APPENDIX 1. PALEOSOL CARBONATE ISOTOPE DATA FROM THE SOUTHERN BIGHORN BASIN

Locality	NN[§]	PMS[†]	Level (m)	Age (Ma)	$\delta^{13}C$ (‰,PDB)	$\delta^{18}O$ (‰,PDB)
PK 072590:L2	1A	N.A.	728	52.56	–10.0	–8.9
"	1B	N.A.	"	"	–9.7	–8.6
"	2A	N.A.	"	"	–9.8	–8.8
"	2B	N.A.	"	"	–9.9	–8.9
PK 072590:L1	1A	N.A.	690	52.66	–9.7	–8.5
"	1B	N.A.	"	"	–9.4	–8.0
"	2A	N.A.	"	"	–9.3	–8.5
"	2B	N.A.	"	"	–9.3	–8.3
SLW – Fern Q	1A	N.A.	616	52.85	–10.1	–9.1
"	1B	N.A.	"	"	–9.6	–8.8
"	1C	N.A.	"	"	–10.0	–8.9
"	2A	N.A.	"	"	–10.0	–8.9
"	2B	N.A.	"	"	–10.2	–9.1
YPM 3	1A	N.A.	601	52.88	–9.1	–8.5
"	1B	N.A.	"	"	–9.2	–8.6
"	2A	N.A.	"	"	–9.3	–8.6
"	2B	N.A.	"	"	–9.4	–8.9
YPM 1	1A	N.A.	571	52.96	–11.2	–8.3
"	1B	N.A.	"	"	–11.4	–8.3
"	2A	N.A.	"	"	–11.1	–8.5
"	2B	N.A.	"	"	–11.1	–8.1
YPM 36	1A	N.A.	521	53.09	–10.9	–8.9
"	1B	N.A.	"	"	–10.1	–9.0
"	1C	N.A.	"	"	–11.2	–9.5
"	1D	N.A.	"	"	–10.2	–9.2
"	2A	N.A.	"	"	–10.4	–9.2
"	2B	N.A.	"	"	–10.4	–9.3
YPM 39	1A	4H	501	53.14	–11.9	–8.3
"	1B	"	"	"	–11.3	–8.2
"	2A	"	"	"	–11.3	–8.2
"	2B	"	"	"	–11.5	–8.2
D1434	1A	N.A.	496	53.15	–10.5	–8.2
"	1B	N.A.	"	"	–10.7	–7.9
MBF 41	1A	N.A.	491	53.16	–11.3	–8.5
"	1B	N.A.	"	"	–11.2	–8.1
"	2A	N.A.	"	"	–11.2	–7.9
"	2B	N.A.	"	"	–11.1	–7.9
D1162	1A	3+H	481	53.19	–10.1	–9.7
"	1B	"	"	"	–10.1	–9.5
"	2A	"	"	"	–9.9	–8.8
D1250	1A	4+H	461	53.24	–9.6	–9.0
"	1B	"	"	"	–10.6	–8.8
"	1C	"	"	"	–10.9	–9.5
"	2A	"	"	"	–10.0	–9.2
D1204	1A	3	442	53.29	–11.6	–8.7
"	1B	"	"	"	–11.4	–8.5
"	2A	"	"	"	–11.0	–8.4
"	2B	"	"	"	–11.0	–8.2
"	2C	"	"	"	–11.3	–9.5
"	2D	"	"	"	–11.2	–8.6
YPM 320	1A	1	423	53.34	–12.1	–8.4
"	1B	"	"	"	–12.9	–10.0
"	2A	"	"	"	–12.2	–7.9
"	2B	"	"	"	–12.5	–8.1
D1217+10m	1A	N.A.	422	53.34	–11.4	–8.5
"	1B	N.A.	"	"	–11.7	–8.7
"	2A	N.A.	"	"	–11.4	–8.8
"	2B	N.A.	"	"	–11.5	–8.6
D1217+3m	1A	1	415	53.36	–9.9	–8.4
"	1B	"	"	"	–9.4	–9.0
"	2A	"	"	"	–10.3	–8.9
"	2B	"	"	"	–10.1	–8.9
D1410*	1A	N.A.	414	53.36	–11.7	–8.1
"	1B	N.A.	"	"	–11.6	–8.1
"	1C	N.A.	"	"	–11.2	–8.1
D1350	1A	1	408	53.38	–12.4	–8.4
"	1B	"	"	"	–12.0	–8.4
"	2A	"	"	"	–11.6	–8.3

