



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Apr-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L	LSF		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.41	0.33	5.51	3.79	63.25	0.78	2.88	3.36	1.56	96.72	2.09	1.45	52.94	15.71	8.19	96.29	3.71	0.045	3554	10.2	150	03:05	23.1	55.0	1.0	
2	19.36	0.28	5.71	3.71	63.36	0.79	2.91	3.14	1.40	96.79	2.06	1.54	53.10	15.45	8.85	96.51	3.49	0.046	3567	10.5	140	02:50	22.6	54.8	0.0	
3	19.27	0.53	5.82	3.64	63.40	0.77	2.96	3.15	1.62	97.05	2.04	1.60	52.27	15.81	9.26	96.50	3.50	0.043	3541	9.7	155	03:05	22.5	54.0	0.0	
4	19.38	0.46	5.76	3.61	63.32	0.78	2.99	3.15	1.40	96.56	2.07	1.60	52.36	16.06	9.16	96.50	3.50	0.049	3788	10.4	135	02:45	23.8	52.9	0.0	
5	19.42	0.33	5.63	3.68	63.42	0.80	3.05	2.99	1.26	96.65	2.09	1.53	53.64	15.21	8.69	96.66	3.34	0.051	3430	10.1	145	02:50	24.0	54.4	0.0	
6	19.50	0.48	5.66	3.67	63.47	0.79	2.91	2.88	1.54	96.50	2.09	1.54	52.31	16.45	8.79	96.77	3.23	0.049	3504	9.6	140	02:45	23.4	52.9	0.0	
7	19.62	0.37	5.73	3.59	63.59	0.79	2.80	2.76	1.67	96.25	2.11	1.60	51.31	17.54	9.11	96.89	3.11	0.044	3577	10.00	140	02:55	22.4	53.3	1.0	
8	19.50	0.38	5.70	3.63	63.55	0.79	2.87	2.91	1.76	96.63	2.09	1.57	51.64	16.95	8.96	96.74	3.26	0.047	3604	10.10	135	02:40	23.2	53.3	0.0	
9	19.44	0.41	5.74	3.61	63.47	0.79	3.00	2.93	1.68	96.57	2.08	1.59	51.48	16.89	9.10	96.72	3.28	0.057	3504	10.60	140	02:50	22.1	53.6	0.0	
10	19.46	0.41	5.70	3.60	63.50	0.80	2.91	2.96	1.74	96.71	2.09	1.58	51.75	16.75	9.01	96.69	3.31	0.059	3486	10.60	135	02:45	23.0	53.2	0.0	
11	19.51	0.43	5.70	3.65	63.41	0.78	2.88	3.07	1.79	96.34	2.09	1.56	50.81	17.60	8.93	96.58	3.42	0.053	3554	10.70	130	02:40	22.9	53.6	1.0	
12	19.44	0.40	5.72	3.63	63.26	0.79	3.00	3.08	1.40	96.25	2.08	1.58	51.88	16.60	9.02	96.57	3.43	0.047	3541	11.00	135	02:45	22.9	55.1	1.0	
13	19.54	0.43	5.70	3.65	63.30	0.78	2.83	3.06	1.40	96.10	2.09	1.56	51.87	16.89	8.93	96.59	3.41	0.052	3486	10.30	135	02:50	22.7	55.9	1.0	
14	19.41	0.25	5.69	3.63	63.42	0.79	2.99	3.09	1.54	96.70	2.08	1.57	52.41	16.11	8.94	96.56	3.44	0.056	3554	10.30	130	02:40	23.6	55.5	0.0	
15	19.48	0.35	5.78	3.64	63.59	0.78	2.98	2.79	1.40	96.51	2.07	1.59	52.55	16.20	9.16	96.86	3.14	0.061	3541	10.30	140	02:50	22.8	55.6	0.0	
16	19.41	0.33	5.76	3.59	63.46	0.77	2.98	3.08	1.37	96.69	2.08	1.60	52.89	15.75	9.19	96.57	3.43	0.066	3486	10.40	130	02:40	23.1	54.0	0.0	
17	19.44	0.31	5.79	3.61	63.51	0.78	2.96	2.92	1.40	96.58	2.07	1.60	52.57	16.08	9.24	96.73	3.27	0.055	3523	10.40	135	02:45	23.6	55.4	0.0	
18	19.45	0.35	5.87	3.64	63.55	0.79	3.03	2.70	1.26	96.36	2.05	1.61	52.44	16.20	9.40	96.95	3.05	0.058	3504	9.70	130	02:40	21.7	54.2	0.0	
19	19.61	0.29	5.77	3.69	63.45	0.72	3.05	2.65	1.12	95.63	2.07	1.56	51.93	17.04	9.05	97.00	3.00	0.051	3541	11.50	125	02:40	21.5	53.9	0.0	
20	19.75	0.38	5.64	3.77	63.30	0.73	3.11	2.70	1.40	94.90	2.10	1.50	49.71	19.13	8.57	96.95	3.05	0.053	3496	10.60	125	02:25	21.7	54.5	0.0	
21	19.95	0.36	5.57	3.66	63.21	0.72	2.97	2.92	1.20	94.32	2.16	1.52	49.66	19.73	8.57	96.73	3.27	0.061	3486	10.80	125	02:30	21.5	54.0	1.0	
22	19.90	0.35	5.61	3.73	63.25	0.71	2.95	2.92	1.32	94.47	2.13	1.50	49.40	19.78	8.56	96.73	3.27	0.053	3430	10.80	140	02:55	20.6	53.8	1.0	
23	19.98	0.35	5.58	3.65	63.36	0.71	2.98	2.63	1.43	94.41	2.16	1.53	49.02	20.30	8.61	97.02	2.98	0.055	3486	10.70	130	02:45	21.6	54.0	0.0	
24	20.01	0.34	5.59	3.74	63.30	0.70	3.04	2.66	1.36	94.03	2.14	1.49	48.47	20.80	8.49	96.99	3.01	0.057	3430	10.70	130	02:45	20.9	53.6	1.0	
25	19.71	0.39	5.59	3.67	63.21	0.71	3.04	3.09	1.46	95.19	2.13	1.52	50.08	18.73	8.60	96.56	3.44	0.058	3541	10.60	125	02:40	22.1	54.2	0.0	
26	20.00	0.38	5.62	3.66	63.38	0.70	2.93	2.69	1.16	94.34	2.16	1.54	49.91	19.69	8.70	96.96	3.04	0.056	3477	10.50	125	02:35	22.1	54.3	0.0	
27	19.81	0.37	5.61	3.71	63.41	0.71	2.95	2.81	1.28	95.11	2.13	1.51	50.93	18.37	8.59	96.84	3.16	0.055	3442	11.50	135	02:50	23.1	54.6	1.0	
28	19.74	0.34	5.67	3.74	63.42	0.72	2.95	2.75	1.05	95.28	2.10	1.52	51.99	17.37	8.70	96.90	3.10	0.045	3637	9.80	120	02:35	21.9	55.0	1.0	
29	19.96	0.36	5.62	3.76	63.49	0.70	2.71	2.77	1.40	94.81	2.13	1.49	50.17	19.38	8.53	96.88	3.12	0.045	3567	9.70	130	02:45	22.9	55.5	0.0	
30	19.82	0.35	5.65	3.69	63.42	0.74	2.95	2.72	1.26	95.03	2.12	1.53	50.73	18.55	8.73	96.93	3.07	0.052	3592	10.40	140	02:50	22.3	54.2	0.0	
Min.	19.27	0.25	5.51	3.59	63.21	0.70	2.71	2.63	1.05	94.03	2.04	1.45	48.47	15.21	8.19	96.29	2.98	0.04	3430	9.6	120	02:25	20.6	52.9	0.0	
Max.	20.01	0.53	5.87	3.79	63.59	0.80	3.11	3.36	1.79	97.05	2.16	1.61	53.64	20.80	9.40	97.02	3.71	0.07	3788	11.5	155	03:05	24.0	55.9	1.0	
Average	19.61	0.37	5.68	3.67	63.40	0.76	2.95	2.91	1.42	95.85	2.10	1.55	51.41	17.44	8.85	96.74	3.26	0.05	3529	10.4	134	02:45	22.5	54.3	0.3	
SD.	0.23	0.06	0.08	0.05	0.11	0.04	0.08	0.19	0.19	0.94	0.03	0.04	1.33	1.61	0.29	0.19	0.19	0.01	71.45	0.47	8	00:08	0.8	0.8	0.48	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

May-19

date	Chemical Composition								Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L		L.S.F	S.M.	A.M.	C3S	C2S	C3A	clinker	additive				Initial	Final	2 Days	28 Days	
1																									
2	20.02	0.39	5.65	3.74	63.53	0.69	2.77	2.60	1.40	94.53	2.13	1.51	49.53	20.03	8.64	97.05	2.95	0.060	3430	10.9	120	02:30	21.3	53.3	0.0
3	19.88	0.38	5.61	3.80	63.43	0.69	2.93	2.70	1.12	94.79	2.11	1.48	51.06	18.48	8.44	96.95	3.05	0.048	3577	10.4	125	02:35	21.5	55.6	0.0
4	19.90	0.37	5.63	3.78	63.42	0.68	2.91	2.64	1.26	94.70	2.11	1.49	50.25	19.15	8.52	97.01	2.99	0.046	3596	9.7	130	02:45	21.4	55.9	1.0
5	20.06	0.32	5.60	3.76	63.35	0.68	2.85	2.68	1.12	94.07	2.14	1.49	49.72	20.01	8.48	96.97	3.03	0.048	3559	10.1	140	02:50	21.5	56.6	0.0
6	19.90	0.31	5.58	3.67	63.41	0.69	2.91	2.85	1.50	94.87	2.15	1.52	49.72	19.54	8.58	96.80	3.20	0.061	3554	11.0	120	02:25	22.5	54.9	0.0
7	19.96	0.31	5.66	3.69	63.39	0.69	2.80	2.73	1.52	94.56	2.13	1.53	48.85	20.37	8.76	96.92	3.08	0.066	3541	10.6	125	02:35	22.0	55.9	0.0
8	19.95	0.31	5.60	3.63	63.25	0.71	2.95	2.93	1.40	94.38	2.16	1.54	48.91	20.30	8.70	96.72	3.28	0.056	3548	10.5	125	02:35	21.8	55.8	0.0
9	19.95	0.28	5.65	3.65	63.41	0.73	2.89	2.72	1.48	94.59	2.15	1.55	49.04	20.20	8.80	96.93	3.07	0.049	3554	10.6	125	02:35	23.2	56.7	0.0
10	19.94	0.33	5.66	3.67	63.33	0.68	2.94	2.80	1.60	94.42	2.14	1.54	48.06	20.91	8.79	96.85	3.15	0.065	3507	10.4	120	02:35	22.5	54.6	1.0
11	19.88	0.39	5.68	3.69	63.31	0.68	3.01	2.74	1.68	94.50	2.12	1.54	47.75	20.97	8.81	96.91	3.09	0.062	3510	10.3	120	02:25	23.1	54.5	0.0
12	19.86	0.38	5.69	3.72	63.34	0.67	2.94	2.78	1.76	94.66	2.11	1.53	47.79	20.89	8.78	96.87	3.13	0.067	3577	9.5	130	02:40	21.8	54.6	1.0
13	19.85	0.39	5.68	3.76	63.37	0.68	2.99	2.68	1.76	94.67	2.10	1.51	47.85	20.81	8.69	96.97	3.03	0.059	3541	9.7	120	02:30	21.0	54.2	0.0
14	19.95	0.38	5.68	3.81	63.41	0.67	2.87	2.60	1.54	94.41	2.10	1.49	48.42	20.67	8.61	97.05	2.95	0.058	3486	10.1	125	02:30	20.6	54.1	1.0
15	20.09	0.41	5.66	3.78	63.26	0.66	2.81	2.76	1.20	93.74	2.13	1.50	48.48	21.03	8.60	96.89	3.11	0.063	3613	10.4	125	02:30	21.5	54.7	1.0
16	19.86	0.43	5.68	3.71	63.25	0.68	3.02	2.83	1.12	94.46	2.12	1.53	49.88	19.31	8.77	96.82	3.18	0.067	3632	9.9	125	02:35	21.3	55.8	0.0
17	19.82	0.41	5.68	3.76	63.41	0.67	2.83	2.88	1.54	95.03	2.10	1.51	49.59	19.41	8.69	96.77	3.23	0.074	3577	9.9	120	02:30	21.3	53.7	0.0
18	20.01	0.35	5.57	3.74	63.36	0.66	2.81	2.84	1.60	94.40	2.15	1.49	48.53	20.76	8.43	96.81	3.19	0.066	3554	10.1	120	02:35	21.6	54.4	1.0
19	19.92	0.31	5.58	3.78	63.54	0.67	2.81	2.75	1.62	94.99	2.13	1.48	49.74	19.59	8.39	96.90	3.10	0.065	3512	10.0	120	02:25	22.0	54.0	0.0
20	19.90	0.32	5.60	3.79	63.30	0.68	3.00	2.82	1.52	94.46	2.12	1.48	48.63	20.37	8.43	96.83	3.17	0.051	3559	10.1	125	02:30	21.6	54.3	0.0
21	20.01	0.31	5.59	3.75	63.25	0.69	2.96	2.79	1.38	94.03	2.14	1.49	48.40	20.86	8.47	96.86	3.14	0.063	3556	10.2	125	02:35	21.6	54.0	0.0
22	19.94	0.30	5.61	3.77	63.50	0.68	2.93	2.55	1.51	94.68	2.13	1.49	49.34	19.94	8.49	97.10	2.90	0.066	3504	10.3	120	02:30	21.0	53.8	1.0
23	19.85	0.33	5.64	3.79	63.35	0.69	3.09	2.66	1.54	94.57	2.10	1.49	48.61	20.24	8.53	96.99	3.01	0.068	3504	10.4	120	02:30	22.1	55.4	0.0
24	19.80	0.36	5.65	3.76	63.17	0.71	3.07	2.84	1.54	94.53	2.10	1.50	48.29	20.34	8.61	96.81	3.19	0.058	3554	10.3	120	02:35	21.6	54.2	0.0
25	19.86	0.37	5.63	3.78	63.21	0.69	3.03	2.84	1.60	94.41	2.11	1.49	47.97	20.75	8.52	96.81	3.19	0.062	3513	10.1	120	02:30	22.4	55.4	1.0
26	19.80	0.36	5.64	3.71	63.17	0.70	2.98	3.01	1.12	94.69	2.12	1.52	50.39	18.75	8.67	96.64	3.36	0.048	3467	10.5	125	02:35	21.8	54.6	1.0
27	19.98	0.35	5.63	3.78	63.25	0.70	2.91	2.81	1.54	94.11	2.12	1.49	47.81	21.22	8.52	96.84	3.16	0.047	3596	10.2	135	02:40	22.3	54.3	0.0
28	19.90	0.36	5.64	3.77	63.20	0.70	2.93	2.97	1.37	94.33	2.11	1.50	48.79	20.24	8.57	96.68	3.32	0.060	3567	10.3	140	02:45	22.7	54.3	1.0
29	19.92	0.29	5.63	3.71	63.21	0.75	2.90	2.81	1.20	94.37	2.13	1.52	49.61	19.68	8.64	96.84	3.16	0.051	3684	10.0	155	03:05	22.1	54.5	0.0
30	19.86	0.36	5.53	3.76	63.22	0.71	3.00	2.86	1.37	94.65	2.14	1.47	49.73	19.42	8.29	96.79	3.21	0.049	3631	9.4	130	02:40	21.0	53.1	0.0
31	19.85	0.35	5.58	3.74	63.26	0.70	3.02	2.84	1.40	94.66	2.13	1.49	49.48	19.58	8.46	96.81	3.19	0.047	3530	10.5	140	02:50	21.4	54.2	1.0
Min.	19.80	0.28	5.53	3.63	63.17	0.66	2.77	2.55	1.12	93.74	2.10	1.47	47.75	18.48	8.29	96.64	2.90	0.05	3430	9.4	120	02:25	20.6	53.1	0.0
Max.	20.09	0.43	5.69	3.81	63.54	0.75	3.09	3.01	1.76	95.03	2.16	1.55	51.06	21.22	8.81	97.10	3.36	0.07	3684	11.0	155	03:05	23.2	56.7	1.0
Average	19.92	0.35	5.63	3.74	63.33	0.69	2.93	2.78	1.44	94.51	2.13	1.51	49.01	20.13	8.59	96.87	3.13	0.06	3551	10.2	126	02:35	21.8	54.7	0.4
SD.	0.07	0.04	0.04	0.05	0.10	0.02	0.08	0.11	0.19	0.28	0.02	0.02	0.87	0.71	0.14	0.11	0.11	0.01	52.06	0.36	8	00:08	0.6	0.9	0.49



