

Appendix 1 to accompany: Denny J. Martin and Kenshu Shimada. 2008.
“Lithostratigraphy and depositional environment of the Lincoln Limestone Member of the Greenhorn Limestone (Upper Cretaceous) in Russell County, Kansas, with special reference to the basal beds.” Transactions of the Kansas Academy of Science. 111(1/2): 79-92.

Appendix 1. Stratigraphic data at each locality (Localities A-O: Fig. 1). “Elevation” refers to topographic (ground) elevation at top of each bed (i.e., first measurement is elevation at top of outcrop). “Thickness” refers to level of base of each bed measured from top of outcrop.

Locality A, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
520.03	0.095	0.31	Limestone
519.59	0.438	1.44	Shale
519.58	0.448	1.47	Calcarenite
519.34	0.692	2.27	Sandy shale
519.33	0.698	2.29	Bentonite
518.98	1.047	3.44	Shale
518.76	1.269	4.16	Calcarenite
518.70	1.329	4.36	Shale
518.66	1.367	4.48	Calcarenite
518.61	1.424	4.67	Bentonite
518.54	1.488	4.88	Calcarenite
518.46	1.571	5.15	Calcarenite
518.43	1.603	5.26	Shale
518.30	1.730	5.68	Calcarenite
517.75	2.276	7.47	Shale
517.41	2.619	8.59	Bentonite
516.96	3.069	10.07	Shale

Locality B, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
555.00	0.150	0.49	[Soil]
554.83	0.170	0.56	Limestone
554.62	0.380	1.25	Sandy limestone & shale
554.59	0.410	1.35	Limy chalk
554.34	0.660	2.17	Sandy limestone & shale
554.30	0.700	2.30	Limy chalk
554.29	0.710	2.33	Bentonite (thins to a seam)
554.09	0.910	2.99	Shale
553.97	1.030	3.38	Sandy limestone & shale
553.91	1.090	3.58	Shale
553.86	1.140	3.74	Limestone
553.82	1.180	3.87	Shale
553.81	1.190	3.90	Bentonite (thins to 0.5 cm)
553.70	1.300	4.27	Shale
553.68	1.320	4.33	Bentonite
553.43	1.570	5.15	Sandy limestone & shale
553.37	1.630	5.35	Bentonite
553.20	1.800	5.91	Shale
553.14	1.860	6.10	Sandy limestone & shale
552.54	2.460	8.07	Shale
552.53	2.470	8.10	Sandy shale
552.49	2.510	8.23	Shale
552.48	2.520	8.27	Sandy shale
552.37	2.635	8.65	Shale
552.34	2.665	8.74	Limy chalk
552.19	2.815	9.24	Limy shale

552.14	2.865	9.40	Sandy shale
551.74	3.265	10.71	Shale
551.69	3.315	10.88	Chalky limestone
551.57	3.435	11.27	Shale
551.54	3.460	11.35	Sandy shale
551.31	3.690	12.11	Shale
551.28	3.725	12.22	Bentonite
551.08	3.925	12.88	Shale
551.01	3.995	13.11	Bentonite
550.83	4.175	13.70	Shale
550.78	4.225	13.86	Sandy limestone
550.38	4.625	15.17	Shale
550.32	4.685	15.37	Bentonite
550.05	4.955	16.26	Shale
549.99	5.015	16.45	Sandy limestone
549.28	5.725	18.78	Shale
549.24	5.760	18.90	Bentonite
549.21	5.795	19.01	Shale
549.06	5.945	19.50	Shale & thin Calcarenite
549.00	6.005	19.70	Calcarenite
548.99	6.015	19.73	Bentonite
548.97	6.035	19.80	Limy shale
548.67	6.335	20.78	Calcarenite
548.63	6.370	20.90	Shale
548.57	6.430	21.10	Calcarenite
548.52	6.485	21.28	Bentonite
548.41	6.595	21.64	Calcarenite
547.88	7.125	23.38	Shale [Graneros Shale]
547.55	7.455	24.46	Bentonite [Graneros Shale]