"	2B	"	"	"	–11.6	–8.3
YPM 220	1A	N.A.	405	53.38	–11.6	–8.4
"	1B	N.A.	"	"	–11.5	–8.4
"	2A	N.A.	"	"	–11.8	–8.3
"	2B	N.A.	"	"	–11.4	–8.3
YPM 271	1A	N.A.	400	53.40	–11.9	–8.3
"	1B	N.A.	"	"	–12.2	–8.6
"	2A	N.A.	"	"	–12.5	–8.5
"	2B	N.A.	"	"	–12.2	–8.6
D1716*	1A	N.A.	397	53.40	–10.9	–10.2
"	1B	N.A.	"	"	–10.2	–8.8
"	1C	N.A.	"	"	–9.3	–11.1
"	1D	N.A.	"	"	–9.5	–8.8
"	1E	N.A.	"	"	–9.8	–8.4
YPM 127	1A	N.A.	390	53.42	–11.7	–8.3
"	1B	N.A.	"	"	–11.7	–8.2
"	2A	N.A.	"	"	–11.6	–9.0
"	2B	N.A.	"	"	–11.6	–8.8
D1341	1A	2+H	384	53.44	–9.5	–8.6
"	1B	"	"	"	–9.4	–8.6
"	2A	"	"	"	–9.7	–8.1
"	2B	"	"	"	–9.6	–8.1
D1200	1A	3+	370	53.47	–9.5	–8.8
"	1B	"	"	"	–9.6	–8.5
"	2A	"	"	"	–9.5	–8.4
"	2B	"	"	"	–10.7	–8.1
D 1493	1A	N.A.	344	53.57	–11.4	–8.3
D1289	1A	3	342	53.58	–10.7	–8.9
"	1B	"	"	"	–10.6	–8.9
"	2A	"	"	"	–9.1	–9.0
"	2B	"	"	"	–9.4	–8.7
YPM 458	1A	4+	324	53.65	–8.5	–8.7
"	1B	"	"	"	–8.3	–8.5
"	2A	"	"	"	–8.4	–8.8
"	2B	"	"	"	–8.4	–8.6
D1931*	1A	N.A.	315	53.69	–8.9	–8.0
"	1B	N.A.	"	"	–8.9	–8.1
D1393+16.5m	1A	3H	313	53.70	–9.8	–9.0
"	1B	"	"	"	–9.7	–8.9
"	2A	"	"	"	–9.2	–8.4
"	2B	"	"	"	–9.2	–8.5
D1369	1A	5	292	53.78	–10.4	–9.7
"	1B	"	"	"	–10.5	–8.3
"	2A	"	"	"	–10.7	–9.7
"	2B	"	"	"	–10.2	–8.6
D1389	1A	1	264	53.90	–9.0	–8.2
"	1B	"	"	"	–9.2	–8.3
"	2A	"	"	"	–8.7	–8.5
"	2B	"	"	"	–8.5	–8.3
"	3A	"	"	"	–9.5	–8.1
YPM 373	1A	N.A.	250	53.95	–8.2	–8.3
"	1B	N.A.	"	"	–8.3	–8.6
"	2A	N.A.	"	"	–8.5	–8.4
"	2B	N.A.	"	"	–8.4	–8.4
YPM 212	1A	2H	230	54.04	–9.1	–8.3
"	1B	"	"	"	–9.2	–8.2
"	1C	"	"	"	–9.1	–8.2
YPM 290N	1A	1	210	54.12	–9.7	–8.6
"	1B	"	"	"	–9.6	–8.7
"	2A	"	"	"	–9.4	–10.1
"	2B	"	"	"	–8.8	–8.3
YPM 363	1A	2	190	54.20	–10.1	–8.4
"	1B	"	"	"	–10.3	–8.5
"	2A	"	"	"	–9.9	–7.9
"	2B	"	"	"	–9.8	–7.8
PK–N–22	1A	N.A.	174.5	54.26	–9.4	–8.1
"	1B	N.A.	"	"	–9.4	–8.0
"	2A	N.A.	"	"	–8.9	–8.7
"	2B	N.A.	"	"	–10.3	–7.8
YPM 389+2m	1A	1	172	54.27	–9.5	–8.2
"	1B	"	"	"	–10.6	–9.2
"	2A	"	"	"	–11.3	–10.5
"	2B	"	"	"	–10.8	–9.8
YPM 389	1A	1	170	54.28	–8.6	–9.4

