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LACUSTRINE STRATIGRAPHIC AND STABLE ISOTOPIC EXPRESSION OF OVERFILLED AND BALANCED-FILLED TRANSITIONS WITHIN THE TIPTON MEMBER OF THE GREEN RIVER FORMATION, WYOMING

By

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APPENDIX B: ARCHIVED UW SAMPLE INDEX

All specimens referenced in this thesis are in the collections of the Department of Geology and Geophysics, University of Wisconsin-Madison, under file number UW1992.

Currant Creek Ridge Core #1

UW Sample No.	Sample No.	Core / Field Section	Sample Type	Used For		
				Petrographic Analysis	Stable Isotope Analysis	XRD Analysis
UW1992-1	CCR1-1701.0	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-2	CCR1-1702.5	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-3	CCR1-1717.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-4	CCR1-1721.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-5	CCR1-1760.1	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-6	CCR1-1826.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-7	CCR1-1856.75	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-8	CCR1-1869.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-9	CCR1-1880.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-10	CCR1-1886.0	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-11	CCR1-1890.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-12	CCR1-1893.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-13	CCR1-1895.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-14	CCR1-1899.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-15	CCR1-1901.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-16	CCR1-1903.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-17	CCR1-1905.1	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-18	CCR1-1910.25	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-19	CCR1-1912.25	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-20	CCR1-1914.2	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-21	CCR1-1916.25	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-22	CCR1-1920.25	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-23	CCR1-1921.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-24	CCR1-1924.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-25	CCR1-1925.0	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-26	CCR1-1931.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-27	CCR1-1936.25	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-28	CCR1-1937.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-29	CCR1-1940.0B	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-30	CCR1-1943.0	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-31	CCR1-1944.0	Currant Creek Ridge Core No. 1	Hand Sample			X
UW1992-32	CCR1-1945.5	Currant Creek Ridge Core No. 1	Hand Sample		X	X
UW1992-33	WM1-1228.0	White Mountain Core No. 1	Hand Sample			X
UW1992-34	WM1-1238.0	White Mountain Core No. 1	Hand Sample			X
UW1992-35	WM1-1245.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-36	WM1-1259.75	White Mountain Core No. 1	Hand Sample		X	X
UW1992-37	WM1-1276.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-38	WM1-1296.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-39	WM1-1321.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-40	WM1-1329.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-41	WM1-1331.95	White Mountain Core No. 1	Hand Sample		X	X
UW1992-42	WM1-1337.25	White Mountain Core No. 1	Hand Sample		X	X
UW1992-43	WM1-1337.9	White Mountain Core No. 1	Hand Sample		X	X
UW1992-44	WM1-1340.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-45	WM1-1344.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-46	WM1-1346.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-47	WM1-1349.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-48	WM1-1354.0	White Mountain Core No. 1	Hand Sample		X	X

