 0 0 29 99 32 1070.2 1.0		1050.7	1052.2	1.5	ĺ	COWDEN-OCONEE-DARMSTADT (IL005)	0	62		16	80	20	0	
1055.7 1.7 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1056.8 1.1 ILO37 HOSMER-STOY-HICKORY (ILO37) 20 47 20 43 60 8 1058.6 1.8 ILO05 COVODEN-OCONEE-DARMSTADT (IL005) 0 97 1 16 80 50 1062.2 4.9 ILO06 CISNE-HOYL-ETON-DARMSTADT (IL006) 0 0 3 82 62 1 1069.4 2.3 ILO38 BLUFORD-AVA-HICKORY (IL038) 0 75 9 29 99 32 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 32 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 75 9 29 99 32 1070.2 1.0 0 7 9 29 99 32 1077.3 1.0 0 0		1052.2	1054	1.8		HOSMER-STOY-HICKORY (IL037)	20	47	20	43	09	ھ	0	
1056.8 1.1 IL037 HOSMER-STOV-HICKORY (IL037) 20 47 20 43 60 8 1058.6 1.8 IL006 COWDEN-OCOMEE-DARMSTADT (IL005) 0 97 1 16 80 50 1062.2 3.6 IL038 GINEN-CONDER-DARMSTADT (IL006) 0 97 1 1 55 10 1062.2 3.6 IL038 BLUFORD-AVA-HICKORY (IL038) 1 7 62 13 12 55 10 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 32 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 32 1070.2 2.2 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 75 9 29 99 32 1077.3 0.8 IL038 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 29 99 32 <td></td> <td>1054</td> <td>1055.7</td> <td>1.7</td> <td>11,068</td> <td>WAKELAND-BIRDS-BELKNAP (IL068)</td> <td>0</td> <td>75</td> <td>6</td> <td>29</td> <td>66</td> <td>32</td> <td>0</td> <td></td>		1054	1055.7	1.7	11,068	WAKELAND-BIRDS-BELKNAP (IL068)	0	75	6	29	66	32	0	
1056.6 1.8 ILO06 COWDEN-OCONEE-DARMSTADT (ILO05) 0 97 1 16 80 50 1062.2 3.6 ILO38 BLUFORD-AVAHICKORY (ILO38) 17 62 13 12 55 10 1067.2 4.9 ILO36 BLUFORD-AVAHICKORY (ILO38) 17 62 13 12 55 10 1070.1 0.7 ILO68 WAKELAND-BIRDS-BELKNAP (ILO38) 0 0 0 29 99 32 1070.1 0. ILO68 WAKELAND-BIRDS-BELKNAP (ILO88) 0 0 0 29 99 32 1072.3 2.2 ILO68 WAKELAND-BIRDS-BELKNAP (ILO88) 0 0 0 29 99 32 1072.3 0.8 ILO68 WAKELAND-BIRDS-BELKNAP (ILO88) 0 0 0 29 99 32 1072.3 0.8 ILO68 0 0 0 0 29 99 32 1077.3 0.8		1055.7	1056.8	-	11,037	HOSMER-STOY-HICKORY (IL037)	20	47	20	43	90	80	0	
1062.2 3.6 ILO38 BLUFORD-AVA-HICKORY (ILO38) 17 62 13 12 55 10 1067.2 4.9 ILO36 CISNE-HOYLETON-DARMSTADT (ILO68) 0 100 3 82 62 7 1069.4 2.3 ILO36 WARELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1070.1 0. ILO68 WARELAND-BIRDS-BELKNAP (ILO68) 0 0 0 29 99 32 1072.3 2.2 ILO68 WARELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1072.3 2.2 ILO68 WARELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1072.3 2.2 ILO68 WARELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1077.3 0.8 ILO68 BILJOSAL (ILO38) 0 100 0 0 0 29 99 32 </td <td></td> <td>1056.8</td> <td>1058.6</td> <td>1.8</td> <td>11,005</td> <td></td> <td>0</td> <td>97</td> <td>-</td> <td>16</td> <td>80</td> <td>20</td> <td>0</td> <td></td>		1056.8	1058.6	1.8	11,005		0	97	-	16	80	20	0	
1067.2 4.9 ILOGE CISNE-HOYLETON-DARMSTADT (ILOG6) 0 100 3 82 62 . 1069.4 2.3 ILO38 BLUFORD-AVA-HICKORY (ILO38) 17 62 13 12 55 10 1070.1 0.7 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 0 29 99 32 1072.3 2.2 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1072.3 2.2 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1077.3 2.2 ILO68 WAKELAND-BIRDS-BELKNAP (ILO68) 0 75 9 29 99 32 1077.3 2.2 10.6 0 75 9 29 99 32 1077.8 4.6 ILO68 0 100 0 3 82 62 1077.8 4.6 ILO68 0 10 0		1058.6	1062.2	3.6	IL038		17	62	13	12	55	9	0	
1069.4 2.3 ILO38 BLUFORD-AVA-HICKORY (ILO38) 17 62 13 12 55 10 1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (ILO68) 0 7 9 29 32 1072.3 2.2 IL068 WAKELAND-BIRDS-BELKNAP (ILO68) 0 0 29 99 32 1073.2 1L068 WAKELAND-BIRDS-BELKNAP (ILO68) 0 0 29 99 32 1073.2 1L06 CISNE-ANY-HICKORY (ILO38) 17 62 13 12 55 10 1077.8 4.6 IL06 CISNE-HOYLETON-DARMSTADT (IL068) 0 0 3 82 62 1077.9 0.1 IL038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55 10		1062.2	1067.2	4.9	11,006		0	100	0	က	82	62	0 .	
1070.1 0.7 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 75 9 29 32 1070.1 0 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 32 1072.3 2.2 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 29 99 32 1073.2 0.8 IL038 IL038 GINLO-AVA-HICKORY (IL089) 0 0 0 3 82 62 1077.8 4.6 IL038 BLUFORD-AVA-HICKORY (IL089) 0 14 61 14 12 55 10		1067.2	1069.4	2.3	IL038		17	62	13	12	55	10	0	
1070.1 0 ILO68 WAKELAND-BIRDS-BELKNAP (IL068) 0 0 0 29 99 1072.3 2.2 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 75 9 29 99 1073.2 0.6 IL038 BLUFORD-AVA-HICKORY (IL038) 0 17 62 13 55 1077.8 4.6 IL008 CISNE-HOYLETON-DARMSTADT (IL008) 0 0 3 82 1077.9 0.1 IL038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55		1069.4	1070.1	0.7	11,068		0	75	6	29	66	32	0	
1072.3 2.2 IL068 WAKELAND-BIRDS-BELKNAP (IL068) 0 75 9 29 99 1073.2 0.8 IL038 BLUFORD-AVA-HICKORY (IL038) 17 62 13 12 55 1077.8 4.6 IL006 CISNE-HOYLETON-DARMSTADT (IL006) 0 10 3 82 1077.9 0.1 IL038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55	1	1070.1	1070.1	0	11,068		0	0	0	29	66	32	0	
1073.2 0.8 IL038 BLUFORD-AVA-HICKORY (IL038) 17 62 13 12 55 1077.8 4.6 IL006 CISNE-HOYLETON-DARMSTADT (IL006) 0 100 0 3 82 1077.9 0.1 IL038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55	1	1070.1	1072.3	L	1L068		0	75	6	29	66	32	0	
1077.8 4.6 IL.006 CISNE-HOYLETON-DARMSTADT (IL006) 0 100 3 82 1077.9 0.1 IL.038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55		1072.3	1073.2	L	IL038		17	62	13	12	55	10	0	
1077.9 0.1 IL038 BLUFORD-AVA-HICKORY (IL038) 14 61 14 12 55		1073.2	1077.8		1L006		0	100	0	င	82	62	0	
		1077.8	1077.9		IL038	BLUFORD-AVA-HICKORY (IL038)	14	61	14	12	55	10	0	

Highly Companies Prince	Append	Appendix F: Soil Associations Along the Propsed Keystone	sociations Al	ong the Pr	opsed K		Pipeline Project			Low				
Mathema								Highly	Compaction	Revegetation Potential	A-Horizon	Prime Farmland	Hvdric	Shallow (<60") Bedrock
2.2 2.2 NEGDY GEARY-ANSERNA/MOIN NEGDY, ASSESSION OF CONTROL OF	State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID		Name	%	910L	%	%	%	%	%
2.2 2.2 2.2 2.2 4.2 0.0 64 19 7.6 0 3.7 1.3 RESZB GREFLAWYBERFLYMYDGE (RSSZB) 6 0	VINOLIO	CISNATENSIO	, A											
2.4 3.7 1.3 MESSA CRITERAA/MERINA/WANGE (NEZOR) 5 0 0 10 10 10 10 10	E P	0	L	2.2	NE037	GEARY	JSEN-MEADIN (NE037)	48	0	84	19	56	0	0
2.4 3.7 1.8 MSSS22 GORGE-GAM/PREMY/MODE (MSSS2) 6 0 9 61 70 0	ľ	_	2.4	0.2	NE028	CRET	YBERRY-WYMORE (NE028)	2	0	10	12	9/	0	0
3.7 6.5 6.14 6.83871 6.0 6.	ξŞ.		3.7	1.3	KS328	CRE	YBERRY-WYMORE (KS328)	ဖ	0	6	12	9/	0	0
6.5 9.6 7.8 9.6 9.0 <td>KS</td> <td></td> <td>5.5</td> <td>1.8</td> <td>KS371</td> <td>Ī</td> <td>IUIR-NODAWAY (KS371)</td> <td>0</td> <td>0</td> <td>69</td> <td>69</td> <td>100</td> <td>0</td> <td>0</td>	KS		5.5	1.8	KS371	Ī	IUIR-NODAWAY (KS371)	0	0	69	69	100	0	0
15.2 6.7 15.323 12.2 6.7 15.323 12.2 6.7 6.7 6	ξŞ		8.5	9	KS328	SR	YBERRY-WYMORE (KS328)	9	0	6	12	9/	0	0
15.2 16.3 11.4 18.2322 J.A.C.A.C.S.T.E.R.H.E.D.M.L.E.C.A.C.O.(8302) 2.6	KS		15.2	6.7	KS371	1	IUIR-NODAWAY (KS371)	0	0	69	69	100	0	0
19.4 3.14 3.14 3.328 Cheff E-GRAV-LORGON (KS201) 6 0 0 26 4 775 0 0 1 1 1 1 1 1 1 1	ξ		16.3	1.1	KS302	1	R-HEDVILLE-EDALGO (KS302)	28	0	84	22	27	0	69
194 231 18 18 18 18 18 18 18	ΚS		19.4	3.1	KS328	1	YBERRY-WYMORE (KS328)	9	0	6	12	92	0	0
23.1 2.2 2.2 KSSDT ORFIEL-MANAFIRE (MSSZD) 6 0 9 1.2 776 0 23.5 3.5 1.0 KSSDT ORFIEL-MANAFIRE (MSSZD) 1.3 0 2.3 7.7 0 2.3 7.7 0 0 0 2.3 7.7 0 0 0 2.3 7.7 0 0 0 0 0 2.3 7.7 0	Ş		21.1	1.8	KS301	1	ARY-LONGFORD (KS301)	4	0	26	4	72	0	2
23.3 33.5 10.2 KSSSOT CAPTER_LAMACRETER_PAYMER (KSSOT) 15 0 46 9 71 0 36.5 36.5 36.5 AKSSOT CAPTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 36.5 3.3 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 4.2.4 4.9.8 7.4 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 4.2.4 4.9.8 7.4 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 0 5.1.7 2.6 KSSOT CARTER_LECRAL/ONEPOR(KSSOT) 4 0 2.6 4 7.7 2 0 7 <	X S		23.3	2.2	KS328		YBERRY-WYMORE (KS328)	9	0	6	12	92	0	0
3.6	K.S.	1	33.5	10.2	KS307	1	JCASTER-EDALGO (KS307)	r.	0	46	6	71	0	29
36.6 36.8 3.3 Kassan Chelle Gelek-Lico/CHORD (18501) 4 0 26.6 4 7.7 0 3.6 4.6 3.3 Kassan Chelle Gelek-Lico/CHORD (18501) 2.6 4 7.7 0 4.0 5.6.1 3.4 Kassan Chelle Gelek-Lico/CHORD (18501) 4 0 2.6 4 7.7 0 5.1 5.6.1 3.4 Kassan Chelle Gelek-Lico/CHORD (18501) 6 7 6 7 0 6 7 0 7 6 7 0 0 2.6 4 7.2 0 5.1 5.5 3.4 Kassan Chille Sold-Martin (18501) 6 6 7 7 2 6 7 7 0 7 6 7 7 0 0 6 6 7 7 0 0 6 7 7 0 0 6 7 7 0 0 6 7 7 0 0 6 7 <td>X S</td> <td></td> <td>36.5</td> <td>3</td> <td>KS373</td> <td></td> <td>RETE-PAWNEE (KS373)</td> <td>13</td> <td>0</td> <td>30</td> <td>23</td> <td>43</td> <td>0</td> <td>4</td>	X S		36.5	3	KS373		RETE-PAWNEE (KS373)	13	0	30	23	43	0	4
42.4 2.6 KR392 LANGASTER-HUGKSTON (KSSOL) 4.0 6.6 4.2 2.7 0 4.0 6.6 4.2 2.7 0 4.0 <td>KS</td> <td></td> <td>39.8</td> <td>3.3</td> <td>KS301</td> <td></td> <td>ARY-LONGFORD (KS301)</td> <td>4</td> <td>0</td> <td>26</td> <td>4</td> <td>72</td> <td>0</td> <td>5</td>	KS		39.8	3.3	KS301		ARY-LONGFORD (KS301)	4	0	26	4	72	0	5
4.2.4 4.6.8 7.4 KKSSNO GERET GEREN-LOGGEROR (KSSZOL) 4 0 2.6 4 7.2 0 5.7.1 5.6.1 3.4 KKSSNO GERET GEREN-LOGGEROR (KSSZOL) 6 7	X S	_	42.4	2.6	KS302	1	R-HEDVILLE-EDALGO (KS302)	28	0	84	22	27	0	69
49.6 61.7 19 65.7 7 2 2 51.7 26 KSS372 MINERLODGA-SUPHEN (KSS72) 4 0 78 56 92 2 55.7 26 KSS300 CUREFECEARY-LONG-CORD (KSS20) 67 0 26 7 7 20 0 57.7 26 KSS300 CUREFECEARY-LONG-CORD (KSS20) 4 0 26 7 20 0 61.8 63.1 1.2 KSS300 CUREFECEARY-LONG-CORD (KSS20) 4 0 26 7 20 0 61.8 63.1 1.2 KSS30 CURPLE-GEARY-LONG-CORD (KSS20) 4 0 26 4 7 20 0 7.1 7.1 1.6 KS330 CURPLE-GEARY-LONG-CORD (KSS20) 4 0 0 7 4 7 20 0 7.1 7.2 1.6 KS330 CORD-CORD-CORD-CORD-CORD-CORD-CORD-CORD-	KS		49.8	7.4	KS301	1	ARY-LONGFORD (KS301)	4	0	26	4	72	0	5
617 56.1 3.4 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 26 4 72 0 617 56.1 57.7 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 72 0 61.7 56.4 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 72 0 61.8 6.1 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 6.1 6.1 2.6 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 6.1 6.1 6.1 KRS301 CRETE-GERAY-LONG-FORD (KS301) 4 0 2.6 4 7.2 0 7.1 1.6 KRS302 INHW-HAPPON-LONG-FORD (KS301) 1.6 0 2.6 4 7.2 0 0 7.1 1.6 KRS302 INHW-HAPPON-LONG-FORD (KS302)	KS		51.7	1.9	KS372	1	ORA-SUTPHEN (KS372)	0	0	78	56	92	2	0
56.1 57.7 58.4 67.7 6. Ka301 CLIMES-CONMARATINI (SS230) 67 0 5 7 20 0 58.4 61.7 68.3001 CLIMES-CONMARATINI (SS230) 67 0 5 7 7 0 58.4 61.7 68.3001 CLIMES-CONMARATINI (SS230) 6 7 7 2 0 67.8 61.8 68.3301 CLIMES-CONMARATINI (SS230) 6 7 7 2 0 67.8 62.9 1.3 KS301 CRITE-GEARY-LONG-PORD (KS230) 6 0 7 6 6 2 2 2 70.3 7.1 10.8 KS301 CRITE-GEARY-LONG-PORD (KS230) 6 0 7 6 6 2 2 2 7 7 7 7 7 6 6 9 6 6 9 6 6 9 6 6 9 7 7 7 7 7 7 <td< td=""><td>SX SX</td><td></td><td>55.1</td><td>3.4</td><td>KS301</td><td></td><td>ARY-LONGFORD (KS301)</td><td>4</td><td>0</td><td>26</td><td>4</td><td>72</td><td>0</td><td>5</td></td<>	SX SX		55.1	3.4	KS301		ARY-LONGFORD (KS301)	4	0	26	4	72	0	5
58.4 61. KSS00 CRENE-GEAVILONG/POR (KSS10) 4 0 26 4 72 0 61.4 61.6 KSS00 CUIME-GOON-MARTIN (KSS20) 4 0 26 4 72 0 61.4 61.8 KSS07 MIRE-EUORA-LONG-POR (KSS10) 4 0 26 4 72 0 61.7 61.8 KSS07 MIRE-EUORA-SUTH-HIN (KSS27) 4 0 26 4 72 0 70.3 71.1 CRETE-GEARY-LONG-POR (KSS17) 6 6 26 2 2 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS27) 16 7 6 6 22 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS28) 3 7 7 4 72 0 70.1 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS28) 3 1 4 72 6 70.2 10.8 KSS37 MIRE-EUORA-SUTH-HIN (KSS38) 3 7 <th< td=""><td>Ş</td><td><u> </u></td><td>57.7</td><td>2.6</td><td>KS330</td><td></td><td>SN-MARTIN (KS330)</td><td>- 67</td><td>0</td><td>2</td><td>7</td><td>20</td><td>0</td><td>80</td></th<>	Ş	<u> </u>	57.7	2.6	KS330		SN-MARTIN (KS330)	- 67	0	2	7	20	0	80
584 61 26 KSS30 CLIME-SOCRAMARTIN (KSS32) 67 0 5 7 20 0 67.8 69.1 1.3 KSS37 QLIME-SOCRAMARTIN (KSS37) 0 0 78 66 92 2 67.8 1.3 KSS37 ALMIPE-UDORA-SUTPHEN (KSS37) 0 0 78 66 92 2 70.3 7.1.1 LSS37 MURE-UDORA-SUTPHEN (KSS37) 0 0 78 66 92 2 7.1.1 7.3.7 7.3.4 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS37) 0 77 4 72 0 7.3.1 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.2 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.2 O.4 KSS30 MURP-UDORA-SUTPHEN (KSS38) 1 6 6 92 2 7.3.4 KSS30 M	S S		58.4	0.7	KS301		ARY-LONGFORD (KS301)	4	0	26	4	72	0	5
61 67.8 6.8 6.3 7.8 6.8 4 7.2 7 69.1 67.8 68.1 4.3 4.3 6.2 4 7.2 0 69.1 70.3 1.2 K8320 MUNIE-UDGR-ASUTPHEN (K8321) 4 0 7.6 56 4 7.2 0 70.3 1.2 K8320 MUNIE-UDGR-ASUTPHEN (K8321) 1.6 0 7 6 6 2.2 2 7.1 1.0 4 K8320 MUNIE-UDGR-ASUTPHEN (K8320) 1.6 0 7 4 72.7 7.7 4 7.2 4 7.2 6 6 0 7 6 6 0 6 6 0 7 7 6 6 0 7 7 6 6 0 7 7 6 6 0 6 0 7 7 6 6 0 6 0 6 0 6 0 0 </td <td>Š</td> <td></td> <td>61</td> <td>2.6</td> <td>KS330</td> <td></td> <td>SN-MARTIN (KS330)</td> <td>- 67</td> <td>0</td> <td>വ</td> <td></td> <td>20</td> <td>0</td> <td>രെ</td>	Š		61	2.6	KS330		SN-MARTIN (KS330)	- 67	0	വ		20	0	രെ
67.8 69.1 1.3 K8372 MUNICATEDIORA-SUTPHEN (K8337) 0 0 78 56 92 2 70.3 77.1 0.8 K8307 MINICATEDIORA-SUTPHEN (K8337) 0 0 78 4 72 0 77.1 73.1 7.6 K8307 MINICATEDORA-SUTPHEN (K8339) 18 0 77 5 1 6 92 2 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 18 0 27 4 72 0 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 18 0 27 4 72 0 73.1 73.9 0.8 K8308 RWINAHEDORA-SUTPHEN (K8339) 10 0 7 5 6 6 0 7 5 6 6 0 0 7 5 6 6 0 0 0 7 5 6 0 0 7 6	ξŠ		67.8	6.8	KS301		ARY-LONGFORD (KS301)	4	0	26	4	72	0	2
69.1 70.3 1.2 K\$301 CMRETC-GRAY-LONGFORD (K\$301) 4 0 26 4 7.2 0 7.1.1 72.7 1.6 K\$303 CARETC-GRAY-LONGFORD (K\$301) 1.8 0 7.8 56 9.2 2 7.1.1 72.7 7.3.1 0.4 K\$303 RWINK-EUDORA-SUTPHEN (K\$302) 1.8 0 7.6 51 62 0 7.3.9 0.8 K\$303 RRVINK-RPSON-CIME (K\$303) 1.8 0 7.6 51 63 0 7.5.9 7.4.8 0.9 K\$303 RRVINK-RPSON-CIME (K\$303) 1.8 0 7.6 66 0 7.6.6 8.2.2 6.4 K\$303 RWINK-RPSON-CIME (K\$303) 1.8 0 7.6 6.6 0 8.8.1 8.8.2 8.4.8 8.8.9 2.1 K\$304 RWINK-RPSON-CIME (K\$303) 1.8 0 7.6 6.6 0 8.8.2 8.4.8 8.8.2 1.8 K\$303 RWINK-RPSON-CIME	KS		69.1	1.3	KS372		ORA-SUTPHEN (KS372)	0	0	78	56	92	2	0 1
70.3 71.1 0.8 K63378 IM/UNIA/HPSON-CLIME (K6328) 1 0 7 5 1 5 0 7 5 1 6 9.2 2 7 7 7 1 6 83388 IRVINIA/HPSON-CLIME (K5389) 1 0 7 5 1 6 0 7 5 1 6 0 7 7 1 7 7 7 7 7 7 7 7 7 7 4 7 5 1 6 0 7 5 1 6 0 7 8 9 9 2 7 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	ΚS		70.3	1.2	KS301		ARY-LONGFORD (KS301)	4	0	26	4	7/2	0	מ
7.1.1 7.2.7 1.6 KS338 IRWIN-KNOR-ORD/CLIME (KS338) 18 0 7 31 0.5 7.3.1 7.2.7 1.4 KS338 IRWIN-KNOR-ORD (KS338) 18 0 7 4 7.2 0 7.3.9 7.48 0.9 KS338 IRWIN-KNOR-ORD (KS338) 18 0 7 6 2 2 2 7.4.8 0.9 KS338 IRWIN-KNOR-ORD CLIME (KS338) 18 0 7 6 6 0 2 2 2 2 6 6 0 7 6 6 0 7 6 0 0 0 7 6 0 <td>KS</td> <td></td> <td>71.1</td> <td>0.8</td> <td>KS372</td> <td></td> <td>ORA-SUTPHEN (KS372)</td> <td>0</td> <td>0</td> <td>78</td> <td>56</td> <td>85</td> <td>7 0</td> <td>) t</td>	KS		71.1	0.8	KS372		ORA-SUTPHEN (KS372)	0	0	78	56	85	7 0) t
73.7 73.4 0.4 KS330 REPERCACEAN/LONG-ROSA) 5 0 2/7 4 72.7 73.4 0.9 KS330 RRS30 RRS30 RRS30 RRS30 RAPERCACEA/LONG-ROSA) 31 0 2/7 4 72.7 7 4 72.7 7 4 72.7 7 4 7 6 6 92.2 2 2 2 2 2 2 2 2 2 2 2 4 8 10 4 9 10 4 9 10 4 8 10 2 7 4 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 8 10 10 10 10 10 10 <th< td=""><td>δ</td><td></td><td>72.7</td><td>1.6</td><td>KS338</td><td></td><td>SON-CLIME (KS338)</td><td>18</td><td>0</td><td></td><td></td><td>100</td><td>0</td><td>10</td></th<>	δ		72.7	1.6	KS338		SON-CLIME (KS338)	18	0			100	0	10
73.1 73.9 0.8 KS338 RAWINHA/FIRSONOLIME (KS381) 31 0 6 0 0 7 6 9 1 4 9 10 7.4.8 7.4.8 0.9 KS338 RWINHA/FIRSONOLIME (KS338) 1 0 7 56 92 2 2 7 56 92 2 2 6 6 0 7 56 6 0 0 8 8 2 2 2 6 6 0 0 7 51 6 0 0 8 8 0 0 0 7 51 6 0 <td< td=""><td>χS</td><td></td><td>73.1</td><td>0.4</td><td>KS301</td><td>- 1</td><td>ARY-LONGFORD (KS301)</td><td>2</td><td>0</td><td>77</td><td>4 7</td><td>7)</td><td>0</td><td>27</td></td<>	χS		73.1	0.4	KS301	- 1	ARY-LONGFORD (KS301)	2	0	77	4 7	7)	0	27
73.9 74.8 0.9 KS369 VALENTEW/RELORARELLO (KS389) 31 0 74 30 49 0 73.8 76.8 2.1 KS372 MAINTE-EUDORA-SUTPHEN (KS323) 18 0 7 51 62 0 76.8 8.2.2 5.4 KS328 IRWIN-KIPSON-CLIME (KS338) 6 0 7 51 65 0 84.8 2.6 KS338 IRWIN-KIPSON-CLIME (KS338) 6 0 7 51 63 0 87.8 89.9 2.1 KS338 IRWIN-CLIME-ROSEHILL (KS338) 6 0 7 51 65 0 89.9 92.2 2.4 KS338 IRWIN-CLIME-ROSEHILL (KS334) 6 0 8 56 6 0 92.2 101.6 9.3 KS341 IRWIN-CLIME-ROSEHILL (KS349) 2 3 4 4 7 6 6 6 6 6 6 6 6 6 6 6	ξŠ		73.9	0.8	KS338		SON-CLIME (KS338)	8	0	φ.	53	200	5	500
74.8 76.8 2.1 KS372 MUNR-LENDORA-SUPHEN (KS372) 0 0 7 6 0 7 6 0 7 6 0 7 6 0 7 6 0 0 7 6 0 0 8 2 6 6 0 8 6 6 0 6 0 6 6 0 0 7 51 63 0 84.8 87.8 2.9 KS336 IRWIN-LIME-ROSEHILL (KS381) 18 0 7 51 63 0 0 8 6 66 0 0 8 6 66 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 0 0 8 6 6 6<	ξŠ		74.8	6.0	KS369		E-WELLS-ORTELLO (KS369)	31	0	14	30	84 0	2 6	> 0
76.8 82.2 54.4 KS338 IRWINI-KIPSON-CLIME (KS338) 18 0 7 51 65 0 84.8 87.8 2.9 KS348 IRWINI-CLIME-ROSEHILL (KS341) 18 0 7 51 66 0 84.8 87.8 2.9 KS348 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 92.2 101.6 3.2 KS348 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 92.2 101.6 3.2 KS349 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 101.6 104.3 2.7 KS349 IRWINI-CLIME-ROSEHILL (KS341) 6 0 8 56 66 0 101.6 104.3 2.7 KS349 IRWINI-CLIME-ROSEHILL (KS341) 0 5 49 48 86 0 104.3 1.7 1.6 3 4 7 7 </td <td>δÃ</td> <td></td> <td>76.8</td> <td>2.1</td> <td>KS372</td> <td></td> <td>ORA-SUTPHEN (KS372)</td> <td>0</td> <td>0</td> <td>8/</td> <td>96</td> <td>76</td> <td>7 0</td> <td>0 10</td>	δÃ		76.8	2.1	KS372		ORA-SUTPHEN (KS372)	0	0	8/	96	76	7 0	0 10
82.2 84.8 2.6 KS351 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 50 0 0 8 0 0 8 0	ξŠ		82.2	5.4	KS338		SON-CLIME (KS338)	18	0	2	51	200	0	3/
84.8 87.8 2.9 KS3538 RWINN-CIME (KS38) 18 0 7 51 65 0 89.9 92.2 2.4 KS354 RWINN-CLIME (KS38) 16 0 8 56 66 0 89.9 92.2 2.4 KS354 RWINN-CLIME (KS381) 6 0 8 56 66 0 92.2 101.6 9.3 KS354 RWINN-CLIME (KS351) 6 0 8 56 66 0 104.3 112.1 7.8 KS354 RWINN-CLIME (KS351) 6 0 8 66 0 105.4 115.1 7.8 MELIS-VERDIGRIS-IRWIN (KS354) 0 5 49 48 66 0 115.3 116.3 1.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 0 8 66 0 116.9 118.3 1.6 MELS-VERDIGRIS-IRWIN (KS354) 0 18 8 66 0	χS		84.8	2.6	KS351		ME-ROSEHILL (KS351)	9	0	20 1	2 2	88	> 0	37
87.8 89.9 2.1 KSS361 IRWIN-LIGNE-ROSEHILL (KSS31) 6 0 7 51 63 0 89.9 92.2 2.4 KSS36 IRWIN-LEIME-ROSEHILL (KSS31) 6 0 7 56 66 0 92.2 101.6 104.3 2.7 KSS34 IRWIN-LEME-ROSEHILL (KSS31) 6 0 8 66 0 104.3 12.1 7.8 KS354 IRWIN-LEME-ROSEHILL (KS351) 6 0 8 56 66 0 116.3 116.3 1.6 3.1 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.3 116.3 1.4 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.9 0.6 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 0 116.9 1.6 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 8 56 66 <t< td=""><td>δ</td><td></td><td>87.8</td><td>2.9</td><td>KS338</td><td></td><td>SON-CLIME (KS338)</td><td>28</td><td>0</td><td>,</td><td>- 0</td><td>00</td><td>> 0</td><td>37</td></t<>	δ		87.8	2.9	KS338		SON-CLIME (KS338)	28	0	,	- 0	00	> 0	37
89.9 92.2 4 KS338 IRWIN-CLIME (KS338) 1 G 0 7 0.5 0 9.2 4 KS348 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 101.6 1.2.1 7.8 KS341 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 104.3 1.2.1 7.8 KS341 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 112.1 1.6.3 1.1 KS341 IRWIN-CLIME-ROSEHILL (KS341) 0 5 48 86 3 116.3 1.1 KS341 IRWIN-CLIME-ROSEHILL (KS341) 0 6 0 8 66 0 116.3 1.4 KS341 IRWIN-CLIME-ROSEHILL (KS331) 0 4 4 7 96 100 1 116.9 1.6 6 6 6 6 6 6 6 6 6 6 6 6	SS		89.9	2.1	KS351		ME-ROSEHILL (KS351)	ې و	0	1 0	20	00	0	37
92.2 1016 9.3 KS351 IRWIN-CLIME-ROSEHIL (KS351) 0 4 70 70 0 101.6 104.3 2.7 KS354 IRWIN-LADYSMITH-LABETTE (KS349) 6 0 8 56 66 0 101.6 112.1 7.8 KS354 IRWIN-CLIME-ROSEHIL (KS351) 6 0 8 56 66 0 115.3 1.1 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 5 49 48 86 3 116.3 1.16.3 1.1 KS354 IRWIN-CLIME-ROSEHIL (KS351) 0 6 0 8 56 66 0 116.3 1.16.3 1.16.3 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 0 8 56 66 0 116.3 1.16.3 1.20.7 KS354 REVINIA-CLIME-ROSEHILL (KS351) 17 0 5 19 56 66 0 120.7 1.26.4 5.6 KS354 REVINIA-CLIME-ROSEHILL (KS331	SS	+	92.2	+	K5338		SON-CLIME (ROSSS)	0 0		- 0	- 4	5 8		37
1016 104.3 2.7 K8349 RWINLLANDYSMITH-LABET IE (K8349) 6 5 49 48 66 0 0 6 104.3 112.1 7.8 K8354 WELLS-VERDIGRIS-RWIN (K8354) 6 5 49 48 86 3 3 112.1 115.3 116.3 1.1 K8354 WELLS-VERDIGRIS-RWIN (K8354) 6 0 6 6 6 6 6 6 6 6	S.	1	+	+	KS351		ME-KOSEHILL (KS351)	0 0	0 00	0 8	2 2	200	0 0	200
104.3 112.1 7.8 NS351 INWIN-CLIME-ROSEHILL (KS354) 0 5 49 48 86 3 3 115.3 1.1 KS354 INWIN-CLIME-ROSEHILL (KS354) 0 5 6 66 0 0 6 8 8 6 6 0 0 115.3 1.1 KS354 INWIN-CLIME-ROSEHILL (KS354) 0 5 6 66 0 0 116.9 0.6 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 6 6 6 0 0 8 8 56 66 0 0 118.3 118.8 0.5 KS354 IRWIN-CLIME-ROSEHILL (KS351) 0 6 8 56 66 0 0 8 8 56 66 0 0 118.3 118.8 0.5 KS354 IRWIN-CLIME-ROSEHILL (KS351) 17 0 5 79 96 10 0 11 0 0 1 0 1 0 0 1 0 0 1 0 0 1 0	δ.	-		+	KS345		JYSIMITH-LABELLE (ROS49)	7 9	000	t α	‡ u	2 %	> <	37
15.3 116.3 1.5 1	\$ 5	+		+	NS357		ME-ROSENICE (NSSS1)	0	ט ער	49	48	88	, e	5
116.9 116.9 0.6 KS354 WELLS-VERDIORIS-IRWIN (KS354) 0 5 48 48 86 3 116.9 118.3 1.6 KS354 WELLS-VERDIORIS-IRWIN (KS354) 0 18 73 96 100 1 116.9 118.3 1.4 KS354 READING-IVAN-CHASE (KS351) 6 0 8 56 66 0 118.3 120.7 1.9 KS354 IRWIN-CLIME-ROSEHILL (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS354 IRWIN-CLIME-ROSEHILL (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS354 IRWIN-CLIME-ROSEHILL (KS331) 17 0 5 19 29 0 128.1 1.28.5 1.42.4 1.55.6 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4 1.42.4<	2 2		+	+	KS354	- 1	ME-ROSEHIII (KS351)	9 6	0	8	56	99	0	37
116.9 118.3 1.4 KS361 READING-IVAN-CHASE (KS361) 0 18 73 96 100 1 118.3 1.6 KS351 READING-IVAN-CHASE (KS361) 6 0 8 56 66 0 118.8 120.7 1.9 KS351 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 1.26.4 5.6 KS351 REVININ-CLIME-ROSEHILL (KS351) 17 0 5 19 29 0 126.1 1.26.4 1.28.1 1.7 KS354 READING-LABETTE-TULLY (KS331) 17 0 5 50 48 86 3 128.1 1.28.5 1.3 3.4 KS350 TULLY-SORNICKE-LABETTE-TULLY (KS349) 1 0 5 50 48 86 3 128.5 131.9 3.4 KS350 TULLY-SORNICKE-LABETTE (KS349) 2 30 4 77 78 0 131.9 1.2 <td< td=""><td>2 8</td><td>+</td><td>-</td><td>-</td><td>KS354</td><td></td><td>RDIGRIS-IRWIN (KS354)</td><td>0</td><td>5</td><td>48</td><td>48</td><td>86</td><td>က</td><td>c.</td></td<>	2 8	+	-	-	KS354		RDIGRIS-IRWIN (KS354)	0	5	48	48	86	က	c.
118.3 118.8 0.5 KS351 IRWIN-CLIME-ROSEHIL (KS351) 6 0 8 56 66 0 118.8 120.7 1.9 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS351 RWIN-CLIME-ROSEHILL (KS331) 17 0 5 19 29 0 126.4 128.1 1.2 KS354 WELLS-VENDIGRIS-IRWIN (KS354) 0 5 5 48 86 3 128.5 13.9 3.4 KS356 IVILLY-SOGN-CLIME (KS350) 10 5 19 3 0 13.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) <	2 2	+	+	1	KS361		VAN-CHASE (KS361)	0	18	73	96	100	-	0
118.8 120.7 1.9 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 120.7 126.4 5.6 KS351 RWINN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 126.4 128.1 1.2 KS354 HEADENTE-TULLY (KS331) 17 0 5 18 66 0 128.1 128.1 1.2 KS354 WELLS-VERDIGERS-IRWIN (KS354) 10 5 50 48 86 3 128.5 13.9 3.4 KS359 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 13.9 1.2 KS349 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRVIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRVIN-LADYSMITH-LABET (KS349) 0	X X	1	-		KS351		ME-ROSEHILL (KS351)	9	0	8	56	99	0	37
120.7 126.4 5.6 KS351 IRWIN-CLIME-ROSEHILL (KS351) 6 0 8 56 66 0 126.4 128.1 1.7 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 128.1 128.5 3.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 10 5 50 48 86 3 13.9 13.9 142.4 10.5 KS349 IRWIN-LAGNYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349	XS.		<u> </u>		KS331		E-LABETTE-TULLY (KS331)	17	0	2	19	29	0	99
126.4 128.1 1.7 KS331 FLORENCE-LABETTE-TULLY (KS331) 17 0 5 19 29 0 128.1 128.5 0.4 KS354 WELLS-VERDIORIS-IRWIN (KS344) 0 5 50 48 86 3 128.5 131.9 3.4 KS346 WELLS-VERDIORIS-IRWIN (KS349) 2 30 4 47 78 0 131.9 142.4 10.5 KS349 IRWIN-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.4 KS349 IRWIN-LADY/SMITH-	XS			<u> </u>	KS351		ME-ROSEHILL (KS351)	9	0	8	56	99	0	37
128.1 128.5 0.4 KS354 WELLS-VERDIGRIS-IRWIN (KS354) 0 5 50 48 86 3 128.5 131.9 3.4 KS350 TULLY-SOGN-CLIME (KS350) 10 0 3 19 33 0 131.9 142.4 10.5 KS349 IRWINL-LAPYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 14.9 14.5 14.9 14.5	X	_	<u> </u>		KS331		E-LABETTE-TULLY (KS331)	17	0	5	19	29	0	99
128.5 131.9 3.4 KS350 TULLY-SOGN-CLIME (KS350) 10 0 3 19 33 0 131.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 0 18 73 96 10 1 143.5 144.9 1.4 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.2 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 1.2 KS349 IRWIN-LADYSWITH-LABETTE (KS349) 2 30 4 47 78 0	KS		<u> </u> 	<u></u>	KS354		RDIGRIS-IRWIN (KS354)	0	2	50	48	86	က	2
131.9 142.4 10.5 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 142.4 143.5 1.2 KS361 READING-IVAN-CHASE (KS361) 0 18 73 96 100 1 143.5 144.9 1.4 KS349 IRWIN-LADYSMITH-LABETTE (KS349) 2 30 4 47 78 0 143.5 144.9 147 78 0 18 74 96 100 1	ΥŠ				KS350		GN-CLIME (KS350)	10	0	က	19	33	0	55
142.4 143.5 1.2 KS361 READING-IVAN-CHASE (KS361) 0 18 73 90 100 11 143.5 144.9 174.0 174.0 0 1	χS	131			KS348		JYSMITH-LABETTE (KS349)	2	30	4	47	78	0 7	20
143.5 144.9 14 KS349 IRVINIC-LADYSMILL-LADELIE (KS349) 2 30 4 4 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	χS	142		1	KS361	READING-	IVAN-CHASE (KS361)	0	18	(3	36	100	- c	000
	S	143	+	4	KS34;	IKWIN-LAL	JYSMITH-LABETTE (K0349)	7 0	2 6	7 t	i o	2001	> ~	3 0