"	1B	"	"	"	–8.7	–8.7
"	2A	"	"	"	–10.9	–10.3
"	2B	"	"	"	–11.1	–10.5
YPM 92	1A	N.A.	140	54.40	–11.6	–9.3
"	1B	N.A.	"	"	–9.6	–8.1
"	2A	N.A.	"	"	–10.6	–8.6
"	2B	N.A.	"	"	–9.7	–8.2
YPM 207	1A	1+	140	54.40	–10.0	–8.5
"	1B	"	"	"	–9.9	–8.2
"	2A	"	"	"	–9.9	–8.5
"	2B	"	"	"	–10.1	–8.5
PK–N–17	1A	N.A.	130	54.44	–10.1	–8.1
"	1B	N.A.	"	"	–9.8	–7.6
"	2A	N.A.	"	"	–9.8	–7.6
"	2B	N.A.	"	"	–9.5	–7.6
YPM 205+19m	1A	1	119	54.49	–9.9	–8.6
"	1B	"	"	"	–9.9	–8.4
"	2A	"	"	"	–8.9	–8.4
"	2B	"	"	"	–9.5	–8.4
YPM 200+4m	1A	1+	84	54.63	–11.0	–8.4
"	1B	"	"	"	–12.8	–7.0
YPM95	1A	N.A.	50	54.77	–10.5	–9.0
"	1B	N.A.	"	"	–10.5	–9.1
"	1C	N.A.	"	"	–10.4	–8.8
YPM95	2A	N.A.	"	"	–10.1	–7.8
"	2B	N.A.	"	"	–9.8	–7.5
PK-N-9	1A	N.A.	47	54.78	–13.5	–7.6
"	1B	N.A.	"	"	–13.6	–7.5
"	1C	N.A.	"	"	–14.1	–6.4
"	1D	N.A.	"	"	–14.7	–7.4
"	2A	N.A.	"	"	–14.3	–6.3
"	2B	N.A.	"	"	–13.8	–5.8
PK-N-8	1A	N.A.	35	54.83	–12.7	–7.8
"	1B	N.A.	"	"	–13.1	–7.8
"	2A	N.A.	"	"	–13.4	–6.7
"	2B	N.A.	"	"	–12.9	–7.7
PK-N-7	1A	N.A.	20	54.89	–14.3	–7.4
"	1B	N.A.	"	"	–14.3	–7.2
"	2A	N.A.	"	"	–13.9	–7.1
"	2B	N.A.	"	"	–14.4	–6.6
PK-N-6	1A	N.A.	9	54.94	–13.7	–7.7
"	1B	N.A.	"	"	–14.2	–7.8
D 1887	1A	N.A.	5	54.95	–14.1	–7.7
"	1B	N.A.	"	"	–13.1	–8.1
"	2A	N.A.	"	"	–12.4	–8.2
"	2B	N.A.	"	"	–12.9	–8.0
Spar Data						
YPM 39	S1		501	53.14	–13.8	–12.3
D1162	S1	3+H	481	53.19	–17.3	–16.0
"	S2	"	"	"	–15.7	–16.8
D1250	S1	4+H	461	53.24	–11.5	–20.9
"	S2	"	"	"	–10.9	–20.2
YPM 320	S1	1	423	53.34	–12.4	–18.9
YPM 220	S	N.A.	405	53.38	–12.8	–19.8
YPM 271	S	N.A.	400	53.40	–10.8	–7.6
YPM 363	S	N.A.	190	54.20	–10.4	–7.9
YPM 200+4m	S1	1+	84	54.63	–19.2	–9.8
"	S2	"	"	"	–19.6	–9.7
PK-N-6	S1	N.A.	9	54.94	–24.7	–14.8
"	S2	N.A.	"	"	–24.7	–14.7

[§]NN = Nodule sample number, where each number represents a different soil nodule from the same locality, and letters indicate separate samples from the same nodule.

