



Appendix

Block name	A, acres	h_n , ft	φ_e	S_{wi}	B_{gi}	B_{oi}	CO ₂ den, lb/ cf	$E_{oil/gas}$	MCO ₂ (gas), lb	MCO ₂ (oil), lb
SS028	854	11.9	0.31	0.25	0.0046	0	42.45	0.85	10,483.04	-
	194	8	0.27	0.16	0.0045	0	43.7	0.82	2,450,217.98	-
	140	4.3	0.27	0.28	0.0045	0	44.32	0.86	865,687.06	-
	140	22.5	0.23	0.48	0.0042	0	45.57	0.6	1,869,289.40	-
	369	12.1	0.29	0.49	0.0043	0	45.86	0.69	3,922,221.26	-
	941	14.9	0.29	0.47	0.0043	0	45.89	0.37	6,866,554.50	-
	298	12	0.28	0.35	0.0041	0	46.12	0.7	3,738,055.32	-
	642	16.7	0.28	0.33	0.0041	0	44.95	0.98	15,983,642.75	-
	536	18.4	0.27	0.4	0.004	0	44.97	0.17	2,178,626.54	-
	524	20.4	0.27	0.5	0.004	0	43.7	0.2	2,240,263.02	-
	251	13.2	0.27	0.37	0.004	0	43.6	1.03	4,454,074.88	-
	180	32.5	0.31	0.28	0.0079	0	33.71	0.64	9,710,644.61	-
60	6.3	0.25	0.22	0.0068	0	34.96	0.78	591,261.53	-	
Total									54,881,021.89	-
SS032	40	30.2	0.26	0.28	0	1.069	19.98	0.69	-	25,758,403.15
	73	23.8	0.36	0.31	0	1.044	15.61	0.67	-	36,515,034.20
	19	29.2	0.3	0.4	0	1.054	14.82	0.23	-	2,739,428.44
	54	16.4	0.3	0.4	0	1.089	29.97	0.07	-	2,905,422.09
	110	21.6	0.3	0.4	0	1.112	28.09	0.01	-	690,549.98
	40	10	0.36	0.35	0	1.139	38.08	0.07	-	2,316,236.23
	278	23.9	0.25	0.37	0.0036	1.561	49.94	0.05	386,765.25	30,214,720.05
	242	21.6	0.27	0.23	0.0039	1.284	46.82	0.7	5,959,137.03	352,947,462.47
	42	28.1	0.25	0.2	0	1.497	47.44	0.01	-	717,579.15
	75	56.6	0.22	0.16	0.0037	0	48.69	0	3,148.26	-
56	36.8	0.23	0.24	0.0037	0	48.69	0.12	335,179.35	-	
Total									6,684,229.88	454,804,835.78
SS037	140	12	0.28	0.28	0.0049	0	42.45	0.83	2,554,792.49	-
	140	37	0.28	0.22	0.0049	0	43.08	0.92	9,549,842.13	-
	40	10	0.28	0.27	0	1.343	44.12	0.85	-	31,933,388.15
	147	13.1	0.33	0.18	0.0046	0	42.76	0.33	1,443,293.09	-
	71	7.9	0.23	0.55	0.0047	0	43.7	1.03	530,376.42	-
Total									14,078,304.14	31,933,388.15
SS056	264	11.7	0.3	0.25	0.0072	0	37.46	0.72	5,908,312.09	-
Total									5,908,312.09	-