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Jun-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm	
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L	LSF		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days			
1																											
2																											
3																											
4																											
5																											
6																											
7																											
8	20.00	0.34	5.67	3.65	63.21	0.71	2.95	2.80	1.26	93.98	2.15	1.55	48.43	20.80	8.85	96.85	3.15	0.058	3504	10.6	135	02:50	21.2	54.3	0.0		
9	19.97	0.30	5.71	3.66	63.30	0.61	2.94	2.80	1.31	94.17	2.13	1.56	48.57	20.61	8.94	96.85	3.15	0.053	3631	10.2	130	02:45	21.2	54.2	0.0		
10	20.00	0.35	5.65	3.67	63.17	0.62	3.05	2.82	1.32	93.82	2.15	1.54	47.85	21.24	8.76	96.83	3.17	0.054	3541	10.6	145	03:00	21.2	55.1	0.0		
11	19.95	0.31	5.63	3.63	63.27	0.60	2.99	2.76	1.40	94.32	2.15	1.55	48.67	20.48	8.78	96.89	3.11	0.052	3577	10.4	140	02:55	21.6	55.3	0.0		
12	20.05	0.37	5.68	3.63	63.40	0.61	2.95	2.65	1.45	94.07	2.15	1.56	48.02	21.26	8.91	97.00	3.00	0.052	3504	10.8	130	02:40	21.3	54.2	0.0		
13	20.06	0.33	5.68	3.65	63.25	0.61	2.95	2.84	1.35	93.78	2.15	1.56	47.71	21.52	8.88	96.81	3.19	0.057	3554	10.4	135	02:45	21.0	54.5	0.0		
14	20.10	0.35	5.61	3.67	63.35	0.61	2.95	2.65	1.32	93.87	2.17	1.53	48.37	21.13	8.66	97.00	3.00	0.047	3558	10.5	135	02:45	21.4	54.3	0.0		
15	20.04	0.36	5.57	3.67	63.25	0.60	3.08	2.74	1.29	93.89	2.17	1.52	48.44	20.91	8.55	96.91	3.09	0.050	3486	10.3	145	03:00	21.5	54.3	0.0		
16	20.18	0.38	5.59	3.75	63.45	0.57	2.71	2.57	1.57	93.92	2.16	1.49	47.86	21.75	8.47	97.08	2.92	0.050	3504	10.5	155	03:10	21.1	53.5	0.0		
17	20.17	0.36	5.61	3.74	63.31	0.58	2.95	2.53	1.29	93.47	2.16	1.50	47.70	21.84	8.54	97.12	2.88	0.044	3554	10.8	145	03:00	22.8	55.5	0.0		
18	20.07	0.36	5.62	3.73	63.20	0.54	3.15	2.71	1.29	93.48	2.15	1.51	47.39	21.79	8.58	96.94	3.06	0.043	3504	10.4	140	02:55	21.2	54.6	0.0		
19	19.94	0.39	5.51	3.61	63.31	0.51	3.02	3.10	1.43	94.61	2.19	1.53	49.54	19.80	8.49	96.55	3.45	0.045	3523	10.2	130	02:55	21.9	53.8	0.0		
20	20.19	0.31	5.55	3.71	63.31	0.52	2.89	2.71	1.57	93.58	2.18	1.50	47.03	22.41	8.43	96.94	3.06	0.043	3507	10.5	130	02:40	21.8	53.8	0.0		
21	20.13	0.32	5.59	3.73	63.33	0.52	2.97	2.69	1.32	93.68	2.16	1.50	48.06	21.46	8.50	96.96	3.04	0.040	3513	10.5	130	02:45	22.0	55.0	0.0		
22	20.03	0.37	5.56	3.74	63.28	0.52	3.04	2.89	1.26	93.97	2.15	1.49	48.85	20.58	8.41	96.76	3.24	0.033	3521	10.5	125	02:35	21.5	55.7	0.0		
23	19.86	0.36	5.54	3.73	63.22	0.50	2.88	3.27	1.48	94.79	2.14	1.49	49.60	19.52	8.37	96.38	3.62	0.032	3684	10.2	130	02:45	20.9	54.2	1.0		
24	20.03	0.36	5.57	3.77	63.33	0.51	2.94	2.83	1.20	94.11	2.14	1.48	49.47	20.11	8.38	96.82	3.18	0.036	3577	10.4	130	02:40	22.4	56.3	1.0		
25	19.92	0.37	5.56	3.75	63.24	0.52	2.96	2.99	1.19	94.43	2.14	1.48	50.02	19.38	8.39	96.66	3.34	0.031	3596	10.1	155	02:40	21.1	54.9	1.0		
26	20.11	0.36	5.54	3.77	63.39	0.51	2.89	2.76	1.12	93.98	2.16	1.47	49.77	20.11	8.30	96.89	3.11	0.033	3523	9.6	155	03:05	20.8	54.3	1.0		
27	20.02	0.37	5.56	3.76	63.28	0.52	2.89	2.94	1.00	94.15	2.15	1.48	50.38	19.39	8.37	96.71	3.29	0.026	3467	10.8	140	02:50	21.5	54.4	0.0		
28																											
29																											
30																											
Min.	19.86	0.30	5.51	3.61	63.17	0.50	2.71	2.53	1.00	93.47	2.13	1.47	47.03	19.38	8.30	96.38	2.88	0.03	3467	9.6	125	02:35	20.8	53.5	0.0		
Max.	20.19	0.39	5.71	3.77	63.45	0.71	3.15	3.27	1.57	94.79	2.19	1.56	50.38	22.41	8.94	97.12	3.62	0.06	3684	10.8	155	03:10	22.8	56.3	1.0		
Average	20.04	0.35	5.60	3.70	63.29	0.56	2.96	2.80	1.32	94.00	2.15	1.51	48.59	20.80	8.58	96.85	3.15	0.04	3541	10.4	138	02:50	21.5	54.6	0.2		
SD.	0.09	0.02	0.06	0.05	0.07	0.06	0.09	0.18	0.14	0.35	0.01	0.03	0.94	0.88	0.20	0.18	0.18	0.01	52.19	0.28	9	00:09	0.5	0.7	0.41		