* = data for bone encrusting micrite from Bao et al. (1998).

S = data from sparry cement.

[†]PMS, Paleosol Maturity Scale ranges from 1 (least mature) to 5 (most mature) (Bown and Kraus, 1987), H indicates a hydromorphic soil.

N.A. = data were not available.

REFERENCES CITED

Bao, H., Koch, P.L., and Hepple, R.P., 1998, Hematite and calcite coatings on fossil vertebrates: Journal of Sedimentary Research A, v. 68, p. 727–738.

Bown, T.M., and Kraus, M.J., 1987, Intergration of channel and flood-plain suites, I: Developmental sequence and lateral relations of alluvial paleosols: Journal of Sedimentary Petrology, v. 57, p. 587–601.

APPENDIX 2. SOIL CARBONATE ISOTOPE DATA FROM THE McCULLOUGH PEAKS

Locality	N	Level (m)	Age (Ma)	$\delta^{13}C$ (‰,PDB)	$\delta^{18}O$ (‰,PDB)
WC-Nods-92041N	1A	2566	52.68	–11.2	–7.8
"	1B	"	"	–11.0	–7.6
"	2A	"	"	–10.9	–7.4
"	2B	"	"	–11.0	–7.5
"	3A	"	"	–11.1	–8.9
"	4A	"	"	–11.1	–7.7
"	5A	"	"	–11.1	–7.2
"	6A	"	"	–10.9	–7.4
WC-Nods-92040N	1A	2557	52.69	–10.5	–9.2
"	1B	"	"	–10.2	–9.3
"	2A	"	"	–10.6	–8.4
"	2B	"	"	–10.3	–9.1
WC-Nods-92039N	1A	2452	52.85	–10.4	–7.8
"	1B	"	"	–10.3	–7.9
"	2A	"	"	–10.0	–7.7
"	2B	"	"	–10.2	–7.6
WC-Nods-92038N	1A	2437	52.88	–10.8	–8.1
"	1B	"	"	–10.6	–7.9
"	2A	"	"	–10.1	–7.7
"	2B	"	"	–10.6	–7.8
"	3A	"	"	–10.3	–7.9
"	3B	"	"	–10.5	–7.8
"	3C	"	"	–10.4	–7.8
"	3D	"	"	–9.9	–7.5
WC-Nods-92036N	1A	2385	52.95	–10.0	–8.1
"	1B	"	"	–9.7	–8.3
"	2A	"	"	–9.7	–8.0
"	2B	"	"	–9.7	–8.0
WC-Nods-92037N	1A	2375	52.97	–8.5	–8.6
"	1B	"	"	–8.4	–8.5
"	2A	"	"	–8.6	–8.2
"	2B	"	"	–8.3	–8.2
WC-Nods-92035N	1A	2332	53.03	–10.6	–8.1
"	1B	"	"	–10.7	–8.0
"	2A	"	"	–10.2	–8.5
"	2B	"	"	–10.4	–8.0
WC-Nods-92034N	1A	2327	53.03	–12.4	–7.9
"	1B	"	"	–12.6	–7.7
"	2A	"	"	–11.7	–8.4
"	2B	"	"	–11.8	–8.6
WC-Nods-92033N	1A	2256	53.13	–9.2	–8.1
"	1B	"	"	–9.4	–8.5
"	2A	"	"	–8.9	–8.6
"	2B	"	"	–9.4	–8.2
WC-Nods-92031N	1A	2194	53.22	–10.1	–8.1
"	1B	"	"	–9.9	–8.4
"	2A	"	"	–9.9	–8.3
"	2B	"	"	–9.7	–8.0
"	3A	"	"	–9.3	–10.3
"	4A	"	"	–9.9	–8.3
WC-Nods-92031N	5A	2194	53.22	–10.7	–8.5
"	6A	"	"	–10.2	–8.3
WC-Nods-92032N	1A	2179	53.24	–9.1	–8.3
"	1B	"	"	–9.1	–8.3
WC-Nods-92032N	2A	2179	53.24	–9.0	–8.4
"	2B	"	"	–9.1	–8.1
"	3A	"	"	–9.5	–8.2
"	3B	"	"	–8.4	–8.4
"	3C	"	"	–8.3	–8.3
"	3D	"	"	–8.6	–8.3
"	4A	"	"	–8.9	–8.3
"	5A	"	"	–8.8	–8.3
"	6A	"	"	–9.0	–8.3
WC-Nods-92030N	1A	2165	53.26	–9.1	–7.7
"	1B	"	"	–9.2	–7.6
"	2A	"	"	–9.4	–8.0
"	2B	"	"	–9.2	–8.1

