U847

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.

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

White Mtn. Core #1

White Mtn. Core

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		

UW Sample No.	Sample No.	Core / Field Section	Sample Type	Used For		
				Petrographic Analysis	Stable Isotope Analysis	XRD Analysis
UW1992-97	SM-19.25	Spring Mound	Thin Section	X		
UW1992-98	SM-44.95	Spring Mound	Thin Section	X		
UW1992-99	SM-9.25	Spring Mound	Thin Section	X		
UW1992-100	VL-52.5	Villa Lane	Thin Section	X		
UW1992-101	VL-52.25	Vlila Lane	Thin Section	X		
UW1992-102	WM1-1245.0	White Mountain Core No. 1	Thin Section	X		
UW1992-103	WM1-1254.75	White Mountain Core No. 1	Thin Section	X		
UW1992-104	WM1-1259.75	White Mountain Core No. 1	Thin Section	X		
UW1992-105	WM1-1273.2	White Mountain Core No. 1	Thin Section	X		
UW1992-106	WM1-1281.75	White Mountain Core No. 1	Thin Section	X		
UW1992-107	WM1-1283.4	White Mountain Core No. 1	Thin Section	X		
UW1992-108	WM1-1297.0	White Mountain Core No. 1	Thin Section	X		
UW1992-109	WM1-13.62	White Mountain Core No. 1	Thin Section	X		
UW1992-110	WM1-1300.25	White Mountain Core No. 1	Thin Section	X		
UW1992-111	WM1-1304.5	White Mountain Core No. 1	Thin Section	X		
UW1992-112	WM1-1305.5A	White Mountain Core No. 1	Thin Section	X		
UW1992-113	WM1-1308.5	White Mountain Core No. 1	Thin Section	X		
UW1992-114	WM1-1321.0	White Mountain Core No. 1	Thin Section	X		
UW1992-115	WM1-1331.0	White Mountain Core No. 1	Thin Section	X		
UW1992-116	WM1-1346.0	White Mountain Core No. 1	Thin Section	X		
UW1992-117	WM1-1354.0	White Mountain Core No. 1	Thin Section	X		
UW1992-118	WM1-137.25	White Mountain Core No. 1	Thin Section	X		
UW1992-119	WMP-13.0	White Mountain Core No. 1	Thin Section	X		
UW1992-120	WMP-32.5	White Mountain Core No. 1	Thin Section	X		
UW1992-121	WMP-47.0	White Mountain Core No. 1	Thin Section	X		
UW1992-122	WMP-54.7	White Mountain Core No. 1	Thin Section	X		

White Mtn. Core #1

APPENDIX C: XRD Data

White Mtn. Core #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

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
WM1-1329.0									
	29.581	2316	100	507.6					
	30.995	69	3	16.4	507.6	16.4	96.87	CALCITIC	Varib. Lam. Mudstone
WM1-1331.95									
	29.539	1359	100	313.8					
	30.559	59	4.3	13.4					
	31.008	71	5.2	13.9	313.8	27.3	92.00	CALCITIC	Lam. O-rich Mudstone
WM1-1337.25									
	29.542	351	33.9	99.1					
	29.962	143	13.8	38.5					
	30.919	1036	100	368.8	137.6	368.8	27.17	MIXED	Varib. Lam. Mudstone
WM1-1337.9									
	29.899	141	15.5	51.2					
	30.921	912	100	313	51.2	313	14.06	DOLOMITIC	Varib. Lam. Mudstone
WM1-1340.0									
	29.598	517	21.5	162.5					
	29.900	655	27.2	380.7					
	30.859	2407	100	811.7	543.2	811.7	40.09	MIXED	Lam. O-rich Mudstone
WM1-1344.0									
	29.900	92	11	22.6					
	30.898	840	100	293.8	22.6	293.8	7.14	DOLOMITIC	Lam. O-rich Mudstone
WM1-1346.0									
	29.921	115	24.5	23.6					
	30.516	100	21.3	42.8					
	30.999	469	100	164.7	23.6	207.5	10.21	DOLOMITIC	Varib. Lam. Mudstone
WM1-1349.0									
	29.478	161	5.5	10.2					
	29.721	186	6.4	19.7					
	30.842	2906	100	635.2	29.9	635.2	4.50	DOLOMITIC	Lam. O-rich Mudstone
WM1-1354.0									
	29.519	422	28.9	123					
	30.881	1459	100	512.7	123	512.7	19.35	DOLOMITIC	Mass. O-rich Mudstone
WM1-1358.0									
	29.537	344	100	80.8					
	30.920	263	76.5	87.4	80.8	87.4	48.04	MIXED	Lam. O-rich Mudstone