SS058	138	20	0.28	0.2	0.0071	0	39.33	0.68	5,089,232.31	-
	322	16.6	0.28	0.28	0.0039	1.452	52.44	0.6	5,746,693.48	380,440,303.38
	208	14.3	0.28	0.28	0	1.37	47.44	0.43	-	131,231,291.32
	140	11.4	0.34	0.28	0.0081	0	21.23	0.5	1,447,165.27	-
	214	16.6	0.3	0.2	0.004	0	33.3	0.85	4,159,807.94	-
	43	10.3	0.3	0.23	0	1.443	33.24	0.14	-	5,360,416.54
Total									16,442,899.01	517,032,011.25
SS072	170	4.6	0.28	0.3	0.0085	0	33.22	0.24	445,781.85	-
	392	38.1	0.32	0.32	0.0074	0	33.85	0.51	18,080,390.02	-
	30	2	0.36	0.41	0.0058	0	33.13	0.06	6,509.08	-
	15	25	0.28	0.29	0.0057	0	33.08	0.41	251,290.49	-
	44	22.6	0.31	0.36	0	1.887	33.17	0.27	-	25,496,229.24
	81	6.4	0.27	0.24	0.0048	1.313	33.26	0.3	219,847.42	10,796,109.79
	341	25.1	0.3	0.26	0.0043	1.437	33.28	0.68	8,138,336.38	479,051,434.53
	161	22.3	0.22	0.23	0.0045	1.455	33.28	0.2	807,392.66	46,238,311.45
	231	20.2	0.3	0.25	0.0042	1.38	33.35	1.92	12,439,056.17	721,506,789.92
	340	20.9	0.27	0.21	0.0041	0	33.39	0.13	1,203,074.16	-
	304	19.3	0.3	0.25	0.0041	2.326	33.21	3.54	27,393,160.48	2,791,572,192.15
	464	45.5	0.29	0.27	0.004	0	33.26	0.35	9,063,189.02	-
	77	20.4	0.28	0.35	0.0044	1.458	33.22	0.62	1,144,847.85	67,185,513.37
	259	26.7	0.26	0.34	0.0035	1.437	33.33	0.68	4,073,786.76	300,268,277.46
	641	27.4	0.29	0.38	0.0038	1.563	33.37	0.27	4,736,188.84	345,422,946.22
	790	34.3	0.29	0.28	0.0037	1.553	33.3	0.87	26,425,501.40	1,980,732,771.93
	681	25.3	0.28	0.28	0.0035	1.651	33.35	0.37	6,515,632.22	551,769,928.51
	40	13.1	0.26	0.38	0.004	1.576	33.26	0.26	128,988.01	8,942,612.59
	151	14.7	0.3	0.27	0.004	1.454	33.17	0.28	784,397.41	50,578,018.09
	86	9.6	0.25	0.33	0.0038	0	33.29	0.18	137,161.62	-
	10	14.7	0.32	0.19	0.0043	0	33.24	0.48	114,973.54	-
	222	13	0.28	0.23	0.0044	1.378	33.12	0.46	1,828,963.88	102,341,339.78
	56	10	0.29	0.29	0	1.615	33.28	0.38	-	18,102,389.85
	311	10.9	0.34	0.17	0.013	0	32.68	0.95	18,549,151.07	-
57	29.6	0.27	0.24	0.0073	0	33.22	0.72	2,638,061.01	-	
188	36.6	0.29	0.22	0	1.392	33.08	0.41	-	226,143,239.56	
116	13.4	0.27	0.27	0.0044	1.369	33.24	0.23	450,028.56	24,907,565.53	
2	3.5	0.23	0.4	0.0041	0	33.33	0.16	911.87	-	
8	3.3	0.24	0.34	0.0041	0	33.35	0.36	8,794.66	-	
24	6	0.32	0.19	0.005	0	33.21	0.6	162,670.06	-	
Total									145,748,086.49	7,751,055,669.96

Table 11: Relevant data used for estimating CO₂ storage potential- DOE method.