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Jul-19

date	Chemical Composition										Modula			Mineral Composition				composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SO2	Ins. R.	AlO3	Fe2O3	CaO	MgO	SO3	L.O.I.	Free Lime	L.S.F	S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial	Final				2 Days	28 Days			
1	20.15	0.26	5.53	3.73	63.12	0.54	2.93	2.84	1.10	93.42	2.18	1.48	48.46	21.21	8.34	96.81	3.19	0.056	3631	10.5	130	02:45	22.3	54.9	1.0		
2	20.16	0.38	5.55	3.77	63.30	0.56	2.98	2.64	1.26	93.53	2.16	1.47	48.13	21.49	8.33	97.01	2.99	0.052	3577	10.4	130	02:45	21.9	54.4	1.0		
3	20.06	0.35	5.58	3.67	63.32	0.58	3.03	2.77	1.21	93.95	2.17	1.52	48.98	20.56	8.58	96.88	3.12	0.059	3596	10.3	130	02:50	21.7	55.6	0.0		
4	20.00	0.38	5.61	3.71	63.35	0.58	2.93	2.82	1.51	94.26	2.15	1.51	48.36	20.86	8.59	96.83	3.17	0.055	3577	10.5	135	02:45	21.3	54.4	0.0		
5	20.09	0.61	5.63	3.75	63.11	0.66	3.05	2.74	1.40	93.33	2.14	1.50	46.61	22.43	8.57	96.91	3.09	0.044	3634	10.3	130	02:50	22.9	55.9	0.0		
6	20.04	0.49	5.58	3.74	63.21	0.69	2.93	2.79	1.12	93.91	2.15	1.49	49.23	20.31	8.46	96.86	3.14	0.048	3534	10.4	135	02:45	21.0	54.2	0.0		
7	19.91	0.45	5.55	3.76	63.25	0.68	2.98	2.88	1.68	94.47	2.14	1.48	48.13	20.77	8.35	96.77	3.23	0.051	3663	10.3	135	02:45	21.0	53.5	1.0		
8	19.85	0.43	5.57	3.77	63.21	0.67	3.06	2.90	1.68	94.53	2.13	1.48	48.05	20.66	8.38	96.75	3.25	0.051	3684	10.1	130	02:35	22.9	54.8	0.0		
9	19.85	0.45	5.57	3.78	63.24	0.68	3.04	2.85	1.26	94.59	2.12	1.47	49.93	19.25	8.36	96.80	3.20	0.050	3631	10.2	135	02:45	21.7	55.9	0.0		
10	19.82	0.44	5.54	3.77	63.28	0.69	2.94	2.96	1.12	94.94	2.13	1.47	51.39	18.06	8.30	96.69	3.31	0.046	3596	10.7	130	02:40	20.8	54.0	1.0		
11	19.84	0.45	5.55	3.76	63.25	0.68	3.06	2.81	1.05	94.68	2.13	1.48	51.00	18.40	8.35	96.84	3.16	0.052	3631	10.7	135	02:45	21.7	54.3	0.0		
12	19.81	0.42	5.57	3.75	63.18	0.69	3.04	2.99	1.26	94.69	2.13	1.49	50.03	19.05	8.42	96.66	3.34	0.029	3577	11.2	150	03:05	21.3	53.6	0.0		
13	19.92	0.48	5.56	3.77	63.24	0.68	2.96	2.81	1.26	94.41	2.14	1.47	49.70	19.61	8.36	96.84	3.16	0.030	3560	10.8	135	02:55	21.5	54.4	0.0		
14	19.86	0.52	5.54	3.78	63.35	0.69	3.01	2.81	1.40	94.80	2.13	1.47	50.02	19.21	8.29	96.84	3.16	0.054	3541	11.3	150	03:05	21.4	53.6	0.0		
15	20.06	0.55	5.56	3.76	63.33	0.68	2.99	2.60	1.23	93.96	2.15	1.48	49.06	20.50	8.37	97.05	2.95	0.048	3577	10.5	130	02:50	22.1	54.4	0.0		
16	20.01	0.56	5.54	3.77	63.34	0.69	2.93	2.71	1.26	94.27	2.15	1.47	49.65	19.92	8.30	96.94	3.06	0.055	3596	10.9	140	03:05	21.7	54.8	0.0		
17	19.94	0.53	5.53	3.78	63.18	0.68	3.02	2.90	1.54	94.22	2.14	1.46	48.18	20.82	8.26	96.75	3.25	0.066	3613	10.8	140	03:00	21.9	54.0	0.0		
18	19.88	0.55	5.54	3.77	63.22	0.69	2.99	2.93	1.26	94.55	2.14	1.47	49.98	19.29	8.30	96.72	3.28	0.038	3598	10.6	135	02:55	21.0	55.6	0.0		
19	20.08	0.44	5.51	3.75	63.16	0.73	2.99	2.73	1.12	93.71	2.17	1.47	49.01	20.60	8.26	96.92	3.08	0.044	3541	10.5	135	02:55	20.6	53.6	1.0		
20	20.04	0.35	5.60	3.73	63.10	0.80	3.04	2.65	1.12	93.60	2.15	1.50	48.35	20.98	8.53	97.00	3.00	0.051	3596	9.5	130	02:40	21.4	54.0	1.0		
21	19.90	0.36	5.51	3.79	63.30	0.76	3.00	2.69	1.26	94.61	2.14	1.45	50.29	19.11	8.19	96.96	3.04	0.048	3486	10.4	135	02:45	21.0	54.6	0.0		
22	20.00	0.36	5.49	3.74	63.25	0.78	3.10	2.53	1.16	94.10	2.17	1.47	49.66	19.88	8.22	97.12	2.88	0.050	3449	10.9	140	02:50	21.3	54.7	1.0		
23	20.06	0.35	5.58	3.77	63.12	0.79	3.04	2.70	1.12	93.54	2.15	1.48	48.36	21.03	8.41	96.95	3.05	0.048	3486	10.0	145	02:55	20.8	54.9	0.0		
24	19.95	0.36	5.47	3.73	63.02	0.88	3.00	2.88	1.26	94.10	2.17	1.47	49.13	20.13	8.18	96.77	3.23	0.062	3504	10.8	135	02:45	21.0	54.0	1.0		
25	19.96	0.35	5.54	3.78	62.95	0.92	2.99	2.85	1.20	93.80	2.14	1.47	48.50	20.64	8.29	96.80	3.20	0.062	3554	10.0	145	02:55	21.0	54.6	2.0		
26	19.91	0.36	5.51	3.76	62.75	1.10	3.05	2.88	1.32	93.70	2.15	1.47	47.63	21.15	8.24	96.77	3.23	0.062	3586	11.2	145	02:50	21.1	54.6	0.0		
27	19.96	0.35	5.50	3.75	62.93	0.89	3.04	2.92	1.40	93.81	2.16	1.47	47.77	21.19	8.23	96.73	3.27	0.050	3504	10.8	145	02:55	21.3	54.7	0.0		
28	19.90	0.36	5.52	3.75	63.00	0.90	3.01	2.87	1.42	94.16	2.15	1.47	48.38	20.55	8.28	96.78	3.22	0.067	3504	10.8	135	02:50	21.5	55.1	0.0		
29	19.90	0.37	5.50	3.76	63.02	0.95	2.94	2.90	1.48	94.29	2.15	1.46	48.54	20.44	8.21	96.75	3.25	0.064	3523	10.5	140	02:55	21.6	54.6	0.0		
30	19.94	0.38	5.50	3.76	63.01	0.89	3.02	2.88	1.32	94.02	2.15	1.46	48.62	20.49	8.21	96.77	3.23	0.052	3556	10.4	145	03:05	21.3	55.4	0.0		
31	19.97	0.36	5.54	3.78	63.17	0.86	3.00	2.64	1.40	94.08	2.14	1.47	48.47	20.68	8.29	97.01	2.99	0.063	3556	10.4	145	03:00	22.1	56.0	1.0		
Min.	19.81	0.26	5.47	3.67	62.75	0.54	2.93	2.53	1.05	93.33	2.12	1.45	46.61	18.06	8.18	96.66	2.88	0.03	3449	9.5	130	02:35	20.6	53.5	0.0		
Max.	20.16	0.61	5.63	3.79	63.35	1.10	3.10	2.99	1.68	94.94	2.18	1.52	51.39	22.43	8.59	97.12	3.34	0.07	3684	11.3	150	03:05	22.9	56.0	2.0		
Average	19.96	0.42	5.54	3.76	63.17	0.74	3.00	2.80	1.30	94.13	2.15	1.48	48.96	20.30	8.34	96.85	3.15	0.05	3570	10.5	137	02:51	21.5	54.6	0.4		
SD.	0.10	0.08	0.04	0.02	0.14	0.13	0.05	0.11	0.16	0.43	0.01	0.02	1.03	0.94	0.11	0.11	0.11	0.01	54.91	0.38	6	00:07	0.6	0.7	0.55		



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Aug-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45μ	Setting Time		Compressive Strength		Expansion mm
	SO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.I.	LS.F		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	20.17	0.34	5.57	3.77	63.28	0.76	2.90	2.55	1.26	93.51	2.16	1.48	48.07	21.56	8.38	97.10	2.9	0.053	3541	10.4	140	02:55	22.1	55.5	1.0	
2	20.14	0.34	5.52	3.76	63.25	0.75	3.08	2.50	1.16	93.49	2.17	1.47	48.42	21.21	8.27	97.15	2.85	0.043	3523	10.5	150	03:00	22.0	55.2	1.0	
3	20.00	0.35	5.50	3.75	62.91	0.86	2.96	3.08	1.26	93.70	2.16	1.47	48.18	20.99	8.23	96.57	3.43	0.047	3559	9.4	155	03:05	21.5	54.7	1.0	
4	19.96	0.35	5.46	3.75	63.40	0.83	2.97	2.67	1.20	94.68	2.17	1.46	50.97	18.78	8.12	96.98	3.02	0.048	3523	10.3	155	03:05	21.1	55.9	1.0	
5	19.87	0.33	5.45	3.74	63.21	0.90	2.92	2.72	1.26	94.83	2.16	1.46	50.86	18.60	8.11	96.93	3.07	0.051	3589	10.2	140	02:45	21.4	55.9	1.0	
6	20.11	0.33	5.43	3.75	63.10	1.09	2.99	2.84	1.00	93.64	2.19	1.45	49.56	20.26	8.04	96.81	3.19	0.042	3536	10.4	155	03:05	21.0	55.3	1.0	
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19	19.96	0.32	5.43	3.78	63.28	0.82	2.67	3.06	1.26	94.84	2.17	1.44	51.25	18.56	7.99	96.59	3.41	0.046	3577	10.4	140	03:00	21.5	55.5	0.0	
20	19.84	0.31	5.41	3.76	63.18	0.87	2.87	3.11	1.26	95.02	2.16	1.44	51.35	18.15	7.97	96.54	3.46	0.041	3559	10.3	145	03:05	20.9	54.5	1.0	
21	19.96	0.32	5.44	3.78	63.22	0.89	2.91	2.81	1.54	94.47	2.16	1.44	49.11	20.17	8.02	96.84	3.16	0.051	3504	10.5	140	02:50	21.6	55.1	0.0	