Locality C, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
542.34	0.335	1.10	[Fairport Chalk Member of Carlile Shale]
536.01	6.330	20.77	[Pfeifer Shale Member of Greenhorn Limestone]
529.88	12.460	40.88	[Jetmore Chalk Member of Greenhorn Limestone]
520.89	21.450	70.37	[Hartland Shale Member of Greenhorn Limestone]
520.87	21.465	70.42	Sandy limestone
520.82	21.515	70.59	Shale & sandy limestone
520.80	21.535	70.65	Sandy limestone
520.75	21.585	70.82	Shale & sandy limestone
520.72	21.620	70.93	Sandy limestone
520.65	21.690	71.16	Shale & sandy limestone
520.64	21.700	71.19	Sandy limestone
520.52	21.820	71.59	Shale & sandy limestone
520.49	21.850	71.69	Sandy limestone
520.44	21.900	71.85	Shale & sandy limestone
520.41	21.930	71.95	Sandy limestone
520.36	21.980	72.11	Shale & sandy limestone
520.32	22.015	72.23	Sandy limestone
520.05	22.285	73.11	Shale & sandy limestone (shale at base)
520.00	22.335	73.28	Bentonite
519.71	22.625	74.23	Shale

519.70	22.635	74.26	Lenticular sandy limestone
519.62	22.715	74.52	Shale
519.58	22.760	74.67	Chalky limestone
519.53	22.805	74.82	Shale
519.52	22.815	74.85	Bentonite (thins to 0.5 cm)
519.43	22.910	75.16	Shale
519.41	22.930	75.23	Bentonite
519.16	23.180	76.05	Shale
519.09	23.250	76.28	Bentonite (thins to 3.0 cm)
519.01	23.330	76.54	Shale
519.00	23.340	76.57	Bentonite
518.90	23.440	76.90	Shale
518.88	23.455	76.95	Sandy limestone
518.74	23.595	77.41	Shale
518.73	23.605	77.44	Bentonite
518.68	23.655	77.61	Shale
518.64	23.695	77.74	Shaly sandy limestone
518.26	24.075	78.99	Shale
518.24	24.095	79.05	Skeletal limestone
517.89	24.445	80.20	Shale
517.89	24.450	80.22	Bentonite
517.26	25.080	82.28	Shale
517.20	25.140	82.48	Bentonite
516.80	25.540	83.79	Shale
513.63	28.710	94.19	Unobservable unit(s)
513.47	28.870	94.72	Calcarenite (thins to 15.0 cm)
513.43	28.905	94.83	Calcarenite
513.36	28.980	95.08	Calcarenite

Locality D, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
511.00	0.000	0.00	Top of shale
510.40	0.600	1.97	Shale
509.69	0.710	2.33	Sandy limestone
508.94	1.460	4.79	Shale
508.89	1.515	4.97	Sandy limestone
508.57	1.835	6.02	Shale
508.47	1.935	6.35	Bentonite
508.10	2.305	7.56	Shale
507.80	2.605	8.55	Calcarenite
507.60	2.805	9.20	Calcarenite
507.55	2.855	9.37	Bentonite
507.51	2.895	9.50	Shale
507.49	2.910	9.55	Calcarenite