UW Sample No.	Sample No.	Core / Field Section	Sample Type	Used For		
				Petrographic Analysis	Stable Isotope Analysis	XRD Analysis
UW1992-49	WM1-1358.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-50	WM1-1361.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-51	WM1-1362.05	White Mountain Core No. 1	Hand Sample		X	X
UW1992-52	WM1-1363.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-53	WM1-1365.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-54	WM1-1367.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-55	WM1-1368.25	White Mountain Core No. 1	Hand Sample		X	X
UW1992-56	WM1-1371.75	White Mountain Core No. 1	Hand Sample		X	X
UW1992-57	WM1-1373.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-58	WM1-1374.0	White Mountain Core No. 1	Hand Sample		X	X
UW1992-59	WM-1364.65	White Mountain Core No. 1	Hand Sample		X	X
UW1992-60	44.19-1677.0	Blue Rim 44-19	Thin Section	X		
UW1992-61	44.19-1687.75	Blue Rim 44-19	Thin Section	X		
UW1992-62	44.19-1708.0	Blue Rim 44-19	Thin Section	X		
UW1992-63	44.19-1708.5B	Blue Rim 44-19	Thin Section	X		
UW1992-64	44.19-1711.0	Blue Rim 44-19	Thin Section	X		
UW1992-65	44.19-1713.5	Blue Rim 44-19	Thin Section	X		
UW1992-66	44.19-1713.5	Blue Rim 44-19	Thin Section	X		
UW1992-67	44.19-1716.0	Blue Rim 44-19	Thin Section	X		
UW1992-68	44.19-1721.0	Blue Rim 44-19	Thin Section	X		
UW1992-69	44.19-1731.0	Blue Rim 44-19	Thin Section	X		
UW1992-70	44.19-1731.5	Blue Rim 44-19	Thin Section	X		
UW1992-71	44.19-1732.0	Blue Rim 44-19	Thin Section	X		
UW1992-72	44.19-1734.0	Blue Rim 44-19	Thin Section	X		
UW1992-73	44.19-1738.0	Blue Rim 44-19	Thin Section	X		
UW1992-74	44.19-1745.0	Blue Rim 44-19	Thin Section	X		
UW1992-75	BT-28.75	Boar's Tusk	Thin Section	X		
UW1992-76	BT-31.0	Boar's Tusk	Thin Section	X		
UW1992-77	BT-44.8	Boar's Tusk	Thin Section	X		
UW1992-78	BT-49.15	Boar's Tusk	Thin Section	X		
UW1992-79	BT-63.3	Boar's Tusk	Thin Section	X		
UW1992-80	CCR1-1702.5	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-81	CCR1-1721.5	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-82	CCR1-1751.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-83	CCR1-1763.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-84	CCR1-1775.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-85	CCR1-1796.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-86	CCR1-1814.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-87	CCR1-1823.2	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-88	CCR1-1852.9	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-89	CCR1-1854.2	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-90	CCR1-1856.75	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-91	CCR1-1886.0	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-92	CCR1-1895.5	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-93	CCR1-1896.1	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-94	CCR1-1914.25	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-95	CCR1-1928.5	Currant Creek Ridge Core No. 1	Thin Section	X		
UW1992-96	CCR1-1938.5	Currant Creek Ridge Core No. 1	Thin Section	X		

CCR1

APPENDIX C: XRD Data

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
CCR1-1701.0									
	30.521	253	21.8	77					
	30.900	1163	100	366.2	0	443.2	0	DOLOMITIC	Evap. Min-bearing Siltstone
CCR1-1702.5									
	29.740	91	13.7	36.1					
	30.542	316	47.7	210.6					
	30.881	663	100	293.3	36.1	503.9	6.69	DOLOMITIC	Mass. O-rich Mudstone
CCR1-1717.0									
	29.759	124	11.4	43.9					
	30.662	634	58.4	228.1					
	31.000	1085	100	339.6	43.9	567.7	7.18	DOLOMITIC	Lam. O-rich Mudstone
CCR1-1721.5									
	29.719	232	12.9	75.6					
	30.940	1798	100	634.2	75.6	634.2	10.65	DOLOMITIC	Lam. O-rich Mudstone
CCR1-1760.1									
	30.801	713	100	268.6	0	268.6	0	DOLOMITIC	Lam. O-rich Mudstone
CCR1-1826.0									
	29.560	1158	100	309.9					
	30.763	130	11.2	54.2					
	31.074	77	6.6	49.8	309.9	104	74.87	MIXED	Varib. Lam. Mudstone
CCR1-1856.75									
	29.517	146	12.6	69.8					
	29.739	146	12.6	72.8					
	30.819	1158	100	402.8	142.6	402.8	26.15	MIXED	Varib. Lam. Mudstone
CCR1-1869.5									
	29.522	1243	29.3	310.7					
	30.840	4245	100	1334.2	310.7	1334.2	18.89	DOLOMITIC	Lam. O-rich Mudstone
CCR1-1880.5									
	29.479	344	87.3	124.7					
	30.880	394	100	184.6	124.7	184.6	40.32	MIXED	Lam. O-rich Mudstone
CCR1-1886.0									
	29.520	344	100	112.4					
	30.900	308	89.5	112.3	112.4	112.3	50.02	MIXED	Lam. O-rich Mudstone