22	19.82	0.33	5.41	3.75	63.14	0.89	2.93	3.04	1.12	94.98	2.16	1.44	51.75	17.78	7.99	96.61	3.39	0.048	3631	10.2	150	03:10	22.2	55.1	0.0	
23	19.85	0.31	5.47	3.77	63.10	0.90	2.89	2.94	1.12	94.71	2.15	1.45	51.04	18.41	8.12	96.71	3.29	0.054	3504	10.5	140	02:55	21.8	54.9	0.0	
24	19.92	0.36	5.48	3.79	63.06	0.93	2.95	2.87	1.38	94.26	2.15	1.45	49.02	20.13	8.11	96.78	3.22	0.052	3554	10.2	140	02:50	22.2	55.8	0.0	
25	19.80	0.35	5.43	3.75	63.26	0.91	2.87	3.00	1.54	95.28	2.16	1.45	50.72	18.51	8.04	96.65	3.35	0.056	3544	10.6	140	03:00	21.5	55.5	0.0	
26	20.06	0.33	5.54	3.79	63.38	0.84	2.89	2.50	1.78	94.15	2.15	1.46	47.40	21.76	8.27	97.15	2.85	0.056	3536	10.5	140	03:05	22.0	55.4	1.0	
27	19.90	0.30	5.44	3.76	63.36	0.74	3.02	2.74	1.88	94.83	2.16	1.45	48.47	20.49	8.05	96.91	3.09	0.054	3554	10.1	135	02:55	22.5	55.5	1.0	
28	19.97	0.32	5.36	3.74	63.25	0.71	2.99	2.98	1.82	94.57	2.19	1.43	48.39	20.75	7.88	96.67	3.33	0.058	3541	10.5	140	03:00	22.1	55.4	1.0	
29	19.90	0.31	5.40	3.75	63.35	0.75	3.02	2.81	1.80	94.90	2.17	1.44	49.04	20.06	7.97	96.84	3.16	0.059	3554	10.6	135	02:55	22.5	55.3	0.0	
30	19.95	0.33	5.49	3.78	63.33	0.74	3.02	2.72	1.76	94.48	2.15	1.45	48.09	20.92	8.15	96.93	3.07	0.043	3556	10.2	135	03:00	22.8	55.5	0.0	
31	20.02	0.32	5.42	3.77	63.29	0.75	3.01	2.76	1.54	94.27	2.18	1.44	48.81	20.58	7.98	96.89	3.11	0.047	3684	10.6	150	03:00	22.8	54.6	1.0	
Min.	19.80	0.30	5.36	3.74	62.91	0.71	2.67	2.50	1.00	93.49	2.15	1.43	47.40	17.78	7.88	96.54	2.85	0.04	3504	9.4	135	02:45	20.9	54.5	0.0	
Max.	20.17	0.36	5.57	3.79	63.40	1.09	3.08	3.11	1.88	95.28	2.19	1.48	51.75	21.76	8.38	97.15	3.46	0.06	3684	10.6	155	03:10	22.8	55.9	1.0	
Average	19.96	0.33	5.46	3.76	63.23	0.84	2.94	2.83	1.42	94.45	2.17	1.45	49.50	19.88	8.09	96.82	3.18	0.05	3556	10.3	143	02:58	21.9	55.3	0.6	
SD.	0.11	0.02	0.05	0.02	0.12	0.09	0.09	0.19	0.28	0.54	0.01	0.01	1.38	1.26	0.13	0.19	0.19	0.01	42.52	0.28	7	00:06	0.6	0.4	0.51	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Sep-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.			L.S.F	S.M.	A.M.	C3S	C2S	C3A	clinker	additive				Initial	Final	2 Days	28 Days	
1	20.01	0.31	5.41	3.78	63.35	0.73	3.02	2.71	1.60	94.40	2.18	1.43	48.91	20.47	7.94	96.94	3.06	0.039	3541	10.3	160	03:20	22.2	55.2	1.0	
2	19.96	0.33	5.41	3.77	63.29	0.72	2.98	2.86	1.54	94.56	2.17	1.44	49.41	19.95	7.96	96.79	3.21	0.050	3667	10.4	160	03:00	22.2	54.8	0.0	
3	20.02	0.32	5.42	3.76	63.27	0.71	2.96	2.81	1.82	94.30	2.18	1.44	47.74	21.38	8.00	96.84	3.16	0.049	3613	10.5	145	02:35	21.7	54.2	0.0	
4	19.93	0.30	5.41	3.78	63.31	0.72	3.01	2.82	1.54	94.68	2.17	1.43	49.62	19.70	7.94	96.83	3.17	0.046	3684	10.6	135	02:45	22.2	54.4	0.0	
5	20.01	0.31	5.42	3.77	63.35	0.73	3.04	2.70	1.86	94.37	2.18	1.44	47.74	21.36	7.98	96.95	3.05	0.044	3667	10.4	155	03:05	21.7	54.2	1.0	
6	20.05	0.30	5.45	3.77	63.21	0.72	2.99	2.80	1.54	94.00	2.17	1.45	48.11	21.19	8.06	96.85	3.15	0.052	3613	10.6	150	03:00	22.0	54.0	1.0	
7	19.89	0.31	5.42	3.74	63.15	0.69	3.15	2.98	1.73	94.46	2.17	1.45	48.09	20.74	8.03	96.67	3.33	0.059	3634	10.7	140	02:55	22.2	55.0	1.0	
8	20.06	0.33	5.40	3.74	63.15	0.72	3.02	2.94	1.73	93.94	2.19	1.44	47.31	21.82	7.98	96.71	3.29	0.052	3596	10.8	140	03:00	22.8	55.9	0.0	
9	20.04	0.31	5.38	3.74	63.12	0.75	3.12	2.85	1.68	93.90	2.20	1.44	47.39	21.70	7.93	96.80	3.2	0.055	3556	10.7	140	02:55	22.0	55.9	0.0	
10	19.96	0.33	5.30	3.75	63.24	0.70	3.10	2.89	1.84	94.57	2.21	1.41	48.41	20.70	7.70	96.76	3.24	0.053	3634	10.8	145	03:00	22.3	55.0	1.0	
11	19.98	0.35	5.29	3.74	63.30	0.76	3.01	2.87	1.76	94.70	2.21	1.41	49.17	20.19	7.69	96.78	3.22	0.056	3664	10.8	135	02:50	21.4	54.4	0.0	
12	20.00	0.33	5.32	3.74	63.28	0.75	3.02	2.90	1.74	94.53	2.21	1.42	48.79	20.53	7.77	96.75	3.25	0.048	3634	10.3	145	03:05	22.2	54.2	0.0	
13	19.91	0.31	5.36	3.75	63.25	0.76	2.99	2.96	1.68	94.80	2.19	1.43	49.40	19.82	7.86	96.69	3.31	0.036	3577	10.2	150	03:10	21.1	54.4	1.0	
14	19.97	0.37	5.39	3.74	63.24	0.75	3.02	2.88	1.82	94.47	2.19	1.44	48.06	21.00	7.96	96.77	3.23	0.042	3596	10.4	160	03:10	21.0	54.8	1.0	
15	19.88	0.38	5.42	3.77	63.19	0.77	3.03	2.96	1.96	94.67	2.16	1.44	47.70	21.01	7.98	96.69	3.31	0.052	3631	10.3	160	03:10	22.0	54.4	0.0	
16	19.86	0.37	5.40	3.77	63.27	0.76	3.01	2.93	1.96	94.93	2.17	1.43	48.36	20.45	7.93	96.72	3.28	0.045	3577	10.2	160	03:05	21.5	54.6	1.0	
17	19.94	0.36	5.38	3.76	63.22	0.77	3.04	2.88	1.82	94.53	2.18	1.43	48.19	20.82	7.90	96.77	3.23	0.043	3523	9.9	150	03:05	21.0	54.4	0.0	
18	19.96	0.37	5.39	3.75	63.26	0.74	3.01	2.89	1.82	94.54	2.18	1.44	48.23	20.84	7.94	96.76	3.24	0.047	3559	9.9	150	03:00	21.5	54.2	0.0	
19	19.93	0.38	5.40	3.76	63.22	0.76	3.02	2.91	1.76	94.56	2.18	1.44	48.43	20.60	7.95	96.74	3.26	0.055	3596	10.1	145	02:55	21.9	54.3	1.0	
20	20.01	0.39	5.38	3.74	63.29	0.74	2.91	2.93	1.62	94.52	2.19	1.44	49.15	20.29	7.93	96.72	3.28	0.058	3613	9.7	150	03:05	22.3	54.1	0.0	
21	19.95	0.41	5.32	3.74	63.37	0.78	2.97	2.87	1.92	94.92	2.20	1.42	48.94	20.27	7.77	96.78	3.22	0.059	3613	9.4	140	03:00	22.0	54.4	0.0	
22	20.04	0.36	5.29	3.73	63.48	0.75	2.90	2.78	1.86	94.86	2.22	1.42	49.37	20.21	7.71	96.87	3.13	0.060	3631	10.0	140	03:00	22.3	54.5	0.0	
23	19.98	0.35	5.25	3.75	63.55	0.79	2.93	2.75	1.90	95.23	2.22	1.40	50.10	19.49	7.57	96.90	3.1	0.064	3613	9.6	140	03:00	21.9	54.7	0.0	
24	19.96	0.39	5.22	3.73	63.56	0.80	2.95	2.70	1.98	95.38	2.23	1.40	50.14	19.40	7.52	96.95	3.05	0.069	3631	9.1	145	03:00	22.3	55.9	1.0	
25	20.00	0.42	5.31	3.75	63.30	0.74	2.90	2.93	1.52	94.69	2.21	1.42	50.16	19.50	7.73	96.72	3.28	0.061	3631	10.9	155	03:10	22.9	55.6	2.0	
26	19.92	0.40	5.27	3.72	63.37	0.79	3.01	2.90	1.90	95.11	2.22	1.42	49.50	19.76	7.67	96.75	3.25	0.063	3649	9.1	150	03:15	22.6	55.7	1.0	
27	20.01	0.39	5.25	3.74	63.35	0.80	3.04	2.81	1.96	94.69	2.23	1.40	48.51	20.77	7.58	96.84	3.16	0.060	3631	9.8	140	03:00	23.1	54.6	0.0	
28	19.94	0.38	5.26	3.76	63.45	0.81	3.01	2.78	1.54	95.13	2.21	1.40	51.15	18.58	7.58	96.87	3.13	0.058	3559	9.9	165	03:15	22.8	54.0	0.0	
29	19.89	0.37	5.24	3.77	63.43	0.81	2.97	2.90	1.68	95.38	2.21	1.39	51.12	18.46	7.51	96.75	3.25	0.058	3596	10.2	160	03:15	23.2	54.9	0.0	
30	19.88	0.38	5.21	3.75	63.48	0.80	2.93	2.96	1.12	95.61	2.22	1.39	54.02	16.24	7.46	96.69	3.31	0.053	3596	10.2	165	03:15	23.2	55.3	0.0	
Min.	19.86	0.30	5.21	3.72	63.12	0.69	2.90	2.70	1.12	93.90	2.16	1.39	47.31	16.24	7.46	96.67	3.05	0.04	3523	9.1	135	02:35	21.0	54.0	0.0	
Max.	20.06	0.42	5.45	3.78	63.56	0.81	3.15	2.98	1.98	95.61	2.23	1.45	54.02	21.82	8.06	96.95	3.33	0.07	3684	10.9	165	03:20	23.2	55.9	2.0	
Average	19.96	0.35	5.35	3.75	63.31	0.75	3.00	2.86	1.74	94.68	2.19	1.42	49.04	20.24	7.82	96.79	3.21	0.05	3611	10.2	149	03:02	22.1	54.7	0.4	
SD.	0.05	0.04	0.07	0.02	0.11	0.03	0.06	0.08	0.18	0.41	0.02	0.02	1.37	1.11	0.18	0.08	0.08	0.01	38.94	0.48	9	00:09	0.6	0.6	0.57	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical test S CEM I 52.5 N