WC-Nods-92029N	1A	2117	53.32	–9.8	–9.1
"	1B	"	"	–9.3	–8.5
"	2A	"	"	–9.6	–9.7
"	2B	"	"	–9.6	–9.0
WC-Nods-92028N	1A	2112	53.33	–10.0	–7.7
"	1B	"	"	–9.9	–7.7
"	2A	"	"	–9.0	–8.3
"	2B	"	"	–9.2	–8.2
"	3A	"	"	–9.5	–8.2
"	3B	"	"	–9.6	–8.2
"	3C	"	"	–9.5	–8.2
"	3D	"	"	–9.5	–8.2
WC-Nods-92027N	1A	2108	53.34	–12.0	–8.0
"	1B	"	"	–12.0	–7.8
"	2A	"	"	–10.9	–8.5
"	2B	"	"	–11.7	–8.4
WC-Nods-92025N	1A	2098	53.35	–10.2	–7.8
"	1B	"	"	–10.5	–8.0
"	2A	"	"	–10.9	–8.0
"	2B	"	"	–10.7	–7.6
WC-Nods-92026N	1A	2093	53.36	–9.2	–8.5
"	1B	"	"	–9.3	–8.5
"	2A	"	"	–9.0	–8.3
"	2B	"	"	–8.9	–8.5
WC-Nods-92023N	1A	2084	53.37	–10.2	–7.9
"	1B	"	"	–10.5	–8.1
"	2A	"	"	–9.5	–8.1
"	2B	"	"	–9.8	–8.5
WC-Nods-92022N	1A	2041	53.43	–9.1	–7.5
"	1B	"	"	–8.9	–7.3
"	2A	"	"	–10.6	–8.1
"	2B	"	"	–10.7	–8.1
WC-Nods-92021N	1A	2036	53.42	–9.5	–8.5
"	1B	"	"	–9.5	–8.8
"	2A	"	"	–9.7	–8.4
"	2B	"	"	–9.1	–8.5
"	3A	"	"	–9.4	–8.4
"	4A	"	"	–9.3	–8.3
"	5A	"	"	–9.1	–8.3
"	6A	"	"	–9.4	–8.1
WC-Nods-92020N	1A	2022	53.45	–9.4	–8.5
"	1B	"	"	–9.6	–8.4
"	2A	"	"	–8.9	–8.2
"	2B	"	"	–8.9	–8.3
WC-Nods-92018N	1A	2006	53.47	–9.1	–8.4
"	1B	"	"	–9.2	–8.5
"	2A	"	"	–8.7	–7.9
"	2B	"	"	–8.8	–7.9
WC-Nods-92017N	1A	1998	53.49	–9.4	–8.1
"	1B	"	"	–9.0	–8.3
"	2A	"	"	–9.1	–8.1
"	2B	"	"	–9.1	–8.2
WC-Nods-92019N	1A	1993	53.50	–9.4	–8.5
"	1B	"	"	–9.9	–9.3
"	2A	"	"	–9.5	–8.6
"	2B	"	"	–9.3	–8.7
WC-Nods-92015N	1A	1993	53.50	–9.9	–8.8
"	1B	"	"	–10.2	–8.7
"	2A	"	"	–9.3	–8.4
"	2B	"	"	–9.6	–8.6
WC-Nods-92016N	1A	1979	53.52	–11.3	–8.5
"	1B	"	"	–11.3	–8.4
"	2A	"	"	–9.8	–8.6
"	2B	"	"	–9.5	–8.4
WC-Nods-92014N	1A	1969	53.54	–10.4	–8.4
"	1B	"	"	–10.2	–7.9
"	2A	"	"	–9.8	–8.3
"	2B	"	"	–9.6	–7.8
"	3A	"	"	–9.9	–8.1
"	3B	"	"	–9.9	–8.4
"	3C	"	"	–9.9	–8.1
"	3D	"	"	–9.9	–8.5
WC-Nods-92013N	1A	1959	53.56	–8.6	–8.7
"	1B	"	"	–8.6	–8.7