Locality E, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
552.29	0.000	0.00	[Top of Outcrop]
551.00	1.285	4.22	[Fairport Chalk Member of Carlile Shale]
545.15	7.133	23.40	[Pfeifer Shale Member of Greenhorn Limestone]
539.04	13.248	43.46	[Jetmore Chalk Member of Greenhorn Limestone]
529.02	23.264	76.33	[Hartland Shale Member of Greenhorn Limestone]
528.84	23.449	76.93	Sandy shale
528.52	23.769	77.98	Shale
528.46	23.829	78.18	Bentonite
528.17	24.119	79.13	Shale
528.16	24.129	79.16	Bentonite
527.46	24.829	81.46	Shale
527.43	24.854	81.54	Bentonite
527.12	25.169	82.58	Shale
526.73	25.559	83.85	Shale & sandy limestone
526.50	25.789	84.61	Sandy shale
526.47	25.819	84.71	Sandy limestone
526.42	25.864	84.86	Shale
526.41	25.874	84.89	Limestone
526.38	25.904	84.99	Shale
526.32	25.964	85.18	Sandy limestone
526.30	25.984	85.25	Bentonite
526.26	26.024	85.38	Shale
526.16	26.124	85.71	Limestone (thins to 6.5

			cm)
526.11	26.174	85.87	Bentonite (thins to seam)
526.06	26.229	86.05	Shale
526.05	26.239	86.09	Bentonite (thins to seam)
526.02	26.264	86.17	Shale
526.01	26.279	86.22	Sandy limestone
525.95	26.334	86.40	Shale
525.94	26.344	86.43	Bentonite (thins to seam)
525.90	26.384	86.56	Shale
525.88	26.404	86.63	Sandy limestone
525.39	26.899	88.25	Shale
525.39	26.900	88.25	Bentonite seam
525.32	26.965	88.47	Sandy shale
525.25	27.035	88.70	Sandy limestone
525.25	27.040	88.71	Bentonite
525.22	27.065	88.80	Shale
525.22	27.070	88.81	Bentonite
524.82	27.465	90.11	Shale
524.72	27.565	90.44	Bentonite
524.51	27.780	91.14	Shale
524.42	27.865	91.42	Bentonite
523.85	28.440	93.31	Shale
523.78	28.505	93.52	Bentonite
523.74	28.545	93.65	Shale
523.63	28.655	94.01	Calcarenite
522.74	29.545	96.93	Shale
522.68	29.610	97.15	Calcarenite
522.64	29.650	97.28	Bentonite
522.46	29.830	97.87	Shale

Locality F [Column 1], Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
550.00	0.000	0.00	Top of outcrop
545.50	4.500	14.76	[Soil]
545.00	5.000	16.40	Shale
544.94	5.060	16.60	Limestone
544.93	5.070	16.63	Bentonite
544.55	5.455	17.90	Shale
544.48	5.520	18.11	Bentonite (thins to 0 cm)
544.30	5.705	18.72	Shale
544.21	5.795	19.01	Bentonite
543.74	6.265	20.55	Shale

Locality F [Column 2], Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
545.00	0.000	0.00	Top of outcrop
545.00	0.005	0.02	Bentonite
544.80	0.205	0.67	Shale with thin lenses of sandy limestone
544.75	0.255	0.84	Limestone
544.74	0.265	0.87	Bentonite
544.47	0.535	1.76	Shale with thin lenses of sandy limestone
544.45	0.555	1.82	Sandy limestone
544.43	0.570	1.87	Shale
544.42	0.580	1.90	Sandy limestone
544.37	0.635	2.08	Shale
544.34	0.660	2.17	Sandy limestone
544.28	0.720	2.36	Shale
544.27	0.730	2.40	Bentonite
543.86	1.140	3.74	Shale
543.85	1.150	3.77	Bentonite
543.80	1.200	3.94	Shale
543.80	1.205	3.95	Bentonite
543.39	1.615	5.30	Shale
543.30	1.700	5.58	Bentonite
543.15	1.855	6.09	Shale

543.68	6.320	20.73	Bentonite
543.24	6.760	22.18	Shale
543.24	6.765	22.19	Bentonite seam
542.43	7.575	24.85	Shale
542.42	7.585	24.89	Bentonite
542.15	7.855	25.77	Shale
542.14	7.856	25.77	Bentonite seam
541.98	8.016	26.30	Shale
541.93	8.066	26.46	Bentonite
541.42	8.576	28.14	Shale (thins to 44.0 cm)
541.36	8.641	28.35	Sandy limestone
541.01	8.991	29.50	Shale
540.90	9.101	29.86	Sandy limestone