Oct-19

date	Chemical Composition								Free Lime	Modula			Mineral Composition				composition		CL	Blaine	45μ	Setting Time		Compressive Strength		Expansion mm
	SO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.		LS.F	S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.92	0.37	5.24	3.77	63.42	0.73	3.03	2.89	1.73	95.17	2.21	1.39	50.47	19.03	7.51	96.76	3.24	0.052	3577	9.9	150	03:05	22.9	53.8	0.0	
2	19.96	0.38	5.33	3.76	63.45	0.72	2.94	2.82	1.84	95.00	2.20	1.42	49.51	19.88	7.76	96.83	3.17	0.057	3559	10.0	160	03:15	22.8	54.6	0.0	
3	19.93	0.37	5.31	3.77	63.44	0.73	2.98	2.82	1.68	95.09	2.19	1.41	50.35	19.15	7.69	96.83	3.17	0.068	3541	9.9	150	03:05	22.6	54.0	1.0	
4	19.94	0.38	5.30	3.77	63.40	0.74	2.90	2.90	1.68	95.09	2.20	1.41	50.41	19.14	7.67	96.75	3.25	0.072	3596	9.9	165	03:20	22.4	55.7	1.0	
5	20.03	0.36	5.32	3.79	63.41	0.70	2.94	2.78	1.54	94.64	2.20	1.40	50.06	19.66	7.69	96.87	3.13	0.064	3586	9.3	145	03:05	21.9	54.3	0.0	
6	20.00	0.35	5.30	3.78	63.44	0.71	2.90	2.87	1.68	94.90	2.20	1.40	50.10	19.54	7.65	96.78	3.22	0.062	3556	9.9	145	03:00	21.9	54.1	0.0	
7	19.98	0.40	5.25	3.72	63.50	0.74	2.91	2.86	1.74	95.21	2.23	1.41	50.65	19.07	7.62	96.79	3.21	0.063	3556	10.6	150	03:10	22.3	55.0	0.0	
8	19.92	0.38	5.27	3.74	63.48	0.75	2.93	2.91	1.90	95.35	2.21	1.41	50.15	19.28	7.64	96.74	3.26	0.060	3504	10.4	155	03:10	21.5	54.0	1.0	
9	19.88	0.36	5.25	3.75	63.46	0.78	2.96	2.90	1.92	95.48	2.21	1.40	50.33	19.03	7.57	96.75	3.25	0.065	3596	10.3	155	03:20	22.5	54.1	0.0	
10	19.91	0.37	5.28	3.75	63.37	0.74	3.02	2.93	1.76	95.09	2.20	1.41	50.01	19.35	7.65	96.72	3.28	0.065	3634	10.2	150	03:15	23.1	55.5	1.0	
11	19.87	0.37	5.29	3.76	63.41	0.75	2.99	2.93	1.58	95.33	2.20	1.41	51.22	18.33	7.66	96.72	3.28	0.052	3649	10.3	140	03:00	22.1	55.5	0.0	
12	19.89	0.37	5.31	3.76	63.38	0.77	2.94	2.95	1.82	95.22	2.19	1.41	49.97	19.33	7.71	96.70	3.3	0.050	3667	9.7	160	03:15	22.1	54.0	1.0	
13	19.92	0.38	5.29	3.78	63.37	0.76	2.96	2.90	1.40	95.08	2.20	1.40	51.47	18.28	7.63	96.75	3.25	0.059	3631	9.8	155	03:10	22.7	54.4	0.0	
14	19.96	0.37	5.36	3.78	63.35	0.75	2.93	2.86	1.96	94.79	2.18	1.42	48.41	20.70	7.81	96.79	3.21	0.054	3605	10.1	165	03:15	22.9	54.1	0.0	
15	19.90	0.38	5.37	3.77	63.31	0.73	2.98	2.92	1.68	94.91	2.18	1.42	49.65	19.60	7.85	96.73	3.27	0.062	3719	10.1	150	03:05	22.9	54.1	1.0	
16	19.88	0.37	5.38	3.78	63.37	0.72	2.93	2.92	1.68	95.11	2.17	1.42	50.11	19.19	7.86	96.73	3.27	0.066	3559	9.9	150	03:05	22.0	54.8	1.0	
17	19.91	0.38	5.39	3.77	63.38	0.73	2.91	2.93	1.68	95.02	2.17	1.43	49.92	19.42	7.90	96.72	3.28	0.063	3737	10.3	150	03:05	21.8	55.3	1.0	
18	19.86	0.37	5.35	3.77	63.44	0.71	3.02	2.85	1.68	95.27	2.18	1.42	50.50	18.84	7.80	96.80	3.2	0.065	3702	10.5	145	03:00	21.9	54.0	0.0	
19	19.95	0.37	5.39	3.72	63.38	0.70	2.92	2.95	1.74	94.89	2.19	1.45	49.42	19.91	7.99	96.70	3.3	0.059	3649	10.1	140	03:00	22.3	55.9	0.0	
20	19.90	0.36	5.40	3.76	63.40	0.75	2.98	2.81	1.76	95.01	2.17	1.44	49.50	19.71	7.95	96.84	3.16	0.074	3596	10.0	145	03:00	22.5	55.9	0.0	
21	19.94	0.37	5.36	3.75	63.33	0.76	3.01	2.83	1.65	94.78	2.19	1.43	49.56	19.78	7.86	96.82	3.18	0.068	3613	10.4	155	03:10	22.2	54.7	1.0	
22	20.00	0.39	5.31	3.72	63.53	0.82	2.92	2.69	1.70	95.06	2.21	1.43	50.35	19.36	7.78	96.96	3.04	0.061	3631	10.0	150	03:10	22.5	56.2	0.0	
23	19.98	0.41	5.32	3.67	63.42	0.80	2.96	2.82	1.82	94.96	2.22	1.45	49.46	19.97	7.89	96.83	3.17	0.070	3631	10.9	150	03:10	22.8	56.0	0.0	
24	19.86	0.39	5.29	3.69	63.25	0.81	3.12	2.95	1.78	95.05	2.21	1.43	49.56	19.55	7.78	96.70	3.3	0.065	3613	10.8	150	03:10	23.2	56.3	0.0	
25	19.93	0.38	5.28	3.68	63.30	0.82	3.04	2.96	1.96	94.95	2.22	1.43	48.80	20.32	7.77	96.69	3.31	0.067	3684	11.6	145	03:05	23.2	55.5	0.0	
26																										
27	19.87	0.37	5.31	3.62	63.39	0.81	3.02	2.99	1.82	95.36	2.23	1.47	50.14	19.14	7.95	96.66	3.34	0.061	3754	10.1	150	03:05	23.0	55.5	1.0	
28	19.96	0.38	5.33	3.70	63.45	0.81	3.01	2.74	1.96	94.98	2.21	1.44	48.91	20.33	7.86	96.91	3.09	0.071	3719	10.2	155	03:10	22.0	54.8	0.0	
29	19.88	0.37	5.36	3.75	63.40	0.82	2.93	2.83	1.82	95.22	2.18	1.43	49.84	19.40	7.86	96.82	3.18	0.073	3754	9.6	140	02:55	22.3	55.1	1.0	
30	19.86	0.38	5.29	3.74	63.34	0.81	2.99	2.98	1.82	95.28	2.20	1.41	50.06	19.17	7.69	96.67	3.33	0.071	3788	10.1	150	03:05	22.3	55.1	0.0	
31	19.90	0.38	5.31	3.75	63.30	0.82	3.02	2.89	1.90	94.97	2.20	1.42	49.03	20.06	7.73	96.76	3.24	0.054	3619	10.8	160	03:15	22.1	54.2	1.0	
Min.	19.86	0.35	5.24	3.62	63.25	0.70	2.90	2.69	1.40	94.64	2.17	1.39	48.41	18.28	7.51	96.66	3.04	0.05	3504	9.3	140	02:55	21.5	53.8	0.0	
Max.	20.03	0.41	5.40	3.79	63.53	0.82	3.12	2.99	1.96	95.48	2.23	1.47	51.47	20.70	7.99	96.96	3.34	0.07	3788	11.6	165	03:20	23.2	56.3	1.0	
Average	19.92	0.38	5.32	3.74	63.40	0.76	2.97	2.88	1.76	95.08	2.20	1.42	49.93	19.45	7.76	96.77	3.23	0.06	3634	10.2	151	03:07	22.4	54.9	0.4	
SD.	0.05	0.01	0.04	0.04	0.06	0.04	0.05	0.07	0.13	0.19	0.02	0.02	0.66	0.54	0.12	0.07	0.07	0.01	71.21	0.44	7	00:06	0.5	0.8	0.49	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Nov-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.	L.S.F		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.94	0.39	5.33	3.75	63.27	0.80	2.96	2.92	1.76	94.79	2.20	1.42	49.21	20.04	7.78	96.73	3.27	0.057	3649	10.6	155	03:10	22.7	55.1	1.0	
2	19.97	0.38	5.35	3.75	63.33	0.78	2.92	2.82	1.68	94.77	2.19	1.43	49.53	19.89	7.83	96.83	3.17	0.060	3631	10.5	155	03:15	22.2	55.9	1.0	
3																										
4	20.05	0.39	5.27	3.72	63.41	0.80	2.92	2.78	1.68	94.73	2.23	1.42	49.83	19.89	7.67	96.87	3.13	0.061	3754	10.2	145	03:05	22.9	56.4	0.0	
5	20.10	0.38	5.31	3.67	63.36	0.80	2.96	2.77	1.40	94.39	2.24	1.45	50.06	19.86	7.87	96.88	3.12	0.054	3631	10.3	150	03:05	22.7	56.4	0.0	
6	19.95	0.42	5.29	3.63	63.43	0.78	2.93	2.95	1.70	95.22	2.24	1.46	50.56	19.06	7.88	96.70	3.3	0.061	3754	11.1	150	03:10	22.7	56.5	0.0	
7	20.02	0.41	5.25	3.61	63.50	0.80	2.95	2.84	1.62	95.10	2.26	1.45	50.88	19.02	7.80	96.81	3.19	0.065	3694	10.8	150	03:05	23.2	56.1	1.0	
8	20.01	0.43	5.22	3.65	63.51	0.81	2.93	2.85	1.59	95.20	2.26	1.43	51.32	18.66	7.66	96.80	3.2	0.064	3719	10.6	145	03:10	22.9	55.3	0.0	
9	19.99	0.41	5.26	3.66	63.48	0.82	2.99	2.77	1.68	95.09	2.24	1.44	50.53	19.19	7.75	96.88	3.12	0.051	3702	10.3	160	03:15	22.7	54.8	1.0	
10	19.94	0.42	5.27	3.65	63.41	0.81	2.98	2.91	1.68	95.19	2.24	1.44	50.60	19.00	7.79	96.74	3.26	0.045	3722	10.5	160	03:20	22.3	54.5	0.0	
11	19.99	0.41	5.29	3.66	63.42	0.82	3.02	2.78	1.68	94.91	2.23	1.45	49.99	19.60	7.83	96.87	3.13	0.049	3684	10.4	165	03:20	22.9	55.1	0.0	
12	19.90	0.42	5.26	3.65	63.38	0.87	3.01	2.93	1.68	95.29	2.23	1.44	50.76	18.76	7.76	96.72	3.28	0.051	3702	10.1	155	03:10	22.7	54.5	0.0	
13																										
14	19.92	0.42	5.24	3.65	63.37	0.84	3.03	2.95	1.46	95.21	2.24	1.44	51.54	18.23	7.71	96.70	3.3	0.057	3771	10.8	155	03:10	23.3	54.7	0.0	
15	20.00	0.40	5.28	3.71	63.46	0.81	3.03	2.70	1.68	94.89	2.22	1.42	50.05	19.58	7.71	96.95	3.05	0.070	3702	10.5	145	03:00	22.5	54.8	1.0	
16																										
17	19.93	0.39	5.30	3.65	63.31	0.75	3.08	2.95	1.59	94.91	2.23	1.45	50.15	19.31	7.87	96.70	3.3	0.062	3613	10.8	150	03:10	22.6	56.6	1.0	
18																										
19	20.05	0.41	5.32	3.70	63.30	0.80	2.95	2.86	1.65	94.47	2.22	1.44	49.11	20.43	7.84	96.79	3.21	0.065	3613	10.5	150	03:20	22.6	55.9	1.0	
20	19.97	0.40	5.25	3.65	63.36	0.78	3.03	2.96	1.54	94.97	2.24	1.44	50.73	18.99	7.74	96.69	3.31	0.063	3702	10.9	150	03:15	22.7	56.9	0.0	
21																										
22	20.01	0.41	5.34	3.71	63.39	0.77	2.84	2.93	1.82	94.84	2.21	1.44	49.26	20.21	7.87	96.72	3.28	0.061	3702	10.7	145	03:00	22.1	55.7	0.0	
23	19.93	0.39	5.29	3.72	63.32	0.74	3.02	2.99	1.70	94.95	2.21	1.42	49.88	19.51	7.72	96.66	3.34	0.063	3631	10.1	170	03:25	22.1	55.2	0.0	
24	19.96	0.40	5.28	3.74	63.31	0.73	3.01	2.96	1.54	94.82	2.21	1.41	50.33	19.26	7.66	96.69	3.31	0.054	3486	10.4	165	03:15	22.1	55.3	0.0	
25	19.98	0.38	5.25	3.71	63.37	0.74	2.99	2.96	1.82	94.93	2.23	1.42	49.58	19.88	7.64	96.69	3.31	0.051	3684	10.1	150	03:00	23.2	55.9	0.0	
26	19.93	0.39	5.24	3.68	63.48	0.73	2.96	2.99	1.59	95.38	2.23	1.42	51.54	18.26	7.66	96.66	3.34	0.071	3719	9.6	160	03:10	23.2	56.2	0.0	
27	19.92	0.40	5.26	3.69	63.37	0.74	3.01	3.01	1.68	95.16	2.23	1.43	50.51	19.01	7.70	96.64	3.36	0.073	3737	9.8	165	03:15	22.7	56.1	0.0	
28	19.96	0.42	5.33	3.74	63.29	0.73	3.00	2.95	1.54	94.71	2.20	1.43	49.94	19.55	7.80	96.70	3.3	0.054	3596	10.1	145	03:00	22.4	56.5	0.0	
29	19.92	0.40	5.29	3.76	63.24	0.71	3.05	3.00	1.37	94.79	2.20	1.41	50.83	18.77	7.66	96.65	3.35	0.063	3564	9.9	160	03:15	22.3	55.7	1.0	
30	19.96	0.39	5.38	3.78	63.15	0.66	3.12	2.91	1.42	94.24	2.18	1.42	49.12	20.17	7.86	96.74	3.26	0.052	3613	10.8	155	03:15	22.4	55.6	1.0	
Min.	19.90	0.38	5.22	3.61	63.15	0.66	2.84	2.70	1.37	94.24	2.18	1.41	49.11	18.23	7.64	96.64	3.05	0.05	3486	9.6	145	03:00	22.1	54.5	0.0	
Max.	20.10	0.43	5.38	3.78	63.51	0.87	3.12	3.01	1.82	95.38	2.26	1.46	51.54	20.43	7.88	96.95	3.36	0.07	3771	11.1	170	03:25	23.3	56.9	1.0	
Average	19.97	0.40	5.29	3.69	63.37	0.78	2.99	2.90	1.62	94.92	2.22	1.43	50.23	19.36	7.76	96.75	3.25	0.06	3671	10.4	154	03:11	22.6	55.7	0.4	
SD.	0.05	0.01	0.04	0.05	0.09	0.05	0.06	0.09	0.12	0.28	0.02	0.01	0.71	0.60	0.08	0.09	0.09	0.01	66.99	0.37	7	00:06	0.4	0.7	0.49	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical test CEM I 52.5 N