Block name	SC CO ₂ den, lb/cf	R _{f, gas.}	R _{f, oil}	OGIP, cf	Z _r	T _r , F	P _r , psi	OOIP, cf	B _{oi}	MCO ₂ (gas), lb.	MCO ₂ (oil), lb.
SS028	42.45	0.78	0	22497397	0.974	166	3511	0	0	15774227.6	0
	43.7	0.61	0	3442732	0.976	168	3581	0	0	1931054.76	0
	44.32	0.63	0	1133535	0.979	173	3697	0	0	666268.546	0
	45.57	0.44	0	3925462	0.981	176	3946	0	0	1583657.54	0
	45.86	0.51	0	6683571	0.983	179	3953	0	0	3198996.97	0
	45.89	0.28	0	21977218	0.983	179	3987	0	0	5729703.88	0
	46.12	0.52	0	6947004	0.987	184	4150	0	0	3350990.23	0
	44.95	0.73	0	21253465	0.989	187	4278	0	0	13864632.7	0
	44.97	0.13	0	17401965	0.992	191	4399	0	0	2015005.86	0
	43.7	0.15	0	15659751	0.994	193	4511	0	0	2007664.59	0
	43.6	0.76	0	6105667	0.995	194	4511	0	0	3979252.2	0
	33.71	0.47	0	7070306	0.962	117	1723	0	0	3364795.2	0
	34.96	0.57	0	478359	0.961	127	2074	0	0	257939.254	0
	Vpw	364869179	cf	Total						57724189.3	0
SS032	19.98	0	0.51	0	0.97	89	806	9199045.6	1.07	0	87686094.6
	15.61	0	0.5	0	0.98	87	728	18022622	1.04	0	134738086
	14.82	0	0.17	0	0.98	87	699	4128498.6	1.05	0	9868443.36
	29.97	0	0.05	0	0.97	95	1070	6393298	1.09	0	8797389.35
	28.09	0	0	0	0.96	101	1302	16724367	1.11	0	0
	38.08	0	0.05	0	0.96	107	1460	3579476.5	1.14	0	5983602.58
	49.94	0.42	0.04	12419721	0.99	171	4984	780415.85	1.56	4017420.16	998692.319
	46.82	0.67	0.55	1720352	0.98	170	4245	31371468	1.28	964079.858	629164066
	47.44	0	0.39	0	0.99	178	4930	6861032.1	1.5	0	84796306.5
	48.69	0	0	9183209	0.98	161	4500	0	0	0	0
	48.69	0.6	0	4225539	0.98	164	4563	0	0	1976470.45	0
	Vpw	910314280	cf	Total						6957970.47	962032680
SS037	42.45	0.62	0	3012614	0.97	166	3215	0	0	1832355.24	0
	43.08	0.68	0	10107318	0.97	168	3290	0	0	6775497.07	0
	44.12	0	0.63	0	0.98	169	3330	2651745.3	1.34	0	54882241.5
	42.76	0.24	0	4965323	0.98	180	3679	0	0	1125301.9	0
	43.7	0.77	0	537399	0.98	175	3527	0	0	403769.053	0
	Vpw	84935732	cf	Total						10136923.3	54882241.5
SS056	37.46	0.53	0	4160157	0.96	122	1952	0	0	2279610.44	0
	Vpw	80132793	cf	Total						2279610.44	0

SS058	39.33	0.5	0	3789126	0.96	114	1948	0	0	1918245.98	0
	52.44	0.4	0.35	6733391	0.95	120	4519	14525483	1.45	1629239.12	183609307
	47.44	0	0.33	0	0.99	179	4598	19191235	1.37	0	219301188
	21.23	0.37	0	2119048	0.98	185	1702	0	0	817326.284	0
	33.3	0.64	0	9267744	0.99	187	4470	0	0	3764719.66	0
	33.24	0	0.1	0	0.99	189	4356	3082018.8	1.44	0	7099536.13
	Vpw	659692189	cf	Total						8129531.05	410010031
SS072	33.22	0.18	0	791913	0.96	115	1619	0	0	148920.358	0
	33.85	0.38	0	19213987	0.96	115	1907	0	0	6567003.8	0
	33.13	0.05	0	95649	0.96	133	2460	0	0	3780.37942	0
	33.08	0.3	0	571867	0.96	141	2548	0	0	139053.935	0
	33.17	0	0.3	0	0.97	151	2989	4942119.1	1.89	0	26062017.4
	33.26	0.37	0.22	166197	0.98	168	3509	2948605.1	1.31	43904.0111	16432241.7
	33.28	0.67	0.29	16529443	0.98	178	3841	6865512.5	1.44	7708156.49	46110253.5
	33.28	0.44	0.12	4235575	0.98	173	3645	5082118.7	1.46	1324034	13949106
	33.35	0.64	0.06	10659222	0.99	183	4765	501988.67	1.38	3985580.89	727883.567
	33.39	0.1	0	15864203	0.99	183	4254	0	0	1034159.47	0
	33.21	0.55	0.4	13710426	0.99	192	4405	655547.52	2.33	4981945.19	3743892.2
	33.26	0.26	0	49735986	1	197	4676	0	0	8311789.14	0
	33.22	0.51	0.45	678231	0.98	181	3959	6462160.8	1.46	237636.19	66257093.5
	33.33	0.33	0.39	13475855	1.01	191	5538	3472496.3	1.44	2365298.8	31411229.8
	33.37	0.5	0.16	27749342	0.99	190	4213	19917268	1.56	9503496.67	68037286.8
	33.3	0.63	0.48	46660047	1	192	5037	47027548	1.55	17151481.4	484023390
	33.35	0.35	0.21	18602221	1.01	196	5578	54216517	1.65	3541131.6	229985084
	33.26	0.84	0.17	575136	0.99	190	4445	845662.93	1.58	313307.563	3033976.73
	33.17	0.54	0.19	3713819	0.99	190	4425	4101251	1.45	1302809.69	17776694.8
	33.29	0.16	0	1555051	0.99	185	4702	0	0	148684.583	0
	33.24	0.36	0	383898	0.98	180	3943	0	0	94801.1801	0
	33.12	0.39	0.36	353026	0.98	179	3475	18872086	1.38	105875.408	163291474
	33.28	0	0.28	0	0.98	169	3825	3093186.3	1.62	0	17847397.4
	32.68	0.78	0	3190399	0.97	100	1076	0	0	3368468.06	0
	33.22	0.53	0	2068593	0.96	123	1923	0	0	1029803.56	0
	33.08	0	0.31	0	0.97	162	3786	48325381	1.39	0	356010862
33.24	0.61	0.17	562972	0.99	183	4073	7885789	1.37	232421.067	32550048.4	
33.33	0.12	0	10314	0.98	171	4169	0	0	762.414998	0	
33.35	0.27	0	43899	0.98	170	4129	0	0	7325.84952	0	
33.21	0.45	0	330870	0.97	160	3162	0	0	111653.415	0	
Total										73763285.1	1577249932