543.06	1.945	6.38	Bentonite
542.21	2.795	9.17	Shale
542.06	2.945	9.66	Shaly limestone
541.96	3.045	9.99	Shale
541.92	3.080	10.10	Shaly calcarenite
541.19	3.810	12.50	Shale
541.12	3.880	12.73	Shaly calcarenite
541.11	3.895	12.78	Bentonite
540.77	4.235	13.89	Shale
540.74	4.265	13.99	Bentonite
540.68	4.320	14.17	Shale
540.63	4.375	14.35	Bentonite
540.18	4.825	15.83	Shale
540.14	4.865	15.96	Shaly calcarenite
539.77	5.230	17.16	Shale
539.50	5.500	18.04	Calcarenite
539.41	5.590	18.34	Bentonite (thins to 7.0 cm)
539.36	5.640	18.50	Calcarenite
538.69	6.310	20.70	Shale [Graneros Shale]
538.36	6.640	21.78	Bentonite [Graneros Shale]
538.31	6.690	21.95	Sandstone [Graneros Shale]

Locality G, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
565.00	0.000	0.00	Top of outcrop
557.36	7.640	25.07	[Pfeifer Shale Member of Greenhorn Limestone]
550.21	14.790	48.52	[Jetmore Chalk Member of Greenhorn Limestone]
539.68	25.320	83.07	[Hartland Shale Member of Greenhorn Limestone]
539.66	25.340	83.14	Chalky shale
539.63	25.370	83.23	Bentonite lense
539.61	25.390	83.30	Chalky shale
539.36	25.640	84.12	Shale
539.36	25.643	84.13	Bentonite seam
539.31	25.693	84.29	Sandy shale
539.28	25.723	84.39	Thinly bedded calcarenite
539.11	25.893	84.95	Sandy shale
539.06	25.943	85.11	Thinly bedded calcarenite
538.66	26.343	86.43	Sandy shale
538.61	26.393	86.59	Thinly bedded calcarenite
538.51	26.493	86.92	Shale
538.51	26.494	86.92	Bentonite seam
538.41	26.594	87.25	Shale
538.38	26.624	87.35	Calcarenite lense & bentonite lense
538.10	26.904	88.27	Shale
538.10	26.905	88.27	Bentonite seam
537.91	27.095	88.89	Shale
537.61	27.395	89.88	Resistant shale
537.60	27.396	89.88	Bentonite seam
537.56	27.436	90.01	Shale
537.56	27.437	90.02	Bentonite seam
537.38	27.617	90.61	Shale
537.30	27.697	90.87	Bentonite (thins to seam)

537.28	27.722	90.95	Shale
537.27	27.732	90.98	Bentonite seam
537.20	27.802	91.21	Shale
537.19	27.812	91.25	Bentonite lense
536.96	28.042	92.00	Shale
536.96	28.043	92.00	Bentonite seam
536.94	28.063	92.07	Shale
536.94	28.064	92.07	Bentonite seam
536.75	28.254	92.70	Shale
536.69	28.314	92.89	Bentonite (thin to seam)
536.47	28.534	93.62	Shale
536.39	28.614	93.88	Bentonite
536.06	28.944	94.96	Shale
536.04	28.964	95.03	Bentonite lense
535.96	29.044	95.29	Shale
535.91	29.089	95.44	Bentonite
535.56	29.439	96.58	Shale
535.47	29.529	96.88	Calcarenite (thins to 6.0 cm)
534.68	30.319	99.47	Shale
534.67	30.326	99.49	Bentonite
534.40	30.596	100.38	Shale
534.39	30.606	100.41	Faint bentonite
534.27	30.726	100.81	Shale
534.22	30.781	100.99	Bentonite
533.47	31.531	103.45	Shale
533.24	31.761	104.20	Sandy shale
533.15	31.846	104.48	Bentonite (thins to 1.5 cm)
533.09	31.906	104.68	Calcarenite
533.03	31.966	104.88	Shale
532.70	32.296	105.96	Calcarenite
532.68	32.316	106.02	Bentonite
532.64	32.361	106.17	Calcarenite
532.61	32.391	106.27	Chalky shale
532.58	32.416	106.35	Calcarenite