Dec-19

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45μ	Setting Tim Compressive Strength				Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.I.	LS.F		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.94	0.39	5.33	3.75	63.27	0.80	2.96	2.92	1.76	94.79	2.20	1.42	49.21	20.04	7.78	96.73	3.27	0.057	3649	10.6	155	03:10	22.7	55.1	1.0	
2	19.97	0.38	5.35	3.75	63.33	0.78	2.92	2.82	1.68	94.77	2.19	1.43	49.53	19.89	7.83	96.83	3.17	0.060	3631	10.5	155	03:15	22.2	55.9	1.0	
3																										
4	20.05	0.39	5.27	3.72	63.41	0.80	2.92	2.78	1.68	94.73	2.23	1.42	49.83	19.89	7.67	96.87	3.13	0.061	3754	10.2	145	03:05	22.9	56.4	0.0	
5	20.10	0.38	5.31	3.67	63.36	0.80	2.96	2.77	1.40	94.39	2.24	1.45	50.06	19.86	7.87	96.88	3.12	0.054	3631	10.3	150	03:05	22.7	56.4	0.0	
6	19.95	0.42	5.29	3.63	63.43	0.78	2.93	2.95	1.70	95.22	2.24	1.46	50.56	19.06	7.88	96.70	3.3	0.061	3754	11.1	150	03:10	22.7	56.5	0.0	
7	20.02	0.41	5.25	3.61	63.50	0.80	2.95	2.84	1.62	95.10	2.26	1.45	50.88	19.02	7.80	96.81	3.19	0.065	3694	10.8	150	03:05	23.2	56.1	1.0	
8	20.01	0.43	5.22	3.65	63.51	0.81	2.93	2.85	1.59	95.20	2.26	1.43	51.32	18.66	7.66	96.80	3.2	0.064	3719	10.6	145	03:10	22.9	55.3	0.0	
9	19.99	0.41	5.26	3.66	63.48	0.82	2.99	2.77	1.68	95.09	2.24	1.44	50.53	19.19	7.75	96.88	3.12	0.051	3702	10.3	160	03:15	22.7	54.8	1.0	
10	19.94	0.42	5.27	3.65	63.41	0.81	2.98	2.91	1.68	95.19	2.24	1.44	50.60	19.00	7.79	96.74	3.26	0.045	3722	10.5	160	03:20	22.3	54.5	0.0	
11	19.99	0.41	5.29	3.66	63.42	0.82	3.02	2.78	1.68	94.91	2.23	1.45	49.99	19.60	7.83	96.87	3.13	0.049	3684	10.4	165	03:20	22.9	55.1	0.0	
12	19.90	0.42	5.26	3.65	63.38	0.87	3.01	2.93	1.68	95.29	2.23	1.44	50.76	18.76	7.76	96.72	3.28	0.051	3702	10.1	155	03:10	22.7	54.5	0.0	
13																										
14	19.92	0.42	5.24	3.65	63.37	0.84	3.03	2.95	1.46	95.21	2.24	1.44	51.54	18.23	7.71	96.70	3.3	0.057	3771	10.8	155	03:10	23.3	54.7	0.0	
15	20.00	0.40	5.28	3.71	63.46	0.81	3.03	2.70	1.68	94.89	2.22	1.42	50.05	19.58	7.71	96.95	3.05	0.070	3702	10.5	145	03:00	22.5	54.8	1.0	
16																										
17	19.93	0.39	5.30	3.65	63.31	0.75	3.08	2.95	1.59	94.91	2.23	1.45	50.15	19.31	7.87	96.70	3.3	0.062	3613	10.8	150	03:10	22.6	56.6	1.0	
18																										
19	20.05	0.41	5.32	3.70	63.30	0.80	2.95	2.86	1.65	94.47	2.22	1.44	49.11	20.43	7.84	96.79	3.21	0.065	3613	10.5	150	03:20	22.6	55.9	1.0	
20	19.97	0.40	5.25	3.65	63.36	0.78	3.03	2.96	1.54	94.97	2.24	1.44	50.73	18.99	7.74	96.69	3.31	0.063	3702	10.9	150	03:15	22.7	56.9	0.0	
21																										
22	20.01	0.41	5.34	3.71	63.39	0.77	2.84	2.93	1.82	94.84	2.21	1.44	49.26	20.21	7.87	96.72	3.28	0.061	3702	10.7	145	03:00	22.1	55.7	0.0	
23	19.93	0.39	5.29	3.72	63.32	0.74	3.02	2.99	1.70	94.95	2.21	1.42	49.88	19.51	7.72	96.66	3.34	0.063	3631	10.1	170	03:25	22.1	55.2	0.0	
24	19.96	0.40	5.28	3.74	63.31	0.73	3.01	2.96	1.54	94.82	2.21	1.41	50.33	19.26	7.66	96.69	3.31	0.054	3486	10.4	165	03:15	22.1	55.3	0.0	
25	19.98	0.38	5.25	3.71	63.37	0.74	2.99	2.96	1.82	94.93	2.23	1.42	49.58	19.88	7.64	96.69	3.31	0.051	3684	10.1	150	03:00	23.2	55.9	0.0	
26	19.93	0.39	5.24	3.68	63.48	0.73	2.96	2.99	1.59	95.38	2.23	1.42	51.54	18.26	7.66	96.66	3.34	0.071	3719	9.6	160	03:10	23.2	56.2	0.0	
27	19.92	0.40	5.26	3.69	63.37	0.74	3.01	3.01	1.68	95.16	2.23	1.43	50.51	19.01	7.70	96.64	3.36	0.073	3737	9.8	165	03:15	22.7	56.1	0.0	
28	19.96	0.42	5.33	3.74	63.29	0.73	3.00	2.95	1.54	94.71	2.20	1.43	49.94	19.55	7.80	96.70	3.3	0.054	3596	10.1	145	03:00	22.4	56.5	0.0	
29	19.92	0.40	5.29	3.76	63.24	0.71	3.05	3.00	1.37	94.79	2.20	1.41	50.83	18.77	7.66	96.65	3.35	0.063	3564	9.9	160	03:15	22.3	55.7	1.0	
30	19.96	0.39	5.38	3.78	63.15	0.66	3.12	2.91	1.42	94.24	2.18	1.42	49.12	20.17	7.86	96.74	3.26	0.052	3613	10.8	155	03:15	22.4	55.6	1.0	
31	20.08	0.39	5.43	3.66	63.45	0.76	3.02	2.51	1.40	94.35	2.21	1.48	49.63	20.13	8.20	97.14	2.86	0.044	3702	10.8	145	03:00	22.3	56.6	1.0	
Min.	19.90	0.38	5.22	3.61	63.15	0.66	2.84	2.51	1.37	94.24	2.18	1.41	49.11	18.23	7.64	96.64	2.86	0.04	3486	9.6	145	03:00	22.1	54.5	0.0	
Max.	20.10	0.43	5.43	3.78	63.51	0.87	3.12	3.01	1.82	95.38	2.26	1.48	51.54	20.43	8.20	97.14	3.36	0.07	3771	11.1	170	03:25	23.3	56.9	1.0	
Average	19.98	0.40	5.29	3.69	63.37	0.78	2.99	2.88	1.61	94.90	2.22	1.43	50.21	19.39	7.78	96.77	3.23	0.06	3672	10.4	154	03:10	22.6	55.7	0.4	
SD.	0.05	0.01	0.05	0.05	0.09	0.05	0.06	0.11	0.12	0.30	0.02	0.02	0.71	0.60	0.12	0.11	0.11	0.01	65.91	0.37	7	00:07	0.4	0.7	0.49	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Jan-20

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45μ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.	L.S.F		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.98	0.35	5.38	3.64	63.35	0.72	3.00	2.87	1.68	94.73	2.22	1.48	49.27	20.12	8.10	96.73	3.27	0.047	3754	10.6	140	02:55	23.4	56.7	1.0	
2	20.06	0.39	5.41	3.61	63.46	0.75	3.10	2.43	1.58	94.44	2.22	1.50	49.07	20.49	8.23	97.17	2.83	0.050	3631	10.8	150	03:05	23.1	56.9	0.0	
3	20.10	0.38	5.41	3.62	63.48	0.78	3.03	2.55	1.79	94.37	2.23	1.49	48.18	21.28	8.21	97.05	2.95	0.041	3719	11.3	145	03:05	22.5	56.4	0.0	
4	20.22	0.38	5.46	3.62	63.46	0.77	2.64	2.53	1.54	94.19	2.23	1.51	48.98	21.02	8.34	97.07	2.93	0.048	3373	10.5	165	03:20	20.5	57.5	0.0	
5	20.11	0.39	5.43	3.67	63.43	0.80	3.06	2.50	1.26	94.14	2.21	1.48	49.76	20.11	8.18	97.10	2.90	0.041	3613	11.4	140	02:55	21.9	56.3	0.0	
6	20.04	0.37	5.42	3.67	63.35	0.78	3.04	2.66	1.68	94.34	2.20	1.48	48.38	20.95	8.15	96.94	3.06	0.046	3719	10.8	130	02:50	22.3	56.7	0.0	
7	20.15	0.38	5.42	3.67	63.41	0.79	2.99	2.52	1.40	94.04	2.22	1.48	49.08	20.75	8.15	97.08	2.92	0.048	3719	10.1	135	02:55	22.5	57.2	0.0	
8	20.05	0.38	5.38	3.70	63.47	0.79	3.04	2.54	1.26	94.53	2.21	1.45	50.73	19.21	8.00	97.06	2.94	0.050	3771	10.9	155	03:15	22.6	56.9	0.0	
9	20.08	0.39	5.39	3.67	63.46	0.78	3.12	2.47	1.45	94.31	2.22	1.47	49.44	20.27	8.07	97.13	2.87	0.046	3754	10.8	155	03:10	22.7	56.1	0.0	
10	19.98	0.40	5.43	3.72	63.41	0.78	3.14	2.44	1.40	94.51	2.18	1.46	49.80	19.71	8.10	97.16	2.84	0.053	3771	10.7	155	03:10	22.5	57.2	0.0	
11	20.01	0.39	5.42	3.74	63.38	0.78	3.06	2.48	1.45	94.42	2.18	1.45	49.51	20.02	8.03	97.12	2.88	0.045	3719	10.6	150	03:05	22.2	57.3	0.0	
12	19.99	0.38	5.41	3.68	63.45	0.77	2.91	2.67	1.40	94.85	2.20	1.47	50.74	19.04	8.11	96.93	3.07	0.040	3788	10.9	140	03:00	22.5	56.5	0.0	
13	19.95	0.40	5.46	3.71	63.45	0.73	2.98	2.60	1.32	94.82	2.18	1.47	50.79	18.88	8.19	97.00	3.00	0.033	3754	10.6	140	03:05	22.8	56.9	1.0	
14	20.03	0.36	5.41	3.70	63.43	0.72	2.99	2.62	1.28	94.55	2.20	1.46	50.58	19.27	8.08	96.98	3.02	0.040	3856	10.6	145	03:05	22.3	57.6	0.0	
15	20.10	0.39	5.46	3.71	63.43	0.76	2.88	2.61	1.42	94.29	2.19	1.47	49.44	20.33	8.19	96.99	3.01	0.041	3791	10.6	140	03:00	22.6	57.2	1.0	
16	19.95	0.40	5.40	3.65	63.40	0.74	2.96	2.77	1.36	94.93	2.20	1.48	50.97	18.75	8.13	96.83	3.17	0.042	3771	10.7	135	02:50	25.6	58.1	0.0	
17	19.98	0.39	5.42	3.68	63.44	0.75	3.04	2.67	1.26	94.72	2.20	1.47	50.90	18.88	8.14	96.93	3.07	0.036	3984	9.3	135	02:45	26.7	57.5	0.0	
18	20.04	0.40	5.41	3.70	63.36	0.78	3.07	2.64	1.34	94.31	2.20	1.46	49.75	19.92	8.08	96.96	3.04	0.041	4193	8.1	155	03:10	26.2	56.7	0.0	
19	20.07	0.39	5.44	3.71	63.39	0.77	3.04	2.54	1.28	94.21	2.19	1.47	49.76	20.00	8.14	97.06	2.94	0.045	3955	9.6	125	02:45	22.1	56.2	0.0	
20	19.99	0.40	5.43	3.70	63.31	0.77	3.09	2.72	1.34	94.39	2.19	1.47	49.73	19.79	8.13	96.88	3.12	0.044	3805	8.9	145	02:55	24.7	56.2	0.0	
21	20.07	0.38	5.42	3.71	63.45	0.77	3.04	2.53	1.38	94.34	2.20	1.46	49.73	20.03	8.09	97.07	2.93	0.047	3737	7.9	145	02:55	23.6	56.6	1.0	
22	20.08	0.40	5.44	3.71	63.43	0.77	2.98	2.59	1.26	94.30	2.19	1.47	50.10	19.78	8.14	97.01	2.99	0.045	3631	10.5	130	02:40	22.4	56.2	0.0	
23	19.98	0.39	5.45	3.73	63.47	0.78	3.01	2.56	1.45	94.70	2.18	1.46	50.06	19.51	8.13	97.04	2.96	0.047	3649	8.6	145	02:55	22.5	56.1	0.0	
24	19.98	0.41	5.44	3.67	63.55	0.75	2.98	2.51	1.45	94.93	2.19	1.48	50.63	19.09	8.21	97.09	2.91	0.047	3667	9.0	150	03:05	22.3	56.0	1.0	
25	19.96	0.40	5.44	3.68	63.45	0.73	3.11	2.55	1.68	94.70	2.19	1.48	49.05	20.22	8.19	97.05	2.95	0.048	3649	9.3	145	03:05	24.9	58.9	1.0	
26	20.03	0.39	5.41	3.66	63.54	0.75	2.90	2.62	1.40	94.85	2.21	1.48	50.85	19.06	8.14	96.98	3.02	0.044	3631	10.0	140	03:00	23.1	57.3	0.0	
27	20.04	0.40	5.40	3.67	63.54	0.78	2.89	2.54	1.40	94.83	2.21	1.47	50.86	19.09	8.10	97.06	2.94	0.060	3631	10.0	125	02:45	23.1	56.5	0.0	
28	20.27	0.41	5.39	3.64	63.34	0.76	2.94	2.55	1.40	93.59	2.24	1.48	48.27	21.70	8.12	97.05	2.95	0.057	3577	8.8	130	02:45	22.4	56.2	0.0	
29	20.13	0.39	5.41	3.66	63.39	0.78	3.12	2.49	1.32	93.98	2.22	1.48	49.18	20.61	8.14	97.11	2.89	0.058	3577	10.0	135	02:50	23.1	57.1	0.0	
30	20.00	0.41	5.40	3.65	63.51	0.74	3.03	2.63	1.44	94.82	2.21	1.48	50.51	19.24	8.13	96.97	3.03	0.062	3577	9.9	135	02:50	24.6	58.9	0.0	
31	19.99	0.40	5.42	3.66	63.55	0.77	3.01	2.59	1.59	94.90	2.20	1.48	50.05	19.56	8.17	97.01	2.99	0.059	3577	9.6	130	02:50	22.8	56.1	0.0	
Min.	19.95	0.35	5.38	3.61	63.31	0.72	2.64	2.43	1.26	93.59	2.18	1.45	48.18	18.75	8.00	96.73	2.83	0.03	3373	7.9	125	02:40	20.5	56.0	0.0	
Max.	20.27	0.41	5.46	3.74	63.55	0.80	3.14	2.87	1.79	94.93	2.24	1.51	50.97	21.70	8.34	97.17	3.27	0.06	4193	11.4	165	03:20	26.7	58.9	1.0	
Average	20.05	0.39	5.42	3.68	63.44	0.76	3.01	2.58	1.43	94.48	2.20	1.47	49.81	19.89	8.14	97.02	2.98	0.05	3721	10.0	142	02:58	23.1	56.9	0.2	
SD.	0.08	0.01	0.02	0.03	0.06	0.02	0.10	0.10	0.14	0.32	0.02	0.01	0.81	0.76	0.06	0.10	0.10	0.01	147.63	0.92	10	00:09	1.3	0.8	0.41	