Appera	Append	x F: Soil Ass	Appendix F: Soil Associations Along the Propsed Keystone	ong the Pr	opsed Key	stone Pipeline Project			inc				
Approx. Approx.							Highly	Compaction	Revegetation	A-Horizon	Prime	11.44.1	Shallow (<60")
1445 1445 14	State	Approx. Start MP	Approx. End MP	Approx. Miles	MUID	Name	Erodible %	Prone %	Potential %	% %	Farmiand %	nyarıc %	Dedrock %
14.95 19.93 10.7 KESZE PROMEST-LABERTER SCON (18228) 2 0 0 0 0 0 7 7 7 7 7	χS	145.6	149.5	3.9	KS349	(IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
1512 1517 150 152349	ΥS	149.5	150.3	0.7	KS232	DWIGHT-LABETTE-SOGN (KS232)	0	0	0	င	25	0	97
1512 1517 1518 15284	Ϋ́S	150.3	151.2	6.0		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
1517 150	Ϋ́S	151.2	151.7	0.5		READING-IVAN-CHASE (KS361)	0	17	73	96	100	- (0 8
1547 156.6 5 55.858 18.00. 15.00.	KS	151.7	154.7	3.1		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
168.6 160.7 1 1,053.64	Ϋ́S	154.7	159.8	2		READING-IVAN-CHASE (KS361)	0	18	73	96	100	_	0
1616 1 16324 1 16324 1 16324 1 16324 1 16324 1 1 16324 1 1 16324 1 1 16324 1 1 16324 1 1 16324 1 1 1 1 1 1 1 1 1	Ş	159.8	160.7	-		IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
181.4 15. 18. 15. 18. 15. 18	ξŠ	160.7	161.8	-		READING-IVAN-CHASE (KS361)	0	18	73	96	100	-	0
163.4 164.4 1 KSS449 IRADINIA-MACHASE (RESSA91) 0 1 1 1 1 1 1 1 1 1	Ş	161.8	163.4	1.6		IRWIN-LADYSMITH-LABETTE (KS349)	2	90	4	47	78	0	20
1674 1675 35 KSSSS REMONEN-MANCHARE (KSSSS) 2 3 0 7 3 6 6 6 1686 0.0 KSSSS REMONEN-MANCHARE (KSSSS) 2 0 0 0 0 0 0 0 0 0	ΚS	163.4	164.4	-	KS361	READING-IVAN-CHASE (KS361)	0	18	73	96	100	-	0
1877 9 1686 0 0 KSS22 DWIGHT-WACHASE (KSS281)	KS	164.4	<u> </u>	3.5	KS349	IRWIN-LADYSMITH-LABETTE (KS349)	2	30	4	47	78	0	20
1684 1684 0.8 KKSZ22 DWOH-H-LAGESER (KKSZQ) 0.0 0.9 3 50 71 0.0 0.	X	167.9		9.0	KS361	READING-IVAN-CHASE (KS361)	0	19	73	96	100	-	0
1744 1746 0.2 868240 RINNIA-DOSEHILA-GOSESEI (RAZZA) 0. 18 36 66 74 0. 18 174 174 174 174 174 0. 1 868251 RINDIA-LA-GOSENILI-GOSESEI (RAZZA) 0. 0 18 100 29 0. 17 0. 17 100 174 175	X X	168.6	169.4	0.8		DWIGHT-LABETTE-SOGN (KS232)	0	0	0	က	25	0	26
1744 176 12 K8233 VERDIGERINAL-MANIHI (KS223) 0 18 36 66 74 0 1767 1768 12 K8234 VERDIGERINAL-MANIHI (KS224) 0 0 3 59 77 0 1768 182 182 182 K8244 VERDIGERINAL-MANIHI (KS224) 0 0 18 59 77 0 1768 182 182 182 K8244 VERDIGERINAL-MANIHI (KS224) 0 0 18 59 77 0 184 2.5 K8244 K8244 VERDIGERINAL-MANIHI (KS224) 0 0 18 59 77 0 184 2.5 K8244 KR244 VERDIGERINAL-MANIHI (KS224) 0 0 77 38 59 77 0 184 2.5 K8244 KR244 CAPADIA-MALE-MOCHA (KS224) 0 0 77 38 59 70 206 2.5 2.5 2.0 KN244 KR24AD-MALE-MOCHA (KS224) 0 0 0 75 38 89 0 212 2.5 2.5 KR244 KR24AD-MAL-MALE-MOCHA (KS224) 0 0 0 0 0 0 223 2.5 2.5 KN244 KR24AD-MAL-MALE-MOCHA (KS224) 0 0 0 0 0 0 233 2.5 KR244 KR24AD-MAL-MALE-MOCHA (KS224) 0 0 0 0 0 0 0 234 2.5 2.5 CAPAD-MAL-MAL-MACHA (KS224) 0 0 0 0 0 0 0 235 2.5 2.5 KN244 KR24AD-MAL-MACHA (KS224) 0 0 0 0 0 0 0 0 235 2.5 2.5 KN244 KR24AD-MAL-MACHA (KS224) 0 0 0 0 0 0 0 0 0 236 2.5 2.5 A	Ş	169.4	H	5		IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	ო	59	71	0	27
1746 174	KS	174.4	 	0.2		NORGE-IRWIN-LADYSMITH (KS237)	0	18	36	99	74	0	4
1767 176	ξ.	174.6	-	2.1	1	VERDIGRIS-BREWER-NORGE (KS235)	0	0	18	100	66	9	0
1876 1421 3.5 45243 FERNIM-CORFILL, GCRESEL (KS223) 0 0 0 18 10 0 99 6 1844 1944 2.3 45240 FERNIM-CORFILL, GCRESEL (KS224) 0 0 0 18 10 0 99 6 1844 1944 10.2 45243 FERNIM-CORFILL, GCRESEL (KS224) 0 0 0 174 10 0 99 6 2048 206.3 1.5 45243 CANADAN-DALELINCOLN (KS231) 0 0 0 0 77 4 22 100 99 6 2048 206.3 1.5 45243 CANADAN-DALELINCOLN (KS231) 0 0 0 0 77 4 22 100 99 6 2048 208.3 1.5 45243 CANADAN-DALELINCOLN (KS231) 0 0 0 0 76 38 89 80 10 211.6 238 2	XS	176.7		0.0	1	IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	က	59	7.1	0	27
1844 1844 162 KSZSSA FREDIORISE HICACOGES (KSZSSI) 0 0 0 1 3 569 77 0 0 1844 1844 102 KSZSSA FREDIORISE HICACOGES (KSZSSI) 0 0 0 774 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	XS S	178.6	-	3.5	1	VERDIGRIS-BREWER-NORGE (KS235)	0	0	18	100	66	9	0
1844 1946 1012 KSSZA VERDIGER (KSZAS) 0 0 18 190 99 6	KS	182.1		2.3	1	IRWIN-ROSEHILL-GOESSEL (KS240)	0	0	က	59	71	0	27
1946 2046 12 K65242 CANADIAN-DILE-LINGOLA (K5242) 0 74 32 100 0 2043 2046 1.6 K5241 (KINCAND-BETHANYT-TABLER (K5241) 0 0 73 38 93 0 212.6 2.2 K5241 (KIRCAND-BETHANYT-TABLER (K5241) 0 0 75 38 93 0 212.6 2.3 2.03 (KRCAND-BETHANYT-TABLER (K5241) 0 0 75 38 93 0 212.7 2.43 2.8 (KRCAND-BETHANYT-TABLER (K0821) 0	KS	184.4	<u> </u>	10.2		VERDIGRIS-BREWER-NORGE (KS235)	0	0	18	100	66	ဗ	0
206.8 206.3 206.3 206.3 206.3 206.3 206.3 206.3 65.0 67.0 33 85 65 0 206.3 206.3 20.8 16.0 16.0 0 7.6 38 9.9 0 212.6 22.3 20.8 16.0 16.0 0 7.6 38 9.9 0 233.7 23.8 7.8 16.0 16.0 0 7.6 38 9.9 0 233.7 23.8 7.8 16.0 16.0 0 7.6 38 9.9 0 234.1 24.1 0.0 16.0 0 0 0 43 0 239.7 24.1 0.0 0.0 0	SX.	194.6		10.2	1	VANOSS-BETHANY-TABLER (KS242)	0	0	74	32	100	0	0
206.3 212.6 6.2 R824A (RIKRAND-BETHANY-TABLE R) (KRS241) 0 76 38 93 0 213.6 23.3 2.60 OKO03 OKRIGA NUOSEVERDICRIS (OK108) 2 0 76 38 93 0 23.8 2.83 2.6 OKO03 OKRIGA RINACH-BLANY-TABLE R) (OK108) 0 0 76 6 6 6 0 42 0 0 42 0 0 42 0 0 42 0 0 42 0 0 42 0 0 42 0 0 42 0 0 42 0 0 0 42 0 0 0 42 0	ξŞ.	204.8	\vdash	1.5	1	CANADIAN-DALE-LINCOLN (KS243)	0	0	33	85	85	0	0
212.6 23.3 20.8 OKOGA INVINIONAL DEFENDRE (OKIGA) 0 6 6.6 6.0 6.	S	206.3	H	6.2	1	KIRKLAND-BETHANY-TABLER (KS241)	0	0	76	38	93	0	0
233 2387 5.8 OKTÓB NORGE-VANDOSS-VERDIGABI (OKTÓB) 2 0 65 63 63 81 0 238.7 238.7 238.7 238.7 238.7 238.7 2 0 0 43 0 238.7 238.7 238.7 2 0 0 0 43 0 24.1 28.3 0 0 0 0 0 43 0 24.1 2.4.1 0.6 0 0 0 0 43 0 24.1 2.4.1 0.6 0 0 0 0 43 0 24.1 2.4.1 0.6 0 0 0 0 0 43 0 24.1 2.4.2 0 0 0 0 0 0 0 0 24.1 2.4.4 0 0 0 0 0 0 0 0 0 0 0	Š	2126	+	20.8	l l	KIRKLAND-BETHANY-TABLER (OK093)	0	0	76	38	93	0	0
2387 2387 1 OK114 REINARCHELANDCO-BREWORR (OK144) 0 6 50 100 92 0 2433 2433 0.6 OK063 GACOLORIATYA-MOLO-ARDY (OK080) 16 0 <td< td=""><td>Š</td><td>233</td><td>1</td><td>2.8</td><td>1</td><td>NORGE-VANOSS-VERDIGRIS (OK106)</td><td>2</td><td>0</td><td>82</td><td>63</td><td>81</td><td>0</td><td>2</td></td<>	Š	233	1	2.8	1	NORGE-VANOSS-VERDIGRIS (OK106)	2	0	82	63	81	0	2
2.9.97 2.40.3 0.66 OKOBBO GOODNIGHT-YAHOLA-GADDY (OK(08)) 16 0 0 43 0 2.40.13 2.41.1 0.66 OKOBBO GOODNIGHT-YAHOLA-GADDY (OK(08)) 0 0 75 38 9 0 2.41.1 2.42.5 1.4.1 OKT41 RIRRIAND-BETHANY-TABLER (OK(143)) 0 0 75 38 93 0 2.42.5 2.44.4 5 OKOBBO NORGE-VANDOS-REPUBLISK (OK(143)) 0 0 6 50 60 38 9 0 2.47.5 2.49.6 1.6 OKT41 RENFROW-ZANEIGHS (OK(1417) 1 0	ð	238.7	239.7	-	1	REINACH-ELANDCO-BREWER (OK114)	0	9	50	100	82	0	0
240.3 241.1 0.8 OKR093 KIRKLAND-EERLANYT-TABLER (OKR03) 0 0 75 38 93 0 242.5.1 24.2 1.4 OK143 RELHANYT-TABLER (OKR03) 0 6 50 100 92 0 242.5 1.4 OK146 RELHANC-HELANDCO-BERWER (OK169) 2 0 6 50 100 92 0 247.4 247.5 0.6 OK106 NOK16 RENEROW-RANGES (OK169) 0 0 76 38 9 0 249.5 2.60.9 1.4 OK107 PORT-PULASKI-ASHPORT (OK117) 1 0 7 3 1 4 0	š	239.7		9.0		GOODNIGHT-YAHOLA-GADDY (OK080)	16	0	0	0	43	0	0
24.1.1 24.2.5 1.4 OKK14 REINACH-ELANDC-BREWIRK (OK114) 0 6 50 100 92 0 24.7.4 24.7.9 0.0003 KIRNLAND-GETHANV-TABLER (OK033) 0 0 6 33 93 0 24.7.9 24.9 0.0 OK009 KIRNLAND-GETHANV-TABLER (OK033) 0 0 86 63 81 0 247.9 249.9 1.4 OK171 RENFROW-ARKIA-SHPORT (OK117) 1 0 63 1 4 0 250.2 255.0 1.4 OK177 RENFROW-ARRIA-SHPORT (OK117) 1 0	ð	240.3		0.8	OK093	KIRKLAND-BETHANY-TABLER (OK093)	0	0	75	38	93	0	0
242.5 247.4 5 OKO83 KIRKLAND-BETHANY-TABLER (OKO83) 0 0 76 38 93 0 247.4 247.5 0.6 OK102 OKRT-DAND-BETHANY-TABLER (OKO16) 0 5 49 63 84 0 247.4 247.5 1.6 OK112 RENPERVANDISCRIASHORY (OK117) 1 0 5 49 63 82 0 249.5 256.9 1.4 OK117 RENPROW-KARISCARANOLA (OK117) 1 0 63 1 42 0 256.2 255.0 1.3 OK417 RENPROW-KIRKLAND-GRAINOLA (OK117) 1 0	충	241.1		1.4	OK114	REINACH-ELANDCO-BREWER (OK114)	0	မ	20	100	92	0	0
2474 2479 06 OKK06 NONGE-VANOSS-VERDIGRIS (OKT06) 2 0 85 63 87 0 249.79 249.5 1.6 OKT17 RENPEROW-ZANIBG-GRAINOLA (OKT17) 12 0 73 11 42 0 249.5 256.9 1.4 OKT17 RENFROW-ZANIBG-GRAINOLA (OKT17) 12 0 63 12 62 0 250.9 252.2 1.3 OKT17 RENFROW-ZANIBG-GRAINOLA (OKT17) 12 0	ş	242.5		5	OK093	KIRKLAND-BETHANY-TABLER (OK093)	0	0	92	38	93	0	0
2479 2485 16 OK112 PORT-PULASKI-ASHPORT (OK112) 0 5 49 653 82 0 250.9 250.2 1.4 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 250.9 250.9 1.4 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 250.2 253.8 1.6 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 254.2 25.3 0.4 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 257.2 257.4 0.4 OK116 RENFROW-ZANEIS-GRAINOLA (OK117) 1 0 62 12 0 257.4 250 2.7 OK16 RENFROW-ZANEIS-GRAINOLA (OK117) 1 0 63 85 83 0 257.4 250 2.7 OK16 RENFROW-ZANEIS-GRAINOLA (OK117)	š	247.4	<u> </u>	9.0	OK106	NORGE-VANOSS-VERDIGRIS (OK106)	2	0	85	63	81	0	2
249.5 250.9 14 OK117 RENFROW-ZANEIS-GRANIOLA (OK116) 12 0 73 11 42 0 250.9 252.2 1.3 OKK16 REINFROW-ZANEIS-GRANIOLA (OK117) 12 0 73 12 62 0 253.8 254.2 1.3 OKK17 REINFROW-ZANEIS-GRANIOLA (OK117) 12 0	š	247.9		1.6	OK112	PORT-PULASKI-ASHPORT (OK112)	0	5	49	63	82	0	0
250.9 252.2 1.3 OK/16 RENFROW-KIRKLAND-GRAINOLA (OK117) 7 0 63 12 62 0 252.2 253.8 1.6 OKM7 NATER COWLA DEARNOLA (OK117) 12 0 73 11 42 0 253.8 254.2 257.4 2.9 OK17 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 257.4 257.4 0.4 OK16 RONGE-VANOSS-VERDIGRIS (OK168) 2 0 6 6 0 0 257.4 260 2.7 OK176 NORGE-VANOSS-VERDIGRIS (OK168) 2 0 8 6 6 3 8 0 260 26.1 1.2 0 7 0 6 3 1 4 0 </td <td>š</td> <td>249.5</td> <td></td> <td>1.4</td> <td>OK117</td> <td>RENFROW-ZANEIS-GRAINOLA (OK117)</td> <td>12</td> <td>0</td> <td>73</td> <td>7</td> <td>42</td> <td>0</td> <td>20</td>	š	249.5		1.4	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73	7	42	0	20
252.2 253.8 1.6 OKK17 REMPROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 253.8 254.2 0.3 OKW WATER (OKW I) 12 0	š	250.9		1.3	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	7	0	63	12	62	0	27
253.8 254.2 0.3 OKW WATER (OKW) 254.2 2.57 2.9 OK117 RENFROW-KRIALANG-GRAINOLA (OK116) 8 0 <t< td=""><td>ð</td><td>252.2</td><td></td><td>1.6</td><td>OK117</td><td>RENFROW-ZANEIS-GRAINOLA (OK117)</td><td>12</td><td>0</td><td>73</td><td></td><td>42</td><td>0</td><td>09</td></t<>	ð	252.2		1.6	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73		42	0	09
254.2 257 2.9 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 12 0 73 11 42 0 257 257.4 0.4 OK116 RENFROW-KIRKLAND-GRAINOLA (OK116) 8 6 12 62 0 260 261.6 1.6 OK112 PORT-PULASKI-ASHPORT (OK112) 0 5 49 63 82 0 261.6 261.6 1.6 OK117 RENFROW-KIRKLAND-GRAINOLA (OK117) 12 0 73 11 42 0 262.7 263.7 1.1 OK117 RENFROW-KIRKLAND-GRAINOLA (OK117) 12 0 63 82 0 263.7 264.9 1.2 OK117 RENFROW-KIRKLAND-GRAINOLA (OK116) 7 0 63 12 62 0 265.3 264.9 1.2 OK117 RENFROW-KIRKLAND-GRAINOLA (OK116) 7 0 63 12 62 0 266.3 265.5 265.6 1.3 OK117 RENFROW-KIRKLAND-GRAI	Š	253.8	1	0.3	OKW	WATER (OKW)	0	0	0	0;	0 5	0	100
257 257.4 0.4 OK116 RENFROW-KIRKLAND-GRAINOLA (OK116) 8 0 62 12 0.2 0 257.4 260 2.7 OK106 NORGE-VANOSS-VERDIGGRIS (OK106) 2 0 65 63 81 0 261.6 226.7 21.1 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 262.7 263.7 1.1 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 63 82 0 262.7 263.7 264.9 1.3 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 63 82 0 264.9 266.1 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 266.3 266.1 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 266.3 266.5 1.2 OK117 RENFROW-ZANEIS-GRAINOL	ð	254.2	1	2.9	OK117	RENFROW-ZANEIS-GRAINOLA (OK117)	12	0	73	13	42	0	06
25/14 260 2.7 OK106 NONGEL-VANUOSS-VERDIUGNIS (UK106) 2 0 63 63 61 0 2610 2620 2621.6 1.6 OK112 PORT-PULASKI-ASHPORT (OK112) 1 0 73 11 42 0 262.7 262.7 1.1 OK112 RENFROW-ANEIS-GRAINOLA (OK117) 7 0 63 12 62 0 262.7 263.7 1.1 OK112 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 263.7 264.9 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 0 266.1 2.2 0 63 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 0 268.9 1.6 OK116 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 268.5 2.26.5 1.3 OK116 RENFROW-ZANEIS-	ð	257	-	4.0	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	20 0	0	79	7.7	70	0 0	17
260 261.6 1.16 OKT12 PORT PULASKI-ASHTOR (OK117) 0 73 14 42 0 261.6 261.6 1.16 OKT16 RENFROW-ZANERG-GRANIOLA (OK117) 7 0 63 12 62 0 262.7 263.7 1.1 OKT16 RENFROW-ZANERG-GRANIOLA (OK117) 7 0 63 12 62 0 264.9 1.2 OKT17 RENFROW-ZANERG-GRANIOLA (OK117) 12 0 63 12 0 264.9 265.1 1.2 OKT16 RENFROW-ZANERG-GRANIOLA (OK117) 12 0 63 12 0 266.1 267.3 1.2 OKT16 RENFROW-ZANIBG-GRANIOLA (OK117) 12 0 63 12 0 268.9 266.5 0.6 OKT16 RENFROW-ZANIBG-GRANIOLA (OK116) 7 0 63 12 62 0 268.9 266.5 0.6 OKT16 RENFROW-ZANIBG-GRANIOLA (OK116) 7 0 63 1 <td>ð</td> <td>257.4</td> <td>1</td> <td>2.7</td> <td>OK106</td> <td>NORGE-VANOSS-VERDIGRIS (ORTUG)</td> <td>7 0</td> <td>D</td> <td>93</td> <td>93</td> <td>- 6</td> <td>> <</td> <td>7</td>	ð	257.4	1	2.7	OK106	NORGE-VANOSS-VERDIGRIS (ORTUG)	7 0	D	93	93	- 6	> <	7
261.6 262.7 1.1 OK117 RENTROW-LANGIA (OK116) 1.2 0 7.3 1.1 4.2 0 263.7 263.7 1.3 OK112 PORT-PULACKIRACHOR (OK116) 0 5 49 63 12 0 264.9 265.1 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 12 0 73 11 42 0 265.1 267.3 1.2 OK117 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 266.9 266.1 267.3 1.2 OK116 RENFROW-ZANEIS-GRAINOLA (OK117) 7 0 63 12 62 0 268.9 266.5 0.6 OK16 RENFROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 268.9 286.5 0.6 OK176 KENRRAM-ADGARAINOLA (OK116) 7 0 63 1 42 0 288.5 1.3 OK176 KON17 <td< td=""><td>Š</td><td>760</td><td>+</td><td>0.</td><td>OK112</td><td>PORI-POLASKI-ASHPORT (OR 112)</td><td>2 5</td><td>0</td><td>43</td><td>4 60</td><td>20 0</td><td></td><td>0 0</td></td<>	Š	760	+	0.	OK112	PORI-POLASKI-ASHPORT (OR 112)	2 5	0	43	4 60	20 0		0 0
262.7 263.7 1 OK116 RENFROW-KIRKLAND-GRAINOLA (OK117) 7 6 49 63 12 0 263.7 266.4 1.3 OK112 PORT-PULASKI-ASHPORT (OK117) 1 0 73 11 42 0 266.1 266.1 1.2 OK116 RENFROW-ASINOLA (OK117) 1 0 63 12 62 0 266.1 267.3 1.2 OK116 RENFROW-ASINOLA (OK117) 1 0 63 1 42 0 266.3 268.9 1.6 OK117 RENFROW-ZANEIS-GRAINOLA (OK117) 1 0 63 1 42 0 268.9 268.5 0.6 OK116 RENFROW-KIRKLAND-GRAINOLA (OK146) 1 0 63 1 62 0 269.5 288.6 1.3 OK117 RENFROW-KIRKLAND-GRAINOLA (OK146) 1 0 5 54 3 0 284.5 284.5 1.9 OK119 SEMINOLA CALICKASHA-GOWTON (OK119)	Š	261.6	-		OK11/	RENFROW-ZANEIS-GRAINOLA (OR117)	7 -	5 0	3	- 2	42		76
263.7 264.9 1.5 OK112 PURI -PUGASN-ASH-PURI (OK117) 0 73 14 42 0 266.1 266.1 266.1 1.2 OK116 RENERROW-ZANEIS-GRAINOLA (OK116) 7 0 73 11 42 0 266.1 267.3 268.9 1.6 OK116 RENEROW-ZANEIS-GRAINOLA (OK116) 7 0 63 12 62 0 268.9 268.5 0.6 OK116 RENEROW-KIRKLAND-GRAINOLA (OK116) 7 0 63 12 62 0 268.5 288.6 1.3 OK116 RENFROW-KIRKLAND-GRAINOLA (OK117) 12 0 63 17 42 0 288.6 1.3 OK117 RENFROW-KIRKLAND-GRAINOLA (OK146) 1 0 5 54 30 288.6 1.9 OK146 KONAM-EU-CAULA-DOUGHERTY (OK146) 1 0 5 30 1 288.6 291.1 5.6 OK149 SEMINOLE-CHICKASHA-GOWTON (OK119) 0	Š	262.7	-	-	OK116	RENFROW-KIRKLAND-GRAINOLA (OK116)	\	0 4	93	71	82	> <	0
264.9 269.1 1.2 OK117 RENITROW-ZANIENS-GRAINOLA (OK116) 1.2 0 7.3 1.1 42 0 266.3 268.9 1.6 OK117 RENFROW-ZANIENS-GRAINOLA (OK117) 12 0 63 12 62 0 266.9 268.9 1.6 OK117 RENFROW-ZANIENS-GRAINOLA (OK116) 7 0 63 12 62 0 266.5 282.6 1.3.4 OK117 RENFROW-ZANIENS-GRAINOLA (OK146) 7 0 63 12 62 0 269.5 282.6 1.3.4 OK117 RENFROW-ZANIENS-GRAINOLA (OK146) 1 0 5 54 32 0 284.5 1.9 OK146 KONAWA-EUFALD-OKOHERTY (OK146) 16 0 5 54 32 0 284.5 291.1 5.6 OK149 SEMINOLE-CHICKASHA-GOWTON (OK149) 16 0 17 22 2 2 0 291.1 292.2 1.2 OK131 <	Š	7,027.7	+	5.	21.12	PORI-POLASKI-ASHPORI (ORITZ)	2,	0 0	13	5 +	42	0 0	25
268.9 268.5 1.2 OK118 RENFROW-ARRIAND-GRAINOLA (OK117) 1.7 0 73 1.7 42 0 268.9 1.6 OK116 RENFROW-ZANIES-GRAINOLA (OK117) 7 0 63 12 62 0 268.5 268.5 0.6 OK116 RENFROW-ZANIES-GRAINOLA (OK117) 12 0 73 11 42 0 288.5 284.5 1.9 OK146 KONAWA-EUFAULA-DOUGHERTY (OK146) 1 0 5 54 32 0 284.5 284.5 284.6 284.6 1.1 OK079 GRACAGGANTON (OK119) 17 0 17 22 26 0 285.6 291.1 266.2 0 17 0 16 5 36 1 291.1 292.2 1.2 OK131 AGRA-STEEDMAN-COYLE (OK131) 0 0 16 5 36 0	5 6	704.8	$\frac{\perp}{1}$	7.	02770	DENEROW-ZANCES-GRAINOLA (OK. 17)	7		2 89	12	25	0	22
268.3 268.5 1.5 OK11 RENTROW-ENRICH CATAIN 1.2 0 63 1.2 62 0 268.9 268.5 1.6 OK14 RENTROW-KIRKLANGA (OK117) 12 0 73 11 42 0 268.5 288.5 1.3 OK146 KONAWA-EUFANICA-OKGHRRY (OK146) 1 0 5 54 32 0 288.6 1.1 OK079 GRACEMORE-GADDY-GOODNIGHT (OK079) 16 1 0 30 1 285.6 291.1 5.6 OK119 SEMINOLE-CHICKASHA-GOWTON (OK119) 0 17 22 26 0 291.1 292.2 1.2 OK131 AGRA-STEEDMAN-COYLE (OK131) 0 0 16 5 36 0	5 8	200.	-	7. 6	02770	DENIEDON ZANEIS COAINO A (OK117)	- 27	0	73	11	42	c	20
286.5 283.6 1.3 OK10 RENINCEMPLANCE CANDER SCARRING 1 0 73 1 42 0 288.5 1.9 OK146 KONAWAN-EUFAULA-DOUGHERTY (OK146) 1 0 5 54 32 0 284.5 284.5 1.9 OK146 KONAWAN-EUFAULA-DOUGHERTY (OK146) 16 1 0 30 1 285.6 291.1 5.6 OK119 SEMINOLE-CHICKASHA-GOWTON (OK119) 17 0 17 22 26 0 291.1 292.2 1.2 OK131 AGRA-STEEDMAN-COYLE (OK131) 0 0 16 5 36 0	Š	260.0	-	0. 0	OK117		7		5.8	12	65) c	22
283.5 2.95.5 2.85.6 1.9 OK146 CANAWA-E-MANA E-MANA E-MA	ź ż	266.9	1	13.0	OK417		12	0	73	1-1-	42	0	20
284.5 285.6 1.1 OK079 GRACEMORE-GADDY-GOODNIGHT (OK079) 16 1 0 30 30 1 286.6 291.1 5.6 OK119 SEMINOLE-CHICKASHA-GOWTON (OK119) 17 0 17 22 26 0 291.1 292.2 1.2 OK131 AGRA-STEEDMAN-COYLE (OK131) 0 0 16 5 36 0	Ś	282.9	-	1.0	OK146	KONAWA-EUFAULA-DOUGHERTY (OK146)	! -	0	2	54	32	0	5
285.6 291.1 5.6 OK119 SEMINOLE-CHICKASHA-GOWTON (OK119) 291.1 292.2 1.2 OK131 AGRA-STEEDMAN-COYLE (OK131)	Š	284.5	-		OK079		16	-	0	30	30	-	0
291.1 292.2 1.2 OK131 AG	ð	285.6	-	5.6	OK119		17	0	17	22	26	0	33
	ð	291.1	_	1.2	OK131	AGRA-STEEDMAN-COYLE (OK131)	0	0	16	22	38	٥	37