Table 12: Relevant data used for estimating CO₂ storage potential- CSLF method.

Ts	32	°F
Ps	14.7	psi
Zs	0.99926	

Table 13: Surface conditions of temperature, pressure, and gas compressibility factor.

SS028	SS032	SS037	SS056	SS058	SS072
0	0.01	0	0	0	0

Table 14. Fraction of injected gas for the blocks that were studied.

Block name	Sand name	Cum oil, bbl	Cum oil, cf	Cum gas, Mcf	Vco ₂ , cf	CO ₂ den, lb/ft ³	MCO ₂ , lb
SS028	1241_SS028_07550	37,884	212,703	17,557,505	7,548,062.84	42.45	320415268
SS028	1241_SS028_07700	7,717	43,328	2,083,693	895,798.25	43.7	39146383
SS028	1341_SS028_08100	45,847	257,412	719,114	309,257.77	44.32	13706304
SS028	1341_SS028_08500	13,577	76,229	1,737,092	746,808.62	45.57	34032069
SS028	1341_SS028_08550	73,415	412,195	3,417,843	1,469,507.91	45.86	67391633
SS028	1341_SS028_08600	130,516	732,793	6,076,165	2,612,458.36	45.89	119885714
SS028	1341_SS028_09000	287,555	1,614,502	3,598,374	1,547,635.06	46.12	71376929
SS028	1341_SS028_09200	273,767	1,537,088	15,453,442	6,644,095.51	44.95	298652093
SS028	1361_SS028_09550	23,448	131,651	2,242,038	963,908.73	44.97	43346976
SS028	1361_SS028_09700	33,208	186,449	2,356,665	1,013,210.44	43.7	44277296
SS028	1361_SS028_09800	25,637	143,941	4,663,944	2,005,091.41	43.6	87421985
SS028	0941_SS028_03600	278	1,561	3,347,303	1,439,006.23	33.71	48508900
SS028	0941_SS028_04450	-	-	274,924	118,189.83	34.96	4131916
MWp	364,869,179.30						1557162646
SS032	0541_SS032_01950	835,669	4,691,933	243,318	64,953.80	19.98	1297777
SS032	0541_SS032_01965	1,589,897	8,926,609	736,079	195,116.97	15.61	3045776
SS032	0541_SS032_02100	123,255	692,025	6,292	1,829.12	14.82	27108
SS032	0541_SS032_02800	60,569	340,070	1,616	512.29	29.97	15353
SS032	0541_SS032_03200	14,729	82,697	383	121.97	28.09	3426
SS032	0541_SS032_03230	34,730	194,994	193,399	50,702.27	38.08	1930742
SS032	1361_SS032_BIGA1	5,098	28,623	5,519	1,884.53	49.94	94113
SS032	1361_SS032_ROBE1	2,888,364	16,216,960	1,862,410	638,169.58	46.82	29879100
SS032	1361_SS032_ROBE3	5,000	28,073	-	7.35	47.44	349
SS032	1361_SS032_ROBE4	60	337	3,463	1,488.89	48.69	72494
SS032	1361_SS032_ROBE6	8,489	47,662	369,179	158,730.54	48.69	7728590
MWp	910,314,280.05		-				954409108
SS037	1241_SS037_7000	12,671	71,142	1,857,078	798,388.42	42.45	33891588
SS037	1241_SS037_7100	60,878	341,805	6,904,087	2,968,213.94	43.08	127870657
SS037	1241_SS037_7200	297,251	1,668,941	755,103	198,198.57	44.12	8744521
SS037	1361_SS037_BIG_A	50	281	1,196,848	514,525.08	42.76	22001092
SS037	1361_SS037_ROB_E	-	-	411,456	176,884.93	43.7	7729872
MWp	84,935,732.29		-				285173462