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Feb-20

date	Chemical Composition								Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45µ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.		L.S.F	S.M.	A.M.	C3S	C2S	C3A	clinker	additive				Initial	Final	2 Days	28 Days	
1	20.11	0.40	5.43	3.65	63.52	0.75	3.08	2.47	1.40	94.28	2.21	1.49	49.53	20.29	8.21	97.13	2.87	0.067	3486	7.7	140	02:50	22.2	56.2	1.0
2	19.99	0.39	5.46	3.67	63.45	0.77	3.04	2.61	1.54	94.63	2.19	1.49	49.47	19.99	8.26	96.99	3.01	0.065	3486	9.9	140	02:50	21.8	54.8	0.0
3	20.02	0.40	5.46	3.67	63.51	0.76	3.04	2.54	1.32	94.60	2.19	1.49	50.38	19.39	8.26	97.06	2.94	0.069	3504	9.0	140	02:50	21.9	56.0	0.0
4	20.04	0.41	5.45	3.67	63.43	0.75	3.11	2.56	1.40	94.34	2.20	1.49	49.45	20.15	8.23	97.04	2.96	0.055	3541	7.7	140	02:50	22.1	56.6	0.0
5	19.91	0.40	5.41	3.64	63.36	0.77	3.12	2.81	1.34	94.85	2.20	1.49	50.68	18.85	8.18	96.79	3.21	0.047	3613	10.1	145	02:55	22.7	56.4	0.0
6	19.94	0.41	5.42	3.65	63.31	0.78	3.14	2.76	1.54	94.60	2.20	1.48	49.30	19.98	8.19	96.84	3.16	0.048	3684	9.8	135	02:45	23.7	56.6	0.0
7	19.96	0.40	5.40	3.64	63.49	0.77	3.15	2.54	1.54	94.83	2.21	1.48	50.00	19.51	8.15	97.06	2.94	0.055	3504	10.7	150	03:00	23.1	55.7	0.0
8	19.95	0.41	5.40	3.68	63.35	0.75	3.21	2.56	1.48	94.55	2.20	1.47	49.52	19.84	8.08	97.04	2.96	0.051	3467	10.6	140	03:00	22.5	56.5	1.0
9	19.94	0.40	5.43	3.70	63.35	0.73	3.18	2.65	1.56	94.55	2.18	1.47	49.12	20.11	8.13	96.95	3.05	0.060	3504	11.7	150	03:05	22.4	56.0	1.0
10	19.96	0.38	5.44	3.70	63.48	0.74	3.15	2.52	1.68	94.69	2.18	1.47	49.03	20.24	8.16	97.08	2.92	0.062	3486	11.1	145	03:00	22.5	56.9	0.0
11	19.96	0.40	5.40	3.65	63.39	0.72	3.18	2.62	1.60	94.63	2.21	1.48	49.25	20.07	8.13	96.98	3.02	0.055	3684	10.1	140	02:50	22.2	56.1	0.0
12	19.95	0.36	5.41	3.62	63.35	0.70	3.14	2.73	1.62	94.67	2.21	1.49	49.17	20.11	8.21	96.87	3.13	0.061	3755	10.2	125	02:45	22.3	56.5	0.0
13	19.90	0.41	5.44	3.66	63.39	0.75	3.23	2.55	1.40	94.75	2.19	1.49	50.09	19.27	8.22	97.05	2.95	0.064	3717	11.4	125	02:45	22.5	56.1	0.0
14	19.92	0.40	5.45	3.64	63.34	0.77	3.09	2.79	1.40	94.74	2.19	1.50	50.09	19.32	8.28	96.81	3.19	0.074	3620	11.8	115	02:55	22.1	54.8	1.0
15	19.90	0.41	5.41	3.65	63.43	0.72	3.12	2.77	1.46	94.99	2.20	1.48	50.54	18.93	8.16	96.83	3.17	0.068	3577	9.6	150	03:05	23.0	57.5	0.0
16	19.95	0.40	5.40	3.64	63.45	0.74	3.09	2.74	1.68	94.87	2.21	1.48	49.51	19.85	8.15	96.86	3.14	0.068	3717	11.6	140	03:05	21.7	54.1	0.0
17	19.84	0.42	5.38	3.62	63.31	0.76	3.11	2.98	1.54	95.14	2.20	1.49	50.45	18.82	8.13	96.62	3.38	0.071	3793	11.2	150	03:05	22.4	55.0	0.0
18	19.92	0.41	5.39	3.64	63.34	0.74	3.12	2.84	1.40	94.81	2.21	1.48	50.41	19.08	8.12	96.76	3.24	0.070	3974	9.4	145	03:00	23.2	55.8	0.0
19	20.02	0.42	5.42	3.64	63.43	0.77	3.06	2.68	1.51	94.55	2.21	1.49	49.54	20.02	8.20	96.92	3.08	0.061	3961	10.4	135	02:50	23.2	56.6	0.0
20	19.92	0.41	5.42	3.63	63.38	0.76	3.12	2.76	1.37	94.83	2.20	1.49	50.51	19.01	8.22	96.84	3.16	0.063	3922	11.2	140	02:40	21.1	57.2	1.0
21	19.95	0.35	5.45	3.68	63.31	0.72	3.05	2.82	1.54	94.58	2.19	1.48	49.23	20.06	8.22	96.78	3.22	0.060	3849	11.9	125	02:35	21.0	55.0	1.0
22	20.08	0.38	5.47	3.71	63.15	0.72	3.06	2.79	1.48	93.73	2.19	1.47	47.63	21.64	8.22	96.81	3.19	0.065	3812	11.5	120	02:40	20.7	54.5	0.0
23	20.01	0.39	5.50	3.68	63.14	0.74	3.08	2.75	1.38	93.95	2.18	1.49	48.31	20.92	8.35	96.85	3.15	0.060	3755	12.7	120	02:40	21.6	55.8	1.0
24	20.00	0.40	5.54	3.68	63.10	0.74	3.13	2.81	1.30	93.81	2.17	1.51	48.14	21.02	8.45	96.79	3.21	0.058	3717	12.5	115	02:35	21.1	55.9	0.0
25	19.96	0.37	5.51	3.62	63.38	0.75	3.04	2.70	1.51	94.61	2.19	1.52	49.27	20.05	8.48	96.90	3.1	0.063	3717	10.7	115	02:30	22.4	56.3	1.0
26	19.94	0.41	5.55	3.63	63.41	0.76	3.05	2.61	1.24	94.65	2.17	1.53	50.34	19.19	8.57	96.99	3.01	0.060	3717	11.0	115	02:25	21.7	54.5	1.0
27	19.85	0.39	5.55	3.60	63.24	0.76	3.22	2.78	1.48	94.60	2.17	1.54	48.91	20.01	8.62	96.82	3.18	0.065	3659	10.9	120	02:40	21.5	55.6	0.0
28	19.80	0.41	5.52	3.61	63.18	0.74	3.40	2.73	1.82	94.56	2.17	1.53	47.33	21.06	8.52	96.87	3.13	0.063	3755	11.5	145	02:55	21.4	55.4	1.0
29	19.85	0.40	5.54	3.63	63.25	0.76	3.18	2.81	2.10	94.65	2.16	1.53	46.56	21.78	8.54	96.79	3.21	0.072	3812	10.3	140	02:50	21.2	55.1	0.0
Min.	19.80	0.35	5.38	3.60	63.10	0.70	3.04	2.47	1.24	93.73	2.16	1.47	46.56	18.82	8.08	96.62	2.87	0.05	3467	7.7	115	02:25	20.7	54.1	0.0
Max.	20.11	0.42	5.55	3.71	63.52	0.78	3.40	2.98	2.10	95.14	2.21	1.54	50.68	21.78	8.62	97.13	3.38	0.07	3974	12.7	150	03:05	23.7	57.5	1.0
Average	19.95	0.40	5.45	3.65	63.35	0.75	3.13	2.70	1.50	94.59	2.19	1.49	49.37	19.95	8.26	96.90	3.10	0.06	3682	10.6	135	02:49	22.1	55.8	0.3
SD.	0.07	0.02	0.05	0.03	0.11	0.02	0.08	0.12	0.17	0.32	0.01	0.02	1.01	0.78	0.15	0.12	0.12	0.01	148.01	1.20	12	00:10	0.7	0.8	0.48



Sinai Cement Company
Quality Control & Lab.

Chemical analysis & Physical tests CEM I 52.5 N

Mar-20

date	Chemical Composition									Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45μ	Setting Time		Compressive Strength		Expansion mm
	SiO2	Ins. R.	Al2O3	Fe2O3	CaO	MgO	SO3	L.O.L.	L.S.F		S.M.	A.M.	C3S	C2S	C3A	clinker	additive	Initial				Final	2 Days	28 Days		
1	19.93	0.40	5.54	3.63	63.34	0.75	3.27	2.56	2.18	94.36	2.17	1.53	45.74	22.63	8.54	96.94	3.06	0.065	3719	11.3	145	02:55	21.5	54.0	1.0	
2	19.80	0.41	5.51	3.60	63.17	0.74	3.47	2.71	1.96	94.49	2.17	1.53	46.61	21.61	8.51	96.79	3.21	0.059	3774	10.7	150	03:00	21.3	53.7	2.0	
3	19.77	0.40	5.49	3.59	63.14	0.76	3.38	2.90	1.82	94.71	2.18	1.53	47.69	20.71	8.47	96.60	3.40	0.063	3812	11.0	130	02:40	21.9	54.4	0.0	
4	19.76	0.38	5.58	3.58	63.11	0.74	3.48	2.79	1.82	94.45	2.16	1.56	46.77	21.37	8.73	96.71	3.29	0.061	3849	10.5	125	02:40	22.2	55.4	1.0	
5	19.77	0.38	5.57	3.59	63.14	0.75	3.29	2.91	1.68	94.67	2.16	1.55	47.98	20.49	8.69	96.59	3.41	0.059	3755	11.6	140	02:50	21.2	55.6	0.0	
6	19.75	0.40	5.52	3.60	63.00	0.73	3.42	2.93	1.90	94.47	2.17	1.53	46.61	21.46	8.54	96.57	3.43	0.061	3812	12.0	140	02:55	21.1	54.1	0.0	
7	19.68	0.38	5.45	3.59	63.25	0.73	3.43	2.78	2.06	95.27	2.18	1.52	47.97	20.24	8.37	96.72	3.28	0.055	3849	11.0	125	02:40	21.5	55.7	0.0	
8	19.79	0.37	5.46	3.59	63.45	0.67	3.36	2.66	2.04	95.19	2.19	1.52	48.16	20.41	8.39	96.84	3.16	0.078	3774	11.5	130	02:45	22.3	55.4	0.0	
9	19.86	0.41	5.45	3.58	63.50	0.68	3.35	2.55	1.98	95.01	2.20	1.52	48.19	20.59	8.39	96.95	3.05	0.060	3717	11.2	130	02:40	22.1	56.7	1.0	
10	20.05	0.36	5.52	3.64	63.42	0.69	3.26	2.40	1.70	94.03	2.19	1.52	47.26	21.83	8.47	97.10	2.90	0.074	3738	11.1	130	02:45	22.0	56.1	0.0	
11	20.00	0.37	5.47	3.60	63.30	0.68	3.25	2.70	1.68	94.18	2.21	1.52	47.65	21.39	8.40	96.80	3.20	0.063	3812	11.0	140	02:55	22.7	56.8	1.0	
12	19.95	0.38	5.46	3.68	63.32	0.70	3.30	2.50	1.76	94.30	2.18	1.48	47.60	21.29	8.24	97.00	3.00	0.075	3738	11.7	140	03:05	22.2	57.8	0.0	
13	19.93	0.38	5.49	3.69	63.30	0.71	3.35	2.53	1.78	94.24	2.17	1.49	47.23	21.51	8.31	96.97	3.03	0.074	3774	11.5	130	02:45	22.1	57.0	0.0	
14	19.89	0.39	5.46	3.68	63.28	0.73	3.35	2.62	1.94	94.43	2.18	1.48	47.01	21.56	8.24	96.88	3.12	0.077	3812	11.0	120	02:40	21.7	55.8	0.0	
15	19.86	0.38	5.45	3.64	63.24	0.74	3.26	2.82	1.97	94.65	2.18	1.50	47.34	21.23	8.28	96.68	3.32	0.072	3667	11.2	145	02:55	22.2	55.9	0.0	
16	19.91	0.38	5.47	3.65	63.36	0.74	3.37	2.50	1.82	94.47	2.18	1.50	47.60	21.18	8.32	97.00	3.00	0.072	3886	10.2	120	02:30	21.6	56.4	1.0	
17	19.94	0.37	5.49	3.69	63.32	0.73	3.24	2.61	1.34	94.35	2.17	1.49	49.34	19.95	8.31	96.89	3.11	0.052	3620	10.2	140	02:50	21.5	57.2	1.0	
18	19.92	0.38	5.48	3.68	63.26	0.74	3.21	2.71	1.34	94.40	2.17	1.49	49.41	19.83	8.30	96.79	3.21	0.070	3678	11.7	145	02:55	21.7	57.2	0.0	
19	19.97	0.37	5.49	3.69	63.37	0.73	3.22	2.56	1.54	94.33	2.18	1.49	48.56	20.62	8.31	96.94	3.06	0.063	3830	10.8	135	02:45	21.2	56.0	1.0	
20	19.88	0.38	5.46	3.69	63.24	0.71	3.31	2.70	1.54	94.45	2.17	1.48	48.66	20.29	8.23	96.80	3.20	0.061	3717	12.7	130	02:40	21.2	55.3	0.0	
21	19.93	0.39	5.41	3.70	63.28	0.70	3.22	2.76	1.38	94.48	2.19	1.46	49.67	19.67	8.08	96.74	3.26	0.050	3717	11.0	155	03:05	21.7	56.1	1.0	
22	20.00	0.35	5.39	3.72	63.23	0.72	3.20	2.63	1.40	94.15	2.20	1.45	49.01	20.36	7.99	96.87	3.13	0.057	3755	11.7	140	02:55	22.3	56.7	0.0	
23	19.98	0.40	5.38	3.74	63.20	0.73	3.21	2.75	1.45	94.17	2.19	1.44	48.85	20.43	7.93	96.75	3.25	0.054	3830	11.5	140	02:55	21.7	56.7	1.0	
24	19.85	0.37	5.42	3.75	63.17	0.71	3.30	2.80	1.56	94.48	2.16	1.45	48.73	20.15	8.02	96.70	3.30	0.056	3830	10.8	135	02:50	23.3	56.5	1.0	
25	19.83	0.39	5.40	3.76	63.26	0.70	3.31	2.68	1.58	94.72	2.16	1.44	49.26	19.69	7.95	96.82	3.18	0.063	3774	11.0	145	03:00	22.8	56.9	1.0	
26	19.88	0.35	5.39	3.73	63.33	0.73	3.29	2.61	1.88	94.69	2.18	1.45	48.11	20.70	7.97	96.89	3.11	0.067	3922	11.4	140	03:00	23.5	57.4	1.0	
27	19.91	0.35	5.32	3.73	63.42	0.68	3.26	2.68	2.32	94.86	2.20	1.43	47.01	21.62	7.79	96.82	3.18	0.054	3717	11.6	130	02:50	21.5	54.2	1.0	
28	19.93	0.36	5.31	3.76	63.30	0.69	3.19	2.79	1.82	94.66	2.20	1.41	48.63	20.45	7.71	96.71	3.29	0.062	3922	10.6	130	02:45	23.4	57.7	1.0	
29	19.95	0.30	5.28	3.74	63.35	0.74	3.24	2.62	1.79	94.67	2.21	1.41	48.89	20.31	7.66	96.88	3.12	0.063	3922	11.0	135	02:50	22.6	57.1	0.0	
30	19.91	0.31	5.28	3.75	63.25	0.80	3.34	2.61	2.06	94.56	2.20	1.41	47.39	21.33	7.65	96.89	3.11	0.078	3812	11.0	135	02:50	22.4	55.2	0.0	
31	20.05	0.30	5.33	3.77	63.19	0.83	3.25	2.55	2.04	93.89	2.20	1.41	46.05	22.74	7.75	96.95	3.05	0.073	3830	11.5	135	02:50	22.5	56.3	1.0	
Min.	19.68	0.30	5.28	3.58	63.00	0.67	3.19	2.40	1.34	93.89	2.16	1.41	45.74	19.67	7.65	96.57	2.90	0.05	3620	10.2	120	02:30	21.1	53.7	0.0	
Max.	20.05	0.41	5.58	3.77	63.50	0.83	3.48	2.93	2.32	95.27	2.21	1.56	49.67	22.74	8.73	97.10	3.43	0.08	3922	12.7	155	03:05	23.5	57.8	2.0	
Average	19.89	0.37	5.44	3.67	63.27	0.73	3.30	2.67	1.78	94.51	2.18	1.48	47.90	20.89	8.21	96.83	3.17	0.06	3786	11.2	136	02:49	22.0	56.0	0.5	
SD.	0.09	0.03	0.08	0.06	0.11	0.03	0.08	0.13	0.25	0.31	0.01	0.04	1.01	0.78	0.30	0.13	0.13	0.01	74.96	0.52	8	00:08	0.7	1.1	0.57	