"	2A	"	"	–8.5	–8.5
"	2B	"	"	–8.5	–8.4
WC-Nods-92012N	1A	1950	53.58	–9.3	–8.7
"	1B	"	"	–9.2	–8.8
"	2A	"	"	–9.1	–8.9
"	2B	"	"	–8.9	–8.4
WC-Nods-92009N	1A	1945	53.59	–8.9	–8.8
"	1B	"	"	–9.0	–8.4
WC-Nods-92009N	2A	1945	53.59	–8.9	–8.1
"	2B	"	"	–8.9	–8.2
WC-Nods-92008N	1A	1921	53.63	–8.2	–8.4
"	1B	"	"	–8.1	–8.4
"	2A	"	"	–9.0	–8.0
"	2B	"	"	–8.7	–8.2
"	3A	"	"	–8.3	–8.1
"	3B	"	"	–8.3	–8.0
"	3C	"	"	–8.3	–8.2
"	3D	"	"	–8.4	–8.2
WC-Nods-92010N	1A	1907	53.66	–8.8	–8.3
"	1B	"	"	–8.8	–8.4
"	2A	"	"	–8.8	–8.1
"	2B	"	"	–9.0	–8.9
WC-Nods-92024N	1A	1883	53.70	–8.5	–8.3
"	1B	"	"	–8.5	–7.9
"	2A	"	"	–9.4	–8.5
"	2B	"	"	–8.8	–8.5
WC-Nods-92011N	1A	1816	53.83	–9.2	–8.3
"	1B	"	"	–9.4	–8.5
"	2A	"	"	–9.0	–8.2
"	2B	"	"	–8.9	–8.1
"	3A	"	"	–8.9	–8.4
"	4A	"	"	–9.4	–8.1
"	5A	"	"	–8.8	–8.6
"	6A	"	"	–9.5	–8.3
WC-Nods-92007N	1A	1740	53.97	–9.8	–8.1
"	1B	"	"	–9.8	–7.8
"	2A	"	"	–9.7	–8.0
"	2B	"	"	–9.6	–7.9
WC-Nods-92005N	1A	1558	54.30	–9.0	–8.6
"	1B	"	"	–9.1	–8.7
"	2A	"	"	–8.2	–7.7
"	2B	"	"	–8.3	–7.9
WC-Nods-92006N	1A	1549	54.32	–10.1	–8.8
"	1B	"	"	–10.2	–8.7
"	2A	"	"	–9.9	–8.4
"	2B	"	"	–9.9	–8.4
WC-Nods-92004N	1A	1453	54.50	–9.1	–8.1
"	1B	"	"	–8.8	–8.1
"	2A	"	"	–8.8	–8.1
"	2B	"	"	–9.6	–8.4
WC-Nods-92003N	1A	1328	54.73	–9.0	–7.8
"	1B	"	"	–9.5	–7.9
"	2A	"	"	–9.0	–7.7
"	2B	"	"	–8.9	–7.7
WC-Nods-92002N	1A	1300	54.78	–9.6	–8.0
"	1B	"	"	–9.6	–7.8
"	2A	"	"	–9.5	–8.0
"	2B	"	"	–9.5	–7.9
WC-Nods-92002N	3A	1300	54.78	–9.6	–8.0
"	4A	"	"	–9.5	–8.2
"	5A	"	"	–10.2	–7.6
"	6A	"	"	–9.1	–7.9
FG 61-2	1A	1204	54.96	–15.1	–7.7
WC-Nods-92001N	1A	1195	54.97	–14.8	–7.2
"	1B	"	"	–15.9	–7.7
"	2A	"	"	–14.9	–7.4
"	2B	"	"	–15.2	–7.4
FG 61-1	1A	1195	54.97	–15.7	–7.7
"	1B	"	"	–15.5	–7.9

Note: Same as for Appendix 1.