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
CCR1-1890.0									
	29.520	372	100	114.3					
	30.900	170	45.7	68.8					
	30.996	126	33.9	62	114.3	130.8	46.63	MIXED	Lam. O-rich Mudstone
CCR1-1893.0									
	29.482	233	89.6	49.3					
	30.918	260	100	96.2	49.3	96.2	33.88	MIXED	Lam. O-rich Mudstone
CCR1-1895.5									
	29.520	893	100	250					
	30.901	331	37.1	109.9	250	109.9	69.46	MIXED	Lam. O-rich Mudstone
CCR1-1899.0									
	29.462	323	100	75.6					
	30.859	318	98.5	109.5	75.6	109.5	40.84	MIXED	Lam. O-rich Mudstone
CCR1-1901.0									
	29.501	1234	100	384.1					
	30.623	568	46	521.9					
	30.879	777	63	377.9	384.1	899.8	29.92	MIXED	Lam. O-rich Mudstone
CCR1-1903.0									
	29.503	250	100	72.8					
	30.880	170	68	82.2	72.8	82.2	46.97	MIXED	Lam. O-rich Mudstone
CCR1-1905.1									
	29.699	940	100	283.7					
	30.901	127	13.5	33.5	283.7	33.5	89.44	CALCITIC	Lam. O-rich Mudstone
CCR1-1910.25									
	29.559	295	100	89.8					
	30.962	251	85.1	95.9	89.8	95.9	48.36	MIXED	Lam. O-rich Mudstone
CCR1-1912.25									
	29.539	1611	100	455.4					
	30.681	766	47.5	493					
	31.003	585	36.3	354	455.4	847	34.97	MIXED	Varib. Lam. Mudstone
CCR1-1914.2									
	29.463	470	72.2	149.9					
	29.780	651	100	213.5					
	30.939	109	16.7	35.1	363.4	35.1	91.19	CALCITIC	Mass. O-rich Mudstone

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
CCR1-1916.25									
	29.699	3886	100	1446.5					
	30.474	293	7.5	47.3					
	30.959	412	10.6	223.4	1446.5	270.7	84.24	CALCITIC	Mass. O-rich Mudstone
CCR1-1918.25									
	29.497	1219	42.8	743.9					
	29.840	2849	100	1301.2					
	30.840	523	18.4	274	2045.1	274	88.19	CALCITIC	Mass. O-rich Mudstone
CCR1-1920.25									
	29.513	388	99.5	100.6					
	31.038	390	100	242.8	100.6	242.8	29.30	MIXED	Lam. O-rich Mudstone
CCR1-1921.0									
	29.839	94	7.2	53					
	30.919	1313	100	523	53	523	9.20	DOLOMITIC	Lam. O-rich Mudstone
CCR1-1924.0									
	29.700	2995	100	1372.7					
	30.920	799	26.7	461.3	1372.7	461.3	74.85	MIXED	Varib. Lam. Mudstone
CCR1-1925.0									
	29.660	1399	100	513					
	30.880	257	18.4	93.1	513	93.1	84.64	CALCITIC	Varib. Lam. Mudstone
CCR1-1931.5									
	29.520	4267	100	961.6					
	30.665	100	2.3	17.7					
	30.920	143	3.4	33.1	961.6	50.8	94.98	CALCITIC	Massive Mudstone
CCR1-1936.25									
	29.541	2602	100	707.3	707.3	0	100	CALCITIC	Lam. O-rich Mudstone
CCR1-1937.5									
	29.518	103	11.1	39.4					
	29.883	72	7.8	30					
	31.128	929	100	161.5	69.4	161.5	30.06	MIXED	Coquina
CCR1-1940.0B									
	29.542	4528	100	1314.4					
	30.435	267	5.9	56.1	1314.4	56.1	95.91	CALCITIC	Coquina / Lam. O-rich Mud