Sinai Cement Company
Quality Control & Lab.

Statistically Evaluation CEMI 52.5N

date	Chemical Composition								Free Lime	Modula			Mineral Composition			composition		CL	Blaine	45μ	Setting Time		Compressive Strength		Expansion mm	
	SiO ₂	Ins. R.	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	SO ₃	L.O.I.		LSF	S.M.	A.M.	C ₃ S	C ₂ S	C ₃ A	clinker	additive				Initial	Final	2 Days	28 Days		
01-Apr-19	19.41	0.33	5.51	3.79	63.25	0.78	2.88	3.36	1.56	96.72	2.09	1.45	52.94	15.71	8.19	96.29	3.71	0.045	3554	10.2	150	03:05	23.1	55.0	1.0	
02-Apr-19	19.36	0.28	5.71	3.71	63.36	0.79	2.91	3.14	1.40	96.79	2.06	1.54	53.10	15.45	8.85	96.51	3.49	0.046	3567	10.5	140	02:50	22.6	54.8	0.0	
03-Apr-19	19.27	0.53	5.82	3.64	63.40	0.77	2.96	3.15	1.62	97.05	2.04	1.60	52.27	15.81	9.26	96.50	3.50	0.043	3541	9.7	155	03:05	22.5	54.0	0.0	
04-Apr-19	19.38	0.46	5.76	3.61	63.32	0.78	2.99	3.15	1.40	96.56	2.07	1.60	52.36	16.06	9.16	96.50	3.50	0.049	3788	10.4	135	02:45	23.8	52.9	0.0	
05-Apr-19	19.42	0.33	5.63	3.68	63.42	0.80	3.05	2.99	1.26	96.65	2.09	1.53	53.64	15.21	8.69	96.66	3.34	0.051	3430	10.1	145	02:50	24.0	54.4	0.0	
06-Apr-19	19.50	0.48	5.66	3.67	63.47	0.79	2.91	2.88	1.54	96.50	2.09	1.54	52.31	16.45	8.79	96.77	3.23	0.049	3504	9.6	140	02:45	23.4	52.9	0.0	
07-Apr-19	19.62	0.37	5.73	3.59	63.59	0.79	2.80	2.76	1.67	96.25	2.11	1.60	51.31	17.54	9.11	96.89	3.11	0.044	3577	10.00	140	02:55	22.4	53.3	1.0	
08-Apr-19	19.50	0.38	5.70	3.63	63.55	0.79	2.87	2.91	1.76	96.63	2.09	1.57	51.64	16.95	8.96	96.74	3.26	0.047	3604	10.10	135	02:40	23.2	53.3	0.0	
09-Apr-19	19.44	0.41	5.74	3.61	63.47	0.79	3.00	2.93	1.68	96.57	2.08	1.59	51.48	16.89	9.10	96.72	3.28	0.057	3504	10.60	140	02:50	22.1	53.6	0.0	
10-Apr-19	19.46	0.41	5.70	3.60	63.50	0.80	2.91	2.96	1.74	96.71	2.09	1.58	51.75	16.75	9.01	96.69	3.31	0.059	3486	10.60	135	02:45	23.0	53.2	0.0	
11-Apr-19	19.51	0.43	5.70	3.65	63.41	0.78	2.88	3.07	1.79	96.34	2.09	1.56	50.81	17.60	8.93	96.58	3.42	0.053	3554	10.70	130	02:40	22.9	53.6	1.0	
12-Apr-19	19.44	0.40	5.72	3.63	63.26	0.79	3.00	3.08	1.40	96.25	2.08	1.58	51.88	16.60	9.02	96.57	3.43	0.047	3541	11.00	135	02:45	22.9	55.1	1.0	
13-Apr-19	19.54	0.43	5.70	3.65	63.30	0.78	2.83	3.06	1.40	96.10	2.09	1.56	51.87	16.89	8.53	96.59	3.41	0.052	3486	10.30	135	02:50	22.7	55.9	1.0	
14-Apr-19	19.41	0.25	5.69	3.63	63.42	0.79	2.99	3.09	1.54	96.70	2.08	1.57	52.41	16.11	8.94	96.56	3.44	0.056	3554	10.30	130	02:40	23.6	55.5	0.0	
15-Apr-19	19.48	0.35	5.78	3.64	63.59	0.78	2.98	2.79	1.40	96.51	2.07	1.59	52.55	16.20	9.16	96.86	3.14	0.061	3541	10.30	140	02:50	22.8	55.6	0.0	
16-Apr-19	19.41	0.33	5.76	3.59	63.46	0.77	2.98	3.08	1.37	96.69	2.08	1.60	52.89	15.75	9.19	96.57	3.43	0.066	3486	10.40	130	02:40	23.1	54.0	0.0	
17-Apr-19	19.44	0.31	5.79	3.61	63.51	0.78	2.96	2.92	1.40	96.58	2.07	1.60	52.57	16.08	9.24	96.73	3.27	0.055	3523	10.40	135	02:45	23.6	55.4	0.0	
18-Apr-19	19.45	0.35	5.87	3.64	63.55	0.79	3.03	2.70	1.26	96.36	2.05	1.61	52.44	16.20	9.40	96.95	3.05	0.058	3504	9.70	130	02:40	21.7	54.2	0.0	
19-Apr-19	19.61	0.29	5.77	3.69	63.45	0.72	3.05	2.65	1.12	95.63	2.07	1.56	51.93	17.04	9.05	97.00	3.00	0.051	3541	11.50	125	02:40	21.5	53.9	0.0	
20-Apr-19	19.75	0.38	5.64	3.77	63.30	0.73	3.11	2.70	1.40	94.90	2.10	1.50	49.71	19.13	8.57	96.95	3.05	0.053	3496	10.60	125	02:25	21.7	54.5	0.0	
21-Apr-19	19.95	0.36	5.57	3.66	63.21	0.72	2.97	2.92	1.20	94.32	2.16	1.52	49.66	19.73	8.57	96.73	3.27	0.061	3486	10.80	125	02:30	21.5	54.0	1.0	
22-Apr-19	19.90	0.35	5.61	3.73	63.25	0.71	2.95	2.92	1.32	94.47	2.13	1.50	49.40	19.78	8.56	96.73	3.27	0.053	3430	10.80	140	02:55	20.6	53.8	1.0	
23-Apr-19	19.98	0.35	5.58	3.65	63.36	0.71	2.98	2.63	1.43	94.41	2.16	1.53	49.02	20.30	8.61	97.02	2.98	0.055	3486	10.70	130	02:45	21.6	54.0	0.0	
24-Apr-19	20.01	0.34	5.59	3.74	63.30	0.70	3.04	2.66	1.36	94.03	2.14	1.49	48.47	20.80	8.49	96.99	3.01	0.057	3430	10.70	130	02:45	20.9	53.6	1.0	
25-Apr-19	19.71	0.39	5.59	3.67	63.21	0.71	3.04	3.09	1.46	95.19	2.13	1.52	50.08	18.73	8.60	96.56	3.44	0.058	3541	10.60	125	02:40	22.1	54.2	0.0	
26-Apr-19	20.00	0.38	5.62	3.66	63.38	0.70	2.93	2.69	1.16	94.34	2.16	1.54	49.91	19.69	8.70	96.96	3.04	0.056	3477	10.50	125	02:35	22.1	54.3	0.0	
27-Apr-19	19.81	0.37	5.61	3.71	63.41	0.71	2.95	2.81	1.28	95.11	2.13	1.51	50.93	18.37	8.59	96.84	3.16	0.055	3442	11.50	135	02:50	23.1	54.6	1.0	
28-Apr-19	19.74	0.34	5.67	3.74	63.42	0.72	2.95	2.75	1.05	95.28	2.10	1.52	51.99	17.37	8.70	96.90	3.10	0.045	3637	9.80	120	02:35	21.9	55.0	1.0	
29-Apr-19	19.96	0.36	5.62	3.76	63.49	0.70	2.71	2.77	1.40	94.81	2.13	1.49	50.17	19.38	8.53	96.88	3.12	0.045	3567	9.70	130	02:45	22.9	55.5	0.0	
30-Apr-19	19.82	0.35	5.65	3.69	63.42	0.74	2.95	2.72	1.26	95.03	2.12	1.53	50.73	18.55	8.73	96.93	3.07	0.052	3592	10.40	140	02:50	22.3	54.2	0.0	
01-May-19																										
02-May-19	20.02	0.39	5.65	3.74	63.53	0.69	2.77	2.60	1.40	94.53	2.13	1.51	49.53	20.03	8.64	97.05	2.95	0.060	3430	10.9	120	02:30	21.3	53.