Locality H, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
545.00	0.000	0.00	Top of outcrop
542.50	2.500	8.20	Shale
542.40	2.600	8.53	Limestone
542.32	2.680	8.79	Shale
542.27	2.730	8.96	Bentonite
541.92	3.085	10.12	Shale
541.82	3.185	10.45	Sandy limestone
541.74	3.265	10.71	Shale
541.68	3.325	10.91	Sandy limestone
541.63	3.375	11.07	Bentonite
541.45	3.555	11.66	Shale (thins to 14.0 cm)
541.41	3.595	11.79	Calcarenite (thins to 2.0 cm)
541.09	3.915	12.84	Shale
541.08	3.920	12.86	Bentonite (?)
540.92	4.080	13.39	Shale
540.92	4.085	13.40	Bentonite (?)
540.83	4.175	13.70	Shale
540.79	4.215	13.83	Calcarenite
540.73	4.270	14.01	Bentonite
540.71	4.290	14.07	Calcarenite
540.57	4.430	14.53	Shale
540.57	4.431	14.54	Bentonite seam
540.44	4.561	14.96	Shale
540.43	4.571	15.00	Bentonite (?)
540.39	4.611	15.13	Shale
540.34	4.661	15.29	Bentonite
540.29	4.711	15.46	Shale
540.24	4.761	15.62	Bentonite

Locality I, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
552.00	0.000	0.00	Top of outcrop
546.82	5.180	16.99	[Pfeifer Shale Member of Greenhorn Limestone]
540.40	11.605	38.07	[Jetmore Limestone Member of Greenhorn Limestone]
530.85	21.150	69.39	[Hartland Shale Member of Greenhorn Limestone]
530.83	21.170	69.46	Limestone
530.36	21.640	71.00	Shale with thin beds of calcarenite
530.32	21.680	71.13	Bentonite
529.87	22.130	72.60	Sandy shale
529.82	22.180	72.77	Bentonite (thins to seam)
529.64	22.360	73.36	Shale
529.63	22.375	73.41	Bentonite
529.38	22.625	74.23	Sandy shale
529.36	22.640	74.28	Bentonite
529.22	22.780	74.74	Sandy shale
529.18	22.820	74.87	Bentonite
529.12	22.885	75.08	Sandy shale
529.08	22.925	75.21	Limestone
529.07	22.935	75.25	Bentonite
529.02	22.985	75.41	Shale
529.00	23.005	75.48	Skeletal limestone (calcarenite; thins to 1.0 cm)
528.87	23.135	75.90	Sandy shale
528.85	23.150	75.95	Calcarenite (thins to 0.5 cm)
528.22	23.785	78.03	Shale
528.15	23.850	78.25	Lenticular limestone
528.14	23.860	78.28	Bentonite
526.64	25.360	83.20	[Talus covered slope]

Locality J, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
550.74	0.000	0.00	Top of outcrop
550.00	0.735	2.41	[Fairport Chalk Member of Carlile Shale]
544.03	6.710	22.01	[Pfeifer Shale Member of Greenhorn Limestone]
537.52	13.220	43.37	[Jetmore Chalk Member of Greenhorn Limestone]
528.60	22.140	72.64	[Hartland Shale Member of Greenhorn Limestone]
528.55	22.190	72.80	Limestone
528.50	22.240	72.97	Shale
528.48	22.255	73.02	Sandy limestone
528.21	22.530	73.92	Shale & very thin seams of limestone
528.19	22.545	73.97	Bentonite
528.12	22.615	74.20	Shale
528.11	22.625	74.23	Bentonite
519.10	31.635	103.79	Representation of rest of Greenhorn Limestone