Appendix G

Public Water Supply Wells Within One Mile of the Proposed Keystone Pipeline Project Centerline

(Note: This appendix is Table 3.5-6, taken directly from the Environmental Report for the Keystone Pipeline Project [TransCanada 2007d])

Public Water Supplies (PWS Wells and Wellhead Protection Areas) within 1 mile of the Proposed Keystone Centerline

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State	County	Approximate Mile Post Marker (mi)	Distance From CL (mi)	PWS Name	Well ID
	-		KEYSTONE	MAINLINE	
North Dakota	Pembina	20.2	0.5 – 1.0	Cavalier	ND5000201
	Pembina	30.7	0.5 - 1.0	North Val	ND3401129
	Pembina	30.7	0.2 - 0.5	North Val	ND3401129
	Pembina	30.7	0.2 - 0.5	North Val	ND3401129
	Pembina	30.7	0.2 - 0.5	North Val	ND3401129
	Walsh	30.7	0.2 - 0.5	North Val	ND3401129
South	Marshall	235.8-236.2	< 0.04	Marshal County Source Water Area	unk
Dakota Protection					
Areas	Kingsbury	326.7	< 0.2	Zone B Aquifer Protection Area	none
Nebraska	Wayne	488.1	< 1.0	Hoskins, Village of	NE3118101
Wellhead	Colfax	518	< 1.0	Leigh, Village of	NE3103705
Protection			_	Lower Elkhorn Natural Resources	
Areas	Colfax	521.7	0.5 - 1.0	District	169536
				Lower Elkhorn Natural Resources	
_	Colfax	521.7	0.5 - 1.0	District	169537
_	Colfax	540.3	0.5 - 1.0	Village of Richland	108659
<u> </u>	Seward	577.1	< 0.2	Seward Co. SID #2	NE3115904
<u> </u>	Seward	577.6	< 0.2	Seward, City of	NE3115905
_	Seward	580.6	< 0.2	Glenhaven Village Subdivision	NE3110929
_	Seward	584.2	< 0.2	Milford, City of	NE3115907
	Seward	585.9	< 0.2	Milford, City of	NE3115907
	Saline	596.8	0.5 - 1.0	Village of Dorchester	175594
	Jefferson	618.9	< 0.2	, ,	NE3109503
	Jefferson	636.3	< 1.0	Steele City, Village of	NE3109502
Kansas	Doniphan	736.7	< 1.0	Bendena	unk
Missouri	Chariton	859.0	0.5 - 1.0	Keytesville	14616

Public Water Supplies (PWS Wells and Wellhead Protection Areas) within 1 mile of the Proposed Keystone Centerline

		1	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
State	County	Approximate Mile Post Marker (mi)	Distance From CL (mi)	PWS Name	Well ID
	Chariton	859.0	0.5 - 1.0	Keytesville	14615
	Chariton	862.6	< 0.2	Salisbury	14630
	Chariton	862.6	< 0.2	Salisbury	14629
	Chariton	862.9	0.2 - 0.5	Salisbury	14628
	Audrain	919.7	0.5 - 1.0	National Refractories & Mineral	12790
	Audrain	931.6	0.5 - 1.0	Community R-VI School	12791
	Lincoln	961.3	0.2 - 0.5	Lincoln Co. Egg Farm	13014
	Lincoln	961.3	0.2 - 05	Lincoln Co. Egg Farm	10124
	Lincoln	961.4	0.2 - 0.5	Lincoln Co. Egg Farm	10123
	Lincoln	970.6	0.5 - 1.0	Glenmeadows Subd.	16726
	Lincoln	972.8	0.5 - 1.0	Lincoln Co. PWSD #1	12706
	Lincoln	975.0	0.5 - 1.0	Moscow Mills	10131
	Lincoln	975.3	0.2 - 0.5	Lincoln Co. PWSD #1	16983
	Lincoln	976.8	0.5 - 1.0	Majestic Lakes	16955
	Lincoln	980.3	0.2 - 0.5	Autumn Hills MHP	12875
	Lincoln	980.3	0.2 - 0.5	Autumn Hills MHP	12874
	Lincoln	981.2	0.2 - 0.5	Joan's Chain of Events	11866
	St Charles	1001.4	0.5 - 1.0	Trinity Lutheran	13538
	St Charles	1014.4	0.5 - 1.0	West Alton Elem. School	10932
Illinois	Madison	1025.6	0.2 - 0.5	Hartford	60106
	Madison	1025.6	0.2 - 0.5	Hartford	60105
	Madison	1025.6	0.2 - 0.5	Hartford	60103
	Madison	1025.6	0.5 - 1.0	Hartford	60104
	Madison	1028.2	0.5 - 1.0	Roxana	60168
	Madison	1028.2	0.5 - 1.0	Roxana	60169
	Madison	1028.2	0.5 - 1.0	Roxana	60170
	Madison	1040.6	0.2 - 0.5	Oakbrook Golf Club	11900040
	Madison	1042.6	< 0.2	Marine	60130

Public Water Supplies (PWS Wells and Wellhead Protection Areas) within 1 mile of the Proposed Keystone Centerline

State	County	Approximate Mile Post Marker (mi)	Distance From CL (mi)	PWS Name	Well ID
	Madison	1059.2	0.2 - 0.5	Pocahontas	60146
	Madison	1059.2	0.2 - 0.5	Pocahontas	60147
			CUSHING EXTENSIO		
Nebraska	Jefferson	N/A	N/A	NONE	NONE
Kansas	Washington	3.8	0.2 - 0.5	Hollenberg	unk
	Washington	20.8	< 0.2	Greenleaf Well #7	unk
	Washington	21.1	0.2 - 0.5	Greenleaf Well #8	unk
	Washington	21.7	0.5 - 1.0	Greenleaf	unk
	Washington	21.7	0.5 - 1.0	Standby Well #5	unk
	Washington	21.8	0.5 - 1.0	Greenleaf	unk
	Washington	21.8	0.5 - 1.0	Greenleaf	unk
	Washington	21.8	0.5 - 1.0	Standby Well #6	unk
	Dickinson	73.8	0.2 - 0.5	Chapman	unk
	Dickinson	73.8	0.2 - 0.5	Chapman	unk
	Dickinson	73.8	0.2 - 0.5	Chapman	unk
	Butler	146.1	0.2 - 0.5	Potwin	unk
	Butler	146.2	0.2 - 0.5	Potwin	unk
	Butler	146.2	0.2 - 0.5	Potwin	unk
	Butler	146.2	0.2 - 0.5	Potwin	unk
	Butler	146.4	< 0.2	Potwin	unk
	Butler	146.4	< 0.2	Potwin	unk
	Butler	155.3	0.2 - 0.5	Towanda	unk
	Butler	155.5	0.5 - 1.0	Towanda	unk
	Butler	155.6	0.5 - 1.0	Towanda	unk
	Butler	155.8	< 0.2	Towanda	unk
	Butler	155.8	< 0.2	Towanda	unk
	Butler	155.9	< 0.2	Towanda	unk

Public Water Supplies (PWS Wells and Wellhead Protection Areas) within 1 mile of the Proposed Keystone Centerline

State	County	Approximate Mile Post Marker (mi)	Distance From CL (mi)	PWS Name	Well ID
	Butler	155.9	< 0.2	Towanda	unk
	Cowley	194.8	< 0.2	Winifield	unk
	Cowley	207.3	1	Arkansas City, Well #4	unk
	Cowley	207.4	1	Arkansas City, Well #3	unk
	Cowley	207.5	1	Arkansas City, Well #2	unk
	Cowley	207.6	0.5 - 1.0	Arkansas City, Well #1	unk
	Cowley	207.6	0.5 - 1.0	Arkansas City, Well #9	unk
Oklahoma	Kay	240.0	0.2 - 0.5	Marland	OK2005204
	Kay	240.0	0.2 - 0.5	Marland	OK2005204
	Kay	240.0	0.2 - 0.5	Marland	OK2005204
	Payne	290.2	< 0.2	Lincoln Co RW & Sewer Dist	OK2004105

Source: GIS coverages

Appendix H

Water Bodies within 10 Miles Downstream of Proposed Crossings for the Keystone Pipeline Project

(Note: This appendix is Table 3.5-1, taken directly from the Environmental Report for the Keystone Pipeline Project [TransCanada 2007d])

Waterbodies Within 10 Miles Downstream of Proposed Crossings

		Stream	Approx.	Downstream Reservoir/Fishery/Wildlife	
State	County	Crossing Point	Milepost	Area	Other Description
				STONE MAINLINE	
North Dakota	Pembina	Smith Coulee Tribs	10.5, 10.9	Weiler Dam/Reservoir	Immediately downstream of tributary crossings, also downstream Jay V Wessels Wildlife Management Area (WMA)
	Pembina	Busee Coulee	13.2	Unnamed reservoir	Downstream of crossing
	Pembina	Tribs to Tounge River	16.2, 17, 17.4	Herzog Dam/ two reservoirs	Two reservoirs just downstream of crossing of tributaries into reservoir
	Pembina	Crossing of Tongue River	18.4	Renwick Dam at Icelandic State Park	Two additional small dams and state wildlife areas immediately downstream of river crossing
	Pembina	Crossing of Willow Creek	20.62	Unnamed reservoir	at 134th Ave.
	Walsh	Crossing of unnamed trib	34.8, 35.3	Charles C Cook State Game Management Area and wetlands	
	Walsh	South Branch Park River	41.5	Homme Lake	Homme Lake and Homme Lake Project
	Nelson	South Branch Forest River Tribs	57.1, 57.65, 58.37	Reservoir/Dam	Large reservoir downstream; Forest River Biology Area below reservoir
	Nelson	Pickart Lake	74.26	Pickart Lake	Within 2,000 feet of the centerline, however, no stream crossings connected to reservoir
	Barnes	Tribs to Sheyenne River	168.8	Lake Ashtabula	Valley City National Fish Hatchery downstream of lake
	Ransom	Trib to Lone Tree Lake	181.0	Lone Tree Lake	Pipeline crosses trib that leads into Lone Tree Lake and Englevale Slough WMA
	Sargent	Trib to Lake Taayer	184.1	Lake Taayer	Lake Taayer, wetlands area

Waterbodies Within 10 Miles Downstream of Proposed Crossings

		Stream	Approx.	Downstream Reservoir/Fishery/Wildlife	
State	County	Crossing Point	Milepost	Area	Other Description
South Dakota	Day	Trib	258.5	Amsden Lake	Unclear if trib is upstream or downstream
	Clark	Logan Dam/Reservoir	295.0	Logan Dam/Reservoir	Pipeline crosses directly upstream of reservoir
	Clark	Tribs to Fordham Reservoir	300.0	Fordham Reservoir	Area also includes Fordham GPA/Water Access (WA)
	Beadle	Crossing of Pearl Creek	327.4	Reservoir/Dam	Reservoir and LeClaire Waterfowl Production Area (WPA) dowstream of crossing
	Kingsbury	Lake Iroquois	330.25	Lake Iroquois	Crosses very close to or through Lake Iroquois
	Miner	Tribs to Twin lakes	356.0	Twin Lakes, National Wildlife Production Area (NWPA)	Downstream is Twin Lakes, NWPA, and associated GPA
	Hanson	Trib to Lake Eli	374.5	Lake Eli	NWPA, fishing, and hunting area
Nebraska	Colfax	Crossing of Tribs from Lake McCallister	542.0	Whitetail State Wildlife Management Area (SWMA), 3612 Fishing Spot	Feeds into the Platte River
	Colfax	Platte River	541.0	Whitetail SWMA, 3612 Fishing Spot	
	Butler	Crossing of Deer Creek	546.2, 550.0	Whitetail SWMA, 3612 Fishing Spot	Downstream of river crossing, also feeds into the Platte River
	Seward	Crossing of Lone Tree Creek	580.2	Three small reservoirs	Immediately downstream of crossing
	Jefferson	Crossing through Tribs of Big Indian Creek	628.9, 629.2	Unnamed Reservoir	
	Jefferson	Tribs to Big Indian Creek	635.5	Reservoir	Reservoir southwest of Diller
Kansas		N	o waterbodies loca	ted within 10 miles downstream of proposed cr	ossing.

