Appendix 2CC
Soil and Rock Laboratory Test Results

Table 2.5.4-2CC-201A: Soil Laboratory Test Results for Soil Layer S-1 at South Reactor Site (LNP 1)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-13	SS-2	5	6.25	-	-	7.2	-	24.9	-	-	2.6	S-1
A-13	SS-3A	10	10.2	-	-	13.7	-	22	-	-	-	S-1
A-14	SS-1	3.5	5	-	-	-	-	-	5.3	19,790	-	S-1
A-14	SS-3	13.5	15	Nonplastic		84.8	-	35.8	-	-	-	S-1
A-14	SS-5	23.5	25	19	2	21.7	-	26.4	-	-	-	S-1
A-14A	SS-1A	0	0.55	-	-	21.8	-	33.8	-	-	31.2	S-1
A-14A	SS-2	5	6.5	Nonplastic		4.4	-	15.4	-	-	-	S-1
A-14A	SS-3	10	11.5	-	-	32.7	-	25.1	-	-	-	S-1
A-15	SS-2	9.5	11	-	-	3.1	-	-	-	-	-	S-1
A-15	SS-4	19.5	21	-	-	15.2	-	18.3	-	-	-	S-1
A-15	SS-5	24.5	26	-	-	27	-	22.8	-	-	-	S-1
A-16	SS-2	5	6.5	19	7	14.7	-	17.9	-	-	-	S-1
A-17	SS-2	5	6.5	-	-	12.7	-	-	-	-	-	S-1
A-18	SS-5	23.5	25	60	44	59.3	-	45.2	-	-	-	S-1
A-19	SS-1	0	2			11.4	-	17.7	-	-	-	S-1
A-19	SS-4	6	8	26	18	19.7	2.674	-	7.6	3,542	-	S-1
A-19	SS-5	8	10	Nonplastic		81.8	-	60.1	-	-	-	S-1
A-20	SS-1	0	2	-	-	6.1	-	13.6	-	-	-	S-1
A-20	SS-3	4	6	-	-	8.2	-	19.8	-	-	-	S-1
A-20	SS-4	6	8	Nonplastic		9.5	-	19.7	-	-	-	S-1
A-20	SS-5	8	10	27	13	71	-	26.7	-	-	-	S-1
A-21A	SS-2	5	6.5	-	-	20.1	-	-	-	-	-	S-1
A-23	SS-1	0	1.5	-	-	5.4	-	-	-	-	-	S-1
A-24	SS-1	0	1.5	-	-	5	-	-	-	-	-	S-1
A-24	SS-3	10	11.5	-	-	24.2	-	-	-	-	-	S-1
B-16	SS-2	5	6.5*	-	-	3.1	-	-	-	-	-	S-1
B-17	SS-4	19.5	21	-	-	91.1	-	30.6	-	-	-	S-1
B-18	SS-2	5	6.5	32	16	29.3	-	22.8	-	-	-	S-1
B-19	SS-2	5	6.5	Nonplastic		14.7	-	18.2	-	-	-	S-1
B-20	SS-2	5	6.5	-	-	14.2	-	-	-	-	-	S-1
B-20	SS-6	25	26.5	Nonplastic		76.9	-	25.2	-	-	-	S-1
B-22	SS-3	10	11.5	Nonplastic		97.8	-	26.1	-	-	-	S-1
B-22	SS-4	15	16.5	-	-	-	-	27.4	9.2	-	-	S-1
B-23	SS-2	5	6.5*	-	-	5	-	-	-	-	-	S-1
B-24	SS-1	0	1.5	-	-	15.5	-	64.4	-	-	11.9	S-1
B-24	SS-2	5	6.5	-	-	10.5	-	-	-	-	-	S-1
B-25	SS-3	10	11.5	-	-	4.8	-	-	-	-	-	S-1
B-25	SS-4	15	16.5	23	17	21.6	-	12.5	-	-	-	S-1
B-25	SS-5	20	21.5	49	38	30	-	14	-	-	-	S-1
B-25	SS-6	25	26.5	-	-	14.4	-	15.4	-	-	-	S-1
B-26	SS-2	10	11.5	-	-	26	-	35.7	-	-	-	S-1
B-27	SS-1	4.5	6	-	-	5.1	-	-	-	-	-	S-1
B-27	SS-4	19.5	21	-	-	98.3	-	-	-	-	-	S-1
B-28	SS-2	5	6.5	-	-	10	-	-	-	-	-	S-1
B-28	SS-6	25	26.5	-	-	71.1	-	21.5	-	-	-	S-1
B-30	SS-2	5	6.5	Nonplastic		40.1	-	20.7	-	-	-	S-1
E-5	SS-2A	5*	5.75*	-	-	2.9	-	-	-	-	-	S-1
E-5	SS-3A	10*	10.25*	-	-	23.7	-	18.3	8	-	-	S-1
E-5	SS-4A	15*	15.55*	-	-	5.7	-	-	-	-	-	S-1
E-5	SS-7	30	31.5	26	16	-	-	11.2	-	-	-	S-1
E-5	SS-8	35	36.5	-	-	29.7	-	-	-	-	-	S-1
E-5	SS-9	40	41.5	33	22	-	2.683	16.4	-	-	-	S-1
E-5	SS-11A	50*	50.65*	-	-	16.7	-	-	-	-	-	S-1
E-5	SS-11B	50.65*	51.5*	-	-	-	-	44.7	-	-	9.3	S-1
E-6	SS-1	0	1.5	-	-	5.9	-	-	-	-	-	S-1
E-6	SS-3	10	11.5	43	32	59	-	36.7	-	-	-	S-1
E-6	SS-5	20	21.5	-	-	18.1	-	-	-	-	-	S-1
E-7	SS-2	5	6.5	-	-	5.6	-	-	-	-	-	S-1
E-8	SS-3	13.5	15	-	-	18.2	-	-	-	-	-	S-1

*Sample depth was obtained from Appendix 2BB.

Table 2.5.4-2CC-201B: Soil Laboratory Test Results for Soil Layer S-2 at South Reactor Site (LNP 1)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-15	SS-6	29.5	31	-	-	81.4	-	-	-	-	-	S-2
A-19	SS-8	14	16			50.9	-	-	-	-	-	S-2
A-19	SS-9	16	18	Nonplastic		94.1	-	-	8.1	5,609	-	S-2
A-19	SS-12	22	24	Nonplastic		66.7	2.833	18.2	-	-	-	S-2
A-19	SS-15	28	30	-	-	67.4	-	-	7.9	4,027	-	S-2
A-21A	SS-6	25	26.5	-	-	58.5	-	-	-	-	-	S-2
A-23	SS-5	20	21.5	-	-	79.3	-	24.8	-	-	-	S-2
A-24	SS-6	25	26.5	-	-	69.1	-	24.4	-	-	-	S-2
B-16	SS-6	25	25.9*	-	-	71	-	20.9	-	-	-	S-2
B-16	SS-8	35	36.5*	-	-	46.2	-	20.9	-	-	-	S-2
B-18	SS-6	25	26.5	-	-	50.9	-	20.9	-	-	-	S-2
B-19	SS-3	10	11.5	Nonplastic		96.7	-	28.1	-	-	-	S-2
B-19	SS-5	20	21.5	Nonplastic		49.5	-	21.5	-	-	-	S-2
B-21	SS-5	20	21.5	-	-	37.8	-	-	-	-	-	S-2
B-21	SS-9	40	41.5	Nonplastic		67.1	2.884	27.9	-	-	-	S-2
B-22	SS-7	30	31.5	-	-	73.4	-	17.5	-	-	-	S-2
B-22	SS-9	40	41.5	-	-	73.6	-	-	-	-	-	S-2
B-22	SS-11	50	51.5	-	-	23.3	-	-	-	-	-	S-2
B-22	SS-14	65	66.5	-	-	27.5	-	-	-	-	-	S-2
B-23	SS-6	25	26.4*	Nonplastic		73.7	-	20.5	-	-	-	S-2
B-29	SS-4	15	16.5	Nonplastic		92.8	-	22.1	-	-	-	S-2
B-29	SS-7	30	31.5	-	-	62	-	23.7	-	-	-	S-2
B-30	SS-5	20	21.5	-	-	16.7	-	-	-	-	-	S-2
B-30	SS-7	30	31.5	-	-	47	-	15.5	-	-	-	S-2
E-5	SS-12	55	56.5	-	-	79.7	-	-	-	-	-	S-2
E-5	SS-14	65	66.5	-	-	80.4	-	-	-	-	-	S-2
E-8	SS-6	28.5	30	Nonplastic		91.1	2.797	22.7	-	-	-	S-2
E-8	SS-8	38.5	40	-	-	62	-	-	-	-	-	S-2

*Sample depth was obtained from Appendix 2BB.

Table 2.5.4-2CC-201C: Soil Laboratory Test Results for Soil Layer S-3 at South Reactor Site (LNP 1)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-13	SS-8	35	36.5	-	-	48.2	-	-	-	-	-	S-3
A-14	SS-11	53.5	55	-	-	70.5	-	-	-	-	-	S-3
A-14	SS-17	83.5	85	-	-	29.3	-	-	-	-	-	S-3
A-14A	SS-4	15	16.5	Nonplastic		96.6	-	22.6	-	-	-	S-3
A-16	SS-4	15	16.5	-	-	55.7	-	-	-	-	-	S-3
A-17	SS-4	15	16.5	-	-	91.9	-	-	-	-	-	S-3
A-18	SS-8	38.5	40	-	-	15.7	-	-	-	-	-	S-3
A-18	SS-10	48.5	50	-	-	57	-	-	-	-	-	S-3
A-18	SS-13	63.5	65	Nonplastic		76.1	-	21.7	-	-	-	S-3
A-18	SS-16	78.5	80	-	-	19.6	-	-	-	-	-	S-3
A-18A	SS-1A	25	25.05	-	-	24	-	-	-	-	-	S-3
A-19	SS-18	34	36	-	-	25.2	-	-	-	-	-	S-3
A-20	SS-8	14	16	Nonplastic		98.7	-	22	-	-	-	S-3
A-20	SS-11	20	22	Nonplastic		84	2.836	19.8	-	-	-	S-3
A-20	SS-15	28	30	Nonplastic		80.3	-	18.5	-	-	-	S-3
A-21	SS-3	13.5	15	Nonplastic		87	-	26.8	-	-	-	S-3
A-21	SS-6	28.5	30	-	-	38.5	-	21.6	-	-	-	S-3
A-21	SS-10	48.5	50	-	-	20	-	-	-	-	-	S-3
A-21	SS-17	83.5	85	-	-	18.8	-	-	-	-	-	S-3
A-21	SS-20	98.5	100	-	-	24.8	-	-	-	-	-	S-3
A-21	SS-26	128.5	130	-	-	21.8	-	-	-	-	-	S-3
A-22	SS-3	13.5	15	-	-	74.9	-	-	-	-	-	S-3
A-22	SS-6	28.5	30	-	-	47.2	-	-	-	-	-	S-3
A-22	SS-10	48.5	50	Nonplastic		36.8	-	25	-	-	-	S-3
A-22	SS-15	73.5	75	-	-	31.8	-	20.7	-	-	-	S-3
A-22	SS-20	98.5	100	-	-	32	-	-	-	-	-	S-3
A-24	SS-11	50	51.5	-	-	69.6	-	21.8	-	-	-	S-3
A-24	SS-14	65	66.5	-	-	73.7	-	26.7	-	-	-	S-3
B-19	SS-8	35	36.5	-	-	52.6	-	26.8	-	-	-	S-3
B-19	SS-10	45	46.5	-	-	66.3	-	26.3	-	-	-	S-3
B-20	SS-11	50	51.5	-	-	70.3	-	22.5	-	-	-	S-3
B-20	SS-15	70	71.5	-	-	31.3	-	-	-	-	-	S-3
B-21	SS-11	50	51.5	-	-	55.6	-	-	-	-	-	S-3
B-21	SS-13	60	61.5	-	-	46.5	-	-	-	-	-	S-3
B-21	SS-16	75	76.5	-	-	27.9	-	-	-	-	-	S-3
B-23	SS-10	45	45.9*	-	-	71	-	-	-	-	-	S-3
B-23	SS-14	65	66*	-	-	76.4	-	-	-	-	-	S-3
B-24	SS-6	25	26.5	-	-	59.6	-	19.8	-	-	-	S-3
B-25	SS-8	35	36.5	-	-	85.5	-	21.7	-	-	-	S-3
B-26	SS-6	30	31.5	-	-	74.9	-	19.5	-	-	-	S-3
B-26	SS-9	45	46.5	-	-	68.2	-	27.2	-	-	-	S-3
B-26	S-13	65	66.5	-	-	49.7	-	22	-	-	-	S-3
B-27	SS-6	29.5	31	-	-	-	-	-	8.7	3,267	-	S-3
B-27	SS-7	34.5	36	-	-	51.2	-	20.2	-	-	-	S-3
B-28	SS-9	40	41.5	-	-	28.4	-	20.2	-	-	-	S-3
B-28	SS-12	55	56.5	Nonplastic		83.5	-	24.7	-	-	-	S-3
B-29	SS-9	40	41.5	-	-	74.1	-	24.5	-	-	-	S-3
B-30	SS-10	45	46.5	-	-	20.7	-	-	-	-	-	S-3
E-6	SS-7	30	31.5	-	-	63.4	-	21.9	-	-	-	S-3
E-6	SS-9	40	41.5	-	-	61.7	-	-	-	-	-	S-3
E-6	SS-11	50	51.5	Nonplastic		67	-	25.6	7.3	-	-	S-3
E-7	SS-3	10	11.5	31	5	-	2.797	27.7	-	-	-	S-3
E-7	SS-7	30	31.5	-	-	45.1	-	21.1	-	-	-	S-3
E-7	SS-9	40	41.5	-	-	57.7	-	-	-	-	-	S-3
E-7	SS-11	50	51.5	-	-	31.2	-	23.1	-	-	-	S-3
E-7	SS-13	60	61.5	-	-	53.3	-	-	-	-	-	S-3
E-8	SS-10	48.5	50	-	-	73.2	-	-	-	-	-	S-3
E-8	SS-12	58.5	60	-	-	41.5	-	24.1	-	-	-	S-3

*Sample depth was obtained from Appendix 2BB.

Table 2.5.4-2CC-201D: Soil Laboratory Test Results for Soil Layer S-1 at North Reactor Site (LNP 2)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	Moisture Content (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-1	SS-1	3.5	5	-	-	4.5	-	21.5	-	-	-	S-1
A-2	SS-2	5	6.5	Nonplastic		21.7	-	21.7	-	-	-	S-1
A-3	SS-1	3.5	5	-	-	5.5	-	20.4	-	-	-	S-1
A-3	SS-2	8.5	10	Nonplastic		91.3	-	30.3	-	-	-	S-1
A-4	SS-2B	5.7*	6.3*	54	41	48.1	-	43.7	-	-	-	S-1
A-4	SS-3C	10.7*	11.3*	Nonplastic		90.1	-	28.9	-	-	-	S-1
A-6	SS-1B	4.1*	4.8*	Nonplastic		14.1	-	18.7	-	-	-	S-1
A-7	SS-1	0	2	-	-	3.9	2.667	16.3	-	-	-	S-1
A-8	SS-1	0	2	-	-	5	-	-	-	-	2.3	S-1
A-8	SS-2	2	4			4.7	-	19.7	-	-	-	S-1
A-8	SS-3	4	6	26	11	19.1	-	20.4	-	-	-	S-1
A-8	SS-6	10	12	Nonplastic		88.8	2.841	27.9	-	-	-	S-1
A-9	SS-1	5	6.5	-	-	9.2	-	49.4	-	-	-	S-1
A-11	SS-1	0	1.5	-	-	4.9	-	-	-	-	-	S-1
A-11	SS-2	5	6.5	20	4	15.9	-	20.3	-	-	-	S-1
A-12	SS-2	5	6.5	31	16	45.8	-	32.2	-	-	-	S-1
B-1	SS-1A	0	0.3	-	-	9.5	-	34.4	-	-	-	S-1
B-1	SS-2	5	6.5	Nonplastic		12.1	2.653	17.7	-	-	-	S-1
B1	SS-4	15	16.5	-	-	4.7	-	-	-	-	-	S-1
B-1	SS-6	25	26.5	-	-	5.9	-	19.7	-	-	-	S-1
B-1	SS-9	40	41.5	18	12	16.3	-	23.2	-	-	-	S-1
B-3	SS-2	5	6.5	-	-	4.9	-	-	-	-	-	S-1
B-3	SS-5	20	21.5	22	7	16.2	-	17.9	-	-	-	S-1
B-3	SS-7	30	31.5	33	19	20.2	-	-	-	-	-	S-1
B-4	SS-2	5	6.5	-	-	2.9	-	-	-	-	-	S-1
B-4	SS-4	15	16.5	Nonplastic		16.4	-	11.8	-	-	-	S-1
B-4	SS-5	20	21.5	-	-	14	-	-	-	-	-	S-1
B-4A	SS-2B	5.3	5.6	-	-	74.6	-	18.8	-	-	-	S-1
B-4A	SS-4	15	16.5*	-	-	45.6	-	39.2	-	-	-	S-1
B-5	SS-2	5	6.5	-	-	4	-	-	-	-	-	S-1
B-5	SS-4	15	16.5	-	-	8.8	-	-	-	-	-	S-1
B-5	SS-5	20	21.5	50	35	51.3	2.702	33.4	-	-	-	S-1
B-5	SS-7	30	31.5	42	16	24.3	-	50.2	-	-	-	S-1
B-5	SS-8	35	36.5	-	-	7.1	-	-	-	-	-	S-1
B-5	SS-9	40	41.5	88	65	80.3	-	70.9	-	-	-	S-1
B-5	SS-11	50	51.5	40	28	4	-	68.5	-	-	-	S-1
B-5	SS-12	55	56.5	-	-	6.8	-	-	-	-	-	S-1
B-5	SS-14	65	66.5	-	-	12.1	-	23.7	-	-	-	S-1
B-6	SS-1	0	1.5	-	-	6.9	-	-	-	-	-	S-1
B-6	SS-3	10	11.5	Nonplastic		13.4	-	15.9	-	-	-	S-1
B-6	SS-5	20	21.5	36	29	27.5	-	14.7	-	-	-	S-1
B-6	SS-7	30	31.5	-	-	-	-	-	-	-	2.2	S-1
B-6	SS-8	35	36.5	28	17	12.6	-	28.7	-	-	0.3	S-1
B-6	SS-9	40	41.5	19	10	15.5	2.714	20.6	-	-	1.4	S-1
B-6	SS-10	45	46.5	Nonplastic		-	-	20.2	-	-	-	S-1
B-7	SS-2	5	6.5	-	-	1.6	-	-	-	-	-	S-1
B-7	SS-3	10	11.5	-	-	-	-	-	7	4,499	-	S-1
B-7	SS-4	15	16.5	-	-	6.7	-	-	-	-	-	S-1
B-7	SS-7	30	31.5	-	-	6.4	2.658	-	-	-	-	S-1
B-7	SS-9	40	41.5	Nonplastic		11	-	18.7	-	-	-	S-1
B-7	SS-12	55	56.5	-	-	6.3	-	-	-	-	-	S-1
B-7	SS-14	65	66.5	42	22	59.5	-	30.6	-	-	-	S-1
B-7	SS-16	75	76.5	Nonplastic		10.1	-	24.8	-	-	-	S-1
B-7A	SS-1	0	1.5*	-	-	5.3	-	-	-	-	-	S-1
B-7A	SS-4	15	16.5*	-	-	9.3	-	-	-	-	-	S-1
B-7A	SS-6	25	27	-	-	6.9	-	-	-	-	-	S-1
B-7A	SS-8	35	36.5*	-	-	7.7	-	-	-	-	-	S-1

Table 2.5.4-2CC-201D: Soil Laboratory Test Results for Soil Layer S-1 at North Reactor Site (LNP 2)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	Moisture Content (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
B-7A	SS-9	40	41.5*	-	-	8.5	-	-	-	-	-	S-1
B-8	SS-2	5	6.5	-	-	12.1	-	19.3	-	-	-	S-1
B-9	SS-2	5	6.5	-	-	13.6	-	-	-	-	-	S-1
B-9	SS-3	10	11.5	Nonplastic		97.9	2.831	38.5	-	-	-	S-1
B-10	SS-2	5	6.5	26	19	15.5	-	19.14	-	-	-	S-1
B-11	SS-1B	0.2*	1.5*	-	-	5.7	-	-	-	-	-	S-1
B-11	SS-2	5	6.5	34	25	-	-	-	-	-	-	S-1
B-11	SS-3	10	11.5	-	-	61.2	-	-	-	-	-	S-1
B-12	SS-1	0	1.5	-	-	7.2	-	-	-	-	-	S-1
B-12	SS-2	5	6.5	-	-	8.4	-	-	-	-	-	S-1
B-13	SS-2	5	6.5	-	-	10.1	-	20.2	-	-	-	S-1
B-14	SS-2	5	6.5	-	-	-	-	28.7	-	-	-	S-1
B-14	SS-3	10	11.5	-	-	51.5	-	23.2	-	-	-	S-1
B-15	SS-2	5	6.5	-	-	12.5	-	19.7	-	-	-	S-1
E-1	SS-2	5	6.5	-	-	16.5	-	-	-	-	-	S-1
E-3	SS-2	5	6.5	23	8	21.4	-	19.2	-	-	-	S-1

*Sample depth was obtained from Appendix 2BB.

Table 2.5.4-2CC-201E: Soil Laboratory Test Results for Soil Layer S-2 at North Reactor Site (LNP 2)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-1	SS-2B	8.75*	9*	-	-	85.1	-	26.1	-	-	-	S-2
A-7	SS-3B	4.4	4.7	-	-	23.6	2.704	25.8	-	-	-	S-2
A-7	SS-6	10	12	Nonplastic		88.7	2.833	28.1	7.3	-	-	S-2
A-7	SS-9	16	18	Nonplastic		90.5	-	25.4	-	-	-	S-2
A-7	SS-11	20	22	-	-	32.9	-	21	-	-	-	S-2
B-2	SS-3	10	11.5	Nonplastic		71.2	-	27.2	-	-	-	S-2
B-4	SS-7	30	31.5	-	-	23.6	-	18.9	-	-	-	S-2
B-4	SS-9	40	41.5	Nonplastic		53.5	-	26.5	-	-	-	S-2
B-4AR	SS-1	20	21.5*	-	-	52.5	-	23.5	-	-	-	S-2
B-7	SS-18	85	86.5	33	22	-	-	36	-	-	-	S-2
B-7	SS-20	95	96.5	22	4	61.3	-	35.4	-	-	-	S-2
B-7	SS-22	105	106.5	-	-	27.2	-	-	-	-	-	S-2
B-7	SS-25	120	121.5	-	-	42.5	-	-	-	-	-	S-2
B-10	SS-3A	10*	10.5*	40	29	49.1	-	34.8	-	-	-	S-2
B-11	SS-6	25	26.5	-	-	45.6	-	-	-	-	-	S-2
B-12	SS-3	10	11.5	-	-	94.2	-	23.3	-	-	-	S-2
B-12	SS-8	35	36.5	-	-	34.3	-	-	-	-	-	S-2
B-12	SS-10	45	46.5	-	-	57.7	-	-	-	-	-	S-2
E-1	SS-4	15	16.5	-	-	55.7	-	-	-	-	-	S-2
E-1	SS-6	25	26.5	-	-	41.5	-	-	-	-	-	S-2
E-1	SS-8	35	36.5	-	-	27.3	-	-	-	-	-	S-2

*Sample depth was obtained from Appendix 2BB.