Locality K, Summer 1992			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
552.29	0.000	0.00	Top of outcrop
551.00	1.285	4.22	[Fairport Chalk Member of Carlile Shale]
545.15	7.133	23.40	[Pfeifer Shale Member of Greenhorn Limestone]
539.04	13.248	43.46	[Jetmore Chalk Member of Greenhorn Limestone]
529.02	23.264	76.33	[Hartland Shale Member of Greenhorn Limestone]
528.84	23.449	76.93	Sandy shale
528.52	23.769	77.98	Shale
528.46	23.829	78.18	Bentonite
529.17	23.119	75.85	Shale
529.16	23.129	75.88	Bentonite
528.46	23.829	78.18	Shale
528.43	23.854	78.26	Bentonite
528.12	24.169	79.29	Shale
527.73	24.559	80.57	Shale & sandy limestone
527.50	24.789	81.33	Sandy shale
527.47	24.819	81.43	Sandy limestone
527.42	24.864	81.57	Shale
527.41	24.874	81.61	Limestone
527.38	24.904	81.71	Shale
527.32	24.964	81.90	Sandy limestone
527.30	24.984	81.97	Bentonite
527.26	25.024	82.10	Shale
527.16	25.124	82.43	Limestone (thins to 6.5cm)

527.11	25.174	82.59	Bentonite (thins to seam)
527.06	25.229	82.77	Shale
527.05	25.239	82.81	Bentonite (thins to seam)
527.02	25.264	82.89	Shale
527.01	25.279	82.94	Sandy limestone
526.95	25.334	83.12	Shale
526.94	25.344	83.15	Bentonite (thins to seam)
526.90	25.384	83.28	Shale
526.88	25.404	83.35	Sandy limestone
526.39	25.899	84.97	Shale
526.39	25.900	84.97	Bentonite seam
526.32	25.965	85.19	Sandy shale
526.25	26.035	85.42	Sandy limestone
526.25	26.040	85.43	Bentonite
526.22	26.065	85.52	Shale
526.22	26.070	85.53	Bentonite
525.82	26.465	86.83	Shale
525.72	26.565	87.16	Bentonite
525.51	26.780	87.86	Shale
525.42	26.865	88.14	Bentonite
524.85	27.440	90.03	Shale
524.78	27.505	90.24	Bentonite
524.38	27.905	91.55	Shale
524.27	28.015	91.91	Sandy limestone
523.38	28.905	94.83	Shale
523.32	28.970	95.05	Sandy limestone
523.28	29.010	95.18	Bentonite
523.10	29.190	95.77	Shale

Locality L, November 4, 1960			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
520.48	6.25	20.50	[Jetmore Chalk Member of Greenhorn Limestone]
508.81	11.67	38.30	[Hartland Shale Member of Greenhorn Limestone]
508.75	11.73	38.50	Bentonitic shale
508.68	11.80	38.70	Bentonite
508.56	11.92	39.10	Shale, bentonitic
508.38	12.10	39.70	Limestone, lenticular, variable thickness, pinches & swells
507.37	13.11	43.00	Shale, gray, chalky, weathers tan
507.31	13.17	43.20	Bentonite
506.89	13.59	44.60	Shale, gray, chalky, weathers tan
506.79	13.69	44.90	Bentonite
504.51	15.97	52.40	Shale, gray, chalky, weathers tan
504.48	16.00	52.50	Bentonite
504.23	16.25	53.30	Shale, gray, chalky, weathers tan