Waterbodies Within 10 Miles Downstream of Proposed Crossings

		Stream	Approx.	Downstream Reservoir/Fishery/Wildlife	
State	County	Crossing Point	Milepost	Area	Other Description
Kansas/ Missouri	Buchanan	Tribs to New Mud Lake/Old Mud Lake	752.2	New Mud Lake/Old Mud Lake	May not be connected to reservoirs but located close to centerline
	Buchanan	Crossing Platte River	764.5	3112, 3120 Fishing Spot	
	Clinton	Crossing of Horse Fork, Little Platte River	781.0, 783.2	Smithville Reservoir, 2668 Fishing area	Large reservoir just south of Plattesburg
	Caldwell	Crossing of Brush Creek	803.8	2696 Fishing Spot	
	Chariton	Crossing of Grand River	843.2	2472 Fishing Spot	
	Chariton	Crossing Tribs of Palmer Creek	854, 854.8	Cut-Off Lake	Palmer Creek feeds into Cut-Off Lake then connects to Missouri River
	Montogomery	Crossing of Trib. to Middletown Lake	946.5	Middletown Lake	
	St. Charles	Tribs to Horseshoe and Mud Lake	988, 989.5	Horseshoe Lake and Mud Lake	Pipeline crosses through streams between the two waterbodies
	St. Charles	Crossing of Trib to Graus Lake	1005.8	Graus Lake	Pipeline crosses through streams that lead between the two areas
Illinois	Bond	Mooney Creek	1035.5	Holiday Lake	
	Bond	Crosses Highland Silver Lake	1049.9	Highland Silver Lake	Very large reservoir
	Bond	Crosses Spring Branch	1070.0	Carlyle Lake and Carlyle Lake SWMA	

Waterbodies Within 10 Miles Downstream of Proposed Crossings Stream Approx. Downstream Reservoir/Fishery/Wildlife State County **Crossing Point** Milepost Area Other Description Carlyle Lake Bond/Fayette 1072.5-1076.5 Pipeline crosses through northern section State Wildlife and various streams and reservoirs Management Area Carlyle Lake and Carlyle Lake SWMA Fayette/Marion Tribs to Maggot 1078 Creek, North Fork **CUSHING EXTENSION** Turtle Creek Wildlife Area, Turtle Creek Clay W. Fancy Creek More than 10 miles downstream. Kansas 36.68 Lake approximately 15 to 20, very large reservoir Lincoln Creek feeds into the Republican Lincoln Creek 44, 45.5 Milford Wildlife Area, Milford Lake Clay River which leads directly downstream to the Milford Wildlife Area and Milford Lake Clay Republican River 50 Milford Wildlife Area, Milford Lake Pipeline crossed directly through the Milford Wildlife Area at this crossing. Feeds directly into Milford Wildlife Area and Milford Lake Clay Cane Creek 54 Milford Wildlife Area, Milford Lake Pipeline crossed directly through the Milford Wildlife Area at this crossing. Feeds directly into Milford Wildlife Area and Milford Lake Clay Trib to Milford 58 Milford Wildlife Area, Milford Lake Lake Quinnby Creek Milford Wildlife Area, Milford Lake, Milford 61, 62 Clay Lake Proiect Dickinson Lyon Creek 98.5, 100, 101.5 Herington Reservoir Immediately downstream Marion Lake Reservoir, Marion Lake State Marion Cottonwood River 117.2 River crossing is downstream, but passes Wildlife Area very closely to lake and WA Cowley Arkansas River 206 Kaw WMA, Kaw Lake Oklahoma Kav Cholocco Creek 212, 213 Kaw WMA, Kaw Lake Noble Trib to Sooner 258 Sooner Lake

Waterbodies	Waterbodies Within 10 Miles Downstream of Proposed Crossings						
		Stream	Approx.	Downstream Reservoir/Fishery/Wildlife			
State	County	Crossing Point	Milepost	Area	Other Description		
		Lake					

Appendix I

Levees and Water Control Structures in the Vicinity of the Keystone Pipeline Project

(Note: This appendix is Table 3.5-2, taken directly from the Environmental Report for the Keystone Pipeline Project [ENSR 2006a])

Levees and Water Control Structures

State	State County		Type of Flood Protection Structure	Waterbody
			KEYSTONE MAINLINE	
North Dakota	N/A	N/A	None	N/A
South Dakota	Marshall	225.5	Spoil bank/ditch	Crow Creek Ditch/Crow Creek
Nebraska	Cedar	436.6	Ditch	Kaiser Ditch
	Cedar	438.2	Ditch/canal	Antelope Creek
	Colfax	537.9	Ditch	Barnholdt Ditch
	Colfax	544.0	Canal	Deer Creek Canal
Kansas	Doniphan	743.3	Embankment/levee	Missouri River
Missouri	Buchanan	743.7	Embankment/levee	Missouri River
	Buchanan	752.7	Embankment/levee	
	Buchanan	752.8	Embankment/levee	
	Chariton	840.5	Levee at or nearby	Grand River area
	Chariton	856.9, 857.1, 857.2	(3) levees	Mussel Fork
	Chariton	857.5	Levee	
	Chariton	867.0	Embankment/levee	Middle Fork Little Chariton River
	Lincoln	971.1	Levee	Cuivre River
	St. Charles	985.4	Ditch	Horseshoe/Mud Lake
	St. Charles	985.7, 985.8	(2) levees	Horseshoe/Mud Lake
	St. Charles	986.0	Ditch	Horseshoe/Mud Lake
	St. Charles	986.4	Levee	Horseshoe/Mud Lake
	St. Charles	987.0	Levee	Fish Slough
	St. Charles	987.4, 987.5	(2) levees	Fish Slough
	St. Charles	987.7	Levee	None
	St. Charles	988.3	(2) levees	None
	St. Charles	988.7	Levee	None
	St. Charles	989.8-990.2	(3) levees	Dardenne Lake Area
	St. Charles	991.8	Levee	None

Levees and Water Control Structures

County	Milepost	Type of Flood Protection Structure	Waterbody
St. Charles	1008.9	Levee	Mississippi River Area
St. Charles	1018.9	Levee	Mississippi River Area
St. Charles	1021.0	Levee	Mississippi River Area
Fayette	1069.8-1070.2	Levee	Carlyle WMA
Fayette	1070.4	Levee	Carlyle WMA
Fayette	1071.4	Levee	Carlyle WMA
		CUSHING EXTENSION	
None	None	None	None
None	None	None	None
None	None	None	None
	St. Charles St. Charles St. Charles Fayette Fayette Fayette None None	St. Charles 1008.9 St. Charles 1018.9 St. Charles 1021.0 Fayette 1069.8-1070.2 Fayette 1070.4 Fayette 1071.4 None None None None	St. Charles 1008.9 Levee St. Charles 1018.9 Levee St. Charles 1021.0 Levee Fayette 1069.8-1070.2 Levee Fayette 1070.4 Levee Fayette 1071.4 Levee CUSHING EXTENSION None None None None None None

Appendix J

Major and Sensitive Water Body Crossings for the Keystone Pipeline Project

(Note: This appendix is Table F-1, taken directly from the Environmental Report for the Keystone Pipeline Project [TransCanada 2007d])

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			KEYSTONE M	AINLINE	
NORTH DAKOTA					
Cavalier	0.5	Unnamed	Intermittent		
Cavalier	1.7	Unnamed	Manmade Ditch		
Cavalier	2.6	Unnamed	Manmade Ditch		
Cavalier	3.6	Unnamed	Manmade Ditch		
Cavalier	5.1	Unnamed	Perennial		
Pembina	7.1	Pembina River	Perennial	Fish and Other Aquatic Biota, Recreation, Class 1A	Fully Supporting but Threatened
Pembina	10.5	Smith Coulee	Intermittent		
Pembina	10.8	S Fork Smith Coulee	Intermittent		
Pembina	13.1	Busse Coulee	Intermittent		
Pembina	16.1	Unnamed	Intermittent		
Pembina	16.6	Unnamed	Manmade Body		
Pembina	16.6	Unnamed	Manmade Body		
Pembina	17	Unnamed	Intermittent		
Pembina	17.4	Unnamed	Intermittent		
Pembina	17.7	Unnamed	Intermittent		
Pembina	18.4	Tongue River	Perennial	Fish and other Aquatic Biota, Class II	Fully Supporting but Threatened
Pembina	20.4	Trib. To Willow Creek	Intermittent		
Pembina	20.5	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Pembina	21.5	Unnamed	Intermittent		
Pembina	22.7	Unnamed	Intermittent		
Pembina	23.7	Cart Creek	Intermittent	Class III	
Pembina	24.7	Unnamed	Intermittent		
Pembina	26.1	Unnamed	Intermittent		
Pembina	26.7	Unnamed	Intermittent		
Pembina	27.8	Unnamed	Intermittent		
Pembina	29.4	North Branch Park River	Intermittent	Fish and Other Aquatic Biota, Class	Fully Supporting but Threatened
Pembina	31	Unnamed	Intermittent		
Pembina	31.8	Unnamed	Intermittent		
Walsh	33.3	Middle Branch Park River	Intermittent	Class III	
Walsh	33.3	Trib of Park River	Intermittent		
Walsh	35.3	Unnamed	Intermittent		
Walsh	35.3	Unnamed	Intermittent		
Walsh	35.3	Unnamed	Intermittent		
Walsh	36.3	Unnamed	Intermittent		
Walsh	37.1	Unnamed	Perennial		
Walsh	37.4	Unnamed	Intermittent		
Walsh	38.1	Unnamed	Intermittent		
Walsh	38.7	Unnamed	Intermittent		
Walsh	39.1	Unnamed	Intermittent		
Walsh	41.6	S Branch Park River	Intermittent	Class II	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Walsh	42.2	Unnamed	Intermittent		
Walsh	42.3	Unnamed	Intermittent		
Walsh	42.7	Unnamed	Intermittent		
Walsh	43.1	Unnamed	Intermittent		
Walsh	43.3	Unnamed	Intermittent		
Walsh	43.7	Unnamed	Intermittent		
Walsh	43.9	Unnamed	Intermittent		
Walsh	44.1	Unnamed	Intermittent		
Walsh	44.3	Unnamed	Intermittent		
Walsh	44.4	Unnamed	Intermittent		
Walsh	44.8	Unnamed	Intermittent		
Walsh	45.1	Unnamed	Intermittent		
Walsh	45.3	Unnamed	Intermittent		
Walsh	46.1	Unnamed	Intermittent		
Walsh	46.3	North Branch Forest River	Intermittent	Class III	
Walsh	46.9	Trib. To N. Branch Forest River	Intermittent		
Walsh	47.3	Trib. To N. Branch Forest River	Intermittent		
Walsh	47.8	Trib. To N. Branch Forest River	Intermittent		
Walsh	48	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Walsh	48.5	Unnamed	Intermittent		
Walsh	49.2	Unnamed	Intermittent		
Walsh	49.5	Unnamed	Intermittent		
Walsh	50.0	Unnamed	Intermittent		
Walsh	50.3	Unnamed	Intermittent		
Walsh	50.5	Unnamed	Intermittent		
Walsh	50.8	Unnamed	Intermittent		
Walsh	50.9	Unnamed	Intermittent		
Walsh	51.0	Unnamed	Intermittent		
Walsh	51.2	Unnamed	Intermittent		
Walsh	51.3	Unnamed	Intermittent		
Walsh	51.8	Unnamed	Intermittent		
Walsh	52.1	Unnamed	Intermittent		
Walsh	52.2	Unnamed	Intermittent		
Walsh	52.8	Unnamed	Intermittent		
Walsh	53.4	Unnamed	Intermittent		
Walsh	54.2	Unnamed	Intermittent		
Walsh	54.4	Unnamed	Intermittent		
Walsh	54.7	Middle Branch Forest River	Perennial	Fish and Other Aquatic Biota	Not Supporting
Walsh	55.6	Unnamed	Intermittent		
Walsh	55.8	Unnamed	Intermittent		
Walsh	56.5	Unnamed	Intermittent		
Nelson	57.2	Unnamed	Intermittent		
Nelson	57.7	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Nelson	58.3	Unnamed	Intermittent		
Nelson	59.1	Unnamed	Intermittent		
Nelson	59.4	Unnamed	Intermittent		
Nelson	59.7	Unnamed	Intermittent		
Nelson	60.4	Unnamed	Intermittent		
Nelson	60.5	Unnamed	Intermittent		
Nelson	60.7	Unnamed	Intermittent		
Nelson	61.4	Unnamed	Intermittent		
Nelson	62.0	Unnamed	Intermittent		
Nelson	62.0	Unnamed	Intermittent		
Nelson	62.4	Unnamed	Intermittent		
Nelson	62.7	Unnamed	Intermittent		
Nelson	62.7	Unnamed	Intermittent		
Nelson	63.1	Unnamed	Intermittent		
Nelson	64.0	Unnamed	Intermittent		
Nelson	64.3	Unnamed	Intermittent		
Nelson	64.8	Unnamed	Intermittent		
Nelson	65.3	Unnamed	Intermittent		
Nelson	66.2	Unnamed	Intermittent		
Nelson	67.2	N Branch Turtle River	Intermittent	Class II (Turtle river)	Not Supporting
Nelson	69.2	Unnamed	Intermittent		
Nelson	69.6	Unnamed	Intermittent		
Nelson	69.8	Unnamed	Intermittent		
Nelson	69.9	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Nelson	76.1	Unnamed	Intermittent		
Nelson	76.9	Goose River	Perennial	Fish and Other Aquatic Biota; Recreation, Class IA	Not Supporting; Fully Supporting but Threatened
Nelson	78	Unnamed	Intermittent		
Nelson	79.3	Unnamed	Intermittent		
Nelson	80.2	Unnamed	Intermittent		
Nelson	84.7	Unnamed	Intermittent		
Nelson	84.9	Goose Creek	Intermittent		
Nelson	85.1	Trib of Goose Creek	Intermittent		
Nelson	87.5	Unnamed	Intermittent		
Nelson	91.4	Unnamed	Intermittent		
Nelson	91.8	Unnamed	Intermittent		
Nelson	93.2	Unnamed	Intermittent		
Steele	96.2	Unnamed	Intermittent		
Steele	96.3	Unnamed	Intermittent		
Steele	101.5	Unnamed	Intermittent		
Steele	104.9	Unnamed	Intermittent		
Steele	106	Unnamed	Intermittent		
Steele	107.1	Unnamed	Intermittent		
Steele	107.5	Unnamed	Intermittent		
Steele	109.3	Unnamed	Intermittent		
Steele	109.7	Unnamed	Intermittent		
Steele	109.7	Unnamed	Intermittent		
Steele	111	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Steele	112.8	Unnamed	Intermittent		
Steele	113.3	Unnamed	Intermittent		
Steele	116.7	Unnamed	Intermittent		
Steele	118.1	Unnamed	Intermittent		
Steele	120	Unnamed	Intermittent		
Steele	120.2	Unnamed	Intermittent		
Barnes	127.5	Unnamed	Intermittent		
Barnes	128	Unnamed	Intermittent		
Barnes	132.3	Unnamed	Intermittent		
Barnes	134.4	Unnamed	Intermittent		
Barnes	143.6	Unnamed	Manmade Body		
Barnes	144	Unnamed	Manmade Ditch		
Barnes	144.7	Unnamed	Intermittent		
Barnes	145.9	Unnamed	Intermittent		
Barnes	148	Unnamed	Intermittent		
Barnes	150.9	Unnamed	Intermittent		
Barnes	151.4	Unnamed	Intermittent		
Barnes	151.8	Unnamed	Intermittent		
Barnes	152	Unnamed	Intermittent		
Barnes	154.2	Unnamed	Intermittent		
Barnes	154.5	Unnamed	Intermittent		
Barnes	159.1	Unnamed	Manmade Ditch		
Barnes	162.6	Unnamed	Manmade Ditch		
Barnes	162.8	Unnamed	Manmade Ditch		
Ransom	169.1	Sheyenne	Perennial	Fish and Other Aquatic Biota,	Fully Supporting but

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		River		Recreation, Class 1A	Threatened; Fully Supporting but Threatened/Not Supporting
Ransom	169.3	Trib. To Sheyenne River	Intermittent		
Ransom	170.3	Unnamed	Intermittent		
Ransom	170.4	Unnamed	Intermittent		
Ransom	172.2	Unnamed	Intermittent		
Ransom	173.1	Unnamed	Intermittent		
Ransom	173.9	Unnamed	Intermittent		
	174	Unnamed	Intermittent		
Ransom	176.4	Unnamed	Intermittent		
Ransom	177.5	Unnamed	Manmade Ditch		
Ransom	180.7	Unnamed	Intermittent		
Ransom	181	Unnamed	Intermittent		
Ransom	184	Unnamed	Intermittent		
SOUTH DAKOTA					
Day	249.3	Unnamed	Intermittent		
Day	250.6	Unnamed	Intermittent		
Day	252.1	Unnamed	Intermittent		
Day	252.8	Unnamed	Intermittent		
Day	253.7	Unnamed	Intermittent		
Day	254.5	Unnamed	Intermittent		
Day	256.5	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Day	257.2	Unnamed	Intermittent		
Day	258.5	Amsden Lake	Intermittent		
		Trib.			
Day	259.7	Mud Creek	Perennial		
Day	261.1	Unnamed	Intermittent		
Day	261.4	Unnamed	Perennial		
Day	262.3	Unnamed	Intermittent		
Day	265.6	Unnamed	Intermittent		
Day	266.8	Unnamed	Intermittent		
Day	266.9	Unnamed	Intermittent		
Day	268.6	Unnamed	Intermittent		
Day	269.2	Unnamed	Intermittent		
Day	270.1	Unnamed	Intermittent		
Day	270.8	Unnamed	Intermittent		
Day	271.7	Unnamed	Intermittent		
Day	272.3	Unnamed	Intermittent		
Day	272.5	Unnamed	Intermittent		
Day	273.2	Unnamed	Intermittent		
Day	273.3	Unnamed	Intermittent		
Clark	274.9	Unnamed	Intermittent		
Clark	280	Unnamed	Intermittent		
Clark	280.1	Unnamed	Intermittent		
Clark	280.8	Unnamed	Intermittent		
Clark	281.3	Unnamed	Intermittent		
Clark	281.5	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Clark	282.5	Unnamed	Intermittent		
Clark	283.3	Unnamed	Intermittent		
Clark	284.7	Unnamed	Intermittent		
Clark	285.8	Unnamed	Intermittent		
Clark	286.6	Unnamed	Intermittent		
Clark	288.6	Unnamed	Intermittent		
Clark	289.9	Unnamed	Intermittent		
Clark	291.2	Unnamed	Intermittent		
Clark	293.5	Unnamed	Intermittent		
Clark	300.0	N Fork Of Foster Creek	Intermittent		
Clark	300.2	S Fork Of Foster Creek	Intermittent		
Clark	305.2	Unnamed	Intermittent		
Clark	305.4	Unnamed	Intermittent		
Clark	307.3	Unnamed	Intermittent		
Beadle	310.7	Unnamed	Intermittent		
Beadle	312.3	Unnamed	Intermittent		
Beadle	314.3	Shue Creek	Intermittent		
Beadle	315	Unnamed	Intermittent		
Beadle	316.3	Unnamed	Intermittent		
Beadle	316.8	Pearl Creek	Intermittent	WW marginal fish life propagation waters, limited-contact recreation waters	
Beadle	317.9	Unnamed	Manmade Ditch		
Beadle	318.3	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Beadle	319	Middle Pearl	Intermittent		
		Creek			
Kingsbury	336.4	Unnamed	Intermittent		
Kingsbury	338.7	West Redstone Creek	Intermittent		
Miner	341.4	Unnamed	Manmade Ditch		
Miner	344.4	Unnamed	Intermittent		
Miner	344.5	Redstone Creek	Intermittent	WW marginal fish life propagation waters, limited-contact recreation waters (classification for segment in Sanborn county)	
Miner	346.4	Unnamed	Intermittent		
Miner	360.5	Unnamed	Intermittent		
Miner	360.5	Unnamed	Intermittent		
Miner	360.6	Unnamed	Intermittent		
Miner	360.7	Unnamed	Intermittent		
Miner	362.9	Rock Creek Trib.	Intermittent	WW marginal fish life propagation waters, limited-contact recreation waters (classification for segment in Hanson county)	
Miner	363.6	Rock Creek	Intermittent	WW marginal fish life propagation waters, limited-contact recreation waters (classification for segment in Hanson county)	
Hanson	374.3	Lake Eli Trib.	Manmade Ditch		
Hanson	377.3	Wolf Creek	Perennial	WW marginal fish life propagation	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				waters, limited-contact recreation	
				waters	
Hanson	379.2	Wolf Creek Trib.	Intermittent		
McCook	381.3	Unnamed	Intermittent		
McCook	385.7	Wolf Creek	Perennial	WW marginal fish life propagation	No Data
				waters, limited-contact recreation	
				waters	
McCook	388.2	Wolf Creek	Intermittent		
		Trib.			
McCook	388.4	Wolf Creek	Intermittent		
		Trib.			
McCook	389.3	Wolf Creek Trib	Intermittent		
Hutchinson	392.8	Wolf Creek	Perennial	WW marginal fish life propagation	No Data
				waters, limited-contact recreation	
				waters	
Hutchinson	396.5	Unnamed	Intermittent		
Hutchinson	397.7	Unnamed	Intermittent		
Hutchinson	400.5	Unnamed	Intermittent		
Hutchinson	401.8	Unnamed	Intermittent		
Hutchinson	402.8	Unnamed	Intermittent		
Hutchinson	403.5	Unnamed	Intermittent		
Hutchinson	408	Unnamed	Intermittent		
Hutchinson	408.4	Unnamed	Intermittent		
Hutchinson	408.6	Unnamed	Intermittent		
Yankton	416	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Yankton	419.9	Unnamed	Intermittent		
Yankton	420.8	Unnamed	Manmade Ditch		
Yankton	421	Unnamed	Manmade Ditch		
Yankton	422.6	Unnamed	Manmade Body		
Yankton	423.9	James River	Perennial	WW semiperm fish life propagation waters, limited contact recreation waters	No Data
Yankton	425.7	Unnamed	Intermittent		
Yankton	430.1	Beaver Creek	Perennial	WW marginal fish life propagation waters, limited-contact recreation waters	
NEBRASKA	1				
Cedar	437.6	Missouri River	Perennial		
Cedar	438.7	Unnamed	Manmade Ditch		
Cedar	440	Antelope Creek	Perennial		
Cedar	441.7	Unnamed	Intermittent		
Cedar	442.2	Unnamed	Intermittent		
Cedar	442.4	Unnamed	Intermittent		
Cedar	443.7	Unnamed	Intermittent		
Cedar	444	Unnamed	Manmade Ditch		
Cedar	444.6	Unnamed	Intermittent		
Cedar	445.1	Unnamed	Intermittent		
Cedar	445.4	Unnamed	Intermittent		
Cedar	447.9	Unnamed	Manmade Ditch		
Cedar	448.1	Unnamed	Intermittent		
Cedar	448.6	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Cedar	449.3	Unnamed	Intermittent		
Cedar	449.8	West Bow	Perennial		
		Creek			
Cedar	450.9	West Bow	Intermittent		
		Creek Trib.			
Cedar	452.1	Unnamed	Manmade Ditch		
Cedar	452.7	Norwegian Bow	Intermittent		
		Creek Trib.			
Cedar	453	Norwegian Bow	Intermittent		
		Creek Trib.			
Cedar	453.3	Norwegian Bow	Perennial		
		Creek			
Cedar	454.1	Norwegian Bow	Intermittent		
		Creek Trib.			
Cedar	454.8	Unnamed	Intermittent		
Cedar	455.6	Unnamed	Intermittent		
Cedar	457	Unnamed	Intermittent		
Cedar	457.3	Unnamed	Manmade Ditch		
Cedar	458.7	N Fork Of Bow	Perennial	No Data	No Data
		Creek			
Cedar	459.5	S Fork Of Bow	Perennial	No Data	No Data
		Creek			
Cedar	461.8	Trib. To Pearl	Intermittent		
		Creek			
Cedar	462.74	Pearl Creek	Intermittent		
Cedar	462.3	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Cedar	462.7	Unnamed	Intermittent		
Cedar	463.5	Trib. To Pearl Creek	Intermittent		
Cedar	463.9	Unnamed	Intermittent		
Cedar	464.2	Unnamed	Intermittent		
Cedar	464.6	Unnamed	Intermittent		
Cedar	465.9	Unnamed	Manmade Ditch		
Cedar	466	Unnamed	Intermittent		
Cedar	466.4	Unnamed	Intermittent		
Cedar	467.2	Unnamed	Intermittent		
Cedar	467.7	Unnamed	Intermittent		
Cedar	468.2	Unnamed	Intermittent		
Cedar	468.9	Unnamed	Intermittent		
Cedar	469.5	Unnamed	Intermittent		
Cedar	469.7	Unnamed	Manmade Ditch		
Cedar	470.5	Unnamed	Manmade Ditch		
Cedar	471.5	Unnamed	Intermittent		
Cedar	472.3	Middle Logan Creek	Perennial		
Cedar	473.2	Unnamed	Manmade Ditch		
Wayne	476.0	Dog Creek	Intermittent		
Wayne	477.3	Trib. To Deer Creek	Intermittent		
Wayne	477.4	Trib. To Deer Creek	Intermittent		
Wayne	478.4	Deer Creek	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Wayne	479.1	Trib. To Deer	Intermittent		
		Creek			
Wayne	479.4	Unnamed	Intermittent		
Wayne	480.1	Trib. To Deer Creek	Intermittent		
Wayne	482.1	Unnamed	Intermittent		
Wayne	483.3	S Branch Of Deer Creek	Intermittent		
Wayne	483.7	Unnamed	Manmade Ditch		
Wayne	487.3	Unnamed	Manmade Ditch		
Wayne	488.3	Intermittent	Intermittent		
Wayne	489.1	Spring Branch	Intermittent		
Wayne	490.9	Unnamed	Manmade Ditch		
Wayne	491.4	S Fork To Spring Branch	Intermittent		
Wayne	493.2	Unnamed	Intermittent		
Stanton	496.6	Trib. To Pleasant Run	Intermittent		
Stanton	498.5	Trib. To Pleasant Run	Intermittent		
Stanton	499.2	Pleasant Run	Intermittent		
Stanton	499.8	Unnamed	Manmade Ditch		
Stanton	501.9	Unnamed	Manmade Ditch		
Stanton	504.4	Unnamed	Manmade Ditch		
Stanton	505	Elkhorn River	Perennial	Primary contact recreation; aquatic life use	Inhibited; Supported