Core-Depth	2-Theta	Height	Peak Intensity (%)	Peak Area	Total Calcite Area	Total Dolomite Area	Calcite (%)	Primary Carbonate	Lithofacies
WM1-1361.0									
	29.580	650	100	160.5					
	30.960	314	48.3	113.4	160.5	113.4	58.60	MIXED	Massive Mudstone
WM1-1362.05									
	29.542	509	39.2	176.4					
	30.878	1300	100	395	176.4	395	30.87	MIXED	Foss. Siltstone
WM1-1363.0									
	29.518	1125	100	252					
	29.996	48	4.3	13.1					
	30.880	142	12.6	44.4	265.1	44.4	85.65	CALCITIC	Mass. O-rich Mudstone
WM-1364.65									
	29.541	449	53.8	145.3					
	30.919	835	100	269.4	145.3	269.4	35.04	MIXED	Lam. O-rich Mudstone
WM1-1365.0									
	29.501	5580	100	1407.7					
	30.441	427	7.7	460.8					
	30.818	721	12.9	583	1407.7	1043.8	57.42	MIXED	Lam. O-rich Mudstone
WM1-1367.0									
	29.500	4781	100	1424.9					
	30.760	542	11.3	120.6	1424.9	120.6	92.20	CALCITIC	Foss. Siltstone
WM1-1368.25									
	29.541	5484	100	1804.4					
	30.902	252	4.6	146.7	1804.4	146.7	92.48	CALCITIC	Massive Mudstone
WM1-1370.6									
	29.576	4997	100	1874.8					
	30.859	406	8.1	208.1	1874.8	208.1	90.01	CALCITIC	Massive Mudstone
WM1-1371.75									
	29.518	668	100	293.8					
	30.782	544	81.4	108.9	293.8	108.9	72.96	MIXED	Massive Mudstone
WM1-1373.0									
	29.558	2130	100	768.4					
	29.822	1393	65.4	745.5					
	30.822	783	36.8	188	1513.9	188	88.95	CALCITIC	Massive Mudstone
WM1-1374.0									
	29.580	2545	100	816.4					
	30.778	148	5.8	38.4	816.4	38.4	95.51	CALCITIC	Massive 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.

White Mountain No. 1 Core (WM)

Sample	Calcite (%)	Primary Carbonate	d18O (VSMOW)	d13C (VPBD)
ZONE D (Fluctuating Profundal)				
WM1-1245.0	17.19	DOLOMITIC	26.75	5.68
WM1-1259.75	8.79	DOLOMITIC	30.67	9.64
WM1-1276.0	19.34	DOLOMITIC	30.34	7.75
ZONE C (Fluvial-lacustrine)				
WM1-1296.0B	64.56	MIXED	25.69	1.39
WM1-1296.0A	73.93	MIXED	25.44	1.35
WM1-1321.0	88.34	CALCITIC	21.90	1.57
WM1-1329.0	96.87	CALCITIC	22.91	2.08
WM1-1331.95	92.00	CALCITIC	22.28	1.98
ZONE B (Fluctuating Profundal)				
WM1-1337.25	27.17	MIXED	30.95	6.05
WM1-1337.9	14.06	DOLOMITIC	31.86	6.10
WM1-1340.0	40.09	MIXED	31.00	7.09
WM1-1344.0	7.14	DOLOMITIC	30.95	8.09
WM1-1346.0	10.21	DOLOMITIC	31.74	5.22
WM1-1349.0	4.50	DOLOMITIC	32.13	8.00
WM1-1354.0	19.35	DOLOMITIC	30.26	3.34
ZONE A (Fluvial-lacustrine)				
WM1-1358.0	48.04	MIXED	28.85	0.61
WM1-1361.0	73.81	MIXED	28.46	1.04
WM1-1362.05	30.87	MIXED	29.25	1.12
WM1-1363.0	85.65	CALCITIC	27.87	-0.84
WM-1364.65	35.04	MIXED	29.69	-1.48
WM1-1365.0	57.42	MIXED	28.64	-2.18
WM1-1367.0	92.20	CALCITIC	26.80	-0.62
WM1-1368.25	92.48	CALCITIC	22.21	-4.74
WM1-1371.75	72.96	MIXED	27.08	0.25
WM1-1373.0	88.95	CALCITIC	26.90	-0.30
WM1-1374.0	95.51	CALCITIC	24.02	0.09