APPENDIX 3. ORGANIC MATTER ISOTOPE VALUES

Locality	Type	Level (m)	Age (Ma)	$\delta^{13}C$ (‰,PDB)
Clarks Fork Basin				
SC 295	Nod Org	2210	53.55	–25.2
SC 303	Nod Org	2110	53.75	–24.7
SC 148	Nod Org	2050	53.88	–25.7
SC 112	Nod Org	2020	53.94	–24.9
SC 111	Nod Org	2005	53.97	–25.0
SC 35	Nod Org	1870	54.25	–24.7
SC 33	Nod Org	1840	54.31	–24.8
SC 224	Nod Org	1815	54.36	–24.5
SC 133	Nod Org	1750	54.50	–24.9
SC 160	Nod Org	1720	54.56	–25.1
SC 15	Nod Org	1630	54.75	–24.8
SLW 9812	Cuticle	1570	54.87	–23.8
SC 4	Nod Org	1570	54.87	–24.9
SC67-NOD9	Nod Org	1560	54.89	–25.0
SC67-NOD8	Nod Org	1549	54.91	–25.1
SC351-NOD6	Nod Org	1538	54.94	–25.0
SC351-NOD5	Nod Org	1534	54.94	–25.4
SC67-NOD 6	Nod Org	1534	54.94	–25.5
SC351-NOD4	Nod Org	1532	54.95	–25.3
SC67-NOD5	Nod Org	1527	54.96	–25.1
SC351-NOD2	Nod Org	1525	54.96	–25.4
SC351-NOD1	Nod Org	1524	54.97	–25.4
SC67-NOD4	Nod Org	1524	54.97	–25.4
SC67-NOD3	Nod Org	1520	54.97	–25.6
SC 23	Nod Org	1495	55.03	–25.0
SC 80	Nod Org	1495	55.03	–24.9
SC 80-L	Nod Org	1492	55.03	–25.1
SLW 9715	Cuticle	1470	55.08	–24.2
SC 22	Nod Org	1460	55.10	–25.0
SC 20	Nod Org	1380	55.26	–25.3
SC 117-above	Nod Org	1380	55.26	–24.8
PK-N-1380-1	Nod Org	1380	55.26	–25.1
SC 176	Nod Org	1355	55.31	–24.2
SC 176	Nod Org	1355	55.31	–24.3
SLW 992	Cuticle	1195	55.65	–25.7
SLW 993	Cuticle	1195	55.65	–24.3
SC 179	Nod Org	1080	55.88	–24.6
SC191	Nod Org	1015	56.01	–25.3
SC 185	Nod Org	940	56.16	–24.4
SC 85	Nod Org	860	56.31	–22.5
SC 165	Nod Org	820	56.39	–25.6
SC 198	Nod Org	760	56.61	–25.4
SC 279	Nod Org	680	56.90	–25.4
SC 242	Nod Org	590	57.23	–24.5
SC 246	Nod Org	520	57.48	–23.9
S. Bighorn Basin				
SLW 8822	Cuticle	621	52.83	–28.9
SLW 8822	Cuticle	621	52.83	–28.5
SLW 8822	Cuticle	621	52.83	–27.2
SLW 8822	Cuticle	621	52.83	–27.2
LJH 9915	Cuticle	429	54.56	–26.3
SLW 882	Cuticle	420	53.35	–27.7
SLW 882	Cuticle	420	53.35	–27.6
SLW 882	Cuticle	420	53.35	–27.8
SLW 882	Cuticle	420	53.35	–27.7
SLW H	Cuticle	420	53.35	–26.9
DCF	Cuticle	353	53.53	–26.6
DCF	Cuticle	353	53.53	–26.1
SLW 826	Cuticle	90	54.61	–28.7
SLW 826	Cuticle	90	54.61	–28.5
SLW 826	Cuticle	90	54.61	–28.8
SLW 9050	Cuticle	–25	55.08	–27.0
SLW 9434	Cuticle	–30	55.10	–22.5
SLW 9411	Cuticle	–50	55.18	–23.8
SLW 9155	Cuticle	–100	55.38	–29.8

Note: Nod Org, organic matter in carbonate nodules.