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Stanton	505.7	Union Creek	Perennial		
Stanton	508.5	Unnamed	Manmade Ditch		
Stanton	509.4	Unnamed	Manmade Ditch		
Stanton	509.7	Unnamed	Manmade Ditch		
Stanton	510.9	Unnamed	Manmade Ditch		
Stanton	511	Unnamed	Manmade Ditch		
Stanton	511.2	Unnamed	Manmade Ditch		
Stanton	512.7	Unnamed	Manmade Ditch		
Stanton	512.7	Trib To Butterfly Creek	Intermittent		
Stanton	514.8	Unnamed	Manmade Ditch		
Stanton	515.5	Unnamed	Intermittent		
Stanton	517.3	Unnamed	Intermittent		
Platte	519.5	Trib. To West Fork Maple Creek	Intermittent		
Platte	520.1	Trib. To West Fork Maple Creek	Intermittent		
Platte	521.6	Unnamed	Intermittent		
Colfax	524.5	Unnamed	Intermittent		
Colfax	524.5	Unnamed	Manmade Ditch		
Colfax	527.1	Unnamed	Intermittent		
Colfax	528.1	Unnamed	Manmade Ditch		
Colfax	528.1	Unnamed	Manmade Ditch		
Colfax	528.5	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Colfax	531.4	Unnamed	Manmade Ditch		
Colfax	532.2	Unnamed	Manmade Ditch		
Colfax	532.2	Unnamed	Manmade Ditch		
Colfax	533.5	Unnamed	Manmade Ditch		
Colfax	534.6	Shell Creek	Perennial		
Colfax	536.8	Unnamed	Manmade Ditch		
Colfax	539.3	Unnamed	Manmade Ditch		
Colfax	540.4	Barnholdt Ditch	Manmade Ditch		
Colfax	541	Unnamed	Intermittent		
Colfax	541.9	Lost Creek	Intermittent	No Data	No Data
Colfax	543.5	Trib. To Platte River	Intermittent		
Colfax	544.2	Platte River	Artificial Path	Primary contact recreation; Aquatic Life Use; Agriculture Water Supply	Inhibited; Inhibited; Supported
Colfax	544.6	Platte River	Artificial Path		
Bulter	544.8	Trib. To Platte River	Intermittent		
Bulter	544.8	Unnamed	Intermittent		
Bulter	546.8	Deer Creek	Intermittent	No Data	No Data
Bulter	549.5	Unnamed	Intermittent		
Bulter	553.2	Unnamed	Intermittent		
Bulter	556.9	Unnamed	Intermittent		
Bulter	557.3	Unnamed	Intermittent		
Bulter	559.4	Unnamed	Manmade Ditch		
Bulter	561.9	Trib. To Little Blue River	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Bulter	562.8	Unnamed	Intermittent		
Bulter	563.5	Unnamed	Intermittent		
Bulter	566	Unnamed	Manmade Ditch		
Bulter	568	Unnamed	Manmade Ditch		
Seward	568.9	Unnamed	Intermittent		
Seward	575.4	Unnamed	Intermittent		
Seward	575.5	Big Blue River	Perennial	Aquatic Life Use; Agriculture water supply	Inhibited; Supported
Seward	578	Lincoln Creek	Perennial		
Seward	578.5	Unnamed	Manmade Ditch		
Seward	580.3	Unnamed	Manmade Ditch		
Seward	580.4	Unnamed	Intermittent		
Seward	581.6	Lone Tree Creek	Intermittent		
Seward	583	Crooked Creek	Intermittent		
Seward	585.9	Unnamed	Manmade Ditch		
Seward	586	Pond	Manmade Body		
Seward	588.1	Coon Creek	Intermittent		
Seward	588.4	Trib. To Coon Creek	Intermittent		
Seward	589	Trib. To Coon Creek	Intermittent		
Seward	589.1	Unnamed	Manmade Ditch		
Seward	589.5	Trib. To Coon Creek	Intermittent		
Seward	590.6	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Seward	591.2	Unnamed	Intermittent		
Seward	591.7	Unnamed	Intermittent		
Seward	592.2	Unnamed	Intermittent		
Seward	592.5	Unnamed	Manmade Ditch		
Saline	593.4	West Fork Big Blue River	Perennial	Primary contact recreation; Aquatic life use; Ag water supply	Inhibited; Inhibited; Supported
Saline	594.1	Unnamed	Manmade Ditch		
Saline	595.5	Unnamed	Manmade Ditch		
Saline	597.4	Squaw Creek	Intermittent		
Saline	597.6	Unnamed	Intermittent		
Saline	598.7	Trib to Turkey Creek	Manmade Body		
Saline	599.6	Turkey Creek	Perennial	No Data	No Data
Saline	601.0	Spring Creek	Intermittent		
Saline	602.1	Trib. To Spring Creek	Intermittent		
Saline	602.5	Trib. To Spring Creek	Intermittent		
Saline	605.6	Brush Creek	Intermittent		
Saline	606.6	Trib. To Brush Creek	Intermittent		
Saline	607.2	Unnamed	Manmade Ditch		
Saline	607.9	Dry Creek	Perennial		
Saline	608.2	Trib to Dry Creek	Perennial		
Saline	608.9	Plummers	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Branch			
Saline	610.4	Plummers	Intermittent		
		Branch			
Saline	611.8	Plummers	Intermittent		
		Branch			
Saline	612	Trib. To	Intermittent		
		Plummers			
		Branch			
Saline	613.1	Unnamed	Ephemeral		
Saline	613.1	Unnamed	Ephemeral		
Saline	613.3	Unnamed	Ephemeral		
Saline	615.1	Swan Creek	Perennial		
Saline	616.9	Unnamed	Intermittent		
Jefferson	618.4	Unnamed	Intermittent		
Jefferson	618.8	Unnamed	Intermittent		
Jefferson	619.5	Unnamed	Intermittent		
Jefferson	623.6	Trib. To Cub	Intermittent		
		Creek			
Jefferson	624.4	Cub Creek	Perennial	No Data	No Data
Jefferson	625.4	Trib. To Cub	Intermittent		
		Creek			
Jefferson	629.1	Unnamed	Intermittent		
Jefferson	631.3	Big Indian	Perennial		
		Creek			
Jefferson	632.7	Unnamed	Intermittent		
	632.7	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Jefferson	633.1	Unnamed	Manmade Ditch		
Jefferson	635.4	Unnamed	Perennial		
Jefferson	635.4	Unnamed	Perennial		
Jefferson	635.9	Unnamed	Intermittent		
NEBRASKA			•		
REX Parallel					
Jefferson	636.4	Unnamed	Intermittent		
Jefferson	636.7	Unnamed	Intermittent		
Jefferson	637	Unnamed	Intermittent		
Jefferson	637.9	Unnamed	Manmade Ditch		
Jefferson	638.3	Unnamed	Intermittent		
Jefferson	638.5	Unnamed	Intermittent		
Jefferson	639.4	Unnamed	Intermittent		
Jefferson	640	Unnamed	Intermittent		
Jefferson	640.2	Unnamed	Manmade Ditch		
Jefferson	640.2	Unnamed	Manmade Body		
Jefferson	640.4	Unnamed	Manmade Body		
Jefferson	640.5	Unnamed	Intermittent		
Jefferson	641	Unnamed	Intermittent		
Jefferson	641.4	Unnamed	Intermittent		
Jefferson	641.8	Unnamed	Intermittent		
Jefferson	641.8	Unnamed	Intermittent		
Jefferson	641.8	Unnamed	Intermittent		
Jefferson	642.3	Unnamed	Manmade Ditch		
Jefferson	643.3	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Jefferson	644.2	Unnamed	Intermittent		
Jefferson	644.3	Unnamed	Intermittent		
Gage	644.4	Unnamed	Manmade Ditch		
Gage	646.3	Horseshoe Creek	Perennial		
Gage	647.6	Horseshoe Creek	Perennial		
Gage	648.9	Unnamed	Manmade Ditch		
Gage	649	Unnamed	Manmade Ditch		
Gage	649	Unnamed	Manmade Ditch		
Gage	650.6	Trib. To Little Indian Creek	Intermittent		
Gage	651.2	Little Indian Creek	Intermittent		
Gage	651.5	Trib. To Little Indian Creek	Intermittent		
KANSAS	- 1				
Marshall	653.8	Meadow Creek	Intermittent Stream/River	No Data	No Data
Marshall	654.4	Unnamed	Canal/Ditch		
Marshall	654.9	Trib. To Indian Creek	Perennial Stream/River		
Marshall	655.5	Indian Creek	Perennial Stream/River	No Data	No Data
Marshall	656.4	Unnamed	Canal/Ditch		
Marshall	656.4	Unnamed	Canal/Ditch		
Marshall	656.7	Trib. To Indian	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Creek	Stream/River		
Marshall	657.3	Unnamed	Canal/Ditch		
Marshall	657.7	Trib. To Deer	Intermittent		
		Creek	Stream/River		
Marshall	658.1	Trib. To Deer	Intermittent		
		Creek	Stream/River		
Marshall	658.4	Unnamed	Canal/Ditch		
Marshall	658.4	Unnamed	Canal/Ditch		
Marshall	658.7	Deer Creek	Perennial Stream/River	General Purpose; Aquatic Life; Recreational Use (contact use, not open to public)	No Data
Marshall	658.8	Unnamed	Canal/Ditch		
Marshall	659.9	Trib. To Big	Intermittent		
		Blue River	Stream/River		
Marshall	660.9	Big Blue River	Perennial Stream/River	No Data	No Data
Marshall	661.2	North Elm Creek	Perennial Stream/River	General Purpose; Aquatic Life; Recreational Use (contact use, not open to public)	No Data
Marshall	661.9	Trib. To North Elm Creek	Perennial Stream/River	General Purpose; Aquatic Life; Recreational Use (contact use, not open to public)	No Data
Marshall	662	Trib. To North Elm Creek	Perennial Stream/River	General Purpose; Aquatic Life; Recreational Use (contact use, not open to public)	No Data
Marshall	664.6	North Elm Creek	Perennial Stream/River	General Purpose; Aquatic Life; Recreational Use (contact use, not open to public)	No Data

State /	Approx.	Waterbody	Intermittent, Perennial,	0(-(-) W-() 0(-) 0() 1	Supports Use
County Marshall	MP 664.6	Name North Elm	Reservoir, or Lake Perennial Stream/River	State Water Quality Classification ¹ General Purpose; Aquatic Life;	Designation ¹ No Data
Marshall	004.0	Creek	Perenniai Stream/River	Recreational Use (contact use, not	No Data
		Creek		open to public)	
Marshall	665	Trib. To North	Intermittent	open to public)	
Marshall	003	Elm Creek	Stream/River		
Marshall	667.1	Trib. To North	Intermittent		
Marorian		Elm Creek	Stream/River		
Marshall	670.3	Unnamed	Intermittent		
			Stream/River		
Marshall	670.9	Trib To	Perennial Stream/River		
		Robidoux			
		Creek			
Marshall	670.9	Unnamed	Manmade Ditch		
Marshall	671.3	Unnamed	Intermittent		
			Stream/River		
Marshall	672	Unnamed	Manmade Ditch		
Marshall	672	Unnamed	Manmade Ditch		
Marshall	672.6	Trib To	Perennial Stream/River		
		Robidoux			
		Creek			
Marshall	672.7	Unnamed	Intermittent		
			Stream/River		
Marshall	673.7	Unnamed	Manmade Ditch		
Marshall	674	Trib. To	Intermittent		
		Robidoux	Stream/River		
		Creek			
Marshall	674.1	Robidoux	Perennial Stream/River	General Purpose; Aquatic Life;	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Creek		Recreational Use (contact use, not	
				open to public)	
Marshall	675.1	Unnamed	Manmade Ditch		
Marshall	675.1	Unnamed	Manmade Ditch		
Marshall	678.1	Unnamed	Manmade Ditch		
Marshall	678.1	Unnamed	Manmade Ditch		
Nemaha	683.4	Trib. To Negro	Intermittent		
		Creek	Stream/River		
Nemaha	683.5	Negro Creek	Intermittent	No Data	No Data
			Stream/River		
Nemaha	683.6	Negro Creek	Intermittent	No Data	No Data
			Stream/River		
Nemaha	683.7	Unnamed	Manmade Ditch		
Nemaha	684.9	Trib. To North	Intermittent		
		Fork Wildcat Cr	Stream/River		
Nemaha	685.3	Trib. To North	Manmade Ditch		
		Fork Wildcat Cr			
Nemaha	685.6	Trib. To North	Intermittent		
		Fork Wildcat Cr	Stream/River		
Nemaha	685.9	Trib. To North	Intermittent		
		Fork Wildcat Cr	Stream/River		
Nemaha	686	Unnamed	Manmade Ditch		
Nemaha	686	Unnamed	Manmade Ditch		
Nemaha	686.2	Unnamed	Manmade Ditch		
Nemaha	686.4	Unnamed	Manmade Ditch		
Nemaha	686.7	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Nemaha	686.7	Unnamed	Manmade Ditch		
Nemaha	686.9	North Fork	Intermittent	No Data	No Data
		Wildcat Creek	Stream/River		
Nemaha	687	Unnamed	Manmade Ditch		
Nemaha	687.4	Unnamed	Manmade Ditch		
Nemaha	687.6	Unnamed	Manmade Ditch		
Nemaha	688.1	Wildcat Creek	Perennial Stream/River	General Purpose; Special Aquatic Life (contact use, not open to public); Domestic Water Supply; Food Procurement Use; Ground Water Recharge; Irrigation Use	No Data
Nemaha	688.5	Unnamed	Manmade Ditch		
Nemaha	688.5	Unnamed	Manmade Ditch		
Nemaha	688.9	Unnamed	Manmade Ditch		
Nemaha	690.8	Trib. To Wildcat	Intermittent		
		Creek	Stream/River		
Nemaha	691.9	South Fork Big Nemaha River	Perennial Stream/River	General Purpose; Special Aquatic Life (contact use, not open to public); Domestic Water Supply; Food Procurement Use; Ground Water Recharge; Irrigation Use	No Data
Nemaha	692.6	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Nemaha	692.6	Unnamed	Manmade Ditch		
Nemaha	693.6	Harris Creek	Perennial Stream/River	General Purpose; Expected Aquatic Life Use	No Data
Nemaha	694.3	Unnamed	Manmade Ditch		
Nemaha	694.3	Unnamed	Manmade Ditch		
Nemaha	694.5	Unnamed	Manmade Ditch		
Nemaha	695.3	Unnamed	Manmade Body		
Nemaha	695.7	Unnamed	Manmade Ditch		
Nemaha	695.7	Unnamed	Manmade Ditch		
Nemaha	696	Trib. To Harris	Intermittent		
		Creek	Stream/River		
Nemaha	696.3	Harris Creek	Perennial Stream/River	General Purposes;Expected Aquatic Life Use	No Data
Nemaha	696.9	Unnamed	Manmade Ditch		
Nemaha	696.9	Trib. To Harris Creek	Perennial Stream/River		
Nemaha	698.9	Unnamed	Manmade Ditch		
Nemaha	699	Unnamed	Intermittent Stream/River		
Nemaha	699	Unnamed	Intermittent Stream/River		
Nemaha	699.1	Unnamed	Intermittent Stream/River		
Nemaha	699.4	Unnamed	Manmade Ditch		
Nemaha	699.5	Unnamed	Manmade Ditch		
Nemaha	699.8	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Nemaha	700.7	Unnamed	Manmade Ditch		
Nemaha	702.7	Unnamed	Manmade Body		
Nemaha	702.9	Craig Creek	Perennial Stream/River	No Data	No Data
Nemaha	703	Unnamed	Manmade Ditch		
Nemaha	703.1	Unnamed	Manmade Ditch		
Nemaha	703.5	Unnamed	Manmade Ditch		
Nemaha	704.8	Unnamed	Intermittent Stream/River		
Nemaha	705.3	Unnamed	Intermittent Stream/River		
Nemaha	705.4	Unnamed	Intermittent Stream/River		
Nemaha	705.4	Unnamed	Intermittent Stream/River		
Nemaha	705.5	Unnamed	Intermittent Stream/River		
Brown	706.1	Unnamed	Intermittent Stream/River		
Brown	706.5	Unnamed	Manmade Ditch		
Brown	706.9	Unnamed	Intermittent Stream/River		
Brown	707.1	Unnamed	Manmade Ditch		
Brown	707.2	Unnamed	Manmade Ditch		
Brown	707.6	Unnamed	Intermittent Stream/River		
Brown	707.6	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
Brown	707.6	Unnamed	Intermittent		
			Stream/River		
Brown	707.6	Unnamed	Intermittent		
			Stream/River		
Brown	707.7	Unnamed	Manmade Ditch		
Brown	708.1	Delaware River	Perennial Stream/River	No Data	No Data
Brown	708.2	Unnamed	Intermittent		
			Stream/River		
Brown	708.3	Unnamed	Intermittent		
			Stream/River		
Brown	708.3	Unnamed	Manmade Ditch		
Brown	708.4	Unnamed	Intermittent		
			Stream/River		
Brown	709.1	Trib. To	Perennial Stream/River		
		Delaware River			
Brown	709.3	Unnamed	Manmade Ditch		
Brown	710	Trib. To	Perennial Stream/River		
		Delaware River			
Brown	710.1	Unnamed	Manmade Ditch		
Brown	710.8	Unnamed	Manmade Body		
Brown	710.9	Unnamed	Manmade Body		
Brown	710.9	Unnamed	Manmade Body		
Brown	711.6	East Branch	Perennial Stream/River	General Purposes; Expected Aquatic	No Data
		Walnut Creek		Life Use	
Brown	712.6	Walnut Creek	Perennial Stream/River	General Purposes; Expected Aquatic	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Life Use	
Brown	713.1	Unnamed	Manmade Ditch		
Brown	713.2	Unnamed	Manmade Ditch		
Brown	713.9	Unnamed	Intermittent Stream/River		
Brown	714	Unnamed	Intermittent Stream/River		
Brown	714.7	Unnamed	Intermittent Stream/River		
Brown	715	Unnamed	Manmade Ditch		
Brown	715.3	Wolf River	Perennial Stream/River	General Purposes; Expected Aquatic Life Use; Domestic Water Supply; Food Procurement Use; Ground Water Recharge; Irrigation Use; Industrial Water Use; Livestock Water Use	No Data
Brown	716.2	Unnamed	Manmade Ditch		
Brown	716.8	Unnamed	Intermittent Stream/River		
Brown	716.8	Unnamed	Manmade Body		
Brown	717.3	Unnamed	Intermittent Stream/River		
Brown	717.7	Unnamed	Intermittent Stream/River		
Brown	718.9	Trib. To Wolf River	Intermittent Stream/River		
Brown	718.9	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Brown	718.9	Unnamed	Manmade Ditch		
Brown	718.9	Trib. To Wolf	Intermittent		
		River	Stream/River		
Brown	719.1	Unnamed	Manmade Ditch		
Brown	719.2	Channel	Manmade Ditch		
Brown	719.2	Unnamed	Manmade Ditch		
Brown	719.4	Trib. To Wolf	Intermittent		
		River	Stream/River		
Brown	719.4	Unnamed	Manmade Ditch		
Brown	719.5	Unnamed	Manmade Ditch		
Brown	720.2	Trib.To Wolf	Intermittent		
		River	Stream/River		
Brown	720.3	Unnamed	Manmade Ditch		
Brown	720.6	Unnnamed	Intermittent		
			Stream/River		
Brown	720.8	Unnamed	Manmade Ditch		
Brown	721.2	Trib. To Wolf	Intermittent		
		River	Stream/River		
Brown	721.3	Unnamed	Manmade Ditch		
Brown	721.5	Unnamed	Manmade Ditch		
Brown	722.2	Unnamed	Manmade Ditch		
Brown	722.3	Unnamed	Manmade Ditch		
Brown	722.8	Middle Fork	Perennial Stream/River	General Purposes; Expected Aquatic	No Data
		Wolf River		Life Use; Domestic Water Supply;	
				Food Procurement Use; Ground	
				Water Recharge; Irrigation Use;	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Industrial Water Use; Livestock Water Use	
Brown	723.7	Unnamed	Intermittent Stream/River	water osc	
Brown	725	Buttermilk Creek	Perennial Stream/River	General Purpose; Expected Aquatic Life Use	
Brown	726.4	Trib. To South Fork Wolf River	Intermittent Stream/River		
Brown	727.31	South Fork Wolf River	Perennial Stream/River	General Purposes;Expected Aquatic Life Use; Domestic Water Supply; Food Procurement Use; Ground Water Recharge; Irrigation Use; Industrial Water Use; Livestock Water Use	No Data
Brown	730.1	Squaw Creek	Perennial Stream/River	General Purposes; Expected Aquatic Life Use; Primary Contact Recreation is by Law or Written Permission of the Landowner	No Data
Brown	730.1	Unnamed	Manmade Ditch		
Brown	730.3	Unnamed	Manmade Ditch		
Brown	730.3	Unnamed	Manmade Ditch		
Brown	730.5	Unnamed	Manmade Ditch		
Doniphan	730.9	Trib. To Squaw Creek	Perennial Stream/River		
Doniphan	730.9	Unnamed	Manmade Ditch		
Doniphan	731.2	Unnamed	Manmade Body		
Doniphan	731.6	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
Doniphan	732	Trib. To Halling Creek	Perennial Stream/River		
Doniphan	732.2	Halling Creek	Perennial Stream/River	General Purpose; Aquatic Life Use	No Data
Doniphan	734.9	Unnamed	Intermittent Stream/River		
Doniphan	736.5	Unnamed	Manmade Ditch		
Doniphan	737.3	Unnamed	Intermittent Stream/River		
Doniphan	738.5	Trib.To North Branch Independence Creek	Perennial Stream/River		
Doniphan	739.2	Trib. To North Branch Independence Creek	Intermittent Stream/River		
Doniphan	740.8	Jordan Creek	Intermittent Stream/River	General Purpose; Expected Aquatic Life Use	No Data
Doniphan	742.4	Unnamed	Manmade Ditch		
Doniphan	742.4	Unnamed	Manmade Ditch		
Doniphan	742.6	Unnamed	Manmade Ditch		
Doniphan	743	Rock Creek	Perennial Stream/River	General Purpose; Expected Aquatic Life Use	No Data
Doniphan	743.5	Unnamed	Manmade Ditch		
Doniphan	744.1	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Doniphan	744.3	Unnamed	Manmade Ditch		
Doniphan	744.3	Unnamed	Manmade Ditch		
Doniphan	744.5	Unnamed	Manmade Ditch		
Doniphan	744.9	Trib.To Brush Creek	Intermittent Stream/River		
Doniphan	745	Unnamed	Manmade Ditch		
Doniphan	745.2	Unnamed	Manmade Ditch		
Doniphan	745.3	Unnamed	Manmade Ditch		
Doniphan	745.4	Unnamed	Manmade Ditch		
Doniphan	745.4	Unnamed	Manmade Ditch		
Doniphan	745.5	Unnamed	Manmade Ditch		
Doniphan	745.6	Brush Creek	Intermittent Stream/River	General Purpose; Aquatic Life Use	No Data
Doniphan	746.0	Trib. To Brush Creek	Intermittent Stream/River		
Doniphan	746.2	Unnamed	Manmade Ditch		
Doniphan	746.4	Unnamed	Manmade Ditch		
Doniphan	746.4	Trib. To Brush Creek	Intermittent Stream/River		
Doniphan	746.8	Trib. To Brush Creek	Perennial Stream/River		
Doniphan	747.5	Trib. To Missouri River	Perennial Stream/River		
Doniphan	747.7	Unnamed	Intermittent Stream/River		
Doniphan	748	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Doniphan	748	Unnamed	Manmade Ditch		
Doniphan	748.4	Trib. To	Intermittent		
		Missouri River	Stream/River		
Doniphan	748.7	Trib. To	Perennial Stream/River		
		Missouri River			
Doniphan	749.3	Unnamed	Manmade Ditch		
Doniphan	749.5	Trib. To	Perennial Stream/River		
		Missouri River			
Doniphan	750.2	Unnamed	Manmade Ditch		
Doniphan	750.4	Unnamed	Manmade Ditch		
Doniphan	750.9	Missouri River	Perennial Stream/River		
MISSOURI					
REX Parallel					
Buchanan	750.9	Missouri River	Artificial Path		
Buchanan	754.4	Unnamed	Canal/Ditch		
Buchanan	754.5	Unnamed	Manmade Ditch		
Buchanan	754.9	Unnamed	Manmade Ditch		
Buchanan	755.3	Unnamed	Intermittent		
			Stream/River		
Buchanan	755.5	Unnamed	Intermittent		
			Stream/River		
Buchanan	755.7	Unnamed	Manmade Ditch		
Buchanan	756.4	Contrary Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic	No Data
				Life and Human Health-Fish	
				Consumption; Whole Body Contact	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Recreation	
Buchanan	756.6	Unnamed	Canal/Ditch		
Buchanan	756.6	Unnamed	Manmade Ditch		
Buchanan	759.2	Unnamed	Open Water		
Buchanan	759.4	Unnamed	Manmade Ditch		
Buchanan	759.4	Unnamed	Manmade Ditch		
Buchanan	759.4	Unnamed	Manmade Ditch		
Buchanan	759.5	Unnamed	Manmade Ditch		
Buchanan	759.5	Unnamed	Manmade Ditch		
Buchanan	759.5	Unnamed	Manmade Ditch		
Buchanan	759.5	Unnamed	Manmade Ditch		
Buchanan	759.7	Unnamed	Manmade Ditch		
Buchanan	759.8	Unnamed	Manmade Ditch		
Buchanan	759.8	Unnamed	Manmade Ditch		
Buchanan	760.1	Unnamed	Manmade Ditch		
Buchanan	760.1	Unnamed	Manmade Ditch		
Buchanan	760.2	Unnamed	Manmade Ditch		
Buchanan	760.2	Unnamed	Manmade Ditch		
Buchanan	760.3	Trib. To Pigeon Creek	Perennial Stream/River		
Buchanan	760.4	Unnamed	Manmade Ditch		
Buchanan	760.6	Unnamed	Manmade Body		
Buchanan	760.6	Unnamed	Manmade Ditch		
Buchanan	760.7	Bee Creek	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Buchanan	760.9	Unnamed	Manmade Ditch		
Buchanan	760.9	Unnamed	Manmade Ditch		
Buchanan	760.9	Unnamed	Manmade Ditch		
Buchanan	760.9	Unnamed	Manmade Ditch		
Buchanan	761	Unnamed	Manmade Ditch		
Buchanan	761.5	Trib. To Pigeon Creek	Perennial Stream/River		
Buchanan	761.6	Unnamed	Canal/Ditch		
Buchanan	761.8	Trib. To Pigeon Creek	Intermittent Stream/River		
Buchanan	761.9	Unnamed	Intermittent Stream/River		
Buchanan	762.1	Trib. To Pigeon Creek	Intermittent Stream/River		
Buchanan	762.7	Unnamed	Intermittent Stream/River		
Buchanan	762.9	Unnamed	Manmade Ditch		
Buchanan	763	Pigeon Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Buchanan	763.3	Pigeon Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data

State / County	Approx. MP 764.1	Waterbody Name Unnamed	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Buchanan	764.6	Platte River	Perennial Stream/River	Irrigation Use; Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation; Drinking Water Supply	No Data
Buchanan	764.8	Unnamed	Manmade Ditch		
Buchanan	765	Unnamed	Intermittent Stream/River		
Buchanan	765.1	Unnamed	Manmade Ditch		
Buchanan	765.4	Trib To Platte River	Perennial Stream/River		
Buchanan	765.9	Unnamed	Manmade Ditch		
Buchanan	765.9	Unnamed	Manmade Ditch		
Buchanan	766.1	Trib To Platte River	Intermittent Stream/River		
Buchanan	766.3	Unnamed	Manmade Ditch		
Buchanan	766.5	Unnamed	Manmade Ditch		
Buchanan	766.7	Unnamed	Manmade Ditch		
Buchanan	766.8	Unnamed	Manmade Ditch		
Buchanan	767.1	Unnamed	Manmade Ditch		
Buchanan	767.2	Unnamed	Manmade Ditch		
Buchanan	768.3	Unnamed	Manmade Ditch		
Buchanan	768.4	Unnamed	Manmade Ditch		
Buchanan	768.4	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Buchanan	768.4	Unnamed	Intermittent Stream/River		
Buchanan	769.2	Malden Creek	Perennial Stream/River	No Data	No Data
Buchanan	771.1	Wolfpen Creek	Perennial Stream/River	No Data	No Data
Buchanan	771.3	Unnamed	Manmade Ditch		
Clinton	771.7	Jenkins Branch	Perennial Stream/River	No Data	No Data
Clinton	773.7	Unnamed	Manmade Ditch		
Clinton	775.3	Castile Creek	Perennial Stream/River	Class C, Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation; Drinking Water Supply	No Data
Clinton	776.1	Unnamed	Manmade Ditch		
Clinton	779.7	Unnamed	Manmade Ditch		
Clinton	779.7	Unnamed	Manmade Body		
Clinton	779.9	Unnamed	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Clinton	780.2	Unnamed	Manmade Ditch		
Clinton	780.6	Unnamed	Intermittent		
			Stream/River		
Clinton	780.7	Unnamed	Manmade Ditch		
Clinton	780.9	Unnamed	Intermittent		
			Stream/River		
Clinton	781.1	Horse Fork	Perennial Stream/River		
Clinton	781.3	Trib. To Horse	Intermittent		
		Fork	Stream/River		
Clinton	781.7	Unnamed	Manmade Pond		
Clinton	782.5	Unnamed	Perennial Stream/River		
Clinton	782.7	Unnamed	Intermittent		
			Stream/River		
Clinton	783	Unnamed	Intermittent		
			Stream/River		
Clinton	783	Unnamed	Manmade Ditch		
Clinton	783.3	Little Platte River	Perennial Stream/River	Class C, Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation; Class C	State Spawning Water (3/15-6/15)
Clinton	784.2	Trib To Little Platte River	Perennial Stream/River		
Clinton	784.3	Unnamed	Perennial Stream/River		
Clinton	784.4	Unnamed	Perennial Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Clinton	787.2	Unnamed	Intermittent		
O.I.		01 10 1	Stream/River		N. B.
Clinton	788.2	Shoal Creek	Perennial Stream/River	Livestock and Wildlife Watering;	No Data
				Protection of Warm Water Aquatic Life and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation; Secondary Contact Recreation	
Clinton	788.9	Little Shoal	Perennial Stream/River	No Data	No Data
	1 00.0	Creek	Totoliniai Garaanii Tavol	To Bala	Tio Bala
Clinton	789.2	Unnamed	Manmade Ditch		
Clinton	789.4	Unnamed	Manmade Ditch		
Clinton	789.4	Unnamed	Manmade Ditch		
Clinton	789.5	Unnamed	Manmade Ditch		
Clinton	789.7	Unnamed	Intermittent		
			Stream/River		
Clinton	790	Unnamed	Intermittent		
			Stream/River		
Clinton	790.7	Unnamed	Intermittent		
			Stream/River		
Clinton	790.8	Deer Creek	Perennial Stream/River	No Data	No Data
Clinton	792.2	Plum Creek	Intermittent	No Data	No Data
			Stream/River		
Clinton	792.5	Unnamed	Intermittent		
			Stream/River		
Clinton	792.5	Unnamed	Manmade Ditch		
Clinton	792.6	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Clinton	792.6	Unnamed	Manmade Ditch		
Caldwell	792.9	Unnamed	Manmade Ditch		
Caldwell	792.9	Unnamed	Manmade Ditch		
Caldwell	793.5	Unnamed	Perennial Stream/River		
Caldwell	793.9	Trib To Plum Creek	Perennial Stream/River		
Caldwell	793.9	Unnamed	Intermittent		
			Stream/River		
Caldwell	794.5	Unnamed	Manmade Ditch		
Caldwell	795.1	Unnamed	Intermittent		
			Stream/River		
Caldwell	795.1	Unnamed	Intermittent		
			Stream/River		
Caldwell	795.3	Unnamed	Manmade Ditch		
Caldwell	796.6	Trib. To Log	Intermittent		
		Creek	Stream/River		
Caldwell	797	Log Creek	Perennial Stream/River	No Data	No Data
Caldwell	797.3	Unnamed	Manmade Body		
Caldwell	797.6	Unnamed	Intermittent		
			Stream/River		
Caldwell	798.1	Unnamed	Manmade Ditch		
Caldwell	798.1	Unnamed	Manmade Ditch		
Caldwell	798.1	Unnamed	Manmade Ditch		
Caldwell	798.1	Unnamed	Manmade Ditch		
Caldwell	798.5	Unnamed	Manmade Body		
Caldwell	798.9	Log Creek	Perennial Stream/River	No Data	No Data

Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3	Creek D Unnamed Unnamed Unnamed Unnamed Unnamed Unnamed	Perennial Stream/River Manmade Ditch Manmade Ditch Manmade Ditch	No Data	No Data
Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799.	Unnamed Unnamed Unnamed Unnamed Unnamed	Manmade Ditch		
Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799.	Unnamed Unnamed Unnamed Unnamed	Manmade Ditch		
Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799. Caldwell 799.	Unnamed Unnamed			
Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3	2 Unnamed	Manmade Ditch		
Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3		Maninaue Ditti		
Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3) Hanamad	Manmade Ditch		
Caldwell 799.3 Caldwell 799.3 Caldwell 799.3 Caldwell 799.3	2 Unnamed	Manmade Ditch		
Caldwell 799.2 Caldwell 799.2 Caldwell 799.2	2 Unnamed	Manmade Ditch		
Caldwell 799.3 Caldwell 799.3	2 Unnamed	Manmade Ditch		
Caldwell 799.	2 Unnamed	Manmade Ditch		
	2 Unnamed	Manmade Ditch		
Caldwell 799.	2 Unnamed	Manmade Ditch		
	6 Unnamed	Manmade Ditch		
Caldwell 800	Unnamed	Manmade Ditch		
Caldwell 800	Unnamed	Intermittent Stream/River		
Caldwell 800.	5 Unnamed	Manmade Ditch		
Caldwell 801.	I Long Creek	Perennial Stream/River		
Caldwell 801.	5 Unnamed	Manmade Ditch		
Caldwell 801.	7 Unnamed	Manmade Ditch		
Caldwell 801.9	Unnamed	Manmade Ditch		
Caldwell 802	2 Unnamed	Manmade Ditch		
Caldwell 802.	Unnamed	Perennial Stream/River		
Caldwell 803	3 Unnamed	Intermittent Stream/River		
Caldwell 803.2		Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Caldwell	803.8	Brush Creek	Perennial Stream/River	Livestock and Wildlife Watering;	State Spawning Water
				Protection of Warm Water Aquatic	(3/15-6/15)
				Life and Human Health-Fish	
				Consumption	
Caldwell	804.2	Unnamed	Manmade Ditch		
Caldwell	804.3	Unnamed	Manmade Ditch		
Caldwell	804.3	Trib. To Brush	Perennial Stream/River		
		Creek			
Caldwell	804.6	Unnamed	Manmade Ditch		
Caldwell	805	Unnamed	Manmade Ditch		
Caldwell	805.2	Unnamed	Manmade Ditch		
Caldwell	805.8	Unnamed	Manmade Ditch		
Caldwell	805.9	Unnamed	Manmade Ditch		
Caldwell	805.9	Unnamed	Manmade Ditch		
Caldwell	806.3	Unnamed	Manmade Ditch		
Caldwell	807.1	Crabapple	Perennial Stream/River	Class C, Livestock and Wildlife	State Spawning Water
		Creek		Watering; Protection of Warm Water	(3/15-6/15)
				Aquatic Life and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation	
Caldwell	807.3	Trib. To	Perennial Stream/River		
		Crabapple			
		Creek			
Caldwell	807.4	Trib. To	Perennial Stream/River		
		Crabapple			
		Creek			

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Caldwell	807.4	Trib. To	Perennial Stream/River		
		Crabapple			
		Creek			
Caldwell	810	Unnamed	Perennial Stream/River		
Caldwell	810.4	Trib. To North	Perennial Stream/River		
		Mud Creek			
Caldwell	810.6	Unnamed	Manmade Ditch		
Caldwell	810.8	Unnamed	Manmade Ditch		
Caldwell	810.9	Unnamed	Manmade Ditch		
Caldwell	811	Trib. To North	Perennial Stream/River		
		Mud Creek			
Caldwell	811	Unnamed	Intermittent		
			Stream/River		
Caldwell	811.2	Unnamed	Intermittent		
			Stream/River		
Caldwell	811.3	Unnamed	Manmade Ditch		
Caldwell	811.4	Trib. To North	Perennial Stream/River		
		Mud Creek			
Caldwell	811.6	Unnamed	Manmade Ditch		
Caldwell	811.7	Trib. To North	Perennial Stream/River		
		Mud Creek			
Caldwell	812.2	Unnamed	Manmade Ditch		
Caldwell	812.3	Unnamed	Manmade Ditch		
Caldwell	812.4	Unnamed	Manmade Ditch		
Caldwell	812.5	Unnamed	Manmade Ditch		
Caldwell	812.6	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Caldwell	812.7	Trib. To North	Perennial Stream/River		
	ļ	Mud Creek			
Caldwell	813.1	Unnamed	Manmade Ditch		
Caldwell	813.1	Unnamed	Manmade Ditch		
Caldwell	813.9	Trib.To Mud Creek	Manmade Ditch		
Caldwell	814	Unnamed	Manmade Ditch		
Caldwell	814.9	Mud Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Caldwell	815.2	Unnamed	Manmade Ditch		
Caldwell	815.2	Jimmy Bond	Canal/Ditch		
Caldwell	815.3	Willow Creek	Perennial Stream/River		
Caldwell	816.6	Unnamed	Manmade Ditch		
Caldwell	816.8	Trib. To Mud Creek	Perennial Stream/River		
Caldwell	817.1	Trib. To Mud Creek	Perennial Stream/River		
Carroll	817.4	Unnamed	Manmade Ditch		
Carroll	817.6	Unnamed	Manmade Ditch		
Carroll	817.6	Unnamed	Manmade Ditch		
Carroll	818.2	Unnamed	Manmade Ditch		
Carroll	818.6	Turkey Creek	Perennial Stream/River		
Carroll	818.7	Trib. To Turkey	Perennial Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Creek			
Carroll	819.1	Trib. To Turkey	Intermittent		
		Creek	Stream/River		
Carroll	819.3	Unnamed	Intermittent		
			Stream/River		
Carroll	819.3	Unnamed	Manmade Ditch		
Carroll	820.3	Unnamed	Manmade Ditch		
Carroll	820.3	Unnamed	Manmade Ditch		
Carroll	820.7	Unnamed	Intermittent		
			Stream/River		
Carroll	820.7	Unnamed	Manmade Ditch		
Carroll	821.2	Unnamed	Intermittent		
			Stream/River		
Carroll	821.6	Unnamed	Intermittent		
			Stream/River		
Carroll	822.5	Unnamed	Manmade Ditch		
Carroll	822.6	Unnamed	Manmade Ditch		
Carroll	823.2	Unnamed	Manmade Ditch		
Carroll	823.3	Trib To Turkey Creek	Perennial Stream/River		
Carroll	823.6	Trib To Turkey	Perennial Stream/River		
		Creek			
Carroll	824.4	Unnamed	Manmade Ditch		
Carroll	824.4	Unnamed	Manmade Ditch		
Carroll	824.5	Unnamed	Intermittent		
			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Carroll	824.7	Unnamed	Manmade Ditch		
Carroll	824.7	Unnamed	Manmade Ditch		
Carroll	824.8	Trib To Turkey Creek	Perennial Stream/River		
Carroll	824.8	Unnamed	Manmade Ditch		
Carroll	825.6	Trib To Big Creek	Perennial Stream/River		
Carroll	825.8	Unnamed	Intermittent Stream/River		
Carroll	825.8	Unnamed	Intermittent Stream/River		
Carroll	825.8	Unnamed	Intermittent Stream/River		
Carroll	826.1	Trib To Big Creek	Perennial Stream/River		
Carroll	826.2	Unnamed	Manmade Ditch		
Carroll	826.9	Unnamed	Manmade Body		
Carroll	827.6	Unnamed	Manmade Ditch		
Carroll	827.8	Unnamed	Manmade Ditch		
Carroll	828	Unnamed	Intermittent Stream/River		
Carroll	828	Unnamed	Manmade Ditch		
Carroll	828.1	Unnamed	Manmade Ditch		
Carroll	828.1	Unnamed	Manmade Ditch		
Carroll	828.1	Unnamed	Manmade Ditch		
Carroll	828.5	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Carroll	828.7	Unnamed	Intermittent		
			Stream/River		
Carroll	829.8	Trib To Big	Perennial Stream/River		
		Creek			
Carroll	830.0	Unnamed	Manmade Ditch		
Carroll	830.0	Unnamed	Manmade Ditch		
Carroll	830.3	Unnamed	Manmade Ditch		
Carroll	832.2	Big Creek	Perennial Stream/River		
Carroll	832.5	Trib. To Big	Intermittent		
		Creek	Stream/River		
Carroll	832.6	Unnamed	Manmade Ditch		
Carroll	832.9	Trib. To Big	Perennial Stream/River		
		Creek			
Carroll	833.1	Unnamed	Manmade Ditch		
Carroll	833.1	Unnamed	Manmade Ditch		
Carroll	833.9	Unnamed	Manmade Ditch		
Carroll	834.4	Big Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Carroll	834.5	Unnamed	Manmade Ditch		
Carroll	834.5	Unnamed	Manmade Ditch		
Carroll	834.8	Trib. To Big Creek	Perennial Stream/River		
Carroll	835	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Carroll	835.2	Trib. To Big	Intermittent		
		Creek	Stream/River		
Carroll	836.4	Trib. To Wolf	Intermittent		
		Branch	Stream/River		
Carroll	836.8	Wolf Branch	Perennial Stream/River		
Carroll	836.8	Trib. To Wolf	Intermittent		
		Creek	Stream/River		
Carroll	837.6	Unnamed	Manmade Ditch		
Carroll	837.8	Unnamed	Intermittent		
			Stream/River		
Carroll	838.1	Unnamed	Manmade Ditch		
Carroll	838.2	Unnamed	Manmade Ditch		
Carroll	838.3	Little Hurricane	Intermittent		
		Creek	Stream/River		
Carroll	838.6	Unnamed	Manmade Ditch		
Carroll	838.6	Unnamed	Manmade Ditch		
Carroll	838.6	Unnamed	Manmade Ditch		
Carroll	839.6	Unnamed	Manmade Ditch		
Carroll	839.9	Little Hurricane	Intermittent		
		Creek	Stream/River		
Carroll	840.3	Unnamed	Intermittent		
			Stream/River		
Carroll	840.6	Unnamed	Manmade Ditch		
Carroll	840.6	Unnamed	Manmade Ditch		
Carroll	841	Unnamed	Intermittent		
			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Carroll	841.2	Unnamed	Manmade Ditch		
Carroll	841.2	Unnamed	Manmade Ditch		
Carroll	841.3	Unnamed	Manmade Ditch		
Carroll	841.3	Unnamed	Manmade Ditch		
Carroll	841.6	Unnamed	Manmade Ditch		
Carroll	842.3	Unnamed	Manmade Ditch		
Carroll	842.3	Unnamed	Manmade Ditch		
Carroll	842.6	Trib. To Grand	Intermittent		
		River	Stream/River		
Carroll	843.1	Unnamed	Manmade Ditch		
Carroll	843.2	Unnamed	Manmade Ditch		
Carroll	843.4	Grand River	Perennial Stream/River	Irrigation Use; Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation; Drinking Water Supply	No Data
Chariton	843.9	Grand River Slough	Perennial Stream/River		
Chariton	844.9	Unnamed	Manmade Ditch		
Chariton	845.3	Unnamed	Manmade Ditch		
Chariton	845.5	Unnamed	Manmade Ditch		
Chariton	845.6	Potter Slough	Intermittent Stream/River		
Chariton	846	Unnamed	Manmade Ditch		
Chariton	846.4	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Chariton	846.4	Unnamed	Manmade Ditch		
Chariton	846.5	Unnamed	Manmade Ditch		
Chariton	846.7	Unnamed	Intermittent Stream/River		
Chariton	846.9	Unnamed	Manmade Ditch		
Chariton	847	Unnamed	Manmade Ditch		
Chariton	847.1	Unnamed	Manmade Ditch		
Chariton	847.1	Unnamed	Manmade Ditch		
Chariton	847.2	Unnamed	Manmade Ditch		
Chariton	847.2	Unnamed	Manmade Ditch		
Chariton	847.7	Unnamed	Manmade Ditch		
Chariton	847.8	Unnamed	Manmade Ditch		
Chariton	847.9	Unnamed	Manmade Ditch		
Chariton	847.9	Unnamed	Manmade Ditch		
Chariton	847.9	Unnamed	Manmade Ditch		
Chariton	848.7	Salt Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Chariton	848.8	Trib. To Salt Creek	Intermittent Stream/River		
Chariton	849.4	Trib. To Salt Creek	Intermittent Stream/River		
Chariton	849.7	Unnamed	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Chariton	850.5	Trib. To Brush	Intermittent		
		Creek	Stream/River		
Chariton	851.1	Brush Creek	Intermittent		
			Stream/River		
Chariton	851.4	Trib. To Brush	Intermittent		
		Creek	Stream/River		
Chariton	853.5	Unnamed	Manmade Ditch		
Chariton	853.8	Unnamed	Intermittent		
			Stream/River		
Chariton	853.8	Unnamed	Manmade Ditch		
Chariton	853.9	Trib. To Lake	Intermittent		
		Creek	Stream/River		
Chariton	854.5	Unnamed	Manmade Ditch		
Chariton	854.5	Trib. To Lake	Intermittent		
		Creek	Stream/River		
Chariton	854.7	Lake Creek	Perennial Stream/River	Irrigation Use; Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Chariton	854.9	Unnamed	Manmade Ditch		
Chariton	856.9	Unnamed	Manmade Ditch		
Chariton	857.1	Palmer Creek	Perennial Stream/River		
Chariton	857.5	Unnamed	Manmade Ditch		
Chariton	857.5	Trib. To Palmer Creek	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Chariton	858.4	Unnamed	Manmade Ditch		
Chariton	858.5	Unnamed	Manmade Ditch		
Chariton	858.8	Unnamed	Manmade Ditch		
Chariton	859.2	Unnamed	Manmade Ditch		
Chariton	859.6	Unnamed	Manmade Ditch		
Chariton	859.6	Unnamed	Manmade Ditch		
Chariton	860.4	Mussel Fork	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Chariton	860.5	Unnamed	Manmade Ditch		
Chariton	861.1	Trib. To Mussel Fork	Intermittent Stream/River		
Chariton	861.9	Unnamed	Intermittent Stream/River		
Chariton	861.9	Unnamed	Pond		
Chariton	863.6	Unnamed	Manmade Ditch		
Chariton	863.6	Unnamed	Manmade Ditch		
Chariton	863.7	Long Creek	Perennial Stream/River		
Chariton	864.5	Unnamed	Manmade Ditch		
Chariton	864.8	Unnamed	Manmade Ditch		
Chariton	865.3	Chariton River	Perennial Stream/River	Irrigation Use; Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Recreation; Secondary Contact	
				Recreation	
Chariton	865.5	Unnamed	Manmade Ditch		
Chariton	865.5	Unnamed	Manmade Ditch		
Chariton	866	Unnamed	Manmade Ditch		
Chariton	866	Unnamed	Manmade Ditch		
Chariton	866.3	Unnamed	Intermittent		
			Stream/River		
Chariton	866.3	Unnamed	Intermittent		
			Stream/River		
Chariton	866.4	Unnamed	Manmade Ditch		
Chariton	866.4	Unnamed	Manmade Ditch		
Chariton	866.6	Unnamed	Intermittent		
			Stream/River		
Chariton	866.8	Unnamed	Intermittent		
			Stream/River		
Chariton	866.9	Unnamed	Intermittent		
			Stream/River		
Chariton	867.1	Unnamed	Manmade Ditch		
Chariton	867.9	Puzzle Creek	Perennial Stream/River	Livestock and Wildlife Watering;	No Data
				Protection of Warm Water Aquatic life	
				and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation	
Chariton	870.9	Unnamed	Manmade Ditch		
Chariton	870.9	Middle Fork	Perennial Stream/River	Livestock and Wildlife Watering;	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Chariton River		Protection of Warm Water Aquatic life	
				and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation	
Chariton	871.1	Unnamed	Pond		
Chariton	871.3	Lake Branch	Intermittent		
			Stream/River		
Chariton	871.6	Lake Branch	Intermittent		
			Stream/River		
Chariton	872	Trib. To Lake	Intermittent		
		Branch	Stream/River		
Chariton	872.1	Trib. to Lake	Intermittent		
		Branch	Stream/River		
Chariton	872.1	Trib. to Lake	Intermittent		
		Branch	Stream/River		
Chariton	873.1	Unnamed	Manmade Ditch		
Chariton	873.2	Unnamed	Manmade Ditch		
Chariton	873.3	Unnamed	Ephemeral		
Chariton	873.5	Unnamed	Intermittent		
			Stream/River		
Chariton	874.8	East Fork Little Chariton River	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Chariton	875.2	Unnamed	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Randolph	876.2	Unnamed	Manmade Ditch		
Randolph	876.6	Unnamed	Intermittent		
			Stream/River		
Randolph	877.4	Unnamed	Intermittent		
			Stream/River		
Randolph	877.7	Unnamed	Manmade Ditch		
Randolph	877.7	Unnamed	Manmade Ditch		
Randolph	878.9	Unnamed	Manmade Ditch		
Randolph	878.9	Unnamed	Manmade Ditch		
Randolph	879.2	Unnamed	Intermittent		
			Stream/River		
Randolph	880.1	Unnamed	Intermittent		
			Stream/River		
Randolph	881.1	Unnamed	Manmade Ditch		
Randolph	881.1	Unnamed	Manmade Ditch		
Randolph	881.4	Unnamed	Manmade Ditch		
Randolph	881.7	Unnamed	Intermittent		
			Stream/River		
Randolph	881.7	Unnamed	Intermittent		
			Stream/River		
Randolph	881.8	Unnamed	Manmade Ditch		
Randolph	881.9	Unnamed	Manmade Ditch		
Randolph	882.5	Unnamed	Manmade Ditch		
Randolph	882.5	Unnamed	Manmade Ditch		
Randolph	882.7	Unnamed	Intermittent		
			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Randolph	882.7	Unnamed	Intermittent		
			Stream/River		
Randolph	883	Unnamed	Manmade Ditch		
Randolph	883.1	Unnamed	Manmade Ditch		
Randolph	883.3	Unnamed	Intermittent		
			Stream/River		
Randolph	883.5	Unnamed	Manmade Ditch		
Randolph	884.4	Unnamed	Intermittent		
			Stream/River		
Randolph	884.5	Unnamed	Intermittent		
			Stream/River		
Randolph	884.5	Unnamed	Intermittent		
			Stream/River		
Randolph	884.5	Unnamed	Intermittent		
			Stream/River		
Randolph	884.5	Unnamed	Intermittent		
			Stream/River		
Randolph	885.1	Unnamed	Manmade Ditch		
Randolph	885.4	Unnamed	Intermittent		
			Stream/River		
Randolph	885.6	Moniteau	Intermittent		
		Creek	Stream/River		
Randolph	885.6	Unnamed	Intermittent		
			Stream/River		
Randolph	885.8	Unnamed	Manmade Ditch		
Randolph	885.9	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Randolph	886.2	Unnamed	Intermittent		
			Stream/River		
Randolph	886.3	Unnamed	Manmade Ditch		
Randolph	886.8	Unnamed	Intermittent		
			Stream/River		
Randolph	888.6	Unnamed	Intermittent		
			Stream/River		
Randolph	888.6	Unnamed	Intermittent		
			Stream/River		
Randolph	894.1	Unnamed	Manmade Ditch		
Randolph	894.5	Unnamed	Intermittent		
			Stream/River		
Randolph	895.2	Unnamed	Intermittent		
			Stream/River		
Randolph	895.8	Trib. To Big	Intermittent		
		Creek	Stream/River		
Randolph	895.9	Trib. To Big	Intermittent		
		Creek	Stream/River		
Randolph	895.9	Unnamed	Manmade Ditch		
Randolph	896.1	Unnamed	Manmade Ditch		
Randolph	896.5	Unnamed	Manmade Body		
Randolph	896.5	Unnamed	Manmade Ditch		
Randolph	896.6	Unnamed	Manmade Ditch		
Randolph	896.6	Unnamed	Manmade Ditch		
Randolph	897.1	Unnamed	Manmade Ditch		
Randolph	897.2	Big Creek	Perennial Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Audrain	898.5	Boat Branch	Intermittent Stream/River	No Data	No Data
Audrain	899.8	Unnamed	Manmade Ditch		
Audrain	900.3	Saling Creek	Perennial Stream/River	No Data	No Data
Audrain	900.4	Unnamed	Manmade Ditch		
Audrain	900.7	Unnamed	Manmade Body		
Audrain	900.7	Unnamed	Intermittent Stream/River		
Audrain	900.7	Unnamed	Intermittent Stream/River		
Audrain	900.8	Unnamed	Intermittent Stream/River		
Audrain	904	Long Branch	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Audrain	904	Unnamed	Manmade Ditch		
Audrain	904.9	Unnamed	Intermittent Stream/River		
Audrain	905.5	Unnamed	Intermittent Stream/River		
Audrain	906.3	Unnamed	Intermittent Stream/River		
Audrain	906.8	Trib. To Goodwater Creek	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Audrain	907.1	Goodwater	Perennial Stream/River	No Data	No Data
		Creek			
Audrain	907.2	Unnamed	Manmade Ditch		
Audrain	908.9	Unnamed	Intermittent		
			Stream/River		
Audrain	910.7	Unnamed	Perennial Stream/River		
Audrain	910.7	Unnamed	Manmade Ditch		
Audrain	911.4	Youngs Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Audrain	916	Unnamed	Manmade Ditch		
Audrain	916.5	Unnamed	Manmade Ditch		
Audrain	916.5	Unnamed	Manmade Body		
Audrain	916.7	Unnamed	Manmade Ditch		
Audrain	916.8	Unnamed	Manmade Body		
Audrain	917	Unnamed	Manmade Ditch		
Audrain	917.3	Unnamed	Manmade Ditch		
Audrain	917.5	Unnamed	Manmade Ditch		
Audrain	917.9	Unnamed	Intermittent		
			Stream/River		
Audrain	918.2	Trib. To Lick	Intermittent		
		Creek	Stream/River		
Audrain	918.2	Unnamed	Manmade Ditch		
Audrain	918.3	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Audrain	919.1	Unnamed	Manmade Ditch		
Audrain	919.7	Skull Lick Creek	Perennial Stream/River	No Data	No Data
Audrain	919.9	Unnamed	Manmade Ditch		
Audrain	919.9	Unnamed	Manmade Ditch		
Audrain	920.8	Trib. To South Fork Salt River	Intermittent Stream/River		
Audrain	921.6	South Fork Salt Creek	Perennial Stream/River		
Audrain	922.2	Unnamed	Manmade Ditch		
Audrain	922.6	Unnamed	Manmade Ditch		
MISSOURI					
Audrain	924.8	Trib To Bean Branch	Perennial Stream/River		
Audrain	924.8	Unnamed	Perennial Stream/River		
Audrain	924.9	Unnamed	Perennial Stream/River		
Audrain	925	Trib To Bean Branch	Perennial Stream/River		
Audrain	925	Unnamed	Intermittent Stream/River		
Audrain	925.5	Bean Branch	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Audrain	926.8	Unnamed	Intermittent		

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
Audrain	927.9	Unnamed	Intermittent		
			Stream/River		
Audrain	928	Unnamed	Intermittent		
			Stream/River		
Audrain	928.2	Unnamed	Intermittent		
			Stream/River		
Audrain	928.4	Unnamed	Manmade Ditch		
Audrain	929.1	Trib. Of Littleby	Intermittent		
		Creek	Stream/River		
Audrain	929.3	Littleby Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Audrain	931.8	West Fork Cuivre River	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
Audrain	932.6	Trib To West Fork Cuivre River	Perennial Stream/River		
Audrain	934	Mams Slough	Perennial Stream/River		
Audrain	934.2	Unnamed	Intermittent		
			Stream/River		
Audrain	934.8	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
Audrain	935.6	Johns Branch	Perennial Stream/River		
Montgomery	937.7	Unnamed	Intermittent		
			Stream/River		
Montgomery	938.1	Unnamed	Intermittent		
			Stream/River		
Montgomery	940.1	Unnamed	Intermittent		
			Stream/River		
Montgomery	940.6	Unnamed	Intermittent		
			Stream/River		
Montgomery	941.7	Unnamed	Intermittent		
			Stream/River		
Montgomery	942.3	Unnamed	Intermittent		
			Stream/River		
Montgomery	942.9	Coon Creek	Perennial Stream/River		
Montgomery	943.6	Trib. To Coon	Intermittent		
		Creek	Stream/River		
Montgomery	944.2	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	945.2	Unnamed	Intermittent		
			Stream/River		
Montgomery	945.7	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	946.1	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	946.4	Unnamed	Channel Intermittent		
			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Montgomery	946.5	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	946.6	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	946.6	Unnamed	Channel Intermittent		
			Stream/River		
Montgomery	948.9	Unnamed	Intermittent		
			Stream/River		
Montgomery	949.7	Unnamed	Intermittent		
			Stream/River		
Montgomery	950.4	Long Branch	Intermittent		
		Creek	Stream/River		
Montgomery	950.6	Long Branch	Intermittent		
		Creek	Stream/River		
Montgomery	950.8	Unnamed	Manmade Body		
Montgomery	951.2	Unnamed	Manmade Ditch		
Montgomery	951.6	Ephemeral	Ephemeral		
		Channel			
Montgomery	951.8	Elkhorn Creek	Perennial Stream/River		
Montgomery	951.9	Unnamed	Intermittent		
			Stream/River		
Montgomery	952.6	Unnamed	Manmade Ditch		
Montgomery	953.7	Channel Cow	Ephemeral		
		Pasture			
Montgomery	954.1	Channel	Intermittent		
			Stream/River		
Montgomery	954.2	Brush Creek	Perennial Stream/River	Livestock and Wildlife Watering;	No Data