504.17	16.31	53.50	Bentonite
502.77	17.71	58.10	Shale, gray, chalky, weathers tan
502.74	17.74	58.20	Bentonite
502.59	17.89	58.70	Shale, gray, chalky
502.53	17.95	58.90	Bentonite
502.07	18.41	60.40	Shale, gray, chalky
502.01	18.47	60.60	Bentonite
501.03	19.45	63.80	Shale, gray, chalky, weathers tan
500.55	19.93	65.40	Limestone, hard, crystalline, has 2 wavy bentonite beds
500.24	20.24	66.40	Shale, gray, very chalky
500.12	20.36	66.80	"Sugar lime"
500.06	20.42	67.00	Bentonite
500.00	20.48	67.20	Limestone, crystalline
499.69	20.79	68.20	Shale [Graneros Shale]
499.33	21.15	69.40	Bentonite, "X-Bentonite" marker bed [Graneros Shale]
498.53	21.95	72.00	Shale [Graneros Shale]

Locality M, November 4, 1960			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
490.00	0.00	0.00	Shale, chalky, with thin chalky limestones mixed with thin lenticular crystalline limestones
485.43	4.57	15.00	Limestone, upper half blue-gray, crystalline, lower half sandy and platy
484.82	5.18	17.00	Shale, dark, blue-gray, blocky, clayey
484.27	5.73	18.80	Bentonite, white
483.96	6.04	19.80	Shale, blue-gray, platy, clayey
477.75	12.25	40.20	Silty to sandy, blue-gray to white clayey shales with sandstone and ironstone seams
453.36	36.64	120.20	[End of section]

Locality N, unknown date			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
[unknown]	0.00	0.00	Top of Section
N/A	0.09	0.30	Limestone, gray, weathers tan, dense, hard
N/A	0.40	1.30	Shale, tan to gray, platy, chalky
N/A	0.46	1.50	Bentonite
N/A	0.70	2.30	Shale, tan to gray, platy, chalky
N/A	0.85	2.80	Limestone, white, hard, breaks up when weathered
N/A	1.71	5.60	Shale, tan to gray, platy, chalky
N/A	1.77	5.80	Bentonite
N/A	2.10	6.90	Shale, gray, platy, chalky
N/A	2.16	7.10	Bentonite
N/A	3.23	10.60	Shale, tan-gray, platy, very limy with several very thin crystalline & hard limy stringers

Locality O, August 19, 1955			
Elevation (meters)	Thickness (meters)	Thickness (feet)	Description
[unknown]	0.00	0.00	Top of Section
N/A	0.52	1.70	Limestone, platy, crystalline
N/A	0.82	2.70	Shale, tan to cream, contains several thin bentonites
N/A	1.86	6.10	Shale, chalky, tan to cream, platy to blocky, contains thin olive limy plates
N/A	1.89	6.20	Thin bentonite
N/A	2.29	7.50	Shaly chalk, soft blocky, tan to cream, thin limy plates
N/A	2.32	7.60	Thin bentonite
N/A	2.56	8.40	Chalk, cream, blocky
N/A	2.59	8.50	Bentonite

N/A	3.20	10.50	Chalk, light-tan, thin bedded
N/A	3.44	11.30	Bentonite
N/A	3.84	12.6	Chalk, light-tan, thin bedded
N/A	3.93	12.9	Chalk, light-tan, unit bed
N/A	4.85	15.9	Chalk, light-tan, thin bedded
N/A	4.88	16	Bentonite
N/A	5.15	16.9	Chalk, light-tan, thin bedded
N/A	5.21	17.1	Bentonite, weathered
N/A	5.61	18.4	Chalky shale, gray, thin bedded
N/A	5.94	19.5	limestone, platy, crystalline, hard
N/A	6.16	20.2	limestone, porous, much limonite
N/A	7.07	23.2	Shale, clayey, blue-gray [Graneros Shale]
N/A	7.38	24.2	Bentonite [Graneros Shale]
N/A	7.68	25.2	Shale [Graneros Shale]