Table 2.5.4-2CC-201F: Soil Laboratory Test Results for Soil Layer S-3 at North Reactor Site (LNP 2)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
A-1	SS-4	18.5	20	-	-	-	-	-	8.4	5,428	-	S-3
A-1	SS-6	28.5	30	-	-	38.7	-	-	-	-	-	S-3
A-2	SS-4	15	16.5	Nonplastic		86.3	-	27.6	-	-	-	S-3
A-2	SS-7	30	31.5	-	-	49.1	-	19.1	-	-	-	S-3
A-2	SS-10	45	46.5	-	-	51.9	-	24.5	-	-	-	S-3
A-3	SS-5	23.5	25	-	-	46	-	-	-	-	-	S-3
A-4	SS-8	35	36.5	Nonplastic		70.3	-	25.9	-	-		S-3
A-5	SS-2	8.5	10	Nonplastic		92.6	-	-	-	-	-	S-3
A-5	SS-7	33.5	35	-	-	30.1	-	-	-	-	-	S-3
A-5	SS-11	53.5	55	-	-	25.6	-	-	-	-	-	S-3
A-6	SS-5	23.5	25	-	-	47	-	-	-	-	-	S-3
A-6	SS-8	38.5	40	-	-	6.8	-	21.9	-	-	-	S-3
A-6	SS-11	53.5	55	-	-	20.2	-	-	-	-	-	S-3
A-7	SS-15	28	30	-	-	66.4	-	22.3	-	-	-	S-3
A-7	SS-17	32	34	-	-	56.3	-	-	7.6	5,751	-	S-3
A-7	SS-21	40	42	-	-	48.1	-	35.4			-	S-3
A-7	SS-23	44	46	-	-	-	-	-	6.3	1,361	-	S-3
A-7	SS-26	50	52		-	54.8	-	19.2	-	-	-	S-3
A-7	SS-31	60	62	-	-	74.7	-	34	-	-	-	S-3
A-7	SS-36	70	72	-	-	77.2	-	29.9	-	-	-	S-3
A-7	SS-38A	74	74.9	42	20	68.4	-	46.7	-	-	-	S-3
A-7	SS-38B	74.9	76	27	4	84.5	-	30	7.3	-	-	S-3
A-8	SS-10	18	20	-	-	56.8	-	21.5	-	-	-	S-3
A-8	SS-13	24	26	-	-	26.6	-	18.1	-	-	-	S-3
A-8	SS-17	32	34	-	-	43.1	-	19.9	-	-	-	S-3
A-8	SS-21	40	42	-	-	58.1	-	25.6	-	-	-	S-3
A-8	SS-27	52	54	-	-	36.6	-	21.6	-	-	-	S-3
A-8	SS-31	60	62	-	-	49.9	-	32.5	-	-	-	S-3
A-9	SS-4	18.5	20	-	-	54.7	-	-	-	-	-	S-3
A-10	SS-1	5	6.2*	-	-	10	-	-	-	-	-	S-3
A-10	SS-3	15	16.5	-	-	49.9	-	-	-	-	-	S-3
A-10	SS-8	40	41.5	-	-	50.5	-	-	-	-	-	S-3
A-11	SS-6	25	26.5	Nonplastic		54.7	-	-	-	-	-	S-3
A-12	SS-5	20	21.5	-	-	24.2	-	-	-	-	-	S-3
B-1	SS-10A	45	45.2	-	-	35	-	8.7	-	-	5.1	S-3
B-1	SS-13	60	61.5	-	-	40.3	-	27.8	-	-	-	S-3
B-2R	SS-7	30	31.5	-	-	50.1	-	16.5	-	-	-	S-3
B-2R	SS-10	45	46.5	-	-	36.9	-	-	-	-	-	S-3
B-3	SS-9	40	41.5	-	-	49.6	-	24.1	-	-	-	S-3
B-4	SS-12	55	56.5	24	3	51.9	2.714	19.7	-	-	-	S-3
B-4	SS-14	65	66.5	-	-	43.8	-	17.5	-	-	-	S-3
B-4	SS-16	75	75.8	39	24	41.1	-	35.2	-	-	-	S-3
B-4	SS-20	95	96.5	-	-	49.7	-	21.7	-	-	-	S-3
B-4	SS-24	115	116.5	18	5	56.9	-	29.2	-	-	-	S-3
B-4AR	SS-7	50	51.1*	-	-	37.8	-	-	-	-	-	S-3
B-6	SS-12	55	56.5	-	-	75.2	-	28	-	-	-	S-3
B-7A	SS-13	60	60.6*	80	41	-	-	41.1	-	-	-	S-3
B-7A	SS-16	75	76.5*	-	-	5.6	-	-	-	-	-	S-3
B-7A	SS-19	90	91.6	Nonplastic		56.9	-	27.4	-	-	-	S-3
B-7A	S-24	115	116.5	-	-	36.6	-	-	-	-	-	S-3
B-8	SS-7	30	31.5	-	-	22.2	-	15.2	-	-	-	S-3
B-9	SS-6	25	26.5	-	-	40.5	-	-	-	-	-	S-3
B-9	SS-9	40	41.5	-	-	67.2	2.845	30	-	-	-	S-3
B-10	SS-7	30	31.5	-	-	49.8	-	13.6	-	-	-	S-3
B-10	SS-10	45	46.5	-	-	55.2	-	25.6	-	-	-	S-3
B-13	SS-5	20	21.5	-	-	30.1	-	-	-	-	-	S-3
B-13	SS-8	35	36.5	-	-	-	-	-	7.7	2,300	-	S-3
B-15	SS-5	20	21.5	-	-	19.5	-	16.3	-	-	-	S-3

Table 2.5.4-2CC-201F: Soil Laboratory Test Results for Soil Layer S-3 at North Reactor Site (LNP 2)

Borehole ID	Sample ID	Sample Depth Top (feet)	Sample Depth Bottom (feet)	Liquid Limit	Plasticity Index	Percent Passing #200 Sieve	Specific Gravity	In Situ Moisture (percent)	pH	Resistivity Ohm-cm	Organic Content (percent)	Soil Layer
B-15	SS-9	40	41.5	-	-	70.7	-	26	-	-	-	S-3
E-2	SS-3	10	11.5	Nonplastic		48.3	-	15.3	-	-	-	S-3
E-2	SS-5	20	21.5	-	-	62	-	-	-	-	-	S-3
E-2	SS-8	35	36.5	-	-	67.1	-	21.2	8.2	2,731	-	S-3
E-2	SS-10	45	46.5	-	-	56.3	-	-	-	-	-	S-3
E-3	SS-6	25	26.5	-	-	50.9	-	-	-	-	-	S-3
E-3	SS-9	40	41.5	-	-	50.7	-	19.1	-	-	-	S-3
E-4	SS-3	10	11.5	Nonplastic		84.2	2.83	23.5	-	-	-	S-3
E-4	SS-6	25	26.5	-	-	30.4	-	19.2	-	-	-	S-3
E-4	SS-11	50	51.5	-	-	21.9	-	25.3	-	-	-	S-3
E-4	SS-13	60	61.5	-	-	39.9	-	-	-	-	-	S-3

*Sample depth was obtained from Appendix 2BB.

TABLE 2.5.4-2CC-202A: Summary of UCS Results for South Reactor Site (LNP 1)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
A-13	SC-1 *2	40.6	71.3	72.5	-30.7	-31.9	1,500			136.9	11.6			
A-13	SC-2 *2	40.6	91.75	92.5	-51.15	-51.9	2,503			139.5	12.0			
A-13	SC-3 *2	40.6	95.6	96.8	-55	-56.2	2,857			136.7	15.2			
A-13	SC-4 *2	40.6	135.7	136.6	-95.1	-96	6,346			159.9	8.5			
A-17	SC-1 *2	42.3	66.4	67.6	-24.1	-25.3	2,051			146.4	6.5			
A-17	SC-2 *2	42.3	71	71.9	-28.7	-29.6	705			136.6	14.2			
A-17	SC-3	42.3	88.2	89.35	-45.9	-47.05	3,332			138.3	13.8			
A-17	SC-4 *2	42.3	102.15	103.5	-59.85	-61.2	6,519			153.1	6.9			
A-17	SC-5 *2	42.3	107.25	108.5	-64.95	-66.2	2,506			141.5	8.8			
A-17	SC-6	42.3	111	112.1	-68.7	-69.8	3,378			141.3	10.6			
A-17	SC-8 *3	42.3	183.25	184.2	-140.95	-141.9	6,451			147.7	6.4			
A-17	SC-9 *2	42.3	203.5	204.4	-161.2	-162.1	5,874			149.8	8.7			
A-19	SC-1 *2	42.5	58	59.3	-15.5	-16.8	570	0.34	0.36	120.1	18.1	0.68	1.20	0.57
A-19	SC-2 *2	42.5	64.5	65.5	-22	-23	994			131.2	10			
A-19	SC-3 *2	42.5	69.7	70.83	-27.2	-28.33	1,619			133.8	7.9			
A-19	SC-4 *2	42.5	74.9	75.7	-32.4	-33.2	1,439	1.45	0.58	124.2	18.2	1.54	2.49	0.62
A-19	SC-5 *2	42.5	78.5	79.65	-36	-37.15	1,242			127.9	14			
A-19	SC-6 *2	42.5	81	82.75	-38.5	-40.25	5,696	4.41	0.32	140.1	6.4	4.19	9.22	0.45
A-19	SC-7 *2	42.5	87.3	88.7	-44.8	-46.2	2,621	5.21	0.24	140.2	5.3	5.31	20.03	0.26
A-19	SC-8 *2	42.5	94.6	95.4	-52.1	-52.9	11,284			149.5	2.3			
A-19	SC-9 *2	42.5	99.35	100.35	-56.85	-57.85	2,381	2.37	0.18	122.2	14.6	2.38	10.71	0.22
A-19	SC-10 *2	42.5	101	103.25	-58.5	-60.75	1,600	2.42	0.18	125.8	13.6	2.51	12.52	0.20
A-19	SC-11 *2	42.5	108.35	109.8	-65.85	-67.3	1,068	1.16	0.29	115.6	19.8	1.40	4.93	0.28
A-19	SC-12 *2	42.5	113.5	114.7	-71	-72.2	1,385	0.69	0.22	122.1	13.1	0.76	2.41	0.33
A-19	SC-13 *2, 4	42.5	116.4	117.2	-73.9	-74.7	3,193			137.4	6.9			
A-19	SC-14	42.5	123.1	124.4	-80.6	-81.9	9,640	8.05	0.34	153.1	3.6	7.46	15.92	0.47
A-19	SC-15 *2	42.5	128.6	130.15	-86.1	-87.65	1,664	2.08	0.20	124.4	7	2.06	8.87	0.23
A-19	SC-16	42.5	133.75	134.84	-91.25	-92.34	11,815	7.92	0.38	154.9	2.8	7.33	18.68	0.39
A-19	SC-17 *2	42.5	136	137.3	-93.5	-94.8	1,617	1.06	0.28	129.3	9.2	1.11	3.34	0.33
A-19	SC-18 *3	42.5	144.15	145.05	-101.65	-102.55	5,681	8.60	0.29	149	1.9	8.21	25.12	0.33
A-19	SC-19 *3	42.5	146	147.3	-103.5	-104.8	955	1.06	0.42	110.9	0.7	1.55	3.24	0.48
A-19	SC-20 *3	42.5	154.7	156	-112.2	-113.5	2,205	1.74	0.36	130.3	12.3	2.05	3.66	0.56
A-19	SC-21	42.5	159.5	160.3	-117	-117.8	1,359	1.48	0.44	123.5	14.1	1.78	3.22	0.55
A-19	SC-22 *3	42.5	168.7	169.7	-126.2	-127.2	6,706	5.97	0.32	140.4	2.8	5.96	14.53	0.41
A-19	SC-23	42.5	187.3	188.6	-144.8	-146.1	12,228	8.76	0.24	159.1	1.6	7.97	28.33	0.28
A-19	SC-24	42.5	191.55	192.55	-149.05	-150.05	5,559	6.97	0.24	146.6	2.2	6.47	27.62	0.23
A-19	SC-25 *3	42.5	196	196.9	-153.5	-154.4	6,600	6.27	0.16	152.8	1.5	5.86	37.66	0.16
A-19	SC-26	42.5	206.6	207.65	-164.1	-165.15	3,600	4.62	0.19	138.4	3.8	4.60	21.79	0.21
A-20	SC-2	42.3	60.9	61.95	-18.6	-19.65	6,149	3.80	0.38	139.9	3.5	3.68	5.18	0.71
A-20	SC-3 *3	42.3	68.1	69.4	-25.8	-27.1	4,724	5.11	0.20	142.9	2.7	4.97	20.68	0.24
A-20	SC-5 *3	42.3	87.8	89.1	-45.5	-46.8	5,015	3.39	0.23	129.8	3.8	3.52	14.23	0.25
A-20	SC-6 *2	42.3	101.35	102.5	-59.05	-60.2	1,746	2.16	0.41	112.7	4	2.44	4.12	0.59
A-20	SC-7	42.3	108.85	110	-66.55	-67.7	3,329	3.31	0.19	128.2	5.4	3.44	16.18	0.21

TABLE 2.5.4-2CC-202A: Summary of UCS Results for South Reactor Site (LNP 1)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
A-20	SC-8 *2	42.3	113.65	114.5	-71.35	-72.2	4,355	3.35	0.25	124.3	10.7	3.11	10.43	0.30
A-20	SC-9 *3	42.3	122.8	123.9	-80.5	-81.6	1,992	2.47	0.29	133.9	1.3	3.44	8.21	0.42
A-20	SC-10 *3	42.3	127.7	128.65	-85.4	-86.35	4,989	2.63	0.16	139.7	2.1	3.88	17.10	0.23
A-20	SC-11 *3	42.3	137.4	138.45	-95.1	-96.15	1,911	2.70	0.44	124.1	4.5	3.36	5.82	0.58
A-20	SC-12	42.3	147.1	148.2	-104.8	-105.9	4,030	1.57	0.26	131.2	1.3	2.48	6.67	0.37
A-20	SC-13 *2	42.3	155.6	156.5	-113.3	-114.2	3,711	2.71	0.29	123.6	1.5	2.98	7.98	0.37
A-20	SC-14	42.3	172	172.85	-129.7	-130.55	9,966	6.78	0.25	146.1	1.2	6.25	25.88	0.24
A-20	SC-15 *2	42.3	185.6	186.35	-143.3	-144.05	11,964	10.78	0.22	161.6	3.7	10.18	75.98	0.13
A-20	SC-16 *2	42.3	195.5	196.8	-153.2	-154.5	3,053	3.25	0.21	123.3	2.9	3.24	13.34	0.24
A-20	SC-17	42.3	202.95	204.05	-160.65	-161.75	10,739	9.67	0.38	159.7	1.4	9.77	19.00	0.51
A-20	SC-18 *2	42.3	207.55	209.04	-165.25	-166.74	2,489			126.4	2.2			
A-20	SC-19 *2	42.3	217.45	218.25	-175.15	-175.95	1,599			123.1	4.8			
A-21A	SC-1	42.8	57.5	58.9	-14.7	-16.1	5,280			151.8	13.5			
A-21A	SC-2 *2	42.8	65.78	66.77	-22.98	-23.97	2,252			141.7	14.6			
A-21A	SC-3	42.8	85	85.82	-42.2	-43.02	6,452			149.2	7.1			
A-21A	SC-4 *2	42.8	95.13	95.96	-52.33	-53.16	3,169			143.7	10.5			
A-21A	SC-5 *2	42.8	122.88	123.71	-80.08	-80.91	1,579			139.0	15.8			
A-21A	SC-6 *2	42.8	131.2	132.1	-88.4	-89.3	813			130.9	13.1			
A-24	SC-1 *2	40.6	75	75.9	-34.4	-35.3	2,860			133.3	15.7			
A-24	SC-2 *2	40.6	90	90.9	-49.4	-50.3	1,229			135.5	13.7			
A-24	SC-3	40.6	111.4	112.4	-70.8	-71.8	4,739			141.6	10.2			
A-24	SC-4 *2	40.6	143.5	144.6	-102.9	-104	4,385			144.3	9.6			
A-24	SC-5 *2	40.6	151.9	152.9	-111.3	-112.3	4,656			145.5	7.4			
A-24A	SC-2 *2	40.3	69.78	70.58	-29.48	-30.28	1,397			136.0	12.7			
A-24A	SC-1 *2	40.3	36.1	37.05	4.2	3.25	1,667			141.3	11.5			
B-17	SC-1	42.2	59	59.9	-16.8	-17.7								
B-17	SC-2 *2	42.2	86.7	87.65	-44.5	-45.45	2,397			133.9	17.2			
B-17	SC-3	42.2	98.7	99.6	-56.5	-57.4	3,021			148.5	8.2			
B-17	SC-4 *2	42.2	112.7	113.8	-70.5	-71.6	1,237			134.4	16.6			
B-17	SC-5	42.2	142	142.85	-99.8	-100.65	10,459			166.8	2.9			
B-22	SC-1 *2	40.5	81.1	81.95	-40.6	-41.45	1,769			133.1	33.5			
B-22	SC-2 *6	40.5	105.7	106.8	-65.2	-66.3	131			118.5	28.1			
B-22	SC-3	40.5	148.15	149.05	-107.65	-108.55	4,983			153.9	8.5			
B-23	SC-1 *3	40.7	94.3	96.5	-53.6	-55.8	3,682			138.7	13.6			
B-23	SC-2	40.7	103.25	103.95	-62.55	-63.25	1,388			140.3	7.5			
B-23	SC-3 *3	40.7	125.8	126.6	-85.1	-85.9	2,743			145.0	12.7			
B-24	SC-1 *3	40.9	66.5	67.25	-25.6	-26.35	759			125.8	21.7			
B-24	SC-2 *2	40.9	95.2	96.4	-54.3	-55.5	685			129.3	19.6			
B-24	SC-3 *2	40.9	115.3	116.15	-74.4	-75.25	917			127.3	17.2			
B-24	SC-4 *2	40.9	137.75	138.6	-96.85	-97.7	3,835			157.1	3.5			
B-26	SC-1	42.4	112	112.95	-69.6	-70.55	3,015			137.3	21.1			
B-26	SC-2	42.4	118	118.97	-75.6	-76.57	3,261			145.4	13.3			
B-26	SC-3 *2	42.4	128.92	129.92	-86.52	-87.52	1,025			134.6	14.4			

TABLE 2.5.4-2CC-202A: Summary of UCS Results for South Reactor Site (LNP 1)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
B-27	SC-1 *6	42.4	81	82	-38.58	-39.58	172			118.7	18.1			
B-27	SC-2 *2	42.4	104.5	105.45	-62.08	-63.03	1,385			128.3	21.6			
B-27	SC-3 *5	42.4	137.15	138	-94.73	-95.58	22,691			168.1	2.2			
B-28	SC-1 *2	41.5	71.5	72.5	-30	-31	1,720			138.5	16.2			
B-28	SC-2 *2	41.5	80.5	81.6	-39	-40.1	1,017			126.3	21.4			
B-28	SC-3 *2	41.5	115.1	116.1	-73.6	-74.6	1,073			129.1	23.7			
E-07	SC-1 *2	41.7	72.9	74	-31.2	-32.3	1,868			138.3	17.6			
E-07	SC-2	41.7	97	98	-55.3	-56.3	2,891			134.3	15.2			
E-07	SC-3	41.7	106.95	107.95	-65.25	-66.25	309			117.8	26.1			
E-07	SC-4	41.7	143.4	144.5	-101.7	-102.8	18,458			165.7	3.0			
E-07	SC-5	41.7	149.4	150.3	-107.7	-108.6	11,676			152.9	8.4			
E-07	SC-6 *2	41.7	163.4	164.5	-121.7	-122.8	6,301			152.2	7.2			
AD-03	SC-1	42.4	302	302.8	-259.6	-260.4	935	1.00	0.50	127.8	22.8	0.79	1.54	0.51
AD-03	SC-3	42.4	387.8	388.8	-345.4	-346.4	2,356	1.96	0.05	128.9	13.6	1.72	18.82	0.09
AD-03	SC-5	42.4	430.5	431.55	-388.1	-389.15	5,143	3.85	0.21	145	8.3	3.49	12.44	0.28
AD-04	SC-1	42.6	214	214.8	-171.4	-172.2	1,586			133.3	6.3			
AD-04	SC-3	42.6	237.2	238	-194.6	-195.4	1,038			131.5	17.4			
AD-04	SC-5 *2	42.6	335.9	336.6	-293.3	-294	236			115.7	28.2			
AD-04	SC-7 *3	42.6	366.8	367.7	-324.2	-325.1	1,925			136.1	14.4			
AD-04	SC-9	42.6	438.5	439.4	-395.9	-396.8	4,575	5.32	0.42	152.7	7.6	5.07	7.10	0.71
AD-04	SC-10	42.6	481.7	483.3	-439.1	-440.7	4,453	6.86	0.18	156.2	21.8	6.81	33.82	0.20

NOTES:

*2 - The as-received straightness of the core sample did not meet the requirements in ASTM D 4543 in multiple locations, therefore end conditions such as perpendicularity and parallelism could not be verified.
*3 - The as-received straightness of the core sample did not meet the requirements in ASTM D 4543 in an isolated location.
*4 - Specimins did not meet the minimum L/D ratio as stated in ASTM D 4543 in an isolated location
*5 - UCS for this sample was considered to be non-representative of the rock layer and therefore the sample was not included in the statistical analysis for this layer
*6 - The ends could not be checked due to the softness of the material

Units:
psi = pounds per square inch = lbs/in^2
pcf = pounds per cubic foot = lbs/ft^3
ft = feet
amsl = above mean sea level

TABLE 2.5.4-2CC-202B: Summary of UCS Results for North Reactor Site (LNP 2)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
A-01	SC-1 *2	41.6	84.95	86	-43.35	-44.4	1,277			127.6	25.2			
A-01	SC-2 *2	41.6	98.05	99	-56.45	-57.4	579			130.0	16.6			
A-01	SC-3 *2	41.6	114.2	115.2	-72.6	-73.6	817			133.5	19.0			
A-01	SC-4 *2	41.6	133.05	134	-91.45	-92.4	384			123.1	19.6			
A-01	SC-5	41.6	151.85	152.8	-110.25	-111.2	556			131.1	17.3			
A-05	SC-1	42.0	62	62.8	-20.05	-20.85								
A-05	SC-2	42.0	68.45	69.45	-26.5	-27.5	4,871			150.9	9.4			
A-05	SC-3	42.0	82.45	83.25	-40.5	-41.3	9,636			151.2	7.5			
A-05	SC-4 *3	42.0	101.5	102.4	-59.55	-60.45	434			122.4	19.1			
A-05	SC-5 *2	42.0	121.5	122.6	-79.55	-80.65	406			122.3	21.3			
A-05	SC-6 *2	42.0	146.5	147.4	-104.55	-105.45	2,649			145.9	5.0			
A-05	SC-7 *2	42.0	156.55	157.55	-114.6	-115.6	433			136.7	13.0			
A-07	SC-1	42.3	80	81	-37.69	-38.69	6,589	4.29	0.31	145.2	5.6	4.05	9.93	0.41
A-07	SC-2 *2	42.3	83.7	84.7	-41.39	-42.39	1,582	1.29	0.34	128.4	14.8	1.64	3.35	0.49
A-07	SC-3 *2	42.3	89.6	90.6	-47.29	-48.29	1,027	0.74	0.33	128.8	15.6	0.85	1.62	0.53
A-07	SC-4 *2	42.3	91.7	92.6	-49.39	-50.29	5,035	2.77	0.36	145.3	7.1	2.53	5.28	0.48
A-07	SC-5 *2	42.3	102.4	103.4	-60.09	-61.09	1,511	0.74	0.48	135.2	14.1	0.81	1.57	0.51
A-07	SC-6 *2	42.3	107.9	108.9	-65.59	-66.59	1,209	0.81	0.36	127.5	14.8	0.85	1.76	0.48
A-07	SC-7 *2	42.3	113.7	114.6	-71.39	-72.29	909	1.08	0.45	125.1	16.7	1.08	1.93	0.56
A-07	SC-8 *2	42.3	118.2	119.2	-75.89	-76.89	569			124.5	14.6			
A-07	SC-9 *2	42.3	124.8	125.8	-82.49	-83.49	1,047	1.67	0.31	135.1	13.4	1.69	3.92	0.43
A-07	SC-10 *2	42.3	130	131	-87.69	-88.69	437			126.9	16.3			
A-07	SC-11 *2	42.3	132.8	133.8	-90.49	-91.49	921	0.92	0.27	125.3	20.8	0.87	3.01	0.29
A-07	SC-12 *2	42.3	137.8	138.7	-95.49	-96.39	1,607	1.41	0.33	131.3	13.8	1.25	3.31	0.38
A-07	SC-13 *2	42.3	146	147.05	-103.69	-104.74	1,871			134.4	6.5			
A-07	SC-14	42.3	151	152.1	-108.69	-109.79	8,536	6.02	0.26	153.2	4.8	5.38	19.26	0.28
A-07	SC-15 *2	42.3	157	158.4	-114.69	-116.09	1,855	1.34	0.40	135.9	11.2	1.52	2.72	0.56
A-07	SC-16 *3	42.3	162.5	163.4	-120.19	-121.09	2,195	1.54	0.35	129	9.4	1.63	3.51	0.47
A-07	SC-17 *2	42.3	170.15	171	-127.84	-128.69	2,845	3.24	0.22	138.4	6.9	3.18	12.18	0.26
A-07	SC-18 *3	42.3	172.7	174	-130.39	-131.69	6,689	6.72	0.25	146.3	12.2	6.62	26.30	0.25
A-07	SC-19 *3	42.3	178.95	180	-136.64	-137.69	3,213	4.15	0.39	143.6	13.4	4.81	9.86	0.49
A-07	SC-20 *3	42.3	181.8	182.95	-139.49	-140.64	828			129.4	19.5			
A-07	SC-21	42.3	188.6	189.8	-146.29	-147.49	1,297			124.7	22.7			
A-08	SC-1 *2	42.1	69.4	70.5	-27.3	-28.4	3,222	4.04	0.22	130.7	8.6	4.15	16.44	0.25
A-08	SC-2 *2	42.1	71.4	72.85	-29.3	-30.75	6,834	6.37	0.32	142.2	3.7	5.72	13.26	0.43
A-08	SC-3	42.1	76.9	77.8	-34.8	-35.7	6,888	8.29	0.25	154.5	1.5	12.94	31.05	0.42
A-08	SC-4 *2	42.1	82.4	83.3	-40.3	-41.2	2,429	4.74	0.23	136.4	3.3	4.70	16.56	0.28
A-08	SC-5 *2	42.1	88.6	89.5	-46.5	-47.4	684			108.2	12.7			
A-08	SC-6 *2	42.1	94	94.9	-51.9	-52.8	6,043	4.65	0.35	137.6	4.5	4.74	9.63	0.49
A-08	SC-7 *2	42.1	98.15	98.9	-56.05	-56.8	698			113.4	2			
A-08	SC-8 *3, 4	42.1	103.05	103.95	-60.95	-61.85	1,386			122.7	7			
A-08	SC-9 *3	42.1	110	111	-67.9	-68.9	1,029	0.67	0.51	114.1	14.3	0.60	0.90	0.66
A-08	SC-10 *2	42.1	113.65	114.55	-71.55	-72.45	1,380	0.95	0.29	120.6	14.6	0.87	2.59	0.34

TABLE 2.5.4-2CC-202B: Summary of UCS Results for North Reactor Site (LNP 2)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
A-08	SC-11 *2	42.1	120.2	121	-78.1	-78.9	1,193	0.88	0.33	114.9	12.1	0.78	1.78	0.44
A-08	SC-12 *2	42.1	123.7	124.5	-81.6	-82.4	484			111.5	11.8			
A-08	SC-13 *2, 4	42.1	141.4	142.8	-99.3	-100.7	6,054			155.3	3.7			
A-08	SC-14 *3	42.1	146.8	147.9	-104.7	-105.8	2,606	1.25	0.35	125.1	9.1	1.35	2.66	0.50
A-08	SC-15 *3	42.1	155.05	156	-112.95	-113.9	5,407	4.63	0.33	142.9	4	4.43	12.09	0.37
A-08	SC-16 *2	42.1	158.4	159.3	-116.3	-117.2	996	0.70	0.46	116.1	7.5	1.07	1.67	0.64
A-08	SC-17 *2	42.1	163.85	164.9	-121.75	-122.8	2,304	2.50	0.21	124.1	9.6	2.58	11.49	0.22
A-08	SC-18 *3	42.1	168.3	169.65	-126.2	-127.55	8,300	7.01	0.27	152.3	3.8	6.68	20.20	0.33
A-08	SC-19 *2	42.1	171.45	172.75	-129.35	-130.65	4,383	5.45	0.24	133.8	14.5	5.27	21.23	0.25
A-08	SC-20 *3, 5	42.1	178.65	179.45	-136.55	-137.35	10,284	7.07	0.32	153	1.3	6.92	15.62	0.44
A-08	SC-21 *2	42.1	184.8	185.7	-142.7	-143.6	1,247			118.1	10.7			
A-08	SC-22 *2	42.1	187.7	188.5	-145.6	-146.4	3,273	4.11	0.18	132.4	1.2	4.20	21.41	0.20
A-08	SC-24 *2	42.1	197.5	198.5	-155.4	-156.4	417			110.9	20			
A-08	SC-25 *2	42.1	202.5	203.5	-160.4	-161.4	2,455	1.24	0.36	115	12.4	1.65	3.14	0.53
A-09	SC-1	41.9	81.6	82.45	-39.7	-40.55	1,126			140.0	15.0			
A-09	SC-2 *2	41.9	100.55	101.5	-58.65	-59.6	562			134.5	16.8			
A-09	SC-3 *2	41.9	114	144.8	-72.1	-102.9	427			123.9	22.0			
A-09	SC-4 *3	41.9	117.5	118.6	-75.6	-76.7	511			123.7	18.4			
A-09	SC-5 *2	41.9	135.7	136.5	-93.8	-94.6	716			134.8	14.1			
A-09	SC-6 *2	41.9	177	178.2	-135.1	-136.3	2,818			140.8	11.8			
A-09	SC-7 *2	41.9	198.85	199.85	-156.95	-157.95	267			120.9	23.7			
A-11	SC-1	42.5	61.1	62	-18.6	-19.5	1,394			148.9	10.3			
A-11	SC-2 *2	42.5	78.5	79.5	-36	-37	3,875			148.4	10.5			
A-11	SC-3 *2	42.5	89.5	90.5	-47	-48	539			135.1	17.6			
A-11	SC-4 *2	42.5	115.5	116.55	-73	-74.05	743			127.4	20.1			
A-11	SC-5 *2	42.5	138	138.85	-95.5	-96.35	935			135.4	15.8			
A-11R	SC-7 *2	42.3	160.5	161.6	-118.2	-119.3	1,104			134.1	17.5			
B-02R	SC-1	41.8	57	58.15	-15.2	-16.35	8,566			154.6	15.5			
B-02R	SC-2 *2	41.8	93	94.1	-51.2	-52.3	729			136.7	12.3			
B-02R	SC-3 *2	41.8	114.45	115.45	-72.65	-73.65	632			128.1	18.6			
B-02R	SC-4 *2	41.8	134.35	135.3	-92.55	-93.5	703			134.0	17.2			
B-02R	SC-5 *2	41.8	144.4	145.4	-102.6	-103.6	597			132.6	14.3			
B-08	SC-1 *2	42.4	58.75	60	-16.35	-17.6	1,752			138.4	15.2			
B-08	SC-2 *3	42.4	71	72	-28.6	-29.6	6,324			152.6	8.5			
B-08	SC-3	42.4	88.5	89.4	-46.1	-47	2,109			140.7	9.2			
B-08	SC-4 *3	42.4	92.95	93.65	-50.55	-51.25	8,805			149.7	10.2			
B-08	SC-5 *2	42.4	112.5	113.3	-70.1	-70.9	705			123.7	21.7			
B-08	SC-6	42.4	131.3	132.55	-88.9	-90.15	517			121.4	18.8			
B-08	SC-7 *2	42.4	136.3	137.1	-93.9	-94.7	654			129.4	17.2			
B-09	SC-1	42.9	68.75	69.65	-25.85	-26.75	4,124			137.0	14.7			
B-09	SC-2	42.9	79.8	81	-36.9	-38.1	1,972			136.8	10.3			
B-09	SC-3	42.9	97.35	98.5	-54.45	-55.6	798			129.5	17.5			
B-09	SC-4 *2	42.9	117.45	118.55	-74.55	-75.65	520			126.0	20.7			

TABLE 2.5.4-2CC-202B: Summary of UCS Results for North Reactor Site (LNP 2)

Borehole ID	Special Core	Surface Elevation (ft amsl)	Sample Depth (ft)		Sample Elevation (ft amsl)		UCS (psi)	Secant Modulus (at 50% failure stress)	Poisson's Ratio - Secant (at 50% failure stress)	Bulk Density (pcf)	Moisture Content (%)	Tangent Modulus (Axial)	Tangent Modulus (Radial)	Poisson's Ratio - Tangent
			Top	Bottom	Top	Bottom		(x10^6 psi)				(x10^6 psi)	(x10^6 psi)	
B-09	SC-5 *2	42.9	132.3	133.5	-89.4	-90.6	566			126.1	20.2			
B-11	SC-1 *2	42.7	88.7	89.55	-46	-46.85	1,156			129.0	16.7			
B-12	SC-1 *2	43.3	72.6	73.45	-29.3	-30.15	7,471			164.5	7.1			
B-12	SC-2	43.3	80.2	81.1	-36.9	-37.8	6,887			159.9	3.3			
B-12	SC-3 *2	43.3	147	148	-103.7	-104.7	831			131.2	15.7			
B-13	SC-1 *3	42.2	55	55.95	-12.8	-13.75	5,287			149.3				
B-13	SC-2 *2	42.2	70.15	71.1	-27.95	-28.9	3,699			145.9	11.8			
B-13	SC-3 *2	42.2	83.35	84.4	-41.15	-42.2	1,344			132.5	16.1			
B-13	SC-4 *2	42.2	92	92.87	-49.8	-50.67	9,717			151.1	9.0			
E-03	SC-1 *2, 5	42.0	66	66.9	-24	-24.9	13,202			160.8	3.6			
E-03	SC-2 *2	42.0	84.7	85.7	-42.7	-43.7	2,302			138.4	11.7			
E-03	SC-3	42.0	99.1	99.85	-57.1	-57.85								
E-03	SC-4 *2	42.0	119.7	120.55	-77.7	-78.55	472			120.6	23.7			
E-03	SC-5 *2	42.0	149.95	150.8	-107.95	-108.8	3,449			147.5	7.0			
E-03	SC-6 *2	42.0	166	166.85	-124	-124.85	2,982			138.3	11.9			
AD-01	SC-1	42.0	294	294.91	-252	-252.91	619			121.9	31.6			
AD-01	SC-4 *2	42.0	381.7	382.8	-339.7	-340.8	923			124.2	24.2			
AD-01	SC-5 *3	42.0	404.75	405.55	-362.75	-363.55	465			119.5	31.9			
AD-01	SC-7 *3, 5	42.0	470.85	472.15	-428.85	-430.15	9,299	8.39	0.25	154.5	8.9	7.95	21.30	0.37
AD-02	SC-1	42.3	217.8	218.9	-175.5	-176.6	279			124.3	22.6			
AD-02	SC-5 *3	42.3	330.85	331.9	-288.55	-289.6	227			117.3	26.6			
AD-02	SC-7 *2	42.3	367.3	368.3	-325	-326	1,777			140.1	9.1			
AD-02	SC-9 *3	42.3	485.8	486.85	-443.5	-444.55	6,938	6.25	0.16	155.4	15.4	5.93	37.09	0.16

NOTES:

*2 - The as-received straightness of the core sample did not meet the requirements in ASTM D 4543 in multiple locations, therefore end conditions such as perpendicularity and parallelism could not be verified.
*3 - The as-received straightness of the core sample did not meet the requirements in ASTM D 4543 in an isolated location
*4 - Specimins did not meet the minimum L/D ratio as stated in ASTM D 4543 in an isolated location
*5 - UCS for this sample was considered to be non-representative of the rock layer and therefore the sample was not included in the statistical analysis for this layer

Units:
psi = pounds per square inch = lbs/in^2
pcf = pounds per cubic foot = lbs/ft^3
ft = feet
amsl = above mean sea level

Table 2.5.4-2CC-203 Summary of Tensile Strength Test Results

Borehole No.	Sample ID	Ground Surface Elevation (ft amsl)	Depth (ft)		Sample Elevation (ft amsl)		Specimen Dimension			Strength	Bulk Density	Moisture Content	Maximum Load
							Diameter (D)	Thickness (t)	t/D ratio				
			Top	Bottom	Top	Bottom	(in)	(in)		(psi)	(pcf)	(%)	(lbs)
North Reactor Site (LNP 2)													
A-03	SC-1	42.1	81.4	82.4	-39.3	-40.3	1.86	1.11	0.60	447	139.2	13.0	1,451
A-03	SC-2	42.1	86	87	-43.9	-44.9	1.84	1.19	0.65	70	126.5	19.3	241
A-03	SC-3	42.1	109.5	110.65	-67.4	-68.55	1.85	1.10	0.59	81	132.6	15.7	258
A-03	SC-4	42.1	130.15	131.1	-88.05	-89	1.86	1.04	0.56	75	133	16.4	228
A-03	SC-5	42.1	141.85	142.9	-99.75	-100.8	1.86	1.00	0.54	78	135.8	8.4	229
A-03	SC-6	42.1	168.6	169.6	-126.5	-127.5	1.86	1.15	0.62	1,066	145.9	11.7	3583
A-03	SC-7 *7	42.1	180	180.75	-137.9	-138.65	1.86	1.17	0.63	226	108.6	13.1	773
A-04	SC-1	41.3	76.75	77.6	-35.45	-36.3	1.85	1.19	0.64	43	114.2	22.8	148
A-04	SC-2	41.3	95.65	96.45	-54.35	-55.15	1.86	1.17	0.63	74	124.6	32.7	252
A-04	SC-3	41.3	115.45	116.3	-74.15	-75	1.86	1.26	0.68	60	119.3	18.3	220
A-04	SC-4	41.3	133.9	134.7	-92.6	-93.4	1.82	1.21	0.66	56	123.3	20.9	194
A-04	SC-5	41.3	152.1	152.9	-110.8	-111.6	1.86	1.11	0.60	618	141.7	21.6	2,003
A-10	SC-1	42.2	69.35	70.2	-27.15	-28	1.86	1.03	0.55	887	148.0	8.3	2,669
A-10	SC-2	42.2	85.05	86.05	-42.85	-43.85	1.86	1.09	0.59	705	146.9	6.3	2,246
A-10	SC-3	42.2	107.3	108	-65.1	-65.8	1.83	1.23	0.67	118	128.5	18.4	417
A-10R	SC-4 *7	42	144.1	145.05	-102.1	-103.05	1.84	1.11	0.60	128	136.3	12.9	412
A-10R	SC-5	42	147	148.1	-105	-106.1	1.86	1.24	0.67	1,095	149.9	7.2	3,967
A-10R	SC-6 *7	42	168.4	169.3	-126.4	-127.3	1.85	1.11	0.60	720	141.5	8.7	2,322
AD-01	SC-4	42	381.7	382.8	-339.7	-340.8	2.45	1.65	0.67	164	121.3	21.1	1042
AD-02	SC-3	42	270.95	272.4	-228.95	-230.4	2.46	1.66	0.67	23	122.4	27.4	146
South Reactor Island (LNP 1)													
A-15	SC-1	42.5	77	77.85	-34.5	-35.35	Sample could not be tested						
A-15	SC-2	42.5	94.95	95.8	-52.45	-53.3	1.85	1.09	0.59	448	136.7	14.2	1,420
A-15	SC-3	42.5	105.75	106.6	-63.25	-64.1	1.86	1.09	0.59	322	133.2	12.3	1,026
A-15	SC-4	42.5	110.35	111.35	-67.85	-68.85	1.85	1.07	0.58	549	135.8	14.2	1,706
A-15	SC-5	42.5	117.7	118.7	-75.2	-76.2	1.85	1.16	0.63	416	142.2	10.8	1,402
A-15	SC-6	42.5	143	144	-100.5	-101.5	1.85	1.27	0.69	564	148.7	6.8	2,082
A-15	SC-7 *7	42.5	185	186	-142.5	-143.5	1.86	1.07	0.58	2,759	168.8	1.0	8,626
A-16	SC-1 *7	42.7	46.4	47.45	-3.7	-4.75	1.83	1.02	0.56	24	119.2	22.4	69
A-16	SC-2 *7	42.7	63.4	64.3	-20.7	-21.6	1.84	1.17	0.64	203	136.3	12.4	685
A-16	SC-3	42.7	101	102	-58.3	-59.3	1.84	1.09	0.59	416	131.9	10.4	1,312
A-16	SC-4	42.7	113.8	114.55	-71.1	-71.85	1.84	1.15	0.63	534	139.2	10.0	1,774
A-16	SC-5	42.7	128.1	128.9	-85.4	-86.2	1.84	1.20	0.65	814	153.2	3.9	2,824
A-16	SC-6	42.7	136.5	137.4	-93.8	-94.7	1.84	1.28	0.70	1,752	161.0	2.5	6,480
A-16	SC-7 *7	42.7	167.95	168.75	-125.25	-126.05	1.83	1.02	0.56	608	145.5	8.0	1,783
A-16	SC-8 *7	42.7	173.9	175	-131.2	-132.3	1.84	1.05	0.57	513	135.8	12.6	1,557
A-22	SC-1 *7	42.6	112.8	113.5	-70.2	-70.9	1.85	1.17	0.63	602	146.8	7.4	2,047
A-22	SC-2 *7	42.6	124	125.4	-81.4	-82.8	1.85	1.22	0.66	195	132.8	15.6	690
A-22	SC-3	42.6	127.11	128.15	-84.51	-85.55	1.85	1.14	0.62	594	152.0	6.2	1,968
A-22	SC-4	42.6	147	147.8	-104.4	-105.2	1.85	1.00	0.54	303	146.7	5.6	880
A-22	SC-5 *7	42.6	175.4	176.2	-132.8	-133.6	1.85	1.11	0.60	728	140.5	5.8	2,347
A-22	SC-6	42.6	176.5	177.45	-133.9	-134.85	1.85	1.25	0.68	1,696	154.4	2.4	6,161
AD-3	SC-5	42	430.5	431.55	-388.5	-389.55	2.48	1.61	0.65	732	153	7	4594
AD-4	SC-10	42	481.7	483.3	-439.7	-441.3	2.48	1.59	0.64	584	148.5	12.3	3619

NOTES:

*7 - The as-received straightness of the core sample did not meet the requirements in ASTM D 3967, therefore end conditions such as perpendicularity could not be verified

Units:

psi = pounds per square inch = lbs/in^2 pcf = pounds per cubic foot = lbs/ft^3 lbs = pounds in = inches ft = feet amsl = above mean sea level

Table 2.5.4-2CC-204: Summary of Triaxial Compressive Strength Test results of Intact Rock Core Specimens

Borehole ID	Sample ID	Depth (ft)		Average Diameter (in)	Average Length (in)	Mass (grams)	Bulk Density [1] (pcf)	Length to Diameter Ratio [2]	In Conformance with ASTM D4543 [3]	Confining Pressure, σ_3 (psf)	Peak Compressive Strength [4] (psf)	Maximum Axial Stress, σ_1 (psf)
		Top	Bottom									
A-11	SC-3	89.5	90.5	1.85	3.423	306	126	1.85	No	11,452	89,249	100,701
A-19	SC-19	146	147.3	2.47	5.15	817	126	2.09	No	18,090	35,883	53,973
B-02R	SC-2	93	94.1	1.85	3.42	328	136	1.85	No	2,863	150,240	153,103
B-02R	SC-5	144.4	145.4	1.85	3.98	365	130	2.15	No	9,045	172,552	181,597
B-08	SC-6	131.3	132.55	1.85	4.017	325	114	2.17	No	4,523	42,394	46,917
B-09	SC-3	97.35	98.5	1.85	4.66	390	118	2.52	No	3,613	60,246	63,859
B-09	SC-4	117.45	118.55	1.837	3.897	303	112	2.12	No	7,227	41,352	48,579
B-09	SC-5	132.3	133.5	1.85	4.143	356	122	2.24	No	14,454	105,610	120,064
B-24	SC-2	95.2	96.4	2.43	5.35	852	131	2.2	No	5,726	106,908	112,634

Notes:

1. Density determined on core samples by measuring dimensions and weight and then calculated as weight divided by volume

2. Required length to diameter ratio is between 2.00 and 2.50 per ASTM D4543. Three of the test specimens did not meet this requirement. S&ME was informed of this and requested that the tests be performed anyway.

3. Test specimens could not be prepared in accordance with ASTM D4543 - Standard Practices for Preparing Rock Core Specimens and Determining Dimensional and Shape Tolerances. The sample structure was too loose and granular to allow for lapping of the specimen ends. The specimens were cut to length using a diamond tipped saw blade and the ends were prepared as flat as practical using hand tools.

4. All specimens tested at the approximate as-received moisture content and at standard laboratory temperature.

Results of Petrographic Analysis

Table 2.5.4-2CC-205 Summary of Petrographic Analysis Results

		TEXTURE			ALLOCHEMICAL GRAINS											MATRIX		CEMENTS						ORGANICS	
SAMPLE LOCATION	SAMPLE DEPTH (Ft)	LITHOLOGY*	GRAIN/DOL XTAL (µm)	TEXTURE**	PELOIDS	PISOIDS	INTRACLASTS	OOIDS	ALGAE (GREEN/RED)	FORAMINIFERA	CORALS	CRINOIDS/ECHINOIDS	BIVALVES	OSTRACODS	GASTROPODS	MICRITE	DOLOMITIZED MUD	CALCITE	DOLOMITE	ANHYDRITE/GYPSUM	QUARTZ	CLAY	PYRITE	BITUMEN	KEROGEN
A7/SC-4	91.7-92.6	LS	170	PS	8.8					33.6		2.0	1.2	0.8		22.8		3.2	7.2						
A7/SC9	124.8-125.8	DS	70	PS	2.0				0.8	11.6	Tr	2.0	1.6	0.8		6.4		8.4	43.2						
A7-SC-17	170.15-171.0	DS	60	PS/WS			0.4										42.0		37.2						
A8/SC1	69.40-70.50	DS	70	PS			22.0		Tr	0.4	Tr						6.0		50.4						
A8/SC-15	155.05-156.0	DS	80	PS	Tr		Tr			Tr		0.4					4.8	0.8	67.2				Tr	Tr	
A8/SC-25	202.50-203.50	DS	50	PS			12.0			0.8							57.2						Tr		
A19/SC-1	58.00-59.30	DS	50	WS-PS			2.8			0.4							5.2		62.4				0.4	Tr	
A19/SC-11	108.35-109.80	DS	60	PS													8.8		57.6				Tr		
A19/SC-26	206.60-207.65	DS	40	PS			8.0			1.2							62.0		7.6	Tr			Tr	Tr	
A20/SC-2	60.90-61.95	DS	50	PS													3.6	0.4	70.8					Tr	

*** LS = Limestone DS = Dolostone**
**** MS = Mudstone WS = Wackestone PS = Packstone GS = Grainstone BS = Boundstone**

Table 2.5.4-2CC-205 Summary of Petrographic Analysis Results (Continue)

		TEXTURE			ALLOCHEMICAL GRAINS											MATRIX		CEMENTS						ORGANICS	
SAMPLE LOCATION	SAMPLE DEPTH (Ft)	LITHOLOGY*	GRAIN/DOL XTAL (µm)	TEXTURE**	PELOIDS	PISOIDS	INTRACLASTS	OOIDS	ALGAE (GREEN/RED)	FORAMINIFERA	CORALS	CRINOIDS/ECHINOIDS	BIVALVES	OSTRACODS	GASTROPODS	MICRITE	DOLOMITIZED MUD	CALCITE	DOLOMITE	ANHYDRITE/GYPSUM	QUARTZ	CLAY	PYRITE	BITUMEN	KEROGEN
A20/SC-8	113.65-114.50	DS	40	PS													13.2		58.4			0.8	Tr	0.4	
A20/SC-19	217.45-218.25	DS	30	PS/WS	0.4		2.0			2.0							23.2		40.0						
AD1/SC-1	294.0-294.91	DS	<10	WS	3.0		8.6			1.6							50.8					Tr	0.4	0.4	
AD3/SC-3	387.8-388.8	DS	<10	WS-PS	0.4		0.4			18.4							31.2						Tr		
AD3/SC-6	492.2-493.15	DS	30	PS-WS													48.8	3.2	24.8	0.8		Tr		Tr	Tr
AD4/SC-1	214.0-214.8	DS	10	WS	3.2		0.8										59.0		8.2						
AD1/SC-7	470.85-472.15	DS	<10	WS													65.0		10.2			Tr	Tr	0.4	
AD2/SC-1	217.8-218.9	DS	<10	PS-WS	4.4		Tr			2.0							58.4								
AD2/SC-7	367.3-368.3	DS	<10	WS						19.2							50.0								
AD4/SC-3	237.2-238.0	DS	<10	PS-WS	7.6		0.8			6.4							53.2						Tr		

* LS = Limestone DS = Dolostone
** MS = Mudstone WS = Wackestone PS = Packstone GS = Grainstone BS = Boundstone

Table 2.5.4-2CC-205 Summary of Petrographic Analysis Results (Cont.)

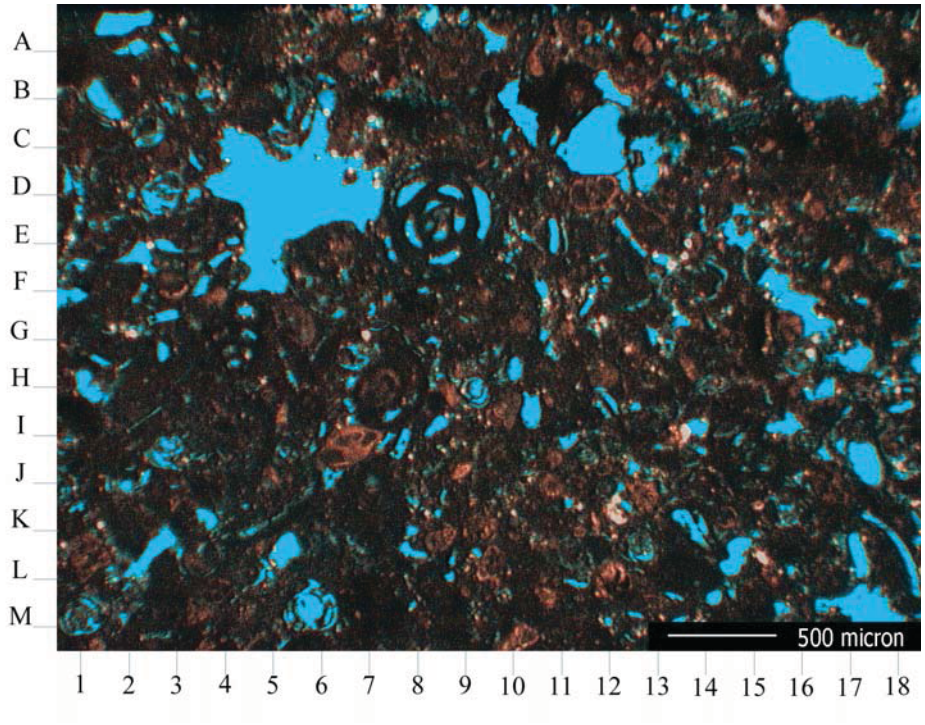
LOCATION	DEPTH Ft	INTERPARTICLE	INTRAPARTICLE / INTRACRYSTALLINE	MOLDIC	INTERCRYSTALLINE	VUGGY CHANNEL	FRACTURE	MICROPOROSITY	TOTAL POROSITY	SAMPLE NUMBER
A7/SC-4	91.7-92.6	2.0	7.2	7.2		2.0		2.0	20.4	001
A7/SC9	124.8-125.8	3.2	3.6	2.4	3.2	7.2		3.6	23.2	002
A7-SC-17	170.15-171.0			7.6	10.8	1.6		0.4	20.4	003
A8/SC1	69.40-70.50	2.0	0.8	10.4	4.8	2.8		0.4	21.2	004
A8/SC-15	155.05-156.0			7.6	18.4	0.4		0.4	26.8	005
A8/SC-25	202.50-203.50	2.8	1.6	7.6	13.6	3.6	0.4	0.4	30.0	006
A19/SC-1	58.00-59.30	0.8	1.6 / 7.6		18.4			0.4	28.8	007
A19/SC-11	108.35-109.80			14.8	14.0	4.8			33.6	008
A19/SC-26	206.60-207.65	1.6	0.4	6.0	7.6	5.2		0.4	21.2	009
A20/SC-2	60.90-61.95	2.8	0.4	6.8	14.0	1.2			25.2	010

Table 2.5.4-2CC-205 Summary of Petrographic Analysis Results (Cont.)

LOCATION	DEPTH Ft	INTERPARTICLE	INTRAPARTICLE / INTRACRYSTALLINE	MOLDIC	INTERCRYSTALLINE	VUGGY CHANNEL	FRACTURE	MICROPOROSITY	TOTAL POROSITY	SAMPLE NUMBER
A20/SC-8	113.65-114.50	1.6		8.0	16.4	1.2			27.2	011
A20/SC-19	217.45-218.25	1.6	1.2	9.2	13.6	6.4		0.4	32.4	012
AD1/SC-1	294.0-294.91		1.6	5.2	13.6	2.4		12.4	35.2	013
AD3/SC-3	387.8-388.8		7.6	18.4	1.6	20.4		1.6	49.6	014
AD3/SC-6	492.2-493.15	1.2	4.4	6.4	5.6	3.2		1.6	22.4	015
AD4/SC-1	214.0-214.8	1.2		5.6	11.2	9.2		1.6	28.8	016
AD1/SC-7	470.85-472.15	0.8		12.4	3.6	7.6			24.4	017
AD2/SC-1	217.8-218.9	0.8		3.2	18.4	3.2		9.6	35.2	018
AD2/SC-7	367.3-368.3		4.8	8.8	4.0	10.0		3.2	30.8	019
AD4/SC-3	237.2-238.0	3.6	6.0	5.2	9.2	6.0		2.0	32.0	020

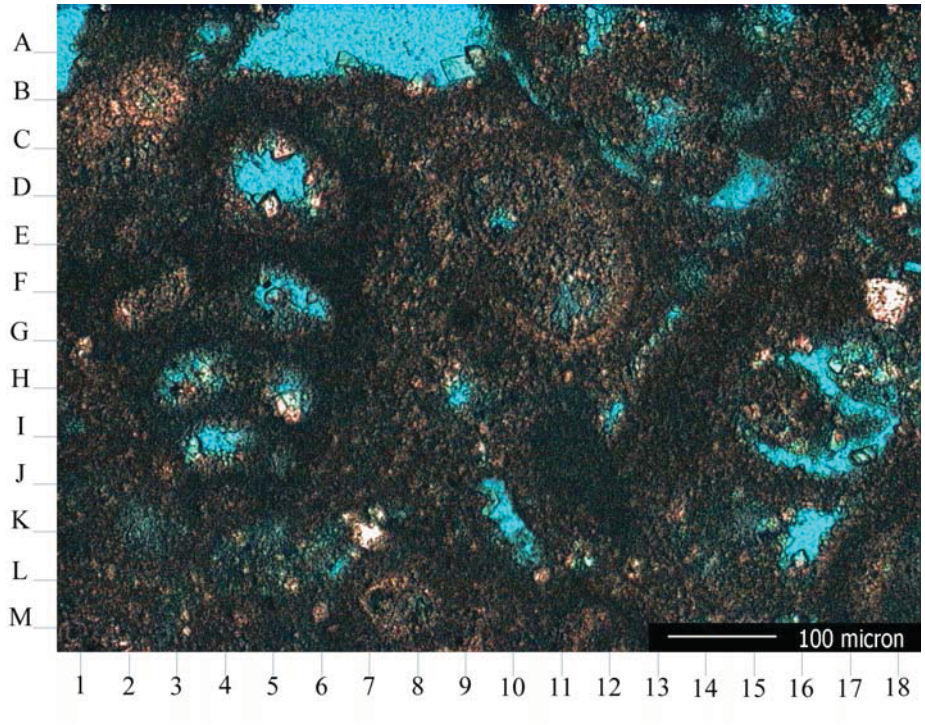
THIN SECTION ANALYSIS

Plate 1A



Company: S&ME, Inc.
Location A7/SC-4
Depth (Ft): 91.7-92.6
Sample No.: G1346-001

Plate 1B



Thin Section Description

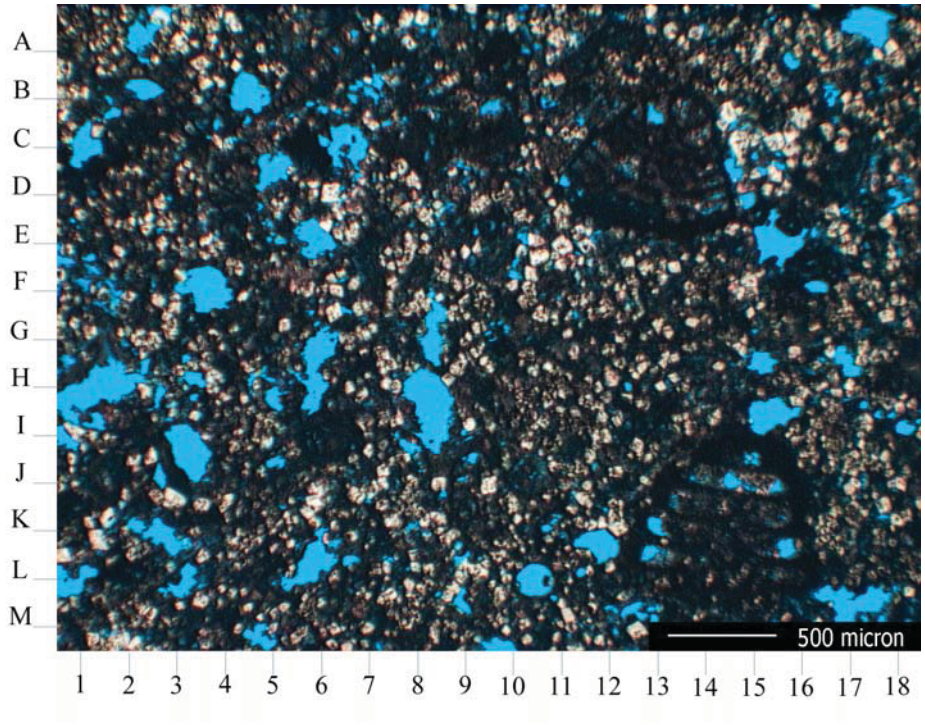
Plate 1A - Low magnification view of a limestone. The rock has a packstone texture and is characterized by development of preserved interparticle porosity (blue, E-3) as well as secondary pores created by leaching of chemically unstable allochemical grains (D-5, M-6, A-17). Microporosity exists within micritized grains. The rock consists predominantly of partially to completely micritized miliolid foraminiferal grains (E-9) as well as a variety of other foraminiferal grains and small quantities of micritized peloids and ostracods. Interparticle space is partially filled by micritized lime mud. The rock contains small quantities of calcite and dolomite cement.

Plate 1B - High magnification view displaying a biserial foraminiferal test (G-5) that has been micritized by endolithic algae. Interparticle space is partially filled by micritized lime mud (B-8). Note development of intrabiotic (blue, C-5) and dissolution (blue, K-10) porosity. Small amounts of dolomite (B-9) and calcite (K-7) partially fill interparticle and intraparticle pores.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

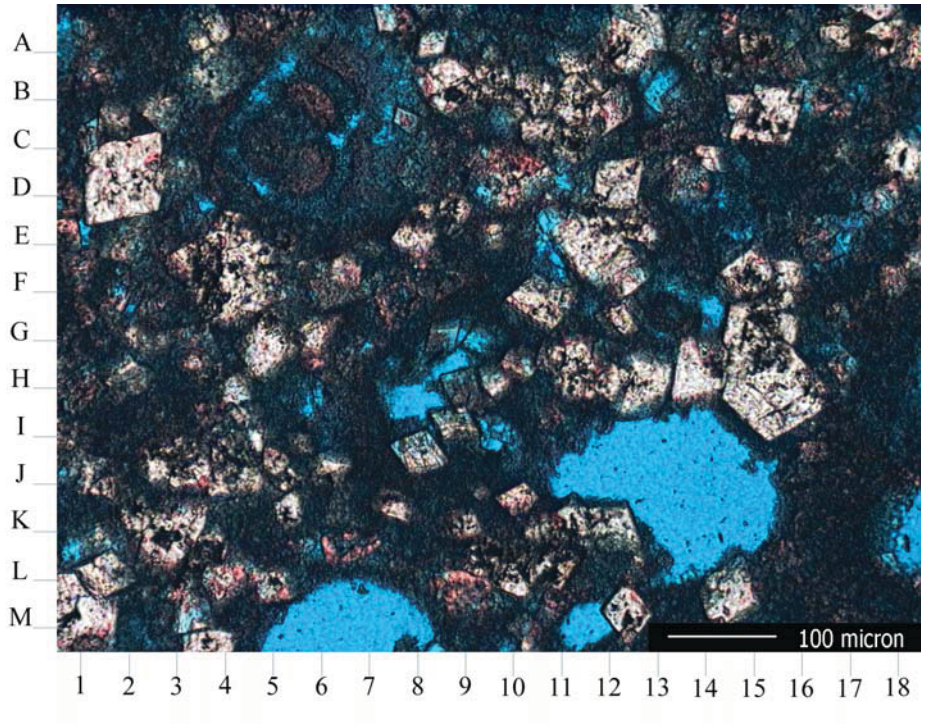
THIN SECTION ANALYSIS

Plate 2A



Company: S&ME, Inc.
Location A7/SC9
Depth (Ft): 124.8-125.8
Sample No.: G1346-002

Plate 2B



Thin Section Description

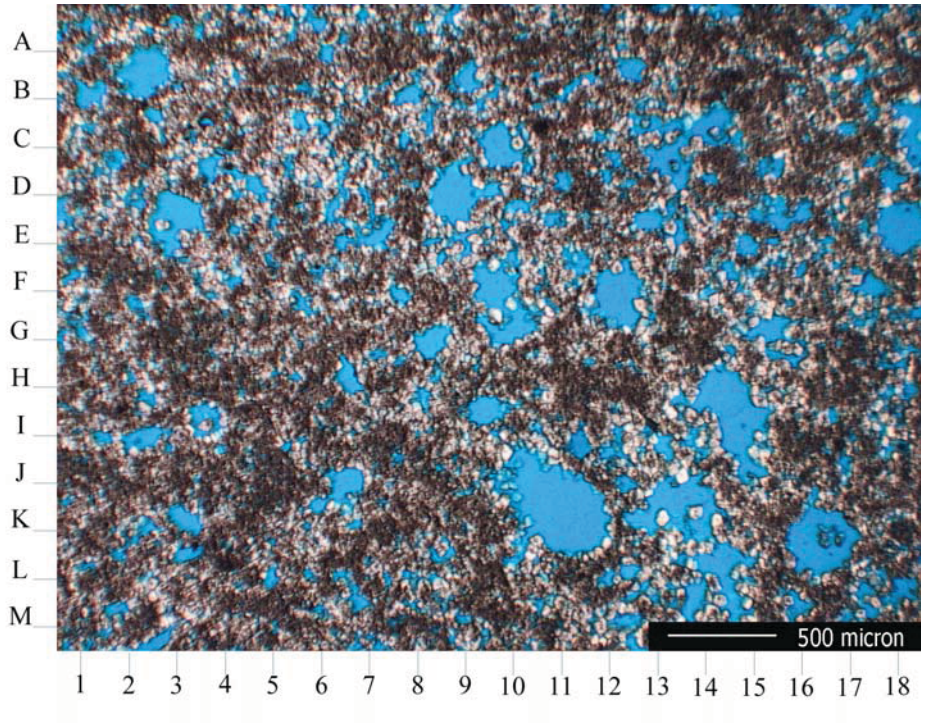
Plate 2A - Low magnification view of a partially dolomitized lime packstone. The rock consists of micritized foraminiferal tests (D-14, K-14) as well as much smaller quantities of micritized peloids, algae, coral fragments, bivalves, echinoderms, and ostracods. Interparticle space is partially filled by micritic lime mud. Portions of micritized grains and matrix have been replaced by dolomite (light gold crystals, D-6,D-10). Some interparticle porosity exists augmented by secondary moldic pores created by leaching of chemically unstable skeletal grains (blue, F-4, L-10, K-12, H-8). Intrabiotic porosity (blue, K-13) is also present. Microporosity exists in association with micritized grains and matrix.

Plate 2B - High magnification view illustrating development of micropore space within micritized grains (blue, C-7) as well as secondary pores created by leaching of chemically unstable allochemical grains (blue, M-7, J-14). Note replacement of portions of micritized grains and matrix by euhedral dolomite crystals (D-2, M-1, H-15). Dolomitization does not appear to be fabric selective.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 3A



Company: S&ME, Inc.
Location A7/SC-17
Depth (Ft): 170.15-171.0
Sample No.: G1346-003

Thin Section Description

Plate 3A - Low magnification view of a largely dolomitized packstone/wackestone. Dolomite crystals have an average size of 60 µm. The rock is characterized by extensive development of dissolution porosity where chemically unstable allochemical grains have been leached from the sample creating large voids (blue, K-11, K-17). The rock matrix (G-6) consists of dolomitized lime mud. Some void space is filled by dolomite cement (light gold, I-4).

Plate 3B

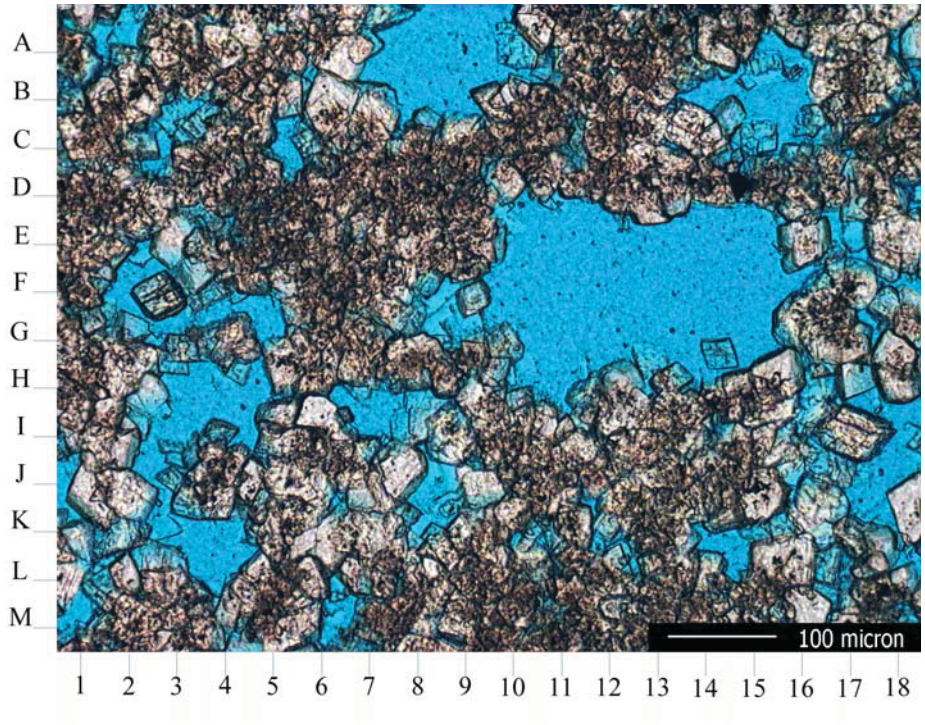
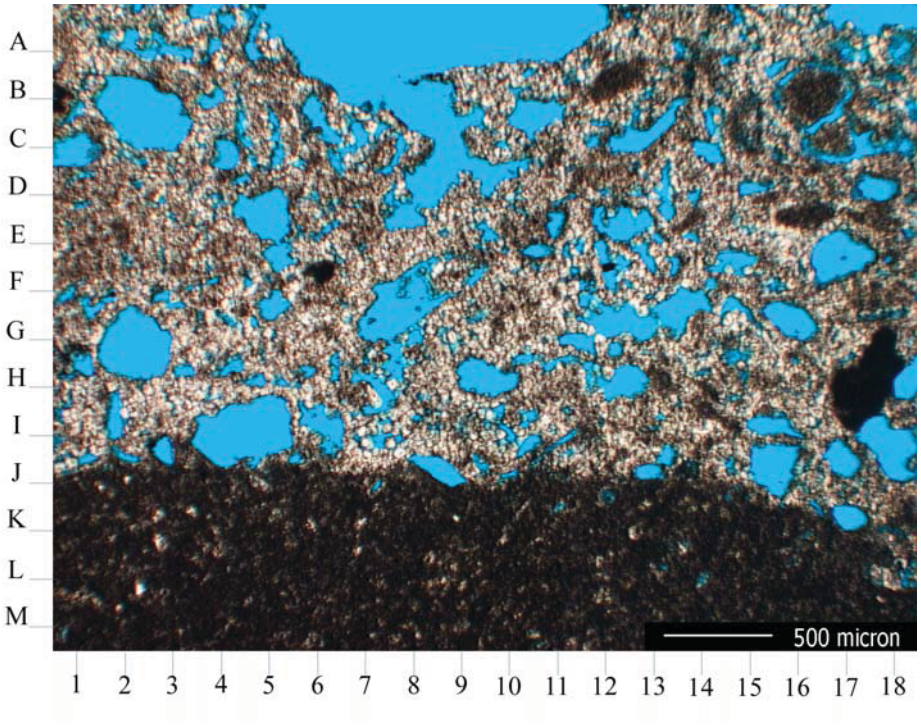


Plate 3B - High magnification view illustrating development of large secondary dissolution (blue, F-13) and intercrystalline (blue, K-11) pores within micritic lime mud altered to dolomite (darker brown). Pores are rimmed by growths of secondary dolomite cement (light gold, B-7).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

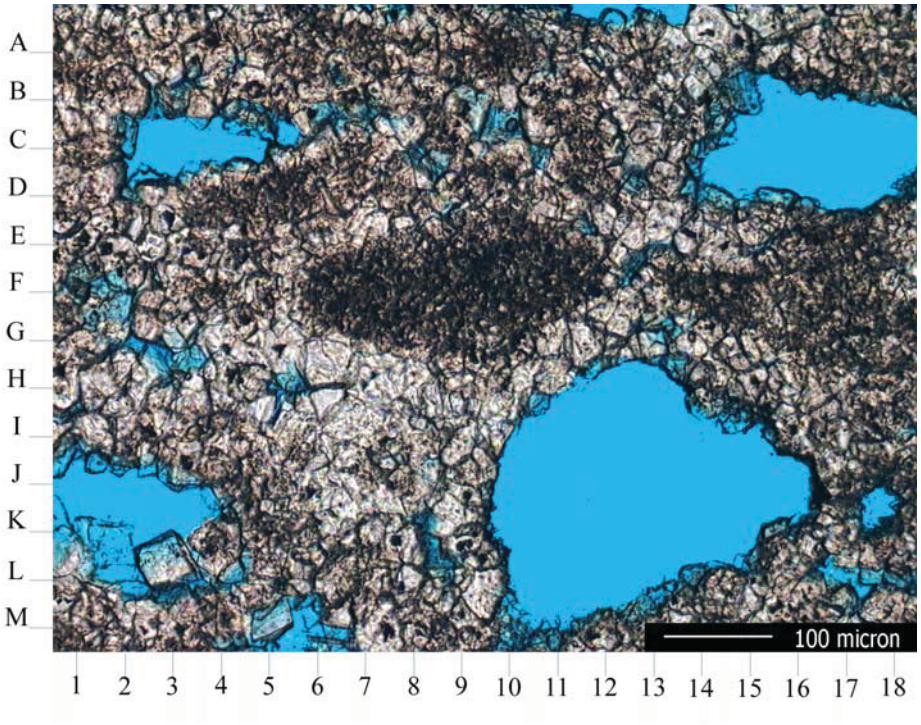
THIN SECTION ANALYSIS

Plate 4A



Company: S&ME, Inc.
Location A8/SC1
Depth (Ft): 69.40-70.50
Sample No.: G1346-004

Plate 4B



Thin Section Description

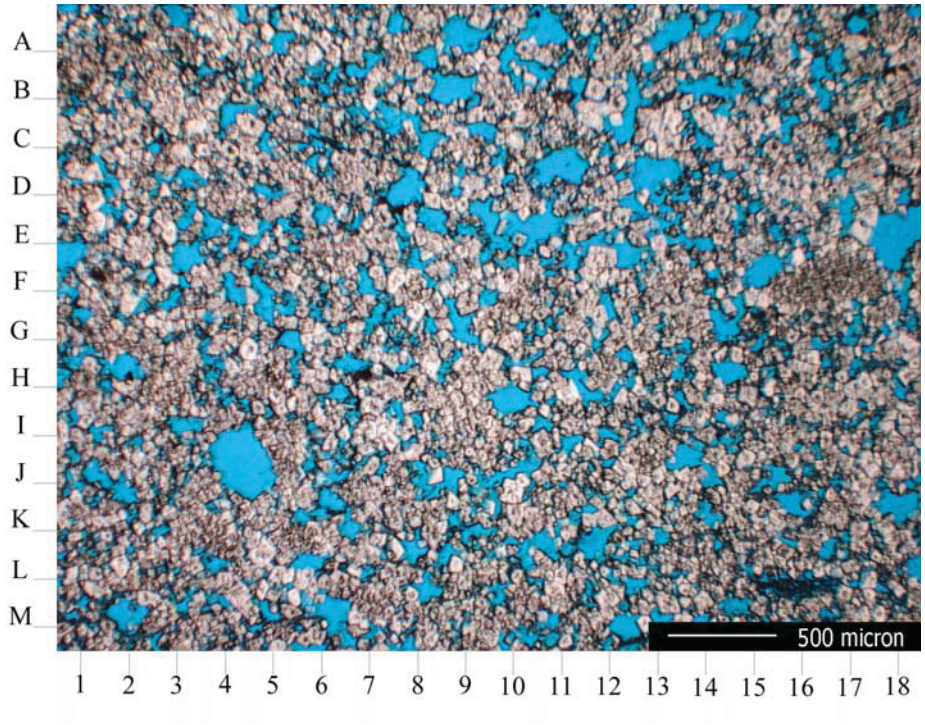
Plate 4A - Low magnification view of a dolostone. The rock is poorly sorted and consists of dolomitized intraclasts (L-5) and dolomitized matrix. Portions of the sample consists of recrystallized matrix with large secondary voids (blue, G-2, I-5) created by leaching of chemically unstable allochemical grains. Leached grains leave a honeycombed matrix of replaced micritic matrix and dolomite cement. Intercrystalline porosity exists within dolomitized portions of the sample and provides some permeability interconnecting larger solution voids.

Plate 4B - High magnification view displaying dolomitized, micritized intraclasts (F-9). Both carbonate grains and surrounding matrix have been altered to dolomite. Early grain rimming cement (light gold, G-6, H-7) was also dolomitized. Dissolution of chemically unstable skeletal grains has resulted in creation of large secondary pores (blue, J-2, C-3, K-12). Some intercrystalline porosity exists within dolomitized matrix, cement and grains and provides permeability pathways interconnecting larger secondary voids.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 5A



Company: S&ME, Inc.
Location A8/SC-15
Depth (Ft): 155.05-156.0
Sample No.: G1346-005

Thin Section Description

Plate 5A - Low magnification view of a dolostone. The rock and consists of largely of dolomitized matrix and grains with some bounding dolomite cement. The rock is characterized by large secondary dissolution voids created by leaching of chemically unstable allochemical grains (blue, J-5) as well as remnant interparticle pores (blue, E-3) and intercrystalline pores developed between interlocking dolomite crystals within the matrix. The rock is highly porous and permeable.

Plate 5B

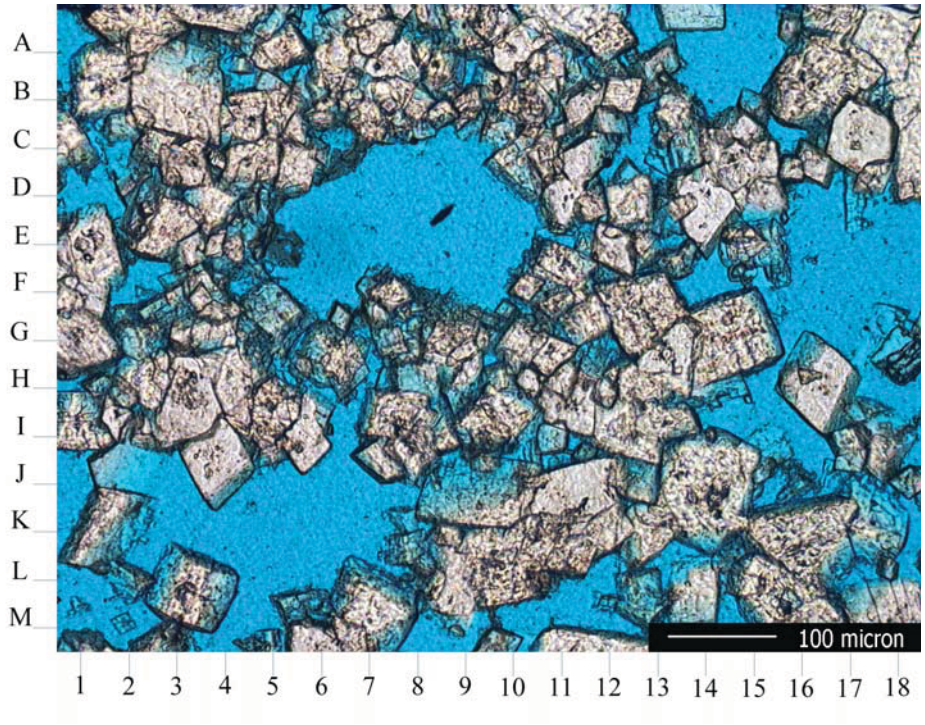
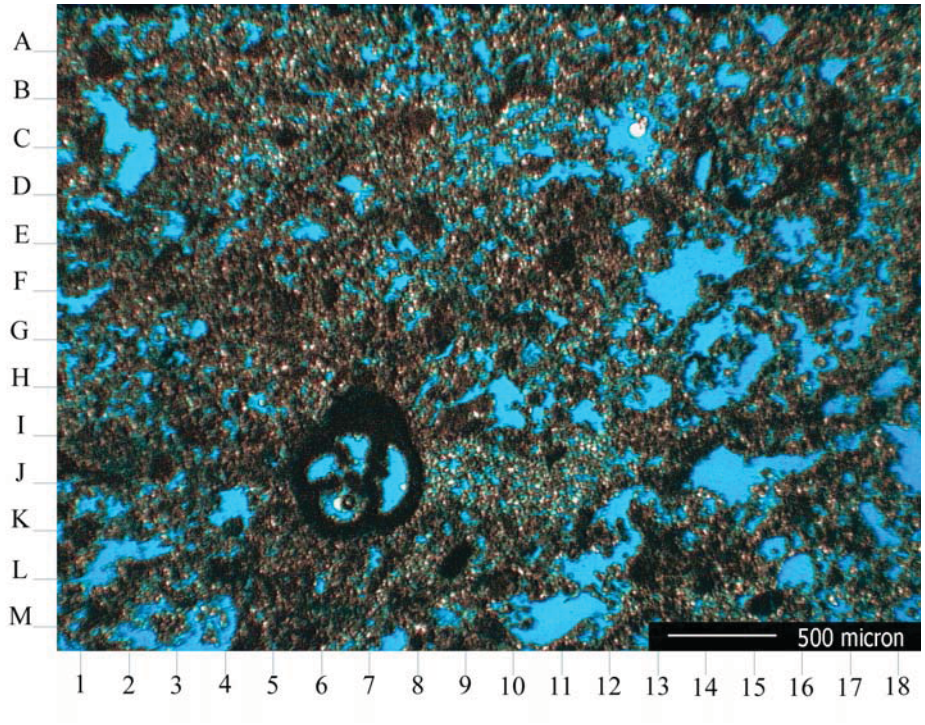


Plate 5B - High magnification view illustrating development of large dissolution voids created by leaching of chemically unstable allochemical grains (blue, D-9) as well as development of intercrystalline pores (blue, I-11) within dolomite cement rims on grains and dolomitized matrix.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 6A



Company: S&ME, Inc.
Location A8/SC-25
Depth (Ft): 202.50-203.50
Sample No.: G1346-006

Thin Section Description

Plate 6A - Low magnification view of a more finely crystalline dolostone with a packstone texture. The rock consists of dolomitized intraclasts and foraminifera within a matrix of dolomitized lime mud. The rock is characterized by development of intrabiotic (chamber) porosity (blue, J-7) augmented by dissolution pores created by leaching of chemically unstable grains (F-14). Microporosity exists within dolomitized portions of the rock groundmass.

Plate 6B

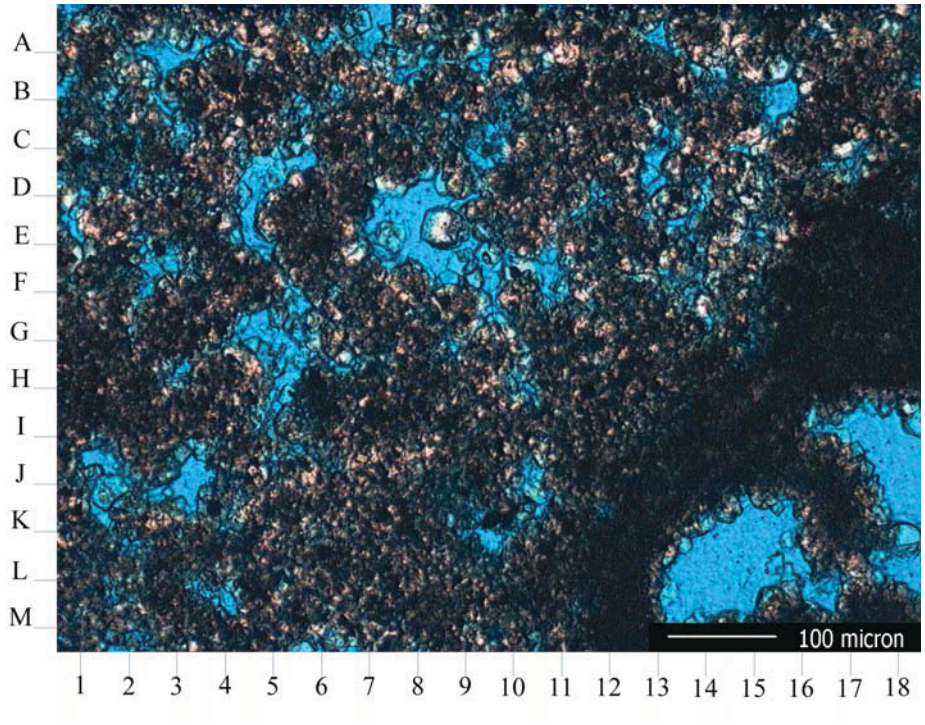
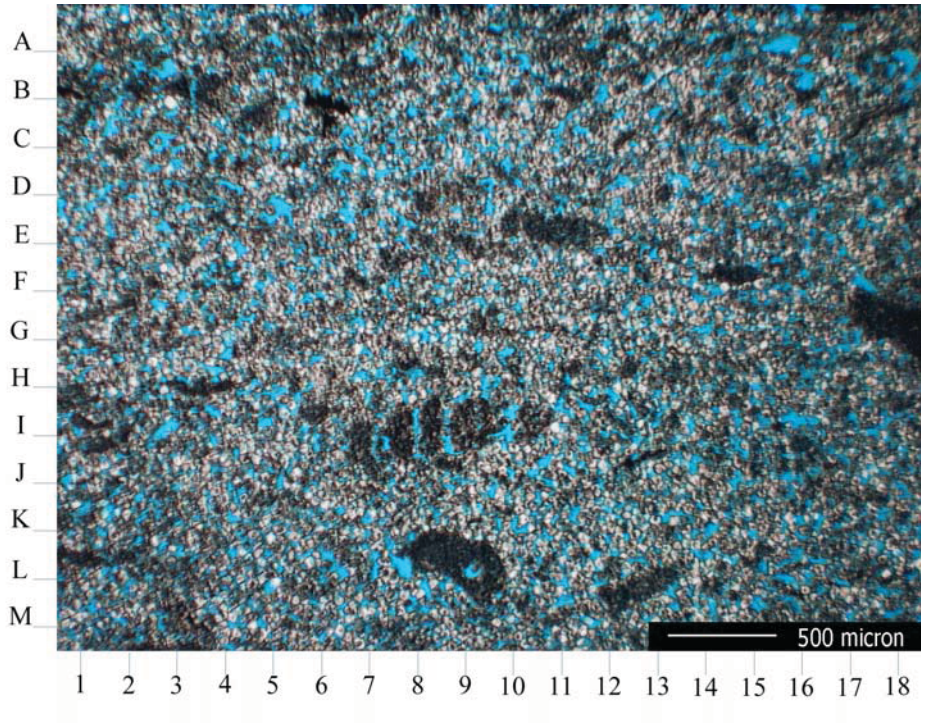


Plate 6B - High magnification view illustrating development of intrabiotic (blue, L-15) and intercrystalline porosity within the matrix. Clear and light dolomite crystals represent overgrowths, and are essentially cement formed during subsurface diagenesis.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 7A



Company: S&ME, Inc.
Location A19/SC-1
Depth (Ft): 58.00-59.30
Sample No.: G1346-007

Thin Section Description

Plate 7A - Low magnification view of a dolostone. The rock is fine to medium crystalline and originally had a wackestone/packstone texture. The rock contains altered intraclasts (F-18) and foraminiferal tests, however, much of the rock consists of dolomitized matrix and dolomite cement. Intercrystalline porosity is well developed. The rock is characterized by less extensive interparticle and dissolution porosity.

Plate 7B

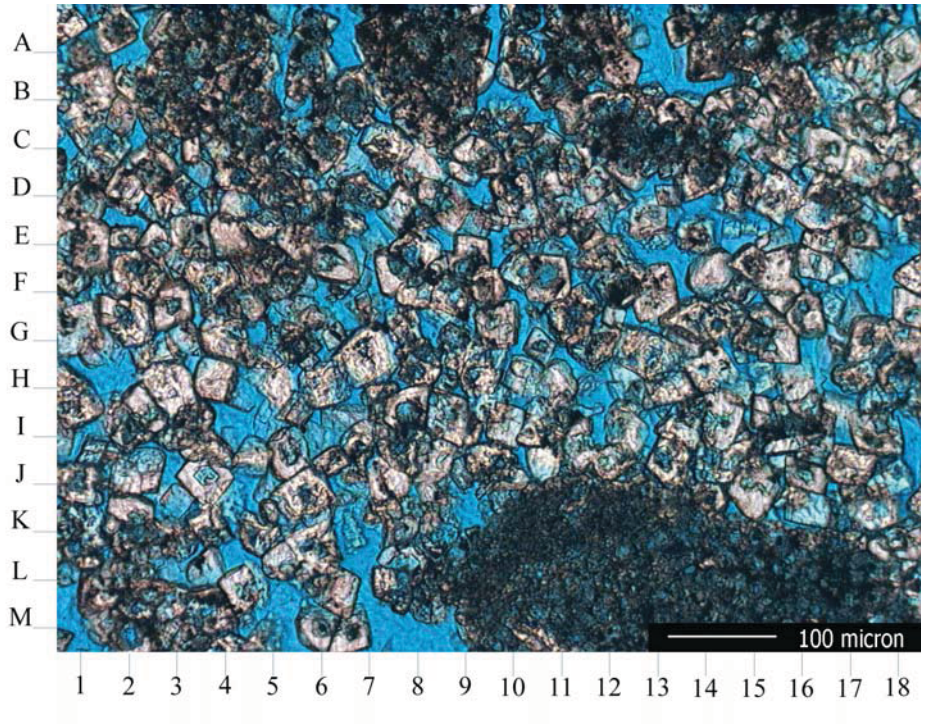
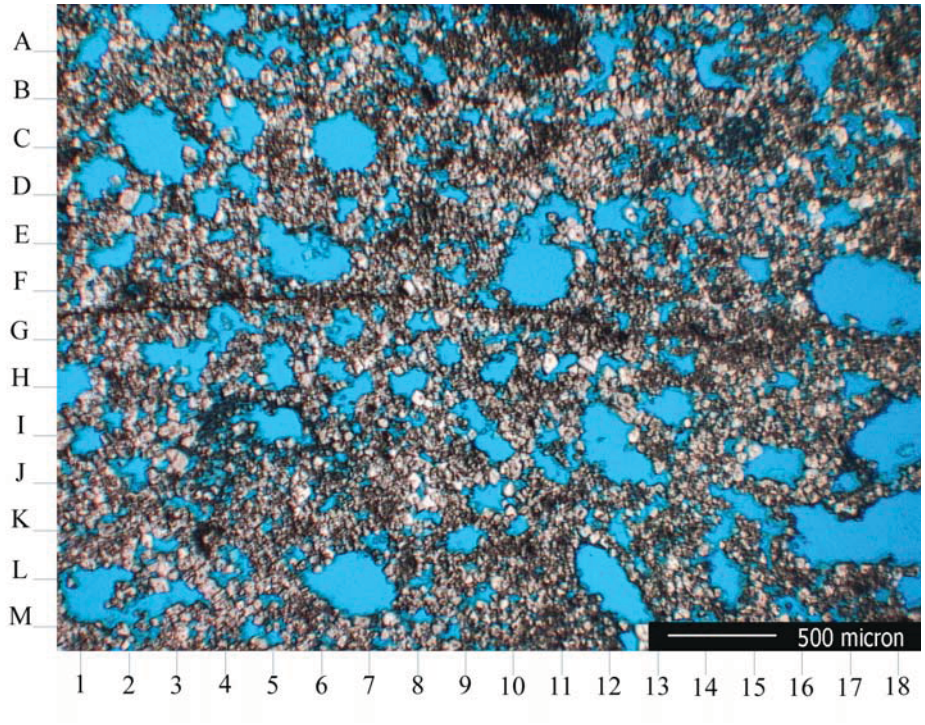


Plate 7B - High magnification view illustrating development of intercrystalline porosity within the rock matrix (blue, F-6) as well as porosity developed by leaching of the cores of zoned dolomite crystals (blue, J-4). Some micropore space exists within dolomitized intraclasts and fossil grains (milky blue areas, L-13).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 8A



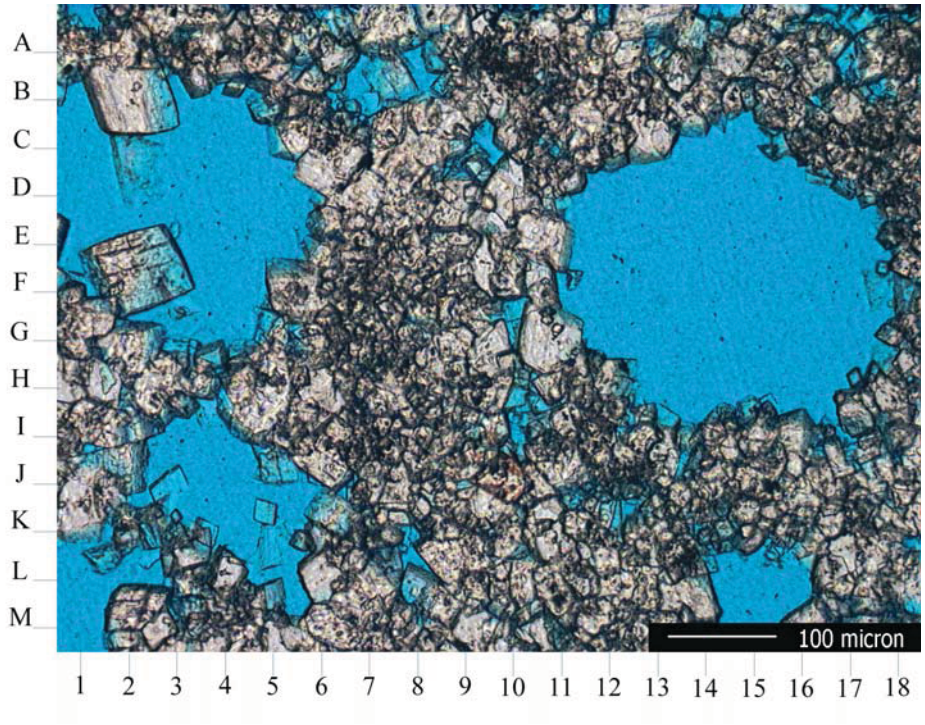
Company: S&ME, Inc.
Location A19/SC-11
Depth (Ft): 108.35-109.80
Sample No.: G1346-008

Thin Section Description

Plate 8A - Low magnification view of a dolostone characterized by extensive dissolution porosity (blue, L-7, E-11). Dissolution pores are augmented by intercrystalline pores developed within the dolomitized matrix and cement. The rock has very high porosity.

Plate 8B - High magnification view illustrating development of secondary (blue, D-4, J-4, E-15) and intercrystalline (blue, K-8, C-10) pores within dolomitized matrix and cement rims (G-9, A-12, J-15).

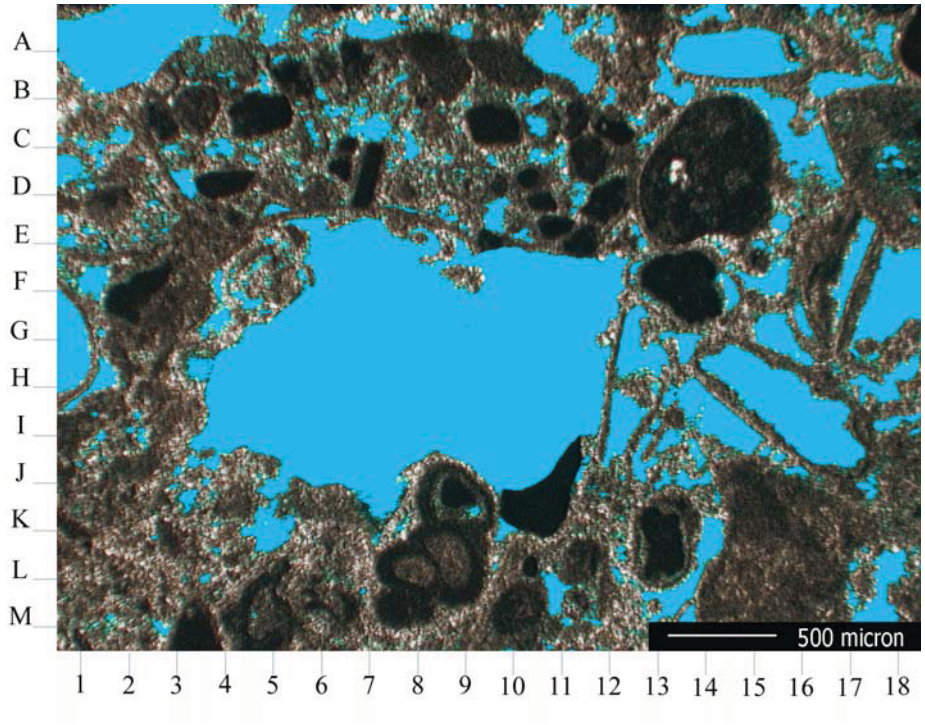
Plate 8B



Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 9A



Company: S&ME, Inc.
Location A19/SC-26
Depth (Ft): 206.60-207.65
Sample No.: G1346-009

Thin Section Description

Plate 9A - Low magnification view of a finely crystalline dolostone with a packstone texture. Dolomitized allochems include intraclasts and forams (L-8) within lime mud. Note extensive development of secondary dissolution porosity related to leaching of chemically unstable grains (blue, H-1, I-17, A-16). Remnant interparticle porosity exists (blue, L-11).

Plate 9B

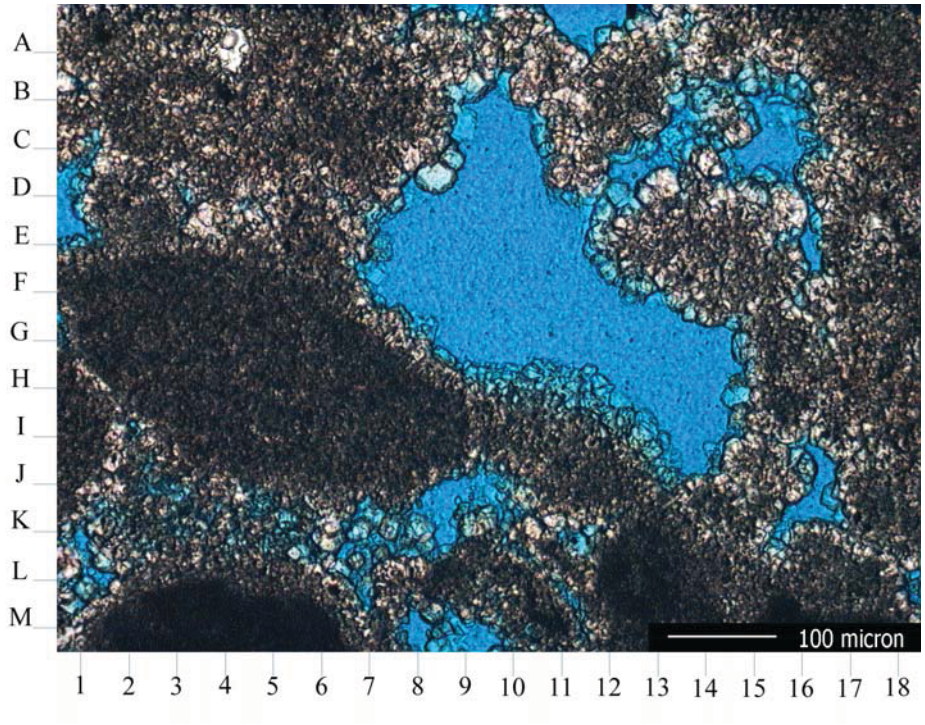
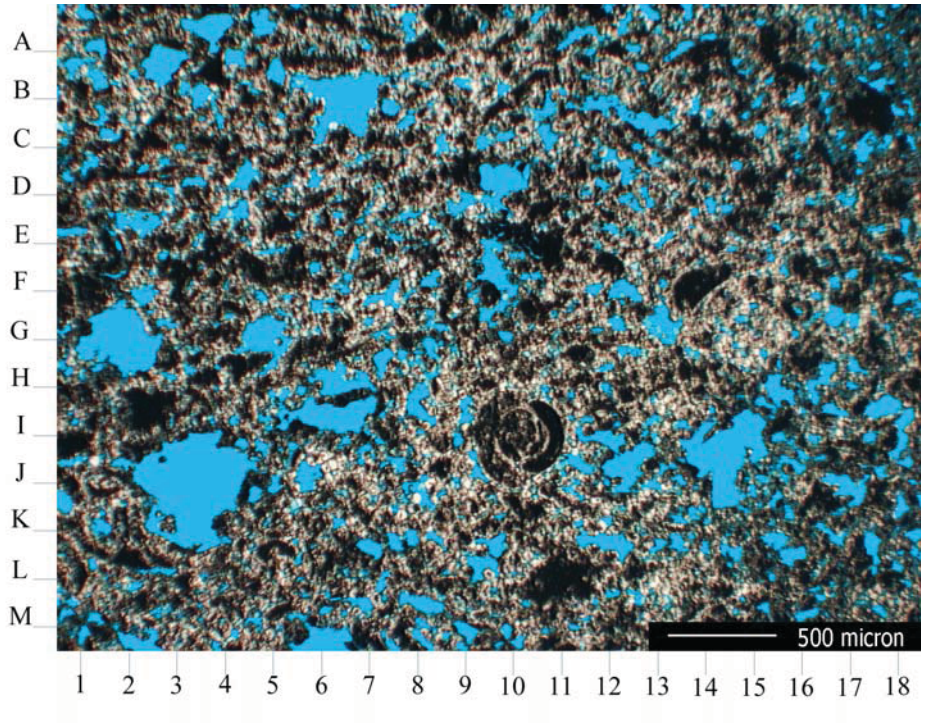


Plate 9B - High magnification view illustrating development of remnant interparticle porosity augmented by micropores (blue, J-3) associated with dolomitized matrix and cement. Clear and light rims on grain surfaces are secondary cement generated during subsurface diagenesis.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

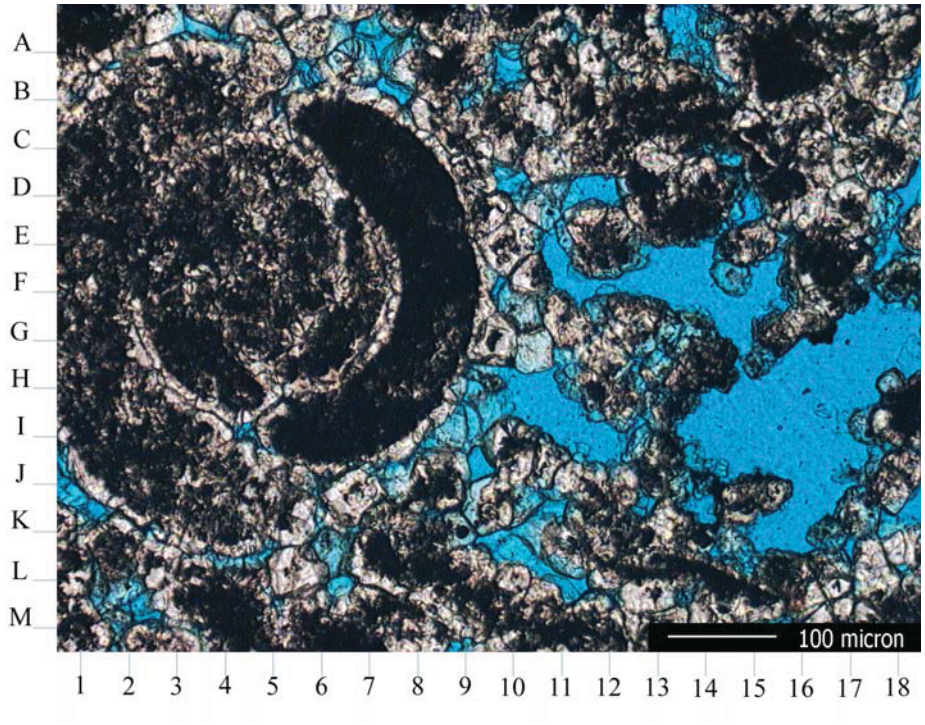
THIN SECTION ANALYSIS

Plate 10A



Company: S&ME, Inc.
Location A20/SC-2
Depth (Ft): 60.90-61.95
Sample No.: G1346-010

Plate 10B



Thin Section Description

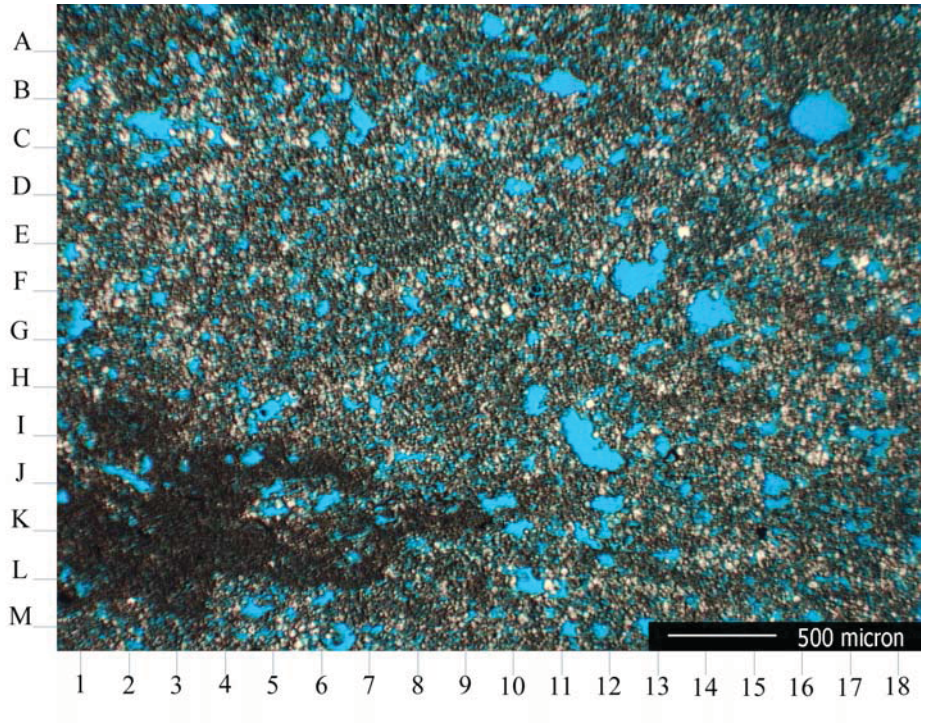
Plate 10A - Low magnification view of a medium to finely crystalline dolostone. The rock originally had a packstone texture and has been completely altered to dolomite. The rock originally consisted of miliolid forams (I-10), benthic forams, peloids and intraclasts that consisted of micritic calcite but were altered in the course of diagenesis to finely crystalline dolomite. Interparticle porosity is partially occluded by dolomite cement nucleated on carbonate grains. Original interparticle porosity (K-10, F-8) is augmented by dissolution pores created by leaching of chemically unstable allochemical grains (blue, J-3). Microporosity exists within dolomitized portions of grains, matrix and cement.

Plate 10B - High magnification view displaying a dolomitized foram (F-5) with rimming dolomite cement (G-9). Note intercrystalline porosity (blue, B-8) augmented by interparticle porosity (I-16) as well as secondary pores created by leaching of chemically unstable grains.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 11A



Company: S&ME, Inc.
Location A20/SC-8
Depth (Ft): 113.65-114.50
Sample No.: G1346-011

Thin Section Description

Plate 11A - Low magnification view of a finely crystalline dolostone. The rock originally had a packstone texture. The rock consists of dolomitized lime mud matrix and allochemical grains (darker brown areas) with grain rimming secondary dolomite cement (lighter gold areas, C-4). Interparticle porosity is augmented by intercrystalline porosity created by dolomitization as well as secondary dissolution pores created by leaching of chemically unstable grains (blue, I-12, B-16).

Plate 11B

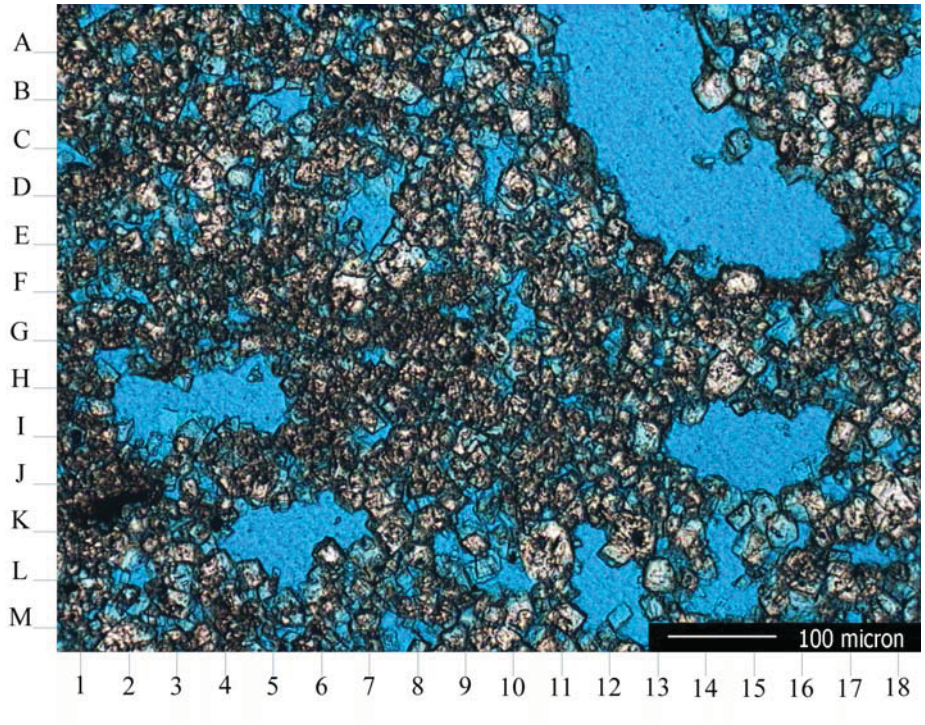
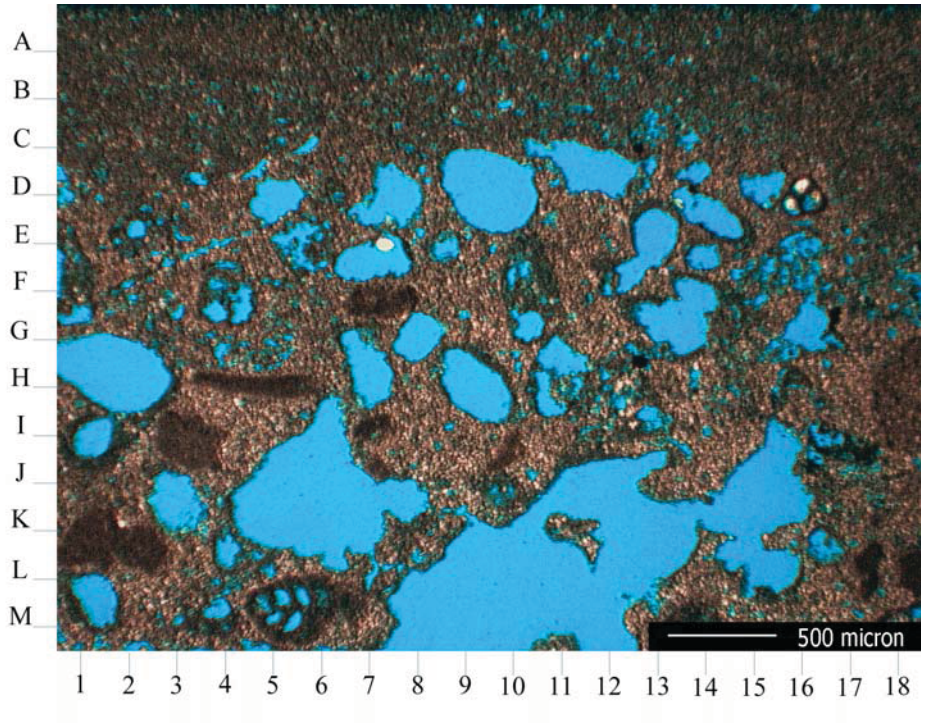


Plate 11B - HIgh magnification view displaying intercrystalline porosity including micropore space (blue, H-10) augmented by secondary dissolution pores created by leaching of chemically unstable grains (blue, B-13). The rock retains some interparticle porosity.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 12A



Company: S&ME, Inc.
Location A20/SC-19
Depth (Ft): 217.45-218.25
Sample No.: G1346-012

Thin Section Description

Plate 12A - Low magnification view of a finely crystalline dolostone with an original packstone/ wackestone texture. The rock consists of originally micritized and later dolomitized intraclasts (I-3), foraminiferal tests (M-5) and peloids. Interparticle space is filled by a mixture of dolomitized lime mud and small amounts of calcite cement. Finely crystalline dolomite cement occurs as a lining of large secondary pores created by leaching of chemically unstable allochemical grains (blue, H-2, D-9, H-8).

Plate 12B

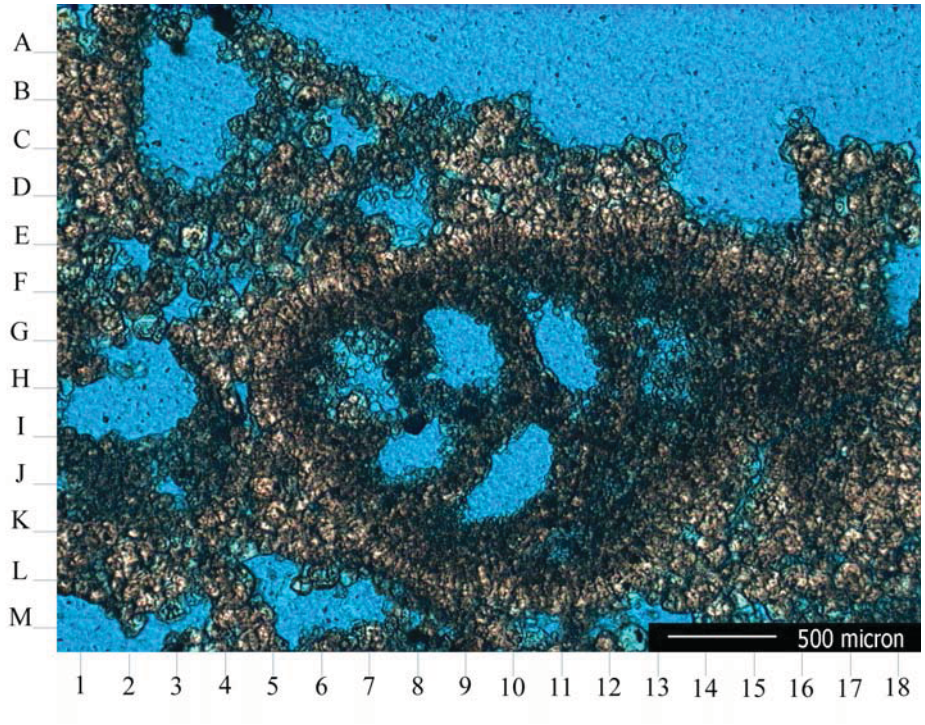
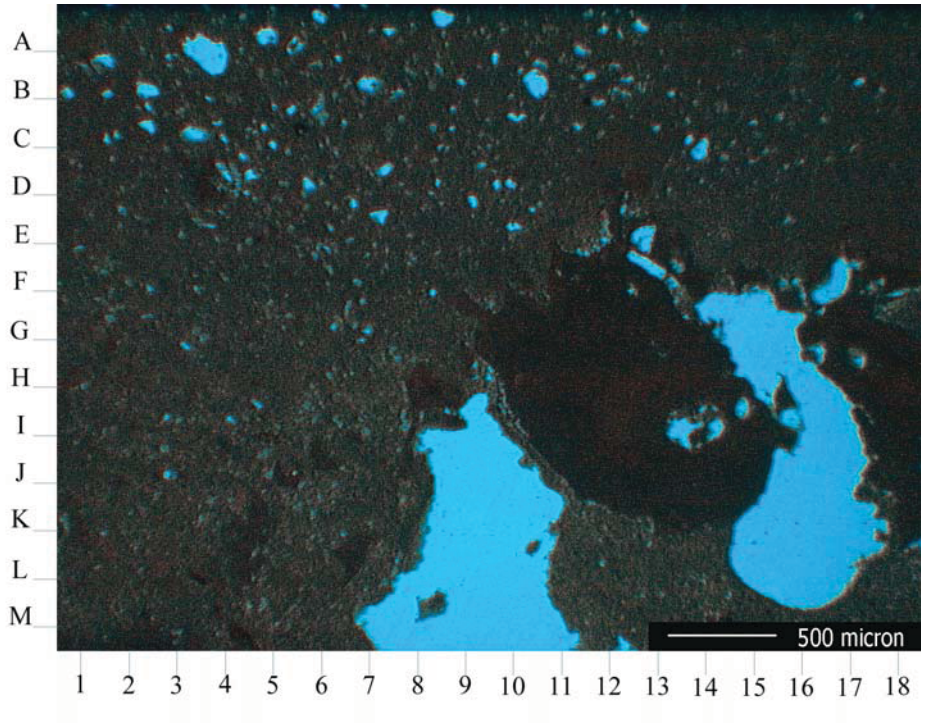


Plate 12B - High magnification view illustrating development of intrabiotic/chamber porosity within altered biserial foraminiferal tests (G-9). Note grain rimming dolomite cement (D-10).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 13A



Company: S&ME, Inc.
Location AD1/SC-1
Depth (Ft): 294.0-294.91
Sample No.: G1346-013

Thin Section Description

Plate 13A - Low magnification view of a very finely crystalline, dolomitized wackestone. The rock consists of a very finely crystalline dolomite groundmass that has replaced what was originally micritic lime mud (G-5, J-5). The rock contains small quantities of dolomitized peloids, intraclasts and foraminiferal tests. Some replacement of the rock matrix by pyrite is observed. Note development of isolated secondary pores (blue) created by leaching of chemically unstable allochemical grains (A-4, B-10).

Plate 13B

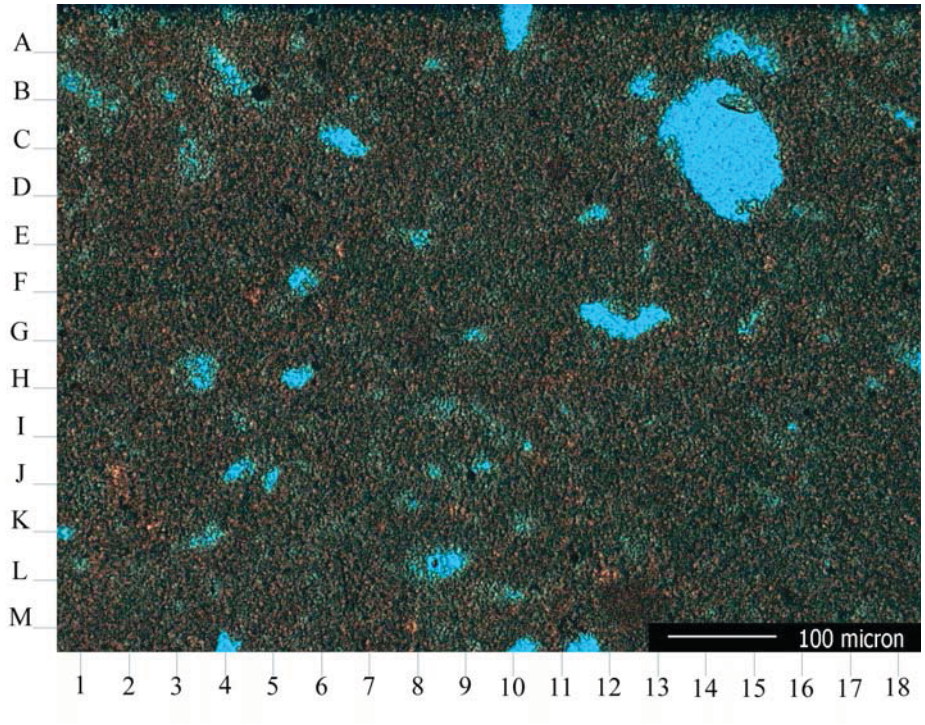
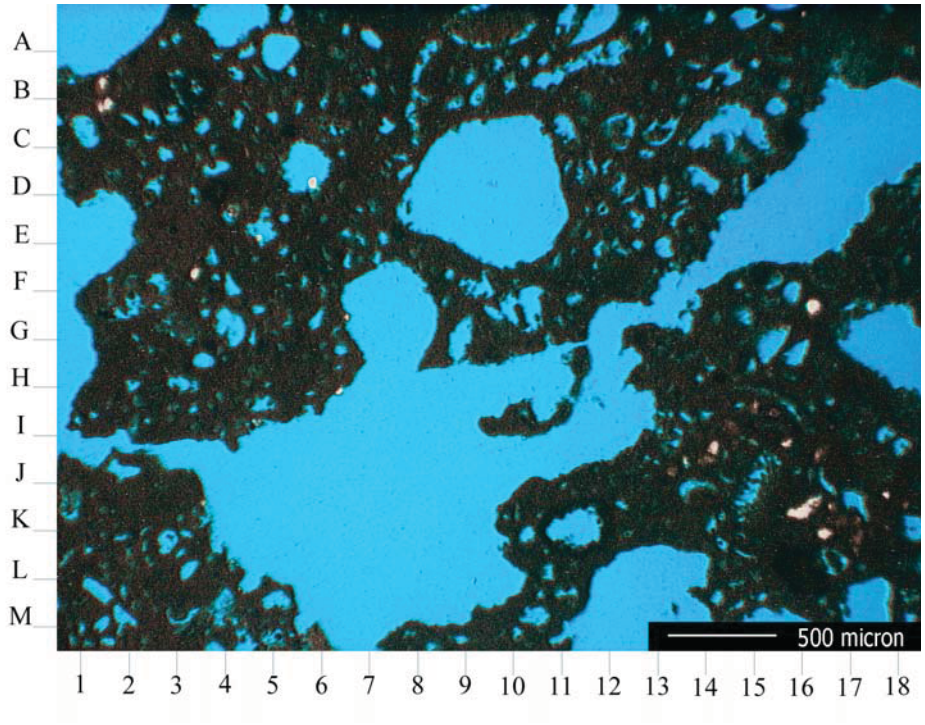


Plate 13B - High magnification view illustrating the dense nature of the very finely crystalline rock groundmass (dark brown). Note development of isolated secondary pores created by leaching of chemically unstable allochemical grains (blue). The rock has low permeability due to the poorly interconnected nature of porosity.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 14A



Company: S&ME, Inc.
Location AD3/SC-3
Depth (Ft): 387.8-388.8
Sample No.: G1346-014

Thin Section Description

Plate 14A - Low magnification view of a very finely crystalline dolomitized wackestone to packstone. The rock contains small amounts of dolomitized peloids, intraclasts and foraminifera in a groundmass of dolomitized micritic mud. The very finely crystalline nature of the rock groundmass results in very poor development of intercrystalline porosity. The rock is characterized by development of large secondary dissolution voids (blue, C-6, G-4, K-11). Scattered voids are filled by calcite cement (pink). While porous, the rock has low permeability.

Plate 14B

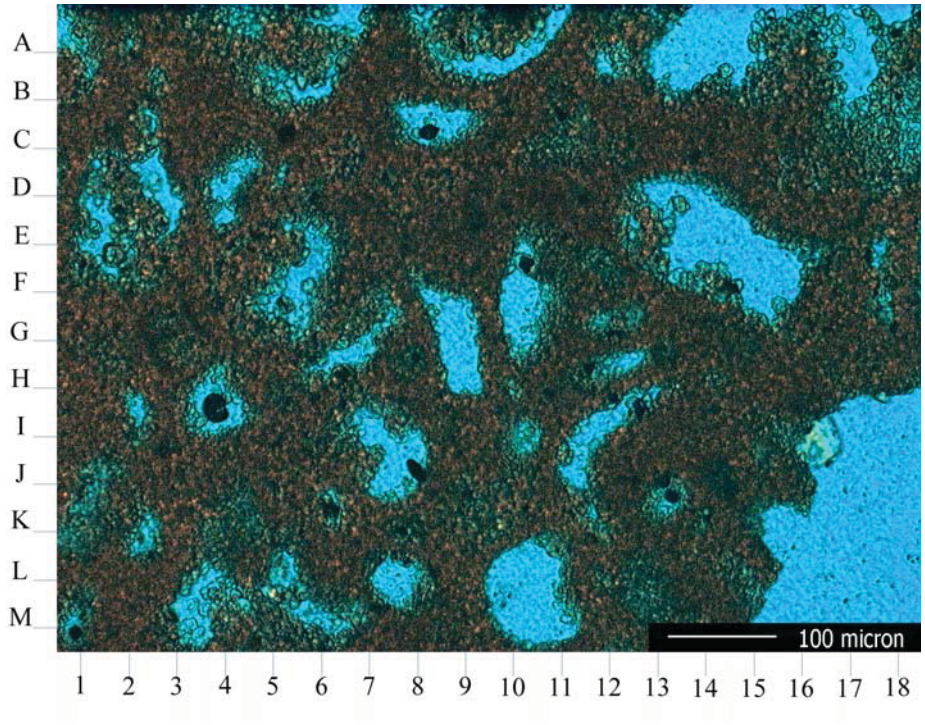
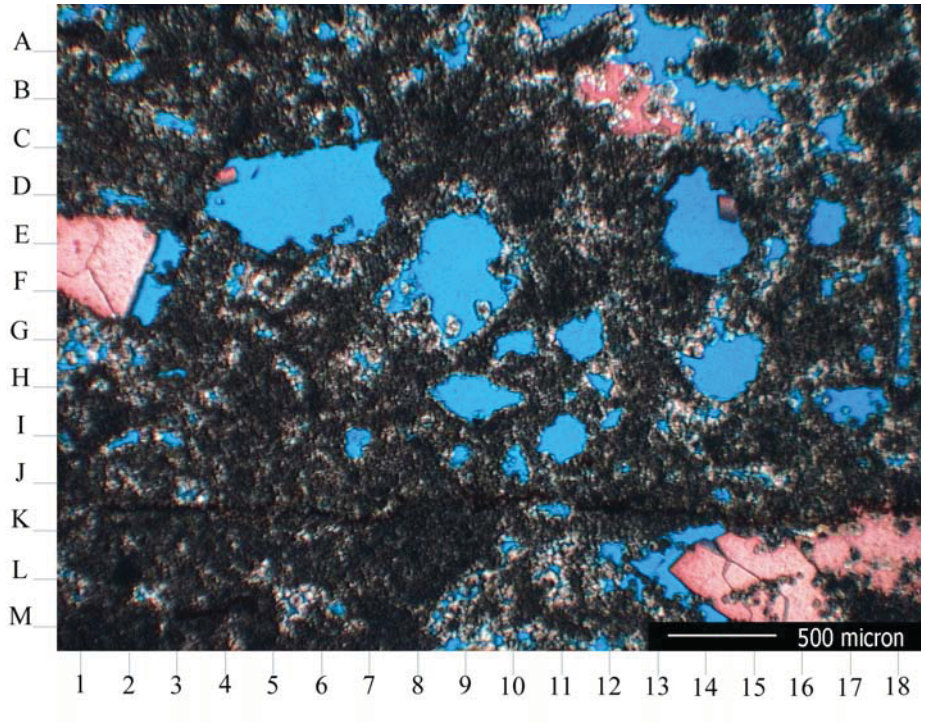


Plate 14B - High magnification view illustrating the relatively dense nature of the rock groundmass. Note the very finely crystalline nature of the dolomite (brown, D-9). Isolated secondary pores (blue, L-10) exist within the matrix where chemically unstable allochemical grains have been leached.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 15A



Company: S&ME, Inc.
Location AD3/SC-6
Depth (Ft): 492.2-493.15
Sample No.: G1346-015

Thin Section Description

Plate 15A - Low magnification view of a finely crystalline, dolomitized packstone/wackestone. The very fine crystal size of replacement dolomite is indicative of near syndepositional dolomitization. The rock matrix of dolomitized lime mud supports scattered peloids. Peloids and lime mud appear dark brown in this photomicrograph. Scattered secondary dissolution voids (blue) are lined by growths of dolomite cement (lighter gold areas). Scattered pores are also filled by blocky, late-stage calcite cement (pink). While porous, the rock has low permeability.

Plate 15B

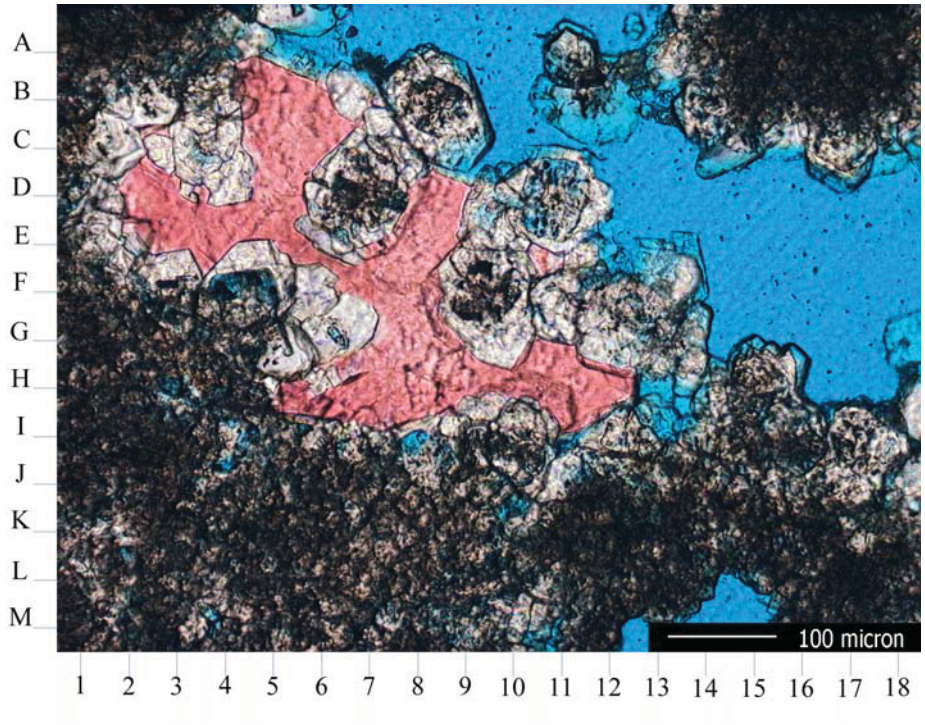
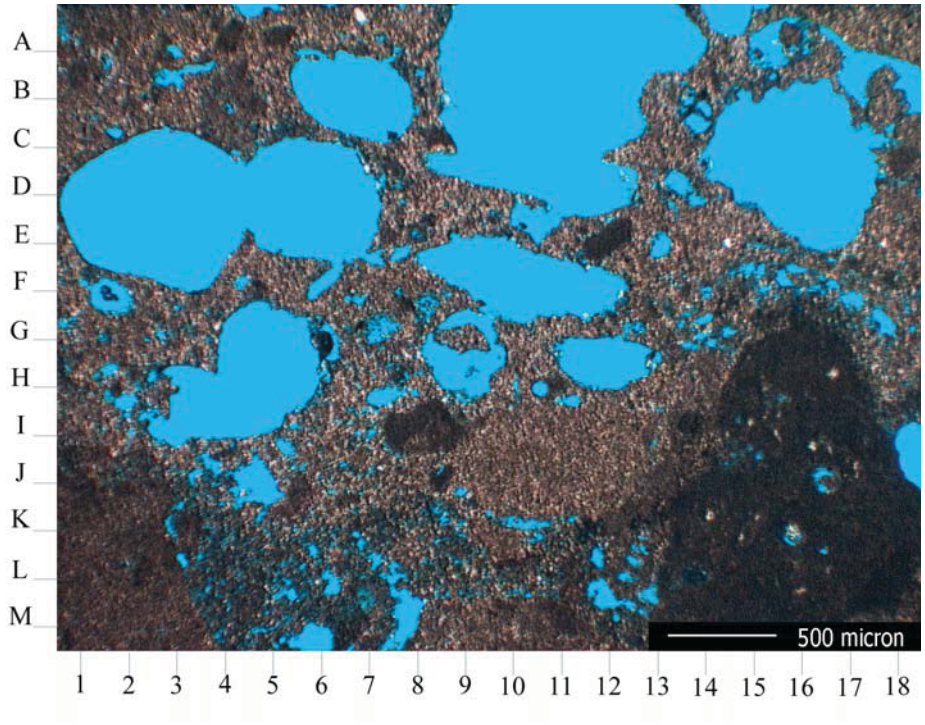


Plate 15B - High magnification view illustrating the finely crystallized nature of the rock groundmass consisting of dolomitized peloids and dolomitized lime mud (K-6). Void space (blue) is largely of secondary dissolution origin and is partially filled by secondary dolomite (light gold, C-2, C-3). Some dolomite cement crystals are zoned and have experienced partial dissolution of chemically unstable pores (blue, D-11). Pore interiors are filled by blocky calcite (pink).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

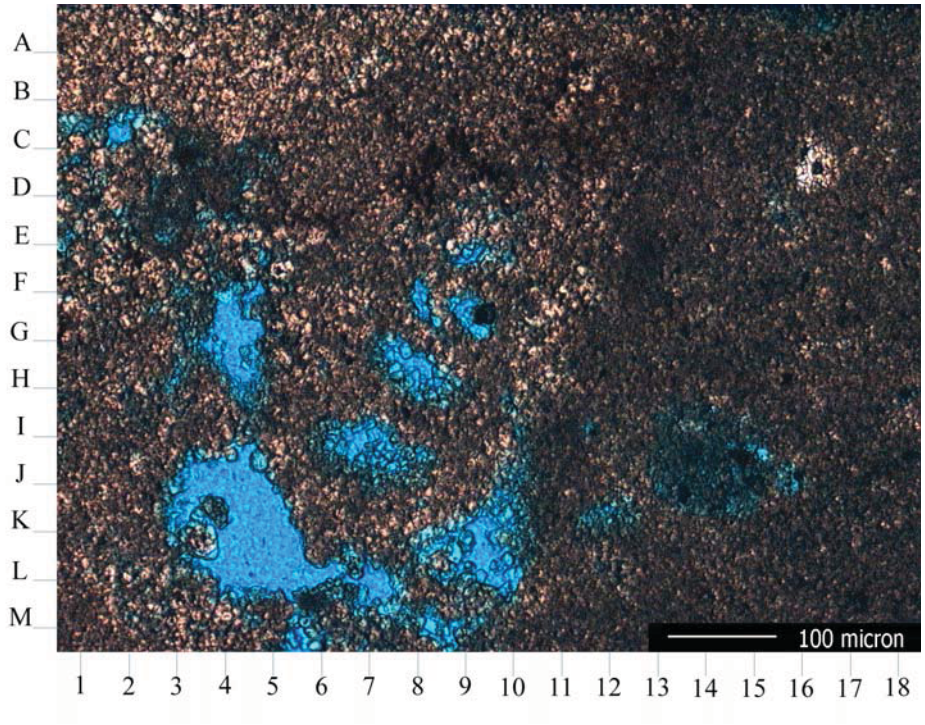
THIN SECTION ANALYSIS

Plate 16A



Company: S&ME, Inc.
Location AD4/SC-1
Depth (Ft): 214.0-214.8
Sample No.: G1346-016

Plate 16B



Thin Section Description

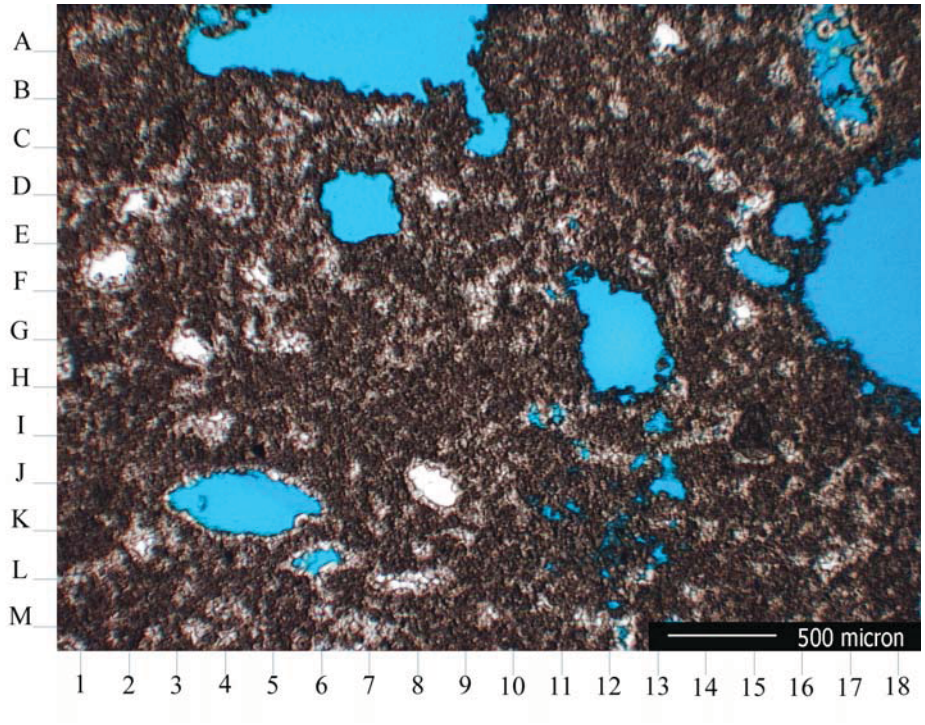
Plate 16A - Low magnification view of a very finely crystalline, dolomitized wackestone. The very fine crystal size of dolomite replacement is indicative of syndepositional dolomitization. The rock originally consisted of a lime mud groundmass supporting scattered forams (L-13), peloids and intraclasts. All micritic grains were dolomitized very soon after deposition and mineralogically stabilized. Chemically unstable allochemical grains were leached from the sample (blue, D-3, B-7). Dissolution pores are very large and very poorly interconnected resulting in high storage volume but low permeability.

Plate 16B - High magnification view illustrating the finely crystalline nature of the dolomite rock groundmass. Some micropore space exists within the dolomitized matrix (K-12). Intrabiotic chamber (blue, I-7, G-8) and secondary porosity exist in the sample.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 17A



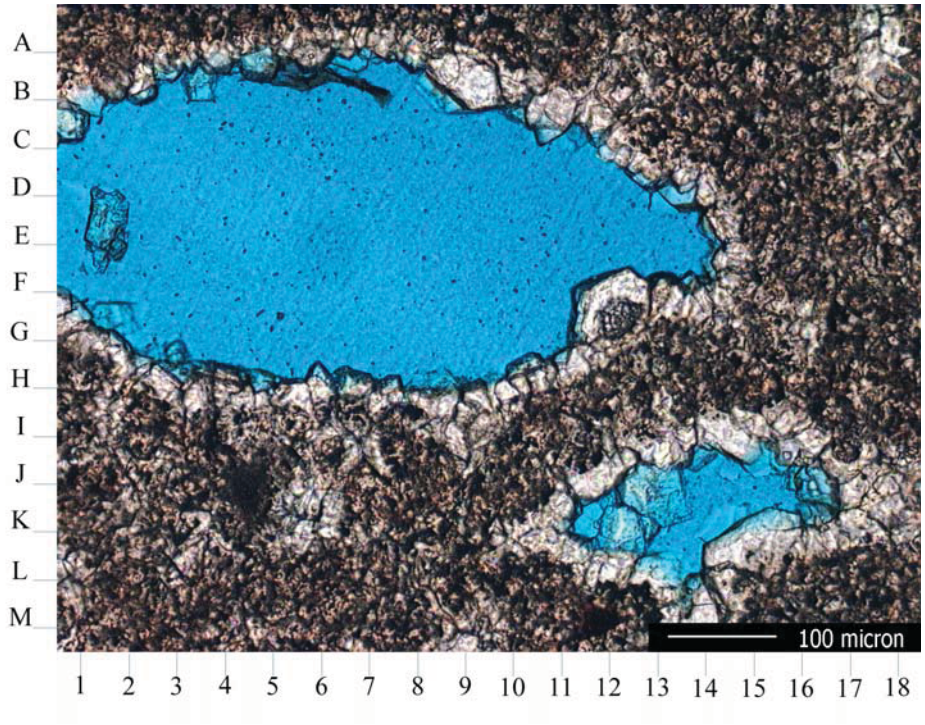
Company: S&ME, Inc.
Location AD1/SC-7
Depth (Ft): 470.85-472.15
Sample No.: G1346-017

Thin Section Description

Plate 17A - Low magnification view of a finely crystalline dolostone. The rock originally had a wackestone/packstone texture. The rock matrix originally consisted of micritic lime mud and peloids. Micritized grains and matrix were replaced by very finely crystalline dolomite. The very fine crystal size of dolomite may indicate a syndepositional replacement. Solution voids and interparticle pores were filled by dolomite cement (light gold, F-10). Scattered large secondary pores (blue, J-4, G-13) are partially filled by dolomite cement (light gold rims on pore interiors, J-5). The isolated nature of porosity results in high storage volume but low permeability.

Plate 17B - High magnification view illustrating the very finely crystalline nature of the dolomitized rock groundmass (L-6). Note the lack of intercrystalline or interparticle porosity. The bulk of the porosity is of secondary dissolution origin (D-6, K-14). Pores are lined by dolomite cement (light gold, B-2, A-9). While porous, the rock has low permeability due to the isolated nature of porosity.

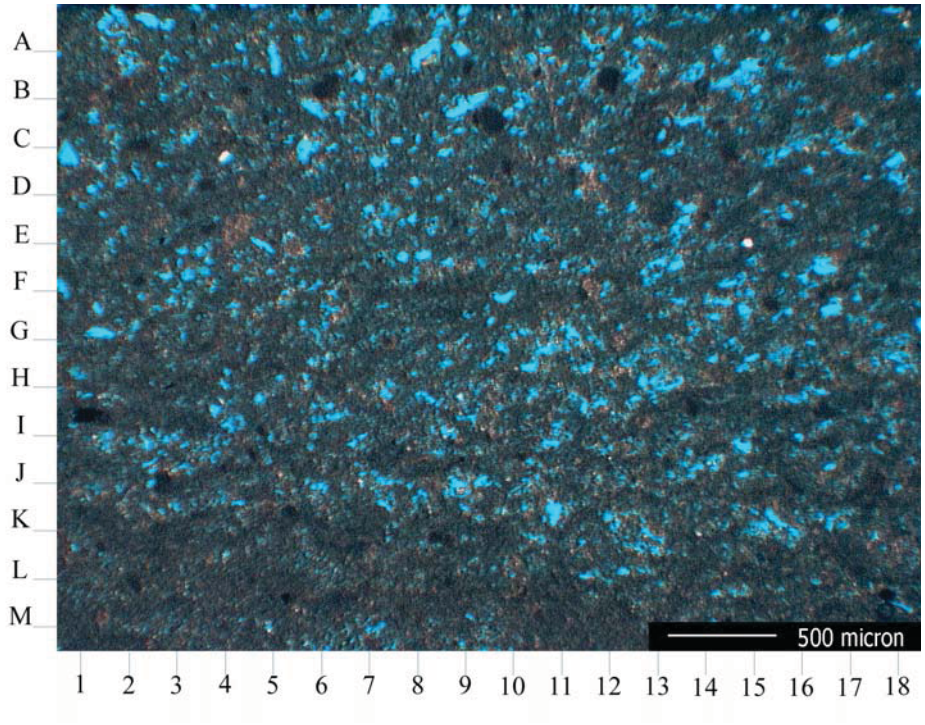
Plate 17B



Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 18A



Company: S&ME, Inc.
Location AD2/SC-1
Depth (Ft): 217.8-218.9
Sample No.: G1346-018

Thin Section Description

Plate 18A - Low magnification view of a very finely crystalline dolostone. The rock has a packstone/ wackestone texture and consists of a dolomitized matrix (dark brown) with remnant interparticle and secondary dissolution moldic pore space (blue). Microporosity exists within the dolomitized matrix.

Plate 18B

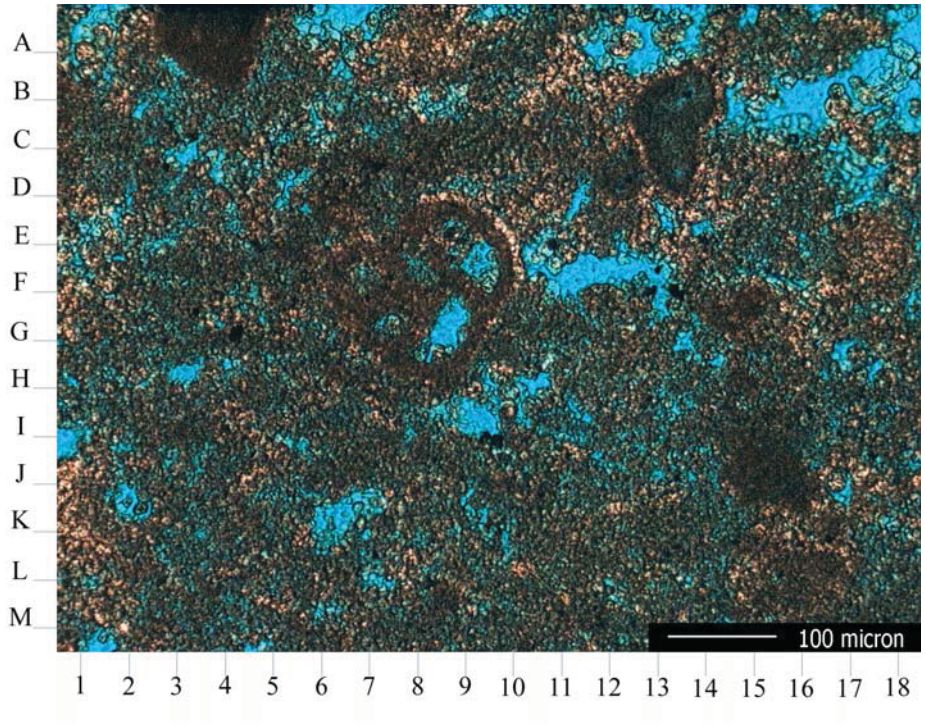
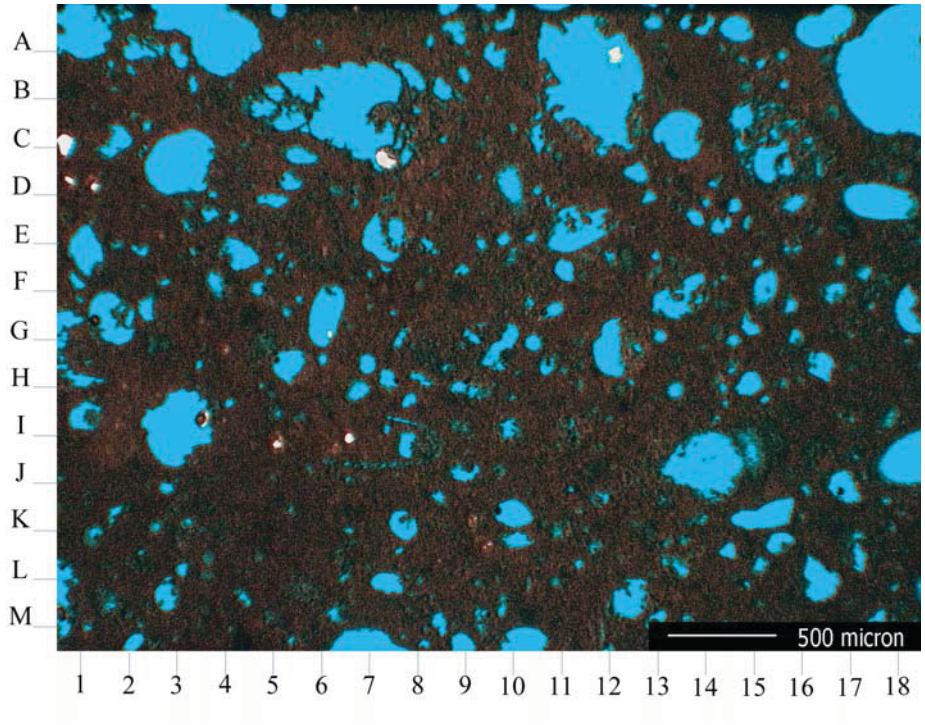


Plate 18B - High magnification view illustrating the very finely crystalline nature of the rock groundmass. The rock consists of micritic lime mud supporting scattered, very finely crystalline, recrystallized peloids and foraminiferal grains (F-8). Intergranular pore space exists (H-9). The rock is also characterized by intrabiotic porosity (G-8). Some intergranular and secondary pore space is lined by dolomite cement (B-12).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 19A



Company: S&ME, Inc.
Location AD2/SC-7
Depth (Ft): 367.3-368.3
Sample No.: G1346-019

Thin Section Description

Plate 19A - Low magnification view of a very finely crystalline dolostone. The rock has a wackestone texture and consists of dolomitized lime mud (dark brown), peloids and foraminiferal grains. The bulk of the porosity is secondary dissolution porosity created by leaching of chemically unstable grains (blue, I-3, J-14). Microporosity exists within the rock matrix.

Plate 19B

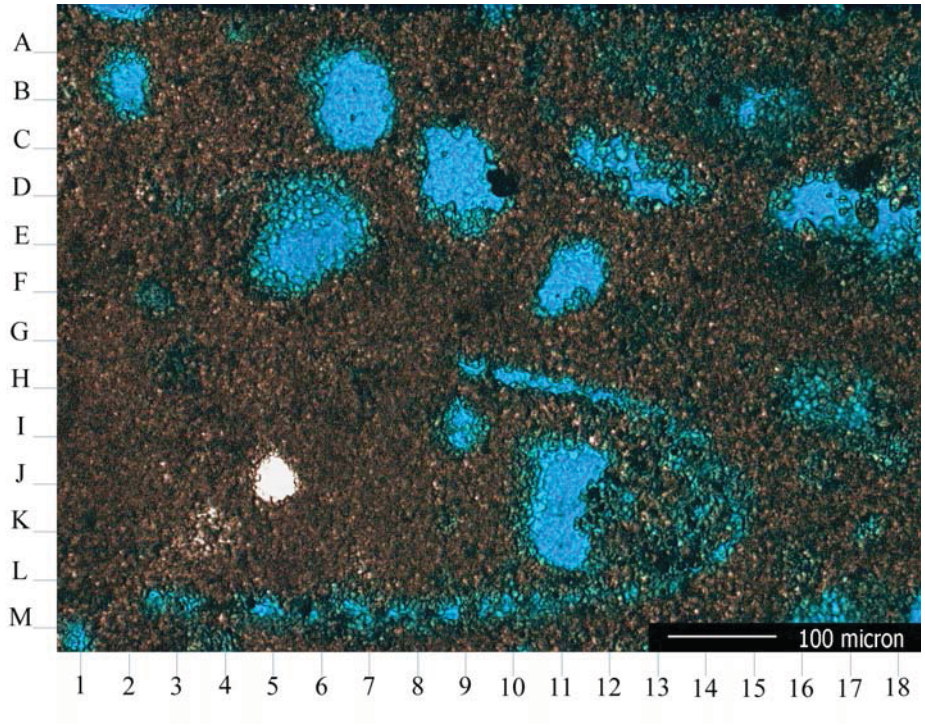
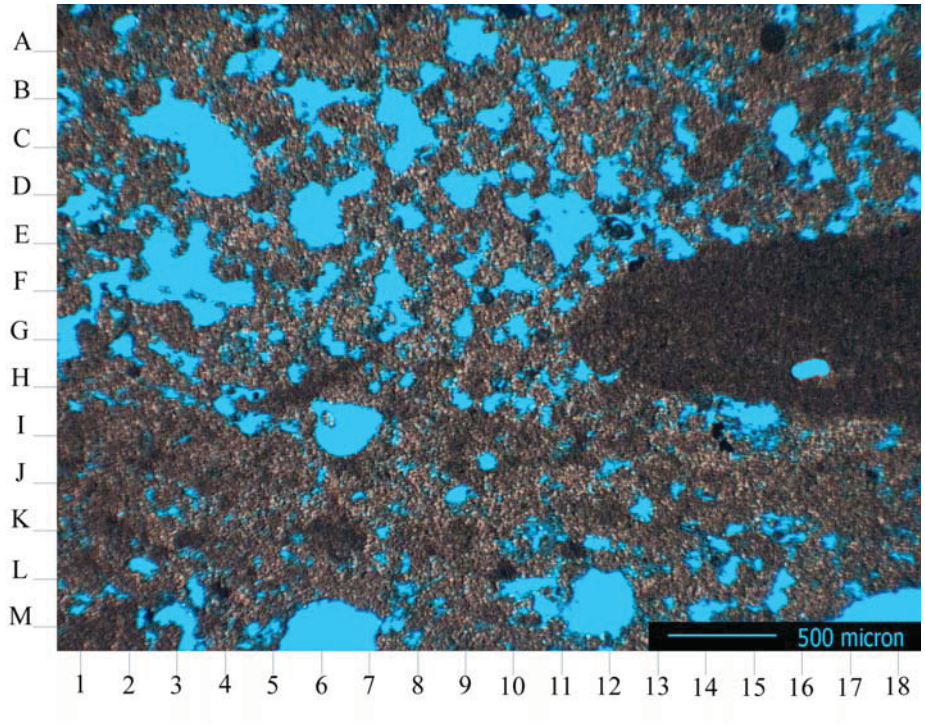


Plate 19B - High magnification view illustrating the very finely crystalline nature of the rock groundmass. The very fine crystal size of the replacement dolomite is indicative of syndepositional dolomitization. Note the creation of shell moldic and grain moldic pores by dissolution of chemically unstable allochemical grains (blue). While the rock has high porosity, permeability is low due to lack of pore interconnection.

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

THIN SECTION ANALYSIS

Plate 20A



Company: S&ME, Inc.
Location AD4/SC-3
Depth (Ft): 237.2-238.0
Sample No.: G1346-020

Thin Section Description

Plate 20A - Low magnification view of a finely crystalline, dolomitized packstone/wackestone. Very fine crystal size is indicative of near syndepositional replacement by dolomite. Dolomite replaced allochemical grains consisting of peloids (K-6) and intraclasts (G-16) as well as matrix. Note well developed secondary dissolution porosity (C-4, I-7, M-6).

Plate 20B

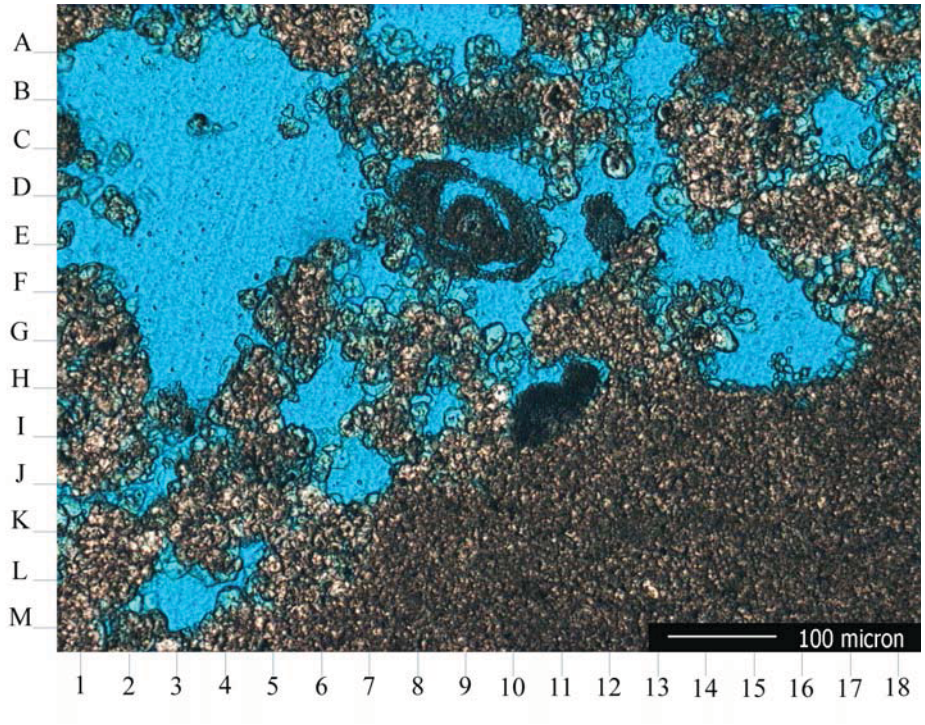


Plate 20B - High magnification view illustrating the very fine dolomite crystal size within the rock matrix as well as dolomitization of a foraminiferal test. Note large and extensively developed dissolution pores (blue).

Note: All thin sections have been impregnated with blue epoxy resin. The blue areas are pores. Each sample has been stained with Alizarin Red "S". Calcite is red.

Results of X-Ray Analysis

Client:	**S & ME Inc.**	CTL Project No.:	**404654**
Project:	**Chemical Analysis**	CTL Proj. Mgr.:	**R. Stevenson**
		Analyst:	**S. Markovic**
Contact:	**John Pearson**	Approved:	**R. Stevenson**
Submitter:	**Jason Burgess**	Date Analyzed:	**December 28, 2007**
Date Received:	**December 19, 2007**	Date Reported:	**December 29, 2007**

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	07-020-001	07-020-001	07-020-001	07-020-001	07-020-001
	A7/SC-4	A7/SC-9	A7/SC-17	A8/SC-1	A8/SC-15
	91.7'-92.6'	124.8'-125.8'	170.15'-171.0'	69.40'-70.50'	155.05'-156.0'
	03/01/07	03/07/07	03/07/07	03/11/07	03/14/07
CTL Sample ID:	2016201	2016202	2016203	2016204	2016205
Analyte	Weight %	Weight %	Weight %	Weight %	Weight %
SiO_2	0.58	0.28	0.12	0.14	0.21
Al_2O_3	0.22	0.08	0.07	0.08	0.11
Fe_2O_3	0.18	0.05	0.10	0.08	0.06
CaO	41.87	45.03	33.11	33.73	33.68
MgO	10.91	9.28	19.24	18.81	18.91
SO_3	0.43	0.29	0.51	0.53	0.40
Na_2O	0.05	0.02	0.04	0.05	0.01
K_2O	0.03	0.02	0.02	0.05	0.03
TiO_2	0.01	<0.01	<0.01	<0.01	0.01
P_2O_5	0.01	0.04	0.03	0.02	<0.01
Mn_2O_3	0.01	0.01	0.01	0.01	0.01
SrO	0.04	0.03	0.03	0.03	0.03
Cr_2O_3	<0.01	<0.01	<0.01	<0.01	<0.01
ZnO	<0.01	<0.01	<0.01	<0.01	<0.01
L.O.I. (950°C)[2]	45.28	45.33	47.01	46.96	47.00
Total	99.63	100.46	100.28	100.49	100.44
Alkalies as Na_2O	0.07	0.03	0.05	0.08	0.03
Calculated Compounds					
Ca as $CaCO_3$	74.73	80.36	59.09	60.20	60.10
Mg as $MgCO_3$	22.82	19.40	40.25	39.34	39.55
Calculated Carbonates as CO_2	44.77	45.46	46.99	47.01	47.07
L.O.I. / CO_2 Balance	1.01	1.00	1.00	1.00	1.00
Calculated Compounds - Mg as Dolomite					
Mg as $CaMg(CO_3)_2$	49.91	42.43	88.04	86.05	86.49
Residual Ca as $CaCO_3$	47.65	57.33	11.31	13.50	13.16

Notes:
1. This analysis represents specifically the sample submitted.
2. Sample results reported on an dry 105°C weight basis.
3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with $Li_2B_4O_7/LiBO_2$. (ASTM C 1271-99 (2006))
4. Elemental sulfur and sulfide sulfur may be lost during high temperature fusion.
5. This report may not be reproduced except in its entirety.

Client:	**S & ME Inc.**	CTL Project No.:	**404654**
Project:	**Chemical Analysis**	CTL Proj. Mgr.:	**R. Stevenson**
		Analyst:	**S. Markovic**
Contact:	**John Pearson**	Approved:	**R. Stevenson**
Submitter:	**Jason Burgess**	Date Analyzed:	**December 28, 2007**
Date Received:	**December 19, 2007**	Date Reported:	**December 29, 2007**

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	07-020-001	07-020-001	07-020-001	07-020-001	07-020-001
	A8/SC-25	A19/SC-1	A19/SC-11	A19/SC-26	A20/SC-2
	202.50'-203.50'	58.00'-59.30'	108.35'-109.80'	206.60'-207.65'	60.90'-61.95'
	03/20/07	03/23/07	03/24/07	3/25/07	04/24/07
CTL Sample ID:	2016206	2016207	2016208	2016209	2016210
Analyte	Weight %	Weight %	Weight %	Weight %	Weight %
SiO_2	0.12	0.38	0.18	2.07	0.18
Al_2O_3	0.08	0.18	0.10	0.07	0.10
Fe_2O_3	0.09	0.24	0.10	0.14	0.13
CaO	32.46	33.62	33.58	31.11	33.20
MgO	19.86	18.20	18.78	19.77	19.10
SO_3	0.51	0.86	0.52	0.55	0.62
Na_2O	0.06	0.08	0.05	0.04	0.08
K_2O	0.02	0.04	0.01	0.04	0.01
TiO_2	0.01	0.01	<0.01	0.01	0.01
P_2O_5	0.01	0.02	0.01	0.05	0.14
Mn_2O_3	0.01	0.01	0.01	0.01	0.01
SrO	0.03	0.03	0.03	0.03	0.03
Cr_2O_3	<0.01	<0.01	<0.01	<0.01	<0.01
ZnO	<0.01	<0.01	<0.01	<0.01	<0.01
L.O.I. (950°C)[2]	47.24	46.50	46.94	46.22	46.75
Total	100.50	100.16	100.29	100.11	100.36
Alkalies as Na_2O	0.07	0.11	0.05	0.07	0.09
Calculated Compounds					
Ca as $CaCO_3$	57.94	60.00	59.93	55.52	59.24
Mg as $MgCO_3$	41.55	38.06	39.28	41.36	39.95
Calculated Carbonates as CO_2	47.16	46.25	46.85	46.00	46.90
L.O.I. / CO_2 Balance	1.00	1.01	1.00	1.00	1.00
Calculated Compounds - Mg as Dolomite					
Mg as $CaMg(CO_3)_2$	90.87	83.24	85.90	90.45	87.37
Residual Ca as $CaCO_3$	8.62	14.82	13.31	6.42	11.82

Notes:
1. This analysis represents specifically the sample submitted.
2. Sample results reported on an dry 105°C weight basis.
3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with $Li_2B_4O_7/LiBO_2$. (ASTM C 1271-99 (2006))
4. Elemental sulfur and sulfide sulfur may be lost during high temperature fusion.
5. This report may not be reproduced except in its entirety.

Client:	**S & ME Inc.**	CTL Project No.:	**404654**
Project:	**Chemical Analysis**	CTL Proj. Mgr.:	**R. Stevenson**
		Analyst:	**S. Markovic**
Contact:	**John Pearson**	Approved:	**R. Stevenson**
Submitter:	**Jason Burgess**	Date Analyzed:	**December 28, 2007**
Date Received:	**December 19, 2007**	Date Reported:	**December 29, 2007**

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	07-020-001 A20/SC-8 113.65'-114.50' 4/25/07	07-020-001 A20/SC-19 217.45'-218.25' 04/25/07	07-044-001 AD1/SC-1 294.0'-294.91' 08/28/07	07-044-001 AD3/SC-3 387.8'-388.8' 08/22/07	07-044-001, AD3/SC-6 492.2'-493.15' 8/24/07
CTL Sample ID:	2016211	2016212	2016213	2016214	2016215
Analyte	Weight %	Weight %	Weight %	Weight %	Weight %
SiO_2	0.73	0.91	0.85	0.30	0.23
Al_2O_3	0.29	0.36	0.32	0.11	0.05
Fe_2O_3	0.18	0.22	0.15	0.06	0.02
CaO	32.92	31.54	30.26	30.93	33.76
MgO	18.83	19.93	20.71	21.19	18.83
SO_3	0.70	0.51	0.41	0.20	0.21
Na_2O	0.04	0.01	0.01	<0.01	<0.01
K_2O	0.03	0.04	0.09	0.02	0.01
TiO_2	0.01	0.02	0.02	0.01	<0.01
P_2O_5	0.04	0.01	0.01	<0.01	<0.01
Mn_2O_3	0.01	0.01	0.01	0.01	<0.01
SrO	0.03	0.02	0.02	0.02	0.02
Cr_2O_3	<0.01	<0.01	<0.01	<0.01	<0.01
ZnO	<0.01	<0.01	<0.01	<0.01	<0.01
L.O.I. (950°C)[2]	46.61	46.57	47.04	47.31	47.14
Total	100.41	100.15	99.90	100.15	100.28
Alkalies as Na_2O	0.06	0.04	0.07	0.02	0.01
Calculated Compounds					
Ca as $CaCO_3$	58.76	56.29	54.00	55.19	60.26
Mg as $MgCO_3$	39.38	41.70	43.33	44.32	39.39
Calculated Carbonates as CO_2	46.39	46.51	46.36	47.40	47.05
L.O.I. / CO_2 Balance	1.00	1.00	1.01	1.00	1.00
Calculated Compounds - Mg as Dolomite					
Mg as $CaMg(CO_3)_2$	86.13	91.19	94.76	96.94	86.14
Residual Ca as $CaCO_3$	12.01	6.80	2.57	2.58	13.51

Notes:
1. This analysis represents specifically the sample submitted.
2. Sample results reported on an dry 105°C weight basis.
3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with $Li_2B_4O_7/LiBO_2$. (ASTM C 1271-99 (2006))
4. Elemental sulfur and sulfide sulfur may be lost during high temperature fusion.
5. This report may not be reproduced except in its entirety.

Client:	**S & ME Inc.**	CTL Project No.:	**404654**
Project:	**Chemical Analysis**	CTL Proj. Mgr.:	**R. Stevenson**
		Analyst:	**S. Markovic**
Contact:	**John Pearson**	Approved:	**R. Stevenson**
Submitter:	**Jason Burgess**	Date Analyzed:	**December 28, 2007**
Date Received:	**December 19, 2007**	Date Reported:	**December 29, 2007**
		Date Revised:	**January 8, 2008**

REPORT OF CHEMICAL ANALYSIS

Client's Sample ID:	07-048-001 AD4/SC-1 214.0'-214.8' 09/06/07	07-048-001 AD1/SC-7 470.85'-472.15' 9/7/07	07-048-001 AD2/SC-1 217.8'-218.9' 9/8/07	07-048-001 AD2/SC-7 367.3'-368.3' 9/10/07	07-048-001 AD4/SC-3 237.2'-238.0' 9/6/07
CTL Sample ID:	2016216	2016217	2016218	2016219	2016220
Analyte	Weight %	Weight %	Weight %	Weight %	Weight %
SiO_2	0.24	0.39	1.26	0.24	0.16
Al_2O_3	0.13	0.09	0.47	0.09	0.10
Fe_2O_3	0.13	0.03	0.22	0.02	0.14
CaO	31.55	31.82	30.52	31.29	31.64
MgO	20.60	20.14	20.66	20.94	20.50
SO_3	0.41	0.36	0.46	0.17	0.43
Na_2O	<0.01	0.02	0.01	<0.01	0.02
K_2O	0.03	0.05	0.02	0.03	0.03
TiO_2	0.01	0.01	0.01	<0.01	0.01
P_2O_5	0.02	<0.01	0.01	0.01	0.01
Mn_2O_3	0.01	<0.01	0.01	0.01	0.01
SrO	0.02	0.02	0.02	0.02	0.02
Cr_2O_3	<0.01	<0.01	<0.01	<0.01	<0.01
ZnO	<0.01	<0.01	<0.01	<0.01	<0.01
L.O.I. (950°C)[2]	47.22	47.30	46.64	47.38	47.18
Total	100.38	100.23	100.32	100.20	100.25
Alkalies as Na_2O	0.02	0.05	0.02	0.02	0.04
Calculated Compounds					
Ca as $CaCO_3$	56.31	56.79	54.48	55.84	56.47
Mg as $MgCO_3$	43.10	42.13	43.21	43.80	42.88
Calculated Carbonates as CO_2	47.26	46.96	46.51	47.41	47.21
L.O.I. / CO_2 Balance	1.00	1.01	1.00	1.00	1.00
Calculated Compounds - Mg as Dolomite					
Mg as $CaMg(CO_3)_2$	94.26	92.14	94.50	95.79	93.78
Residual Ca as $CaCO_3$	5.16	6.78	3.19	3.85	5.57

Notes:
1. This analysis represents specifically the sample submitted.
2. Sample results reported on an dry 105°C weight basis.
3. Oxide analysis by X-ray fluorescence spectrometry. Samples fused at 1000°C with $Li_2B_4O_7/LiBO_2$. (ASTM C 1271-99 (2006))
4. Elemental sulfur and sulfide sulfur may be lost during high temperature fusion.
5. This report may not be reproduced except in its entirety.