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Protection of Warm Water Aquatic life	
				and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation	
Montgomery	954.7	Unnamed	Intermittent		
			Stream/River		
Montgomery	955.2	Unnamed	Lake/Pond		
Montgomery	955.8	Trib. To Brush	Intermittent		
		Creek	Stream/River		
Montgomery	955.9	Unnamed	Manmade Ditch		
Montgomery	955.9	Unnamed	Manmade Ditch		
Montgomery	956.5	Trib. To Brush	Intermittent		
		Creek	Stream/River		
Montgomery	956.7	Unnamed	Manmade Ditch		
Lincoln	958.6	Bear Creek	Perennial Stream/River	Livestock and Wildlife Watering;	No Data
				Protection of Warm Water Aquatic life	
				and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation; Class C	
Lincoln	958.8	Camp Creek	Perennial Stream/River	No Data	No Data
Lincoln	961.6	Trib. To West	Intermittent		
		Fork Cuivre	Stream/River		
		River			
Lincoln	961.8	Trib. To West	Intermittent		
		Fork Cuivre	Stream/River		
		River			
Lincoln	962.4	Trib. To West	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Fork Cuivre	Stream/River		
		River			
Lincoln	964	Trib. To West	Intermittent		
		Fork Cuivre	Stream/River		
		River			
Lincoln	964.8	Trib. To Turkey	Intermittent		
		Creek	Stream/River		
Lincoln	965	Turkey Creek	Perennial Stream/River		
Lincoln	965.6	Trib. To West	Intermittent		
		Fork Cuivre	Stream/River		
		River			
Lincoln	966	Trib. To West	Intermittent		
		Fork Cuivre	Stream/River		
		River			
Lincoln	966.9	Unnamed	Lake/Pond		
Lincoln	967.4	Cottonwood	Intermittent		
		Branch	Stream/River		
Lincoln	968.1	Unnamed	Intermittent		
			Stream/River		
Lincoln	968.8	Unnamed	Intermittent		
			Stream/River		
Lincoln	969.1	Unnamed	Intermittent		
			Stream/River		
Lincoln	969.5	Unnamed	Manmade Body		
Lincoln	970.8	Spring Creek	Intermittent		
			Stream/River		
Lincoln	973.5	Trib. To Town	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
		Branch	Stream/River		
Lincoln	973.7	Trib. To Town	Intermittent		
		Branch	Stream/River		
Lincoln	974.3	Cuivre River	Perennial Stream/River	Livestock and Wildlife Watering;	No Data
				Protection of Warm Water Aquatic	
				Life and Human Health-Fish	
				Consumption; Whole Body Contact	
				Recreation; Secondary Contact	
				Recreation	
Lincoln		Sugar Creek	Intermittent		
			Stream/River		
Lincoln	976.8	Unnamed	Manmade Ditch		
Lincoln	978.5	Unnamed	Manmade Ditch		
Lincoln	979.1	Unnamed	Lake/Pond		
Lincoln	979.7	Trib. To Cuivre	Intermittent		
		River	Stream/River		
Lincoln	980.2	Keelstone	Intermittent		
		Branch	Stream/River		
Lincoln	981.2	Unnamed	Intermittent		
			Stream/River		
Lincoln	981.6	Goshong	Intermittent		
		Branch	Stream/River		
Lincoln	982.1	Unnamed	Open Water		
Lincoln	982.7	Campbell	Intermittent		
		Branch	Stream/River		
Lincoln	985.6	Jordan Branch	Perennial Stream/River	Livestock and Wildlife Watering;	No Data
		River		Protection of Warm Water Aquatic	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Life and Human Health-Fish Consumption; Whole Body Contact Recreation	
St. Charles	985.7	Cuivre River	Perennial Stream/River		
St. Charles	987.7	Unnamed	Manmade Ditch		
St. Charles	989.5	Unnamed	Intermittent Stream/River		
St. Charles	992.7	Peruque Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation	No Data
St. Charles	993.4	Unnamed	Open Water		
St. Charles	993.6	Unnamed	Manmade Ditch		
St. Charles	994.8	Trib. To Peruque River	Perennial Stream/River		
St. Charles	995.1	Unnamed	Manmade Body		
St. Charles	999.2	Dardenne Creek	Perennial Stream/River	Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation	No Data
St. Charles	999.7	Unnamed	Manmade Ditch		
St. Charles	1001.4	Unnamed	Manmade Ditch		
St. Charles	1001.9	Unnamed	Manmade Ditch		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
St. Charles	1003.3	Unnamed	Manmade Ditch		
St. Charles	1003.4	Unnamed	Manmade Ditch		
St. Charles	1004.4	Unnamed	Manmade Ditch		
St. Charles	1005.1	Unnamed	Manmade Ditch		
St. Charles	1013.1	Unnamed	Lake/Pond		
St. Charles	1013.1	Unnamed	Lake/Pond		
St. Charles	1013.2	Unnamed	Manmade Body		
ILLINOIS			•		
Madison	1024.7	Mississippi River	Perennial Stream/River	Irrigation; Livestock and Wildlife Watering; Protection of Warm Water Aquatic Life and Human Health-Fish Consumption; Whole Body Contact Recreation; Secondary Contact Recreation; Drinking Water Supply; Industrial Process Water and Cooling Water	Not Assessed
Madison	1024.9	Mississippi River	Perennial Stream/River		
Madison	1028.8	Unnamed	Lake/Pond		
Madison	1030	Indian Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Not Supporting; Fully Supporting; Not Assessed Not Assessed; Not Assessed
Madison	1031.1	Cahokia Canal	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Fully Supporting; Fully Supporting; Not Supporting Not Assessed; Not

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
					Assessed
Madison	1032.3	Trib. To	Intermittent		
		Cahokia Creek	Stream/River		
Madison	1033.1	Unnamed	Intermittent		
			Stream/River		
Madison	1034	Unnamed	Intermittent		
			Stream/River		
Madison	1035.1	Mooney Creek	Perennial Stream/River	Aquatic Life; Fish Consumption;	Not Assessed
				Primary Contact; Secondary Contact;	
				Aesthetic Quality	
Madison	1035.2	Sugar Creek	Perennial Stream/River		
Madison	1035.5	Sugar Creek	Perennial Stream/River		
Madison	1035.5	Sugar Creek	Perennial Stream/River		
Madison	1035.6	Unnamed	Intermittent		
			Stream/River		
Madison	1035.6	Sugar Creek	Perennial Stream/River		
Madison	1035.8	Sugar Creek	Perennial Stream/River		
Madison	1035.8	Trib. To Sugar	Perennial Stream/River		
		Creek			
Madison	1038.6	Unnamed	Perennial Stream/River		
Madison	1038.8	Unnamed	Intermittent		
			Stream/River		
Madison	1038.9	Unnamed	Intermittent		
			Stream/River		
Madison	1040.6	Trib. To Silver	Perennial Stream/River		
		Creek			

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Madison	1040.7	Trib. To Silver Creek	Perennial Stream/River		
Madison	1040.7	Trib. To Silver Creek	Perennial Stream/River		
Madison	1040.7	Trib. To Silver Creek	Perennial Stream/River		
Madison	1040.9	Silver Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Not Supporting; Fully Supporting; Not Assessed; Not Assessed; Not Assessed
Madison	1041.7	Trib. To Silver Creek	Perennial Stream/River		
Madison	1042.5	Unnamed	Perennial Stream/River		
Madison	1044.5	Trib. To Sugar Fork Creek	Perennial Stream/River		
Madison	1044.8	Sugar Fork Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Not Assessed
Madison	1044.9	Crop Drainage	Channel Intermitten Stream/River		
Madison	1044.9	Crop Drainage	Intermittent Stream/River		
Madison	1044.9	Crop Drainage	Intermittent Stream/River		
Madison	1046.6	Sand Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Not Assessed

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Madison	1047	Trib. Of Sand Creek	Perennial Stream/River		
Madison	1049.9	Silver Lake	Lake	Aquatic Life; Fish Consumption; Public Food and Processing Water Supplies; Primary Contact; Secondary Contact; Aesthetic Quality	Not Supporting; Not Supporting; Not Supporting; Not Assessed; Not Assessed; Not Supporting
Madison	1049.9	Silver Lake	Open Water		
Madison	1051.6	Unnamed	Manmade Ditch		
Madison	1051.9	Unnamed	Intermittent Stream/River		
Madison	1052.9	Unnamed	Intermittent Stream/River		
Bond	1054.8	Unnamed	Intermittent Stream/River		
Bond	1057.3	Trib Of Shoal Creek	Intermittent Stream/River		
Bond	1058.1	Unnamed	Intermittent Stream/River		
Bond	1058.1	Unnamed	Intermittent Stream/River		
Bond	1058.4	Trib. To Shoal Creek	Intermittent Stream/River		
Bond	1058.9	Unnamed	Manmade Ditch		
Bond	1059.2	Shoal Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Public Food and Processing Water Supplies; Primary Contact; Secondary Contact; Aesthetic Quality	Not Supporting/Fully Supporting; Fully Supporting/Not Assessed; Not Supporting; Not

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
					Supporting/Not Assessed; Not Assessed
Bond	1059.9	Unnamed	Perennial Stream/River		
Bond	1060.4	Unnamed	Manmade Ditch		
Bond	1060.7	Unnamed	Manmade Ditch		
Bond	1060.8	Unnamed	Intermittent Stream/River		
Bond	1060.8	Unnamed	Intermittent Stream/River		
Bond	1062.5	Pond	Pond Side		
Bond	1062.6	Unnamed	Intermittent Stream/River		
Bond	1063.2	Beaver Creek	Perennial Stream/River		
Bond	1064.9	Pond	Lake/Pond		
Bond	1065.4	Little Beaver Creek	Perennial Stream/River	Aquatic Life; Fish Consumption; Primary Contact; Secondary Contact; Aesthetic Quality	Not Assessed
Bond	1065.7	Trib Of Little Beaver Creek	Perennial Stream/River		
Bond	1065.8	Pond	Lake/Pond		
Bond	1066.1	Trib Of Little Beaver Creek	Intermittent Stream/River		
Bond	1066.3	Unnamed	Intermittent Stream/River		
Bond	1067	Unnamed	Intermittent Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Bond	1067.2	Unnamed	Intermittent		
			Stream/River		
Bond	1068.1	Flat Branch	Manmade Ditch		
Bond	1069.8	Unnamed	Intermittent		
			Stream/River		
Bond	1070.3	Unnamed	Manmade Ditch		
Bond	1070.9	Spring Branch	Perennial Stream/River		
		Creek			
Bond	1071.3	Trib. Of Spring	Perennial Stream/River		
		Branch			
Bond	1072.2	Unnamed	Manmade Body		
Fayette	1073.9	Unnamed	Open Water		
Fayette	1074.1	Hurricane	Perennial Stream/River		
		Creek			
Fayette	1074.2	Hurricane	Perennial Stream/River		
		Creek			
Fayette	1074.5	Unnamed	Manmade Body		
Fayette	1074.6	Unnamed	Manmade Body		
Fayette	1074.7	Unnamed	Manmade Ditch		
Fayette	1075.8	Unnamed	Manmade Body		
Fayette	1075.9	Kaskaskia	Perennial Stream/River	Aquatic Life; Fish Consumption;	Not Supporting/Not
		River		Public Food and Processing Water	Assessed; Fully Supporting;
				Supplies; Primary Contact;	Not Supporting; Not
				Secondary Contact; Aesthetic Quality	Supporting/Fully
					Supporting/Not Assessed;
					Not Assessed

Major and Sensitive Waterbodies Supports Use Waterbody Intermittent, Perennial, Approx. State / Designation¹ MP Name Reservoir, or Lake State Water Quality Classification¹ County Fayette 1076.5 Unnamed Perennial Stream/River 1078 Unnamed Manmade Ditch Fayette Fayette 1078.3 Unnamed Manmade Ditch Fayette 1078.6 Unnamed Manmade Ditch 1079.4 Unnamed Marion Manmade Ditch Marion 1080.2 Unnamed Intermittent Stream/River Manmade Ditch Marion 1080.8 Unnamed Defined Marion 1080.9 Intermittent Artificial Channel Path Perennial Stream/River 1080.9 Willet Rd Creek Marion Marion 1081.6 Unnamed Intermittent Stream/River **CUSHING EXTENSION NEBRASKA** Jefferson 0.7 Unnamed Perennial Jefferson 0.7 Unnamed Intermittent Stream/River Jefferson Pond Pond 1.3 Jefferson Unnamed Intermittent 1.8 Stream/River Jefferson 2.0 Unnamed Intermittent Stream/River

Jefferson

Unnamed

Ephemeral

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Kansas	1				
Washington	2.7	Unnamed	Ephemeral		
Washington	2.7	Unnamed	Ephemeral		
	2.9	Unnamed	Intermittent		
Washington			Stream/River		
	3.7	Unnamed	Intermittent		
Washington			Stream/River		
	4.2	Little Blue River	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
				Domestic Water Supply; Food	
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
Washington				Irrigation; Livestock Watering	
	4.7	Unnamed	Intermittent		
Washington			Stream/River		
	4.7	Unnamed	Intermittent		
Washington			Stream/River		
	4.9	Unnamed	Intermittent		
Washington			Stream/River		
	5.4	Unnamed	Intermittent		
Washington			Stream/River		
	5.4	Unnamed	Intermittent		
Washington			Stream/River		
	5.7	Unnamed	Intermittent		
Washington			Stream/River		
Washington	6.9	Unnamed	Perennial		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Washington	9.2	Unnamed	Connector		
	9.7	Mill Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Secondary Contact	
				Recreation Not Open to Public; Food	
Washington				Procurement Use	
	11	Unnamed	Intermittent		
Washington			Stream/River		
	11.8	Unnamed	Intermittent		
Washington			Stream/River		
	12.1	Mill Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Secondary Contact	
				Recreation Not Open to Public; Food	
Washington				Procurement Use	
	13.6	Mill Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Secondary Contact	
				Recreation Not Open to Public; Food	
Washington				Procurement Use	
	15.9	Unnamed	Intermittent		
Washington			Stream/River		
	21.8	Unnamed	Intermittent		
Washington			Stream/River		
	21.8	Unnamed	Intermittent		
Washington			Stream/River		
	21.8	Unnamed	Intermittent		
Washington			Stream/River		
	22	Unnamed	Intermittent		
Washington			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	22.1	Unnamed	Intermittent		
Washington			Stream/River		
	22.7	Coon Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public; Food	
Washington				Procurement Use	
	23.9	Trib Of Coon	Perennial		
Washington		Creek			
	24.2	Unnamed	Intermittent		
Washington			Stream/River		
	26.1	Trib Of Coon	Intermittent		
Washington		Creek	Stream/River		
	26.1	Unnamed	Intermittent		
Washington			Stream/River		
Washington	26.5	Unnamed	Connector		
	29.7	Unnamed	Intermittent		
Washington			Stream/River		
	30.4	Unnamed	Intermittent		
Washington			Stream/River		
	30.6	Unnamed	Intermittent		
Washington			Stream/River		
	30.9	Unnamed	Intermittent		
Washington			Stream/River		
	30.9	Unnamed	Intermittent		
Washington			Stream/River		
	31.4	Unnamed	Intermittent		
Washington			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	32.2	Unnamed	Intermittent		
Washington			Stream/River		
	33.3	Unnamed	Intermittent		
Washington			Stream/River		
	33.4	Unnamed	Intermittent		
Clay			Stream/River		
	34.8	Carter Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Secondary Contact	
Clay				Recreation Not Open to Public	
	36.4	West Fancy	Perennial	General Purpose Waters; Expected	Supporting
		Creek		Aquatic Life Use; Primary Contact	
Clay				Recreation Not Open to Public	
	43.9	Unnamed	Intermittent		
Clay			Stream/River		
	43.9	Unnamed	Intermittent		
Clay			Stream/River		
	43.9	Unnamed	Intermittent		
Clay			Stream/River		
	44	Lincoln Creek	Intermittent	General Purpose Waters; Expected	Supporting
			Stream/River	Aquatic Life Use; Secondary Contact	
Clay				Recreation Not Open to Public	
	45.6	Trib Of Lincoln	Intermittent		
Clay		Creek	Stream/River		
	51.2	Republican	Artifical Path	General Purpose Waters; Special	Supporting
		River		Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
Clay				Domestic Water Supply; Food	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
				Irrigation; Livestock Watering	
	52.6	Unnamed	Intermittent		
Clay			Stream/River		
Clay	54.1	Cane Creek	Perennial		
	58	Unnamed	Intermittent		
Clay			Stream/River		
	58.2	Unnamed	Intermittent		
Clay			Stream/River		
	59.4	Unnamed	Intermittent		
Clay			Stream/River		
	59.4	Unnamed	Intermittent		
Clay			Stream/River		
Clay	59.5	Unnamed	Open Water		
	60.2	Unnamed	Intermittent		
Clay			Stream/River		
	60.3	Unnamed	Intermittent		
Clay			Stream/River		
	68.9	Chapman	Perennial	General Purpose Waters; Expected	Supporting
		Creek		Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
				Domestic Water Supply; Food	
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
Clay				Irrigation; Livestock Watering	
Dickinson	69.5	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
Dickinson	70.3	Unnamed	Perennial		
	70.7	Unnamed	Intermittent		
Dickinson			Stream/River		
	72	Unnamed	Intermittent		
Dickinson			Stream/River		
Dickinson	72.1	Unnamed	Perennial		
	72.1	Unnamed	Intermittent		
Dickinson			Stream/River		
	72.2	Unnamed	Intermittent		
Dickinson			Stream/River		
	76.6	Smokey Hill	Artifical Path	General Purpose Waters; Expected	Supporting
		River		Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
				Domestic Water Supply; Food	
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
Dickinson				Irrigation; Livestock Watering	
	81.5	Unnamed	Intermittent		
Dickinson			Stream/River		
	85.2	Unnamed	Intermittent		
Dickinson			Stream/River		
	86.3	Unnamed	Intermittent		
Dickinson			Stream/River		
	87.1	Carry Creek	Perennial	General Purpose Waters; Special	Supporting
				Aquatic Life Use; Food Procurement	
Dickinson				Use	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
Dickinson	87.7	Unnamed	Pond		
	89.7	Unnamed	Channel Intermittent		
Dickinson			Stream/River		
	91.1	Unnamed	Intermittent		
Dickinson			Stream/River		
	91.7	Unnamed	Drainage Intermittent		
Dickinson			Stream/River		
	92.1	West Branch	Perennial	General Purpose Waters; Special	Supporting
		Lyon Creek		Aquatic Life Use; Food Procurement	
Dickinson				Use	
	95.3	Unnamed	Channel Intermittent		
Dickinson			Stream/River		
	96.4	Unnamed	Channel Intermittent		
Dickinson			Stream/River		
	96.9	Unnamed	Intermittent		
Dickinson			Stream/River		
Dickinson	97.2	Unnamed	Perennial		
Dickinson	98.8	Unnamed	Perennial		
	100.1	Unnamed	Intermittent		
Dickinson			Stream/River		
	105.3	Unnamed	Intermittent		
Marion			Stream/River		
	106.4	Unnamed	Intermittent		
Marion			Stream/River		
	106.4	Unnamed	Intermittent		
Marion			Stream/River		
Marion	108.8	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	109.5	Unnamed	Intermittent		
Marion			Stream/River		
	111.7	Unnamed	Intermittent		
Marion			Stream/River		
	111.7	Unnamed	Intermittent		
Marion			Stream/River		
	112	Unnamed	Intermittent		
Marion			Stream/River		
	112.7	Unnamed	Intermittent		
Marion			Stream/River		
	114.2	Mud Creek	Perennial	General Purpose Waters; Special	Supporting
				Aquatic Life Use; Domestic Water	
Marion				Supply; Food Procurement Use	
	114.9	Unnamed	Intermittent		
Marion			Stream/River		
	115.3	Unnamed	Intermittent		
Marion			Stream/River		
	117.2	Cottonwood	Perennial	General Purpose Waters; Expected	Supporting
		River		Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
				Domestic Water Supply; Food	
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
Marion				Irrigation; Livestock Watering	
	119.0	Spring Creek	Perennial	General Purpose Waters; Expected	Supporting
Marion				Aquatic Life Use	

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	119.9	Unnamed	Intermittent		
Marion			Stream/River		
	120.0	Unnamed	Intermittent		
Marion			Stream/River		
	120.0	Unnamed	Intermittent		
Marion			Stream/River		
	120.0	Unnamed	Intermittent		
Marion			Stream/River		
	120.0	Unnamed	Intermittent		
Marion			Stream/River		
	120.0	Unnamed	Intermittent		
Marion			Stream/River		
	120.7	Unnamed	Intermittent		
Marion			Stream/River		
	122.7	Unnamed	Intermittent		
Marion			Stream/River		
	123.6	Unnamed	Intermittent		
Marion			Stream/River		
	123.6	Caitlin Creek	Perennial	General Purpose Waters; Special	Supporting
				Aquatic Life Use; Food Procurement	
Marion				Use	
	124.0	Unnamed	Intermittent		
Marion			Stream/River		
	124.3	Unnamed	Intermittent		
Marion			Stream/River		
	124.4	Unnamed	Intermittent		
Marion			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	126.7	Unnamed	Intermittent		
Marion			Stream/River		
	128.3	Doyle Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Domestic Water	
				Supply; Food Procurement Use;	
				Groundwater Recharge; Industrial	
				Water Supply; Irrigation; Livestock	
Marion				Watering	
	129.0	Unnamed	Intermittent		
Marion			Stream/River		
	129.6	Unnamed	Intermittent		
Marion			Stream/River		
	130.3	Unnamed	Intermittent		
Marion			Stream/River		
	130.4	Unnamed	Intermittent		
Marion			Stream/River		
	130.4	Unnamed	Intermittent		
Marion			Stream/River		
	133.1	Unnamed	Intermittent		
Marion			Stream/River		
	133.1	Unnamed	Intermittent		
Marion			Stream/River		
	133.2	Unnamed	Intermittent		
Marion			Stream/River		
	133.5	Unnamed	Intermittent		
Marion			Stream/River		
Marion	136.3	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	136.4	Unnamed	Intermittent		
Butler			Stream/River		
	136.4	Unnamed	Intermittent		
Butler			Stream/River		
	136.4	Unnamed	Intermittent		
Butler			Stream/River		
	137.7	Unnamed	Intermittent		
Butler			Stream/River		
	140.3	May Branch	Intermittent	No Data	No Data
Butler			Stream/River		
	142.6	East Branch	Perennial	General Purpose Waters; Expected	Supporting
		Whitewater		Aquatic Life Use; Domestic Water	
		River		Supply; Food Procurement Use;	
				Groundwater Recharge; Industrial	
				Water Supply; Irrigation; Livestock	
Butler				Watering	
Butler	145.1	Diamond Creek	Perennial	No Data	No Data
	145.7	Brush Creek	Intermittent	No Data	No Data
Butler			Stream/River		
	148.8	Four Mile	Perennial	General Purpose Waters; Expected	Supporting
		Creek		Aquatic Life Use; Food Procurement	
Butler				Use	
	148.9	Four Mile	Perennial		
Butler		Creek Meander			
	148.9	Four Mile	Perennial		
Butler		Creek Meander			

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	149.0	Unnamed	Intermittent		
Butler			Stream/River		
	149.0	Unnamed	Intermittent		
Butler			Stream/River		
	149.1	Unnamed	Intermittent		
Butler			Stream/River		
	151.0	Rock Creek	Perennial	General Purpose Waters; Expected	Supporting
Butler				Aquatic Life Use	
	153.6	Unnamed	Intermittent		
Butler			Stream/River		
	155.0	Spring Branch	Perennial	General Purpose Waters; Expected	Supporting
Butler		Creek		Aquatic Life Use	
	156.1	Unnamed	Intermittent		
Butler			Stream/River		
	156.4	Unnamed	Intermittent		
Butler			Stream/River		
Butler	156.8	Unnamed	Open Water		
	158.3	Whitewater	Perennial	General Purpose Waters; Expected	Supporting
		River		Aquatic Life Use; Domestic Water	
				Supply; Food Procurement Use;	
				Groundwater Recharge; Industrial	
				Water Supply; Irrigation; Livestock	
Butler				Watering	
	159.2	Badger Creek	Intermittent	General Purpose Waters; Expected	Supporting
			Stream/River	Aquatic Life Use; Domestic Water	
Butler				Supply	
Butler	160.0	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	160.7	Unnamed	Intermittent		
Butler			Stream/River		
	161.3	Unnamed	Intermittent		
Butler			Stream/River		
	164.2	Dry Creek	Perennial	General Purpose Waters; Expected	Supporting
Butler				Aquatic Life Use	
	167.7	Unnamed	Intermittent		
Butler			Stream/River		
	168.1	Fourmile Creek	Perennial	General Purpose Waters; Expected	Supporting
				Aquatic Life Use; Primary Contact	
				Recreation Not Open to Public;	
				Domestic Water Supply; Food	
				Procurement Use; Groundwater	
				Recharge; Industrial Water Supply;	
Butler				Irrigation; Livestock Watering	
	169.7	Unnamed	Intermittent		
Butler			Stream/River		
	172.6	Unnamed	Intermittent		
Butler			Stream/River		
	174.9	Eight Mile	Perennial	General Purpose Waters; Expected	Supporting
		Creek		Aquatic Life Use; Domestic Water	
				Supply; Food Procurement Use;	
				Groundwater Recharge; Industrial	
				Water Supply; Irrigation; Livestock	
Butler				Watering	
Butler	175.8	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	177.6	Unnamed	Intermittent		
Butler			Stream/River		
	178.2	Unnamed	Intermittent		
Butler			Stream/River		
	178.9	Unnamed	Intermittent		
Butler			Stream/River		
	179.0	Trib Of Polecat	Perennial		
Cowley		Creek			
	181.0	Polecat Creek	Intermittent	General Purpose Waters; Expected	Supporting
			Stream/River	Aquatic Life Use; Food Procurement	
Cowley				Use	
	182.5	Unnamed	Intermittent		
Cowley			Stream/River		
	185.5	Stewart Creek	Perennial	General Purpose Waters; Expected	Supporting
Cowley				Aquatic Life Use	
	185.6	Stewart Creek	Perennial	General Purpose Waters; Expected	Supporting
Cowley				Aquatic Life Use	
	185.6	Stewart Creek	Perennial	General Purpose Waters; Expected	Supporting
Cowley				Aquatic Life Use	
	187.1	Unnamed	Intermittent		
Cowley			Stream/River		
	187.1	Unnamed	Intermittent		
Cowley			Stream/River		
	187.1	Unnamed	Intermittent		
Cowley			Stream/River		
Cowley	187.1	Unnamed	Intermittent		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	187.1	Unnamed	Intermittent		
Cowley			Stream/River		
	188.2	Unnamed	Intermittent		
Cowley			Stream/River		
	188.4	Crooked Creek	Intermittent	General Purpose Waters; Expected	Supporting
Cowley			Stream/River	Aquatic Life Use	
	188.5	Unnamed	Intermittent		
Cowley			Stream/River		
	193.4	Unnamed	Intermittent		
Cowley			Stream/River		
	201.5	Spring Creek	Intermittent	General Purpose Waters; Expected	Supporting
Cowley			Stream/River	Aquatic Life Use	
Cowley	205.7	Arkansas River	Artifical Path	General Purpose Waters; Special Aquatic Life Use; Primary Contact Recreation by Law or Written Permission; Domestic Water Supply; Food Procurement Use; Groundwater Recharge; Industrial Water Supply; Irrigation; Livestock Watering	Supporting
Cowley	206.3	Spring Creek	Perennial		
Cowley					
	212.9	Chilocco Creek	Intermittent		
Kay			Stream/River		
	215.6	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water	Fully Supporting; Insufficien Information; Insufficient

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Supply; Fish Consumption;	Fully Supporting; Not
				Aesthetics	Assessed; Fully Supporting
	220.4	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community;	Fully Supporting; Insufficient
				Hydropower; Primary Contact	Information; Insufficient
				Recreation; Public and Private Water	Information; Not Supporting;
				Supply; Fish Consumption;	Fully Supporting; Not
Kay				Aesthetics	Assessed; Fully Supporting
Kay	221.6	Unnamed	Pond		
	221.8	Unnamed	Intermittent		
Kay			Stream/River		
	225.1	Bois D' Arc	Intermittent	Agriculture; WW Aquatic Community;	Fully Supporting; Insufficient
			Stream/River	Hydropower; Primary Contact	Information; Insufficient
				Recreation; Public and Private Water	Information; Not Supporting;
				Supply; Fish Consumption;	Fully Supporting; Not
Kay				Aesthetics	Assessed; Fully Supporting
	225.6	Unnamed	Intermittent		
Kay			Stream/River		
	226.0	Unnamed	Intermittent		
Kay			Stream/River		
	231.0	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community;	Fully Supporting; Insufficient
				Hydropower; Primary Contact	Information; Insufficient
				Recreation; Public and Private Water	Information; Not Supporting;
				Supply; Fish Consumption;	Fully Supporting; Not
Kay				Aesthetics	Assessed; Fully Supporting
	231.2	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community;	Fully Supporting; Insufficient
				Hydropower; Primary Contact	Information; Insufficient
Kay				Recreation; Public and Private Water	Information; Not Supporting;

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
				Supply; Fish Consumption;	Fully Supporting; Not
				Aesthetics	Assessed; Fully Supporting
	232.9	Unnamed	Intermittent		
Kay			Stream/River		
	233.0	Unnamed	Intermittent		
Kay			Stream/River		
	233.2	Unnamed	Intermittent		
Kay			Stream/River		
	233.6	Trib To Bois	Intermittent		
Kay		D'Arc	Stream/River		
Kay	234.5	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption; Aesthetics	Fully Supporting; Insufficient Information; Insufficient Information; Not Supporting; Fully Supporting; Not Assessed; Fully Supporting
Kay	235.5	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption; Aesthetics	Fully Supporting; Insufficient Information; Insufficient Information; Not Supporting; Fully Supporting; Not Assessed; Fully Supporting
Kay	237.4	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption; Aesthetics	Fully Supporting; Insufficient Information; Insufficient Information; Not Supporting; Fully Supporting; Not Assessed; Fully Supporting
	237.7	Unnamed	Intermittent		
Kay			Stream/River		