SS056	0941_SS056_4350	-	-	2,217,491	953,299.38	37.46	35710595
Wp	80,132,793.13						115843388
SS058	0941_SS058_04200	-	-	1,901,550	817,476.35	39.33	32151345
SS058	1361_SS058_09500	1,143,558	6,420,602	3,807,959	1,273,888.36	52.44	66802705
SS058	1361_SS058_09800	1,101,276	6,183,206	1,559,785	410,127.07	47.44	19456428
SS058	0541_SS058_03660	-	-	777,541	334,264.88	21.23	7096443
SS058	1361_SS058_09350	885,731	4,973,011	5,835,068	2,510,633.63	33.3	83604100
SS058	1361_SS058_08800	57,363	322,069	57,445	15,129.20	33.24	502894
MWp	659,692,189.41						869306105
SS072	0541_SS072_3540	28	157	140,343	60,333.52	33.22	2004280
SS072	0941_SS072_A5	2,131	11,965	7,299,381	3,138,009.04	33.85	106221606
SS072	0941_SS072_B15	58	326	4,313	1,854.30	33.13	61433
SS072	0941_SS072_C1	8,426	47,308	174,401	74,995.33	33.08	2480845
SS072	1241_SS072_C1B	173,758	975,579	739,262	193,868.22	33.17	6430609
SS072	1341_SS072_E1	115,908	650,775	164,473	56,092.55	33.26	1865638
SS072	1341_SS072_E3	614,298	3,449,027	11,481,117	3,901,307.08	33.28	129835500
SS072	1341_SS072_E4	135,231	759,266	1,798,754	611,294.66	33.28	20343886
SS072	1341_SS072_E5	132,155	741,995	6,632,108	2,253,179.14	33.35	75143524
SS072	1341_SS072_E5L	30,276	169,987	1,542,564	663,221.34	33.39	22144961
SS072	1341_SS072_E8	314,607	1,766,387	7,668,179	2,605,480.45	33.21	86528006
SS072	1341_SS072_F1A	178,773	1,003,736	13,060,376	5,615,087.15	33.26	186757799
SS072	1341_SS072_F1L	531,779	2,985,718	1,041,058	354,661.65	33.22	11781860
SS072	1341_SS072_F1U	313,134	1,758,117	4,669,635	1,586,872.24	33.33	52890452
SS072	1361_SS072_G1	704,965	3,958,085	15,527,213	5,275,938.82	33.37	176058078
SS072	1361_SS072_H1	5,419,657	30,429,116	35,261,617	11,988,708.07	33.3	399223979
SS072	1361_SS072_I1	2,661,080	14,940,855	10,773,951	3,664,986.56	33.35	122227302
SS072	1361_SS072_J3	28,893	162,222	542,508	184,345.07	33.26	6131317
SS072	1761_SS072_K3	150,602	845,567	690,508	234,852.81	33.17	7790068
SS072	1361_SS072_G1A	189	1,061	206,712	88,865.94	33.29	2958347
SS072	1341_SS072_E2	2,013	11,302	136,896	58,856.45	33.24	1956388
SS072	1341_SS072_D12	1,152,393	6,470,207	1,293,784	441,696.35	33.12	14628983
SS072	1341_SS072_D11	154,425	867,032	170,473	44,873.95	33.28	1493405
SS072	0541_SS072_2390	-	-	2,490,055	1,070,474.64	32.68	34983111
SS072	0561_SS072_A4	1,572	8,826	1,105,016	475,050.17	33.22	15781167
SS072	1341_SS072_D6	2,596,661	14,579,170	2,690,409	708,436.40	33.08	23435076
SS072	1341_SS072_E6	239,346	1,343,828	514,860	135,193.78	33.24	4493841
SS072	1341_SS072_D5	134	752	1,217	523.51	33.33	17449
SS072	1241_SS072_D4	2,074	11,645	11,711	5,039.56	33.35	168069
SS072	1241_SS072_6953	872	4,896	148,164	63,697.81	33.21	2115404
MWp	5,459,951,939.54						6977904323

Table 15: Relevant data used for estimating CO₂ storage potential- Agartan's correlation.