CCR-1

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
CCR1-1943.0									
	29.635	125	100	42.8					
	30.813	76	60.8	44.1					
	30.971	75	60	46.5	42.8	90.6	32.08	MIXED	Unknown
CCR1-1944.0									
	29.942	156	100	84.2					
	30.599	109	69.9	63.6	84.2	63.6	56.97	MIXED	Unknown
CCR1-1945.5									
	29.520	1083	100	630.4					
	29.922	588	54.3	492.6					
	30.983	704	65	461.1	1123	461.1	70.89	MIXED	Unknown
WM1-1228.0									
	29.632	74	5.1	8.8					
	30.600	256	17.6	66.1					
	30.980	1452	100	365.5	8.8	431.6	2.00	DOLOMITIC	Evap. Min-bearing Siltstone
WM1-1238.0									
	30.980	1420	100	445.8	0	445.8	0	DOLOMITIC	Lam. O-rich Mudstone
WM1-1245.0									
	29.801	454	18.4	169					
	30.959	2462	100	814.2	169	814.2	17.19	DOLOMITIC	Lam. O-rich Mudstone
WM1-1259.75									
	29.800	90	10.7	36.7					
	30.742	842	100	380.7	36.7	380.7	8.79	DOLOMITIC	Lam. O-rich Mudstone
WM1-1276.0									
	29.420	357	7	207.4					
	29.698	532	10.5	267.1					
	30.861	5082	100	1979.4	474.5	1979.4	19.34	DOLOMITIC	Varib. Lam. Mudstone
WM1-1296.0									
	29.502	588	100	196					
	30.678	140	23.8	36.2					
	30.989	85	14.5	71.4	196	107.6	64.56	MIXED	Varib. Lam. Mudstone
WM1-1321.0									
	29.621	1381	100	532.8					
	30.959	88	6.4	70.3	532.8	70.3	88.34	CALCITIC	Varib. Lam. Mudstone

APPENDIX D: $\delta^{18}O$ and $\delta^{13}C$ DATA

Samples were processed at the University of Michigan Stable Isotope Laboratory in Ann Arbor, Michigan where they were roasted in vacuo at 200 °C for one hour to remove contaminants. Samples were then reacted at 77° ± 1°C with 4 drops of anhydrous phosphoric acid for 8 minutes (12 minutes for dolomitic samples) in a Finnigan MAT Kiel IV preparation device coupled directly to the inlet of a Finnigan MAT 253 triple collector isotope ratio mass spectrometer. Maintained measured precision using this methodology is reported as better than 0.1% for both carbon and oxygen isotope compositions. In this study, $\delta^{18}O$ data is reported relative to VSMOW, while $\delta^{13}C$ data is reported relative to VPDB. Where duplicate samples were run, averages weighted according to standard deviation were used.

Currant Creek Ridge No. 1 Core (CCR)

Sample	Calcite (%)	Primary Carbonate	d18O (VSMOW)	d13C (VPBD)
ZONE D (Fluctuating Profundal)				
CCR1-1717.0	7.18	DOLOMITIC	29.94	8.14
CCR1-1721.5	10.65	DOLOMITIC	31.03	10.48
ZONE C (Fluvial-lacustrine)				
CCR1-1826.0	74.87	MIXED	22.84	2.03
ZONE B (Fluctuating Profundal)				
CCR1-1856.75	26.15	MIXED	29.53	7.14
CCR1-1869.5	18.89	DOLOMITIC	29.59	9.53
CCR1-1880.5	40.32	MIXED	29.37	6.43
CCR1-1890.0	46.63	MIXED	26.94	3.31
CCR1-1893.0	33.88	MIXED	29.06	3.84
CCR1-1895.5	69.46	MIXED	27.85	1.84
ZONE A (Fluvial-lacustrine)				
CCR1-1899.0	40.84	MIXED	27.26	3.17
CCR1-1901.0	29.92	MIXED	27.14	1.71
CCR1-1903.0	46.97	MIXED	26.45	1.75
CCR1-1905.1	89.44	CALCITIC	25.33	1.95
CCR1-1910.25	48.36	MIXED	28.52	1.36
CCR1-1912.25	34.97	MIXED	27.59	1.13
CCR1-1914.2	91.19	CALCITIC	24.48	1.12
CCR1-1916.25	84.24	CALCITIC	24.56	1.93
CCR1-1920.25	29.30	MIXED	27.46	1.92
CCR1-1921.0	9.20	DOLOMITIC	26.29	5.93
CCR1-1924.0	74.85	MIXED	24.56	1.45
CCR1-1925.0	84.64	CALCITIC	24.66	1.37
CCR1-1931.5	94.98	CALCITIC	23.84	0.05
CCR1-1936.25	100.00	CALCITIC	23.25	0.09
CCR1-1937.5	30.06	MIXED	22.43	-4.10
CCR1-1940.0B	95.91	CALCITIC	21.98	-3.86
CCR1-1945.5	70.89	MIXED	20.83	-4.87