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	237.8	Unnamed	Intermittent		
Kay			Stream/River		
	237.8	Unnamed	Intermittent		
Kay			Stream/River		
Kay	237.9	Unnamed	Perennial		
Key	238.6	Bois D' Arc	Perennial	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption;	Fully Supporting; Insufficient Information; Insufficient Information; Not Supporting; Fully Supporting; Not
Kay	044.0	0. 11. 01	Latera Maria	Aesthetics	Assessed; Fully Supporting
Kay	241.9	Cowskin Creek	Intermittent Stream/River	No Data	No Data
Kay	242.9	Salt Fork Arkansas River	Artifical Path	Aesthetics; Agriculture; WW Aquatic Community; Industrial and Municipal Process and Cooling Water; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption	Insufficient Data; Fully Supporting/Not Assessed; Not Supporting; Fully Supporting; Not Supporting; Not Assessed; Not Assessed
-	244.2	Deadman	Intermittent		
Noble		Creek	Stream/River		
Noble	244.6	Unnamed	Perennial		
	245.4	Unnamed	Intermittent		
Noble			Stream/River		
	245.6	Unnamed	Intermittent		
Noble			Stream/River		
	250.8	Unnamed	Intermittent		
Noble			Stream/River		

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
•	251.1	Unnamed	Intermittent		
Noble			Stream/River		
	251.7	Red Rock	Perennial		
Noble		Creek			
	252.2	Unnamed	Intermittent		
Noble			Stream/River		
	253.9	Unnamed	Intermittent		
Noble			Stream/River		
	255.2	Unnamed	Intermittent		
Noble			Stream/River		
	255.2	Unnamed	Intermittent		
Noble			Stream/River		
	255.7	Unnamed	Intermittent		
Noble			Stream/River		
	255.7	Unnamed	Intermittent		
Noble			Stream/River		
	255.7	Unnamed	Intermittent		
Noble			Stream/River		
	258.0	Greasy Creek	Intermittent		
Noble			Stream/River		
	258.1	Unnamed	Intermittent		
Noble			Stream/River		
	258.5	Unnamed	Intermittent		
Noble			Stream/River		
	258.5	Unnamed	Intermittent		
Noble			Stream/River		
Noble	258.9	Unnamed	Intermittent		

Major and Sensitive Waterbodies

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
			Stream/River		
	258.9	Unnamed	Intermittent		
Noble			Stream/River		
	259.0	Unnamed	Intermittent		
Noble			Stream/River		
	259.0	Unnamed	Intermittent		
Noble			Stream/River		
	259.2	Unnamed	Intermittent		
Noble			Stream/River		
Noble	261.5	Unnamed	Open Water		
	262.4	Unnamed	Intermittent		
Noble			Stream/River		
	262.8	Unnamed	Intermittent		
Noble			Stream/River		
	264.0	Black Bear	Perennial		
Noble		Creek			
	264.6	Unnamed	Intermittent		
Noble			Stream/River		
	265.3	Unnamed	Intermittent		
Noble			Stream/River		
	266.4	Unnamed	Intermittent		
Noble			Stream/River		
	267.5	Unnamed	Intermittent		
Noble			Stream/River		
	267.7	Unnamed	Intermittent		
Noble			Stream/River		
Noble	268.0	Long Branch	Perennial		

Major and Sensitive Waterbodies

State / County	Approx.	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
•		Creek			
Payne	272.1	Unnamed	Open Water		
	273.0	East Brush	Intermittent		
Payne		Creek	Stream/River		
Payne	273.4	Unnamed	Open Water		
	273.6	Unnamed	Intermittent		
Payne			Stream/River		
	274.9	Little Stillwater	Intermittent		
Payne		Creek	Stream/River		
	275.1	Unnamed	Intermittent		
Payne			Stream/River		
	275.1	Unnamed	Intermittent		
Payne			Stream/River		
	275.7	Unnamed	Intermittent		
Payne			Stream/River		
	275.9	Unnamed	Intermittent		
Payne			Stream/River		
	276.2	Unnamed	Intermittent		
Payne			Stream/River		
	276.8	Unnamed	Intermittent		
Payne			Stream/River		
	276.9	Unnamed	Intermittent		
Payne			Stream/River		
	277.3	Unnamed	Intermittent		
Payne			Stream/River		
	277.4	Unnamed	Intermittent		
Payne			Stream/River		

Major and Sensitive Waterbodies

State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹
	279.5	Unnamed	Intermittent		
Payne			Stream/River		
Payne	282.8	Unnamed	Perennial		
	283.5	Unnamed	Intermittent		
Payne			Stream/River		
	286.9	Long Branch	Intermittent		
Payne			Stream/River		
Payne	288.4	Unnamed	Open Water		
Payne	288.5	Cimarron River	Artifical Path		
	290.2	Unnamed	Intermittent		
Payne			Stream/River		
	290.2	Unnamed	Intermittent		
Payne			Stream/River		
	291.3	Cabin Creek	Intermittent		
Payne			Stream/River		
Payne	291.6	Unnamed	Open Water		
Payne	292.4	Unnamed	Open Water		
	292.5	Unnamed	Intermittent		
Payne			Stream/River		
	292.6	Unnamed	Intermittent		
Payne			Stream/River		
	292.7	Cabin Creek	Intermittent		
Payne			Stream/River		
	292.7	Cabin Creek	Intermittent		
Payne			Stream/River		
	292.8	Cabin Creek	Intermittent		
Payne			Stream/River		

Major and Sensitive Waterbodies								
State / County	Approx. MP	Waterbody Name	Intermittent, Perennial, Reservoir, or Lake	State Water Quality Classification ¹	Supports Use Designation ¹			
	292.8	Cabin Creek	Intermittent					
Payne			Stream/River					

¹ Streams with no classification or support use designation indicated were not defined.

Appendix K

Impaired Water Bodies in the Vicinity of the Keystone Pipeline Project

(Note: This appendix is Table 3.5-3, taken directly from the Environmental Report for the Keystone Pipeline Project [TransCanada 2007d])

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
		KEYSTONE	MAINLINE		
NORTH DAKOTA ¹	Pembina River	Fish and Other Aquatic Biota	Fully Supporting but Threatened	Sedimentation / Siltation	2
		Recreation	Fully Supporting but Threatened	Total Fecal Coliform	2
	Tongue River	Fish and Other Aquatic Biota	Fully Supporting but Threatened	Sedimentation / Siltation	1B
	North Branch, Middle Branch, South Branch Park River	Fish and Other Aquatic Biota (Designation for Park River)	Fully Supporting but Threatened	Sedimentation / Siltation, Total Dissolved Solids (TDS) and Organic Enrichment	2
	North Branch, Middle Branch, South Branch, Forest River	Fish and Other Aquatic Biota (Designation for Forest River)	Not Supporting	Biological Indicators, Sedimentation / Siltation, TDS	2
	North Branch Turtle River	Fish and Other Aquatic Biota (Designation for Turtle River)	Not Supporting	Cadmium, Sedimentation / Siltation, Selenium, TDS	2
	Goose River	Fish and Other Aquatic Biota	Not Supporting	Sedimentation / Siltation	2
		Recreation	Fully Supporting but Threatened	Total Fecal Coliform	
	Sheyenne River	Fish and Other Aquatic Biota	Fully Supporting but Threatened	Sedimentation / Siltation	2
		Recreation	Fully Supporting but Threatened / Not Supporting	Total Fecal Coliform	
SOUTH DAKOTA ²	See Attached Table K-1				
NEBRASKA ³	Missouri River	Primary Contact Recreation	Inhibited	Fecal Coliform	5
		Aquatic Life Use	Inhibited	Dieldrin, polychlorinated biphenyls (PCBs)	
		Agriculture Water Supply	Supported		
		Industrial Water Supply	Supported		
	Antelope Creek	N/A	N/A	N/A	3
	West Bow Creek	N/A	N/A	N/A	3
	Norwegian Bow Creek	N/A	N/A	N/A	3

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	Bow Creek	N/A	N/A	N/A	3
	Middle Logan Creek	N/A	N/A	N/A	3
	Elkhorn River	Primary Contact Recreation	Inhibited	Fecal Coliform	5
		Aquatic Life Use	Supported		
	Shell Creek	N/A	N/A	N/A	3
	Lost Creek	N/A	N/A	N/A	3
	Platte River	Primary Contact Recreation	Inhibited	Fecal Coliform	5
		Aquatic Life Use	Inhibited	PCBs	
		Agriculture Water Supply	Supported		
	Deer Creek	N/A	N/A	N/A	3
	Little Blue River	N/A	N/A	N/A	3
	Big Blue River	Aquatic Life Use	Inhibited	DO	5
		Agriculture Water Supply	Supported		
	Lincoln Creek	Aquatic Life Use	Inhibited	Selenium	5
		Agriculture Water Supply	Supported		
	Crooked Creek	N/A	N/A	N/A	3
	West Fork Big Blue River	Primary Contact Recreation	Inhibited	E. Coli, Fecal coliform	5
		Aquatic Life Use	Inhibited	Selenium, Dieldrin	
		Agriculture Water Supply	Supported		
	Turkey Creek	N/A	N/A	N/A	3
	Swan Creek	Aquatic Life Use	Supported		2
		Agriculture Water Supply	Supported		
	Cub Creek	N/A	N/A	N/A	3

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
KANSAS ⁴	Meadow Creek	N/A			
	Indian Creek	N/A		Biological Impairment	1
	Deer Creek	GP, AL-E, CR-b		Atrazine, Berillium, Copper, pH	2 & 3
	Big Blue River	N/A		Atrazine, Berillium, Copper, pH	2 & 3
	North Elm Creek	GP, AL-E, CR-b		Atrazine, Berillium, Copper, pH	1
	Robidoux Creek	GP, AL-E, CR-B			
	Negro Creek	GP, AL-E, CR-b			
	North Fork Wildcat Creek	N/A			
	Wildcat Creek	GP, AL-S, CR-C, DS, FP, GR, IW, IR, LW or GP, E		Biological Impairment	1
	South Fork Big Nemaha River	GP, AL-S, CR-C, DS, FP, GR, IW, IR, LW		Biological Impairment	1
	Harris Creek	GP, AL-E		Biological Impairment	1
	Craig Creek	N/A			
	Delaware River	N/A		Beryllium, Biological Impairment	1
	Walnut Creek	GP, AL-E		Atrazine	1
	Middle Fork Wolf River	GP, AL-E, DS, FP, GR, IW, IR, LW		Atrazine, Biological Impariment	2
	Buttermilk Creek	GP, AL-E, CR-b		Atrazine, Copper	2
	South Fork Wolf River	GP, AL-E, DS, FP, GR, IW, IR, LW		Atrazine, Biological Impariment	2
	Squaw Creek	GP, AL-E, CR-b			
	Halling Creek	GP, AL-E		Atrazine, Biological Impairment	2
	Jordan Creek	GP, AL-E		Copper	3

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	Rock Creek	GP, AL-E		Copper	3
	Brush Creek	GP, AL-E			
	Missouri River	GP, AL-S, CR-B, DS, FP, GR, IW, IR, LW			
MISSOURI⁵	Missouri River	IRR, LWW, AQL, WBC-B, SCR, DWS, IND	N/A	Chlorodane, PCBs	М
	Contrary Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Platte River	IRR, LWW, AQL, WBC-B, SCR, DWS	N/A	N/A	N/A
	Malden Creek	N/A	N/A	N/A	N/A
	Wolfpen Creek	N/A	N/A	N/A	N/A
	Jenkins Branch	N/A	N/A	N/A	N/A
	Horse Fork Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Little Platte River	LWW, AQL, WBC-B, SCR	N/A	N/A	N/A
	Shoal Creek	LWW, AQL, WBC-B, SCR		Fecal Coliform	M
	Little Shoal Creek	N/A	N/A	N/A	N/A
	Deer Creek	N/A	N/A	N/A	N/A
	Plum Creek	N/A	N/A	N/A	N/A
	Log Creek	LWW, AQL, WBC-B, SCR	N/A	N/A	N/A
	Brush Creek	N/A	N/A	BOD, VSS	Н
	Crabapple Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Mud Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Willow Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Big Creek	LWW, AQL, WBC-B	N/A	Metals, Sediment	H/M

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	Grand River	IRR, LWW, AQL, WBC-A, SCR, DWS	N/A	N/A	N/A
	Potter Slough	N/A	N/A	N/A	N/A
	Salt Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Brush Creek	LWW, AQL, WBC-B	N/A	BOD, VSS	Н
	Lake Creek	LWW, AQL, WBC-B		Sediment	М
	Palmer Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Mussel Fork Creek	LWW, AQL, WBC-B	N/A	Sediment	М
	Chariton River	IRR, LWW, AQL, WBC-A, SCR	N/A	N/A	N/A
	Puzzle Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Middle Fork Little Chariton River	LWW, AQL, WBC-B (classifications for Little Chariton River)	N/A	N/A	N/A
	East Fork Little Chariton River	LWW, AQL, WBC-B (classifications for Little Chariton River)	N/A	N/A	N/A
	Big Creek	N/A	N/A	Metals, Sediment	H/M
	Saling Creek	N/A	N/A	N/A	N/A
	Long Branch Creek	LWW, AQL, WBC-B	N/A	Unknown	М
	Goodwater Creek	N/A	N/A	N/A	N/A
	Youngs Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Skull Lick Creek	N/A	N/A	N/A	N/A
	South Fork Salt River	N/A	N/A	N/A	N/A
	Bean Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Littleby Creek	LWW, AQL, WBC-B	N/A	N/A	N/A

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	West Fork Cuivre River	LWW, AQL, WBC-B	N/A	N/A	N/A
	Coon Creek	LWW, AQL, WBC-B	N/A	N/A	N/A
	Long Branch Creek	N/A	N/A	N/A	N/A
	Elkhorn Creek	LWW, AQL, WBC-B	N/A	BOD, VSS	Н
	Brush Creek	LWW, AQL, WBC-B	N/A	BOD, VSS	Н
	Bear Creek	LWW, AQL, WBC-B	N/A	Unknown	М
	Camp East Creek	N/A	N/A	N/A	N/A
	Cuivre River	LWW, AQL, WBC-B/A, SCR	N/A	N/A	N/A
	Whites Branch Creek	N/A	N/A	N/A	N/A
	Peruque Creek	LWW, AQL, WBC-B/A, SCR		NVSS	М
	Dardenne Creek	LWW, AQL, WBC-B/A, SCR		Unknown	М
	Trinity Channel	N/A	N/A	N/A	N/A
	Grand Lake	N/A	N/A	N/A	N/A
	Mississippi River	IRR, LWW, AQL, WBC-B, SCR, DWS, IND		Chlordane, PCBs	М
ILLINOIS ⁶	Mississippi River				
	Indian Creek	Aquatic Life	Not Supporting	Habitat Assessment	(Category) 4C
		Fish Consumption	Fully Supporting		
		Primary Contact	Not Assessed		
		Secondary Contact			
		Aesthetic Quality			
	Cahokia Creek	Aquatic Life	Fully Supporting		2 & 5
		Fish Consumption	1		

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
		Primary Contact	Not Supporting	Fecal Coliform	
		Secondary Contact	Not Assessed		
		Aesthetic Quality			
	Burrough's Branch (N. loop)	Aquatic Life	Not Assessed	N/A	3
		Fish Consumption			
		Primary Contact			
		Secondary Contact			
		Aesthetic Quality			
	Mooney Creek (S. loop)	Aquatic Life	Not Assessed	N/A	3
		Fish Consumption			
	Primary Contact				
		Secondary Contact			
		Aesthetic Quality			
	Sugar Creek	Aquatic Life	Not Assessed	N/A	3
		Fish Consumption			
		Primary Contact			
		Secondary Contact			
		Aesthetic Quality			
	Silver Creek	Aquatic Life	Not Supporting/Fully Supporting	Dissolved Oxygen, Sedimentation/Siltation, TSS, pH, Total Nitrogen, TPH	2 & 5
		Fish Consumption	Fully Supporting		
		Secondary Contact	Not Assessed		
		Aesthetic Quality			

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	Sugar Fork	Aquatic Life	Not Assessed	N/A	3
		Fish Consumption			
		Primary Contact			
		Secondary Contact			
		Aesthetic Quality			
	Sand Creek	Aquatic Life	Not Assessed	N/A	3
		Fish Consumption			
		Primary Contact			
		Secondary Contact			
		Aesthetic Quality			
	Highland Silver Lake	Aquatic Life	Not Supporting	Dissolved Oxygen, Sedimentation/Siltation, TSS, TPH, Aldrin	5
		Fish Consumption	Not Supporting	Chlordane	
		Public Food and Processing Water Supplies	Not Supporting	Manganese	
		Primary Contact	Not Assessed		
		Secondary Contact			
		Aesthetic Quality	Not Supporting	Aquatic Algae	
	Shoal Creek	Aquatic Life	Not Supporting/Fully Supporting	Dissolved Oxygen, Sedimentation/Siltation, TSS, TPH, Unknown Impairment	2 & 5
		Fish Consumption	Fully Supporting/Not Assessed		
		Public and Food Processing Water Supplies	Not Supporting	Manganese	

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority	
		Primary Contact	Not Supporting/Not Assessed	Fecal Coliform		
		Secondary Contact	Not Assessed			
		Aesthetic Quality				
	Little Beaver Creek	Aquatic Life	Not Assessed	N/A	3	
		Fish Consumption				
		Primary Contact				
		Secondary Contact				
		Aesthetic Quality				
	Kaskaskia River	Aquatic Life	Not Supporting/Not Assessed	Dissolved Oxygen, Silver, pH, TSS, TPH, Unknown Impairment	2 & 5	
		Fish Consumption	Fully Supporting			
		Public Food and Processing Water Supplies	Not Supporting	Manganese		
		Primary Contact	Not Supporting/Fully Supporting/Not Assessed	Fecal Coliform		
		Secondary Contact	Fully Supporting/ Not Assessed			
		Aesthetic Quality	Not Assessed			
	Bear Creek	Aquatic Life	Not Assessed	N/A	3	
		Fish Consumption				
		Primary Contact				
		Secondary Contact				
		Aesthetic Quality				
CUSHING EXTENSION						
KANSAS	Little Blue River	GP, AL-E, CR-C, CR-b, DS, FP, GR, IW, IR, LW	Supporting	Copper, Biology	2	

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
State	Mill Creek	GP, AL-E, CR-b, FP	Supporting	Atrazine	3
	Coon Creek	GP, AL-E, CR-C, FP	Supporting	No Data	No Data
	Carter Creek	GP, AL-E, CR-b	Supporting	No Data	No Data
	West Fancy Creek	GP, AL-E, CR-b, FP	Supporting	No Data	No Data
	Lincoln Creek	GP, AL-E, CR-b	Supporting	Biology	2
	Republican River	GP, AL-S, CR-C, DS, FP, GR, IW, IR, LW	Supporting	Biology	2
	Chapman Creek	GP, AL-E, CR-C, DS, FP, GR, IW, IR, LW	Supporting	Fecal Coliform; Sulfate	1
	Smoky Hill River	GP, AL-E, CR-C, DS, FP, GR, IW, IR, LW	Supporting	Chloride; Fecal Coliform; Sulfate; Biology	1
	Carry Creek	GP, AL-S, FP	Supporting	Sulfates	1
	West Branch Lyon Creek	GP, AL-S, FP	Supporting	Fecal Coliform	1
	Mud Creek	GP, AL-S, DS, FP	Supporting	Chloride; Fecal Coliform; Sulfate	1
	Cottonwood River	GP, AL-E, CR-C, DS, FP, GR, IW, IR, LW	Supporting	Zinc	3
	Spring Branch	GP, AL-E	Supporting	No Data	No Data
	Catlin Creek	GP, AL-S, FP	Supporting	No Data	No Data
	Doyle Creek	GP, AL-E, DS, FP, GR, IW, IR, LW	Supporting	No Data	No Data
	East Branch Whitewater River	GP, AL-E, DS, FP, GR, IW, IR, LW	Supporting	Atrazine	2
	Diamond Creek	No Data	Supporting	No Data	No Data
	Brush Creek	No Data	Supporting	No Data	No Data
	Fourmile Creek	GP, AL-E, FP	Supporting	Atrazine	2
	Rock Creek	GP, AL-E	Supporting	Atrazine	2
	Spring Branch	GP, AL-E	Supporting	No Data	No Data

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
	Whitewater River	GP, AL-E, DS, FP, GR, IW, IR, LW	Supporting	Atrazine	2
	Badger Creek	GP, AL-E, DS	Supporting	Atrazine	2
	Dry Creek	GP, AL-E	Supporting	Atrazine	2
	Fourmile Creek	GP, AL-E, CR-C, DS, FP, GR, IW, IR, LW	Supporting	Atrazine	2
	Eightmile Creek	GP, AL-E, DS, FP, GR, IW, IR, LW	Supporting	No Data	No Data
	Polecat Creek	GP, AL-E, FP	Supporting	No Data	No Data
	Stewart Creek	GP, AL-E	Supporting	No Data	No Data
	Crooked Creek	GP, AL-E	Supporting	No Data	No Data
	Arkansas River	GP, AL-S, CR-B, DS, FP, GR, IW, IR, LW	Supporting	pH; Chloride	2;1
OKLAHOMA	Chilocco Creek	No Data	No Data	No Data	No Data
	Bois d'Arc Creek	Agriculture; WW Aquatic Community; Hydropower; Primary Contact Recreation; Public and Private Water Supply; Fish Consumption; Aesthetics	Fully Supporting; Insufficient Information; Insufficient Information; Not Supporting; Fully Supporting; Not Assessed; Fully Supporting	Sulfates, Pathogens, Turbidity	High
	Cowskin Creek	No Data	No Data	No Data	No Data
	Salt Fork Arkansas River	Aesthetics; Agriculture; WW Aquatic Community; Industrial and Municipal Process and Cooling Water; Primary Contact Recreation; Public and Private water supply; Fish Consumption	Insufficient Data; Fully Supporting/Not Assessed; Not Supporting, Fully Supporting; Not Supporting; Not Assessed; Not Assessed	Pathogens, Turbidity	High
	Deadman Creek	Aesthetics; Agriculture; Warm Water Aquatic Community; Industrial and Municipal Process Cooling Water; Primary Contact Recreation; Fish Consumption	Insufficient Data; Insufficient Data; Insufficient Data; Insufficient Data; Not Assessed; Not Assessed	No Data	No Data
	Red Rock Creek	Aesthetics; Agriculture; Warm Water Aquatic Community;	Fully Supporting; Fully Supporting; Not Supporting; Fully	Turbidity	High

State	Waterbody Name	Designated Use	Use Support/ Attainment	Impairment	TMDL Priority
		Industrial and Municipal Process Cooling Water; Primary Contact Recreation; Fish Consumption	Supporting; Not Supporting; Not Assessed		
	Long Branch	Aesthetics; Agriculture; Warm Water Aquatic Community; Industrial and Municipal Process Cooling Water; Primary Contact Recreation; Fish Consumption	Not Assessed	No Data	No Data
	Greasy Creek	No Data	No Data No Data	No Data	No Data
	Black Bear Creek	Water Aquatic Community; Supporting; Fully Supporting/N	Supporting; Fully Supporting/Not Supporting; Fully Supporting; Not Supporting; Insufficient Data;	Unknown Toxicity, Lead, Pathogens, Turbidity	High
	East Brush Creek	Aesthetics; Agriculture; Warm Water Aquatic Community; Industrial and Municipal Process Cooling Water; Primary Contact Recreation; Fish Consumption	Not Assessed	No Data	No Data
	Little Stillwater Creek	No Data	No Data	Nitrates	High
	Cimarron River	Aesthetics; Agriculture; Emergency Water Supply; Warm Water Aquatic Community; Industrial and Municipal Process Colling Water; Primary Contact Recreation; Fish Consumption	Fully Supporting; Fully Supporting; Fully Supporting; Insufficient Information; Fully Supporting; Not Assessed; Not Assessed	Sulfates, Pathogens, Turbidity	High
	Cabin Creek	Aesthetics; Agriculture; Warm Water Aquatic Community; Industrial and Municipal Process Colling Water; Primary Contact Recreation; Fish Consumption	Not Assessed	No Data	No Data

¹Source: NDDH 2004.

¹A = TMDLs are scheduled for completion in the next two years.

¹B = TMDL activities (e.g., monitoring or modeling) are scheduled to begin in the next two years.

^{2 =} scheduled for TMDL development in the next 10 years.

3 = impaired for fish consumption due to methyl mercury (low priority for state due to complexities related to fate and transport of methyl mercury and due to interstate and international nature of atmospheric mercury sources.

²Source: SDDENR 2004.

³Source: Nebraska Department of Environmental Quality (NEDEQ) 2004.

Category 2 = Some of the designated uses are met but there is insufficient information to determine if all uses are being met; Category 3 = Insufficient data to determine if any beneficial uses are being met; Category 5 = One or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed. Category 5 waters constitute the Section 303(d) list subject to EPA approval/disapproval.

⁴Source: KDHE 2004.

AL-E = expected aquatic life use. AL-S = special aquatic life use.

CR-B = primary contact recreation segment is by law or written permission of the landowner open to and accessible to the public.

CR-b = secondary contact recreational segment is not open to and accessible by the public under Kansas law.

CR-C = primary contact recreation segment is not open to and accessible by the public under Kansas law.

DS = domestic water supply use.
FP = food procurement use.
GP = general purpose waters.
GR = groundwater recharge.

IR = irrigation use.

IW = industrial water supply use. LW = livestock watering use.

Priority Levels - unknown.

⁵Source: MODNR 2004.

AQL = protection of warmwater aquatic life and human health-fish consumption.

BOD = biological oxygen demand (mg/l).

DWS = drinking water supply.
IND = industrial water supply.
IRR = irrigation water supply.
LWW = livestock and wildlife watering.
SCR = secondary contact recreation.
THP = total petroleum hydrocarbons (mg/l).

VSS = volatile (organic) suspended solids (mg/l).

WBC-A = whole body contact recreation open to public with whole body contact recreational use(s).

WBC-B = whole body contact recreation waters not contained within Category A.

Priority M – Medium.

Priority H - High.

⁶Source: ILEPA 2006.

Table K-1: Impaired or Contaminated Water Bodies in South Dakota¹

Approximate Milepost	Waterbody Name	Waterbody Type	State-listed Beneficial Use(s) ²	State/EPA Listed Impairments
257.5	Unnamed	Intermittent Stream/River		Impaired - Trophic state index - nutrients (at Amsden Lake)
258.7	Mud Creek	Perennial Stream/River		Impaired - Trophic state index - nutrients (at Amsden Lake)
315.6	Pearl Creek	Intermittent Stream/River	Warm water (WW) marginal fish life propagation waters; limited-contact recreation waters	
343.1	Redstone Creek	Intermittent Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters (classification for segment in Sanborn county)	
362.1	Rock Creek	Intermittent Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters (classification for segment in Hanson county)	
362.3	Rock Creek	Intermittent Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters (classification for segment in Hanson county)	
375.7	Wolf Creek	Intermittent Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters	
384	Wolf Creek	Intermittent Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters	Impaired - Ammonia
391	Wolf Creek	Perennial Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters	Impaired - Ammonia
421.7	James River	Perennial Stream/River	WW semipermanent fish life propagation waters; limited-contact recreation waters	Impaired Total Suspended Solids - Turbidity
423.5	Unnamed	Intermittent Stream/River		
428	Beaver Creek	Perennial Stream/River	WW marginal fish life propagation waters; limited-contact recreation waters	
435.8	Missouri River	Artificial Path/Perennial Stream/River	Domestic waster supply, WW permanent fish life, immersion recreation, limited contact recreation, commerce and industry waters	

¹ Table is modified from Table 1 included in Response to Data Request #2, Item 4 provided by Keystone

Sources: South Dakota Administrative Rules 74:51:01:42, 74:51:03:01, 74:51:03:05, and 74:51:03:20; USEPA 2004 Section 303(d) List Fact Sheet for South Dakota; South Dakota Total Maximum Daily Load Waterbody List 2002.

² All streams in South Dakota are assigned the beneficial uses of irrigation and fish and wildlife propagation, recreation, and stock watering. The classifications only designate the quality at which the waters are to be maintained and protected.