Appendix II

Porosity and Permeability from Core Samples

Appendix II. Porosity and permeability from core samples

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability						
			Permeability steady state K_{air} (millidarcies)	Porosity (percent)	Grain density (gram per centimeter)	Maximum horizontal K_{air} (millidarcies)	Horizontal (90 × K_{air} (millidarcies)	Vertical K_{air} (millidarcies)	Helium porosity (percent)	Grain density (grams per centimeter)		
G-3672	20.5	HFC3b				750.0	280	0.20	13.5	2.75	Pedogenic limestone (root-mold limestone)	BFC: mid-cycle
G-3672	16	HFC5	0.69	27.4	2.68						Peloid grainstone and packstone	Subtidal cycle
G-3672	17	HFC5	96.3	33.9	2.68						Peloid grainstone and packstone	Subtidal cycle
G-3672	18.25-18.75	HFC5	175	37	2.66						Peloid grainstone and packstone	Subtidal cycle
G-3672	24.0	HFC3a	3,098	32.1	2.71						Laminated peloid grainstone and packstone	BFC cycle: mid-cycle Thin section
G-3673	17-17.5	HFC5	654	37.1	2.66						Peloid grainstone and packstone	Subtidal cycle
G-3673	20-20.75	HFC3b	1,699	19.1	2.7						Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3673	23.5-24	HFC3a	3,704	30.9	2.68						Laminated peloid grainstone and packstone	BFC cycle: mid-cycle
G-3673	24.5-25	HFC3a	80.6	14.6	2.71						Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3673	27.25-27.75	HFC3a	4,657	28.8	2.7						Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3673	30.75-31.25	HFC3a	9,443	20.6	2.69						Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3673	32-32.3	HFC3a	10.1	19.3	2.68						Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3673	46.5-47.25	HFC2	<.01	12.8	2.69						Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3673	51-51.5	HFC1?	34.3	37.3	2.68						Gastropod floatstone and rudstone	BFC cycle: cycle top
G-3674	18.0	HFC3a				2,428	1,582	0.05	21.0	2.70	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3674	4.25-5	HFC5	515	37.5	2.67						Peloid grainstone and packstone	Subtidal cycle
G-3674	15.5-16	HFC3b	5,222	27.4	2.69						Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3674	18.5-19	HFC3a	.01	20.8	2.7						Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3674	26.5-27	HFC2	5,011	19.6	2.7						Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface

Appendix II. Porosity and permeability from core samples (Continued)

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability						
			Permeability steady state K_{air} (millidarcies)	Porosity (percent)	Grain density (gram per centimeter)	Maximum horizontal K_{air} (millidarcies)	Horizontal (90 × K_{air} (millidarcies)	Vertical K_{air} (millidarcies)	Helium porosity (percent)	Grain density (grams per centimeter)		
G-3674	39.25-40	HFC1	77.6	12.3	2.7						Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding cycle
G-3674	49-49.75	HFC1	<.01	21.2	2.68						Sandy pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding cycle
G-3674	52.1	HFC1?/ HFC0?	2.19	18.1	2.69						Sandy skeletal grainstone and packstone	Subtidal cycle: mid-cycle
G-3674	83.5-84	Tamiami Formation	16,584	42.6	2.68						Touching-vug pelecypod floatstone and rudstone	Undefined cycle
G-3675	6.0	HFC4				9,080	2,054		34.7	2.70	Gastropod floatstone and rudstone	Subtidal cycle Too broken for permeability analyses
G-3675	8.0	HFC3b				856	847	.52	21.3	2.70	Mudstone and wackestone	BFC cycle: cycle top
G-3675	23.5	HFC2				.12	.06	<.01	11.3	2.69	Mudstone and wackestone	BFC cycle: cycle top
G-3675	4.25-4.5	HFC5	98.1	22	2.69						Peloid grainstone and packstone	Subtidal cycle
G-3675	4.5-5	HFC5	599	29.5	2.67						Peloid grainstone and packstone	Subtidal cycle
G-3675	9-9.5	HFC3b	112	21.4	2.7						Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3675	20.4	HFC2	<.01	6.6	2.68						Mudstone and wackestone	BFC cycle: cycle top
G-3675	24.5-25	HFC2	5,027	22.9	2.68						Sandy touching-vug pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3675	31.75-32	HFC2	<.01	12.5	2.7						Sandy skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3675	50.75-51	HFC2	1,688	27.8	2.68						Sandy pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3675	64.5-65	HFC1	<.01	17.7	2.69						Sandy skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3678	23.3 (23.2-23.5)	HFC3a				3,758	1,754	8,662	19.7	2.71	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface Thin section
G-3678	33.3	HFC1				2,244	997	18,223	16.1	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section

Appendix II. Porosity and permeability from core samples (Continued)

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability						
			Perme-ability steady state K_{air} (milli-darcies)	Porosity (percent)	Grain density (gram per centi-meter)	Maximum horizontal K_{air} (milli-darcies)	Horizontal (90 × K_{air} (milli-darcies)	Vertical K_{air} (milli-darcies)	Helium porosity (percent)	Grain density (grams per centi-meter)		
G-3679	14.6	HFC3b	8,818	46.6	2.71						Pedogenic limstone (root-mold limestone)	BFC cycle: mid-cycle Thin section
G-3679	15.6 (15.4-15.6)	HFC3a				3,410	1,101	14,000	20.9	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3679	28.3	HFC2	0.30	25.7	2.72						Skeletal grainstone and packstone	BFC cycle: mid-cycle Thin section
G-3679	36.7	HFC1				1,870	.54	13,498	20.7	2.71	Mudstone and wackestone	BFC cycle: mid-cycle
G-3681	15.6 (14.7-15.0)	HFC3b				20.1	2.56	.72	12.8	2.72	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3681	43.3	HFC2				.08	.05	.02	11.6	2.72	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3683	12.5 (13.0-13.2)	HFC4				13.8	2.56	11.3	16.7	2.72	Peloid wackestone and packstone	Subtidal cycle Thin section
G-3685	28.5	HFC2				10.6	.71	1,949	13.9	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3688	13.3 (12.1-12.3)	HFC3b				0.15	0.07	<.01	6.5	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3689	15.3 (14.2-14.4)	HFC4				950	337	.03	18.6	2.72	Conglomerate	Subtidal cycle Thin section
G-3689	28.5	HFC3a				19,323	19,323	15,112	25.8	2.72	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface Thin section
G-3690	11.7 (11.45-11.6)	HFC3b				202	20.8	235	10.2	2.73	Pedogenic limestone (massive calcrete and root-mold limestone)	BFC cycle: cycle top Thin section
G-3690	22.0	HFC2				670	638	711	13.8	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3691	22.3	HFC3a				6,501	4,332	7,474	32.4	2.71	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface Thin section
G-3692	10.8	HFC4	221.32	23.3	2.71						Coral framestone	Subtidal cycle Thin section
G-3694	16.0	HFC4				83.2	42.5	11.8	17.3	2.71	Peloid wackestone and packstone	Subtidal cycle Thin section
G-3695	15.5	HFC3b				.14	.11	.02	10.6	2.70	Pedogenic limestone (root-mold limestone)	BFC cycle: cycle top Thin section
G-3695	20.0	HFC3a				58.5	13.7	532	16.7	2.72	Mudstone and wackestone	BFC cycle: cycle top Thin section

Appendix II. Porosity and permeability from core samples (Continued)

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability						
			Permeability steady state K_{air} (millidarcies)	Porosity (percent)	Grain density (gram per centimeter)	Maximum horizontal K_{air} (millidarcies)	Horizontal (90 × K_{air} (millidarcies)	Vertical K_{air} (millidarcies)	Helium porosity (percent)	Grain density (grams per centimeter)		
G-3696	19.0	HFC4				1,035	680	5,624	12.5	2.71	Conglomerate	Subtidal cycle Thin section
G-3696	19.5	HFC3b				355	291	.12	13.9	2.71	Mudstone and wackestone	BFC cycle: cycle top Thin section
G-3697	12.9	HFC4				.67	.50	.18	18.9	2.72	Quartz sandstone and skeletal sandstone	Subtidal cycle Thin section
G-3697	13.0	HFC4				18.2	.05	.02	8.3	2.72	Conglomerate	Subtidal cycle Thin section
G-3697	27.5	HFC2				.45	.40	.16	23.2	2.72	Skeletal grainstone and packstone	BFC cycle: mid-cycle Thin section
G-3710	19.25	HFC3a				11,227	11,227	12,900	22.6	2.72	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3710	24.33	HFC3a				1,315	998	9,754	14.7	2.71	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3710	26.3	HFC3a	34,400	35.2	2.72						Touching-vug pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface Thin section
G-3710	30.33	HFC2				4,754	1,357	92.5	33.7	2.72	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3711	4	HFC5				25,764	12,875	13,372	46.7	2.69	Peloid grainstone and packstone	Subtidal cycle
G-3711	27.33	HFC3a				1,031	1,007	6.18	25.9	2.71	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3712	6.21	HFC5				TBFA	TBFA	14,159	47.8	2.70	Peloid grainstone and packstone	Subtidal cycle
G-3713	9.28	HFC4				2,204	1,835	922	27.3	2.70	Peloid wackestone and packstone	Subtidal cycle
G-3713	23.75	HFC3a				31,148	29,419	8,171	32.3	2.72	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding cycle
G-3713	25.5	HFC3a				27.5	.18	840	16.0	2.71	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3714	9.46	HFC5				TBFA	TBFA	9,494	49.3	2.67	Peloid grainstone and packstone	Subtidal cycle
G-3714	18.83	HFC3a				13,356	11,685	11,642	36.6	2.71	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3715	16.88	HFC3a				2,606	1,968	2,226	31.1	2.71	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3717	11.75	HFC4				7,017	4,302	248	11.0	2.69	Peloid wackestone and packstone	Subtidal cycle

Appendix II. Porosity and permeability from core samples (Continued)

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability						
			Permeability steady state K_{air} (millidarcies)	Porosity (percent)	Grain density (gram per centimeter)	Maximum horizontal K_{air} (millidarcies)	Horizontal (90 × K_{air} (millidarcies)	Vertical K_{air} (millidarcies)	Helium porosity (percent)	Grain density (grams per centimeter)		
G-3717	20.29	HFC3a				20,592	18,303	13,217	23.4	2.71	Mudstone and wackestone	BFC cycle: cycle top
G-3717	21.25	HFC3a				16.3	10.5	92.3	20.3	2.70	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3717	23.58	HFC3a				8,458	4,229	12,213	21.8	2.70	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3718	24.4	HFC2	9.49	24.1	2.72						Skeletal grainstone and packstone	BFC cycle: cycle top Thin section
G-3718	24.38	HFC2				47.0	11.3	179	24.3	2.70	Pedogenic limestone	BFC cycle: cycle top
G-3719	5.83	HFC5				2,035	1,775	4,515	38.8	2.72	Peloidal grainstone and packstone	Subtidal cycle
G-3719	8.75	HFC3b				4.10	.12	4.13	10.4	2.71	Mudstone and wackestone	BFC cycle: cycle top
G-3719	14.57	HFC3a				8,067	6,054	8,532	34.8	2.72	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3720	18.71	HFC3a				16,478	16,478	11,878	38.0	2.73	Touching-vug pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3720	22	HFC2				7.33	.61	10,875	17.0	2.71	Pedogenic limestone	BFC cycle: cycle top
G-3721	9.75	HFC4				82.5	21.1	10.6	16.4	2.70	Peloid wackestone and packstone	Subtidal cycle
G-3721	20.5	HFC2				.14	.04	.62	20.5	2.81	Pedogenic limestone	BFC cycle: cycle top
G-3722	15.62	HFC3a				1,867	1,787	2,273	37.1	2.65	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3722	17.33	HFC3a				5,263	4,426	7,190	41.7	2.72	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3722	29.42	HFC2				9,580	6,385	9,704	25.2	2.70	Vuggy wackestone and packstone	BFC cycle: lower cycle above flooding surface
G-3724	9.67	HFC3b				673	597	404	12.6	2.69	Pedogenic limestone (root-mold limestone)	BFC cycle: cycle top
G-3724	14.08	HFC3a				18,308	7,891	5,100	44.6	2.72	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3725	9.92	HFC4				6,964	3,731	758	14.8	2.69	Peloid wackestone and packstone	Subtidal cycle
G-3725	18.83	HFC3b				12,191	8,125	6,354	41.1	2.72	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3727	23.29	HFC2				.19	.14	.01	15.2	2.71	Pedogenic limestone	BFC cycle: cycle top
G-3728	9	HFC3b				1,200	1,200	607	20.5	2.70	Pedogenic limestone (root-mold limestone)	BFC cycle: cycle top

Appendix II. Porosity and permeability from core samples (Continued)

[Well locations are shown in figure 2; BFC, upward-shallowing brackish- or freshwater-capped cycle]

Local well identifier	Depth (feet)[1]	High-frequency cycle or formation	Core plug			Whole core					Rock-fabric facies	Comments
						Permeability			Helium porosity (percent)	Grain density (grams per centimeter)		
			Permeability steady state K_{air} (millidarcies)	Porosity (percent)	Grain density (gram per centimeter)	Maximum horizontal K_{air} (millidarcies)	Horizontal (90 × K_{air} (millidarcies)	Vertical K_{air} (millidarcies)				
G-3729	24.12	HFC2				4.51	1.03	570	21.8	2.71	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3730	9	HFC4				1,319	47.3	262	13.7	2.68	Peloid wackestone and packstone	Subtidal cycle
G-3730	21.58	HFC3a				8,452	6,500	15,894	15.5	2.70	Gastropod floatstone and rudstone	BFC cycle: cycle base below flooding surface
G-3731	9.67	HFC4				144	.03	201	5.9	2.69	Subtidal cycle	Subtidal cycle
G-3731	11.75	HFC3b				2,595	1,842	1,839	31.0	2.71	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3731	30.71	HFC2				7.23	.53	10,038	18.2	2.72	Skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3731	39.08	HFC1				3,530	1,463	13,050	20.4	2.71	Pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface
G-3732	39.5	HFC1?	194.3	10.8	2.71						Sandy pelecypod floatstone and rudstone	BFC cycle: lower cycle above flooding surface Thin section
G-3732	25.5	HFC2				28.7	22.9	206	11.5	2.71	Pedogenic limestone	BFC cycle: cycle top
G-3732	42.4-42.7	HFC1?						13,362	34.8	2.68	Sandy pelecypod floatstone and rudstone	Subtidal cycle: lower cycle above flooding surface
G-3732	44.0	HFC1?	165.3	16.2	2.71						Quartz sandstone and skeletal sandstone	Subtidal cycle: cycle top Thin section
G-3734	9.13	HFC3b				15.5	10.9	20.2	13.1	2.70	Sandy skeletal grainstone and packstone	BFC cycle: mid-cycle
G-3734	24	HFC2				667	332	17,567	23.4	2.72	Sandy skeletal grainstone and packstone	Subtidal cycle: cycle top

[1]Driller's depth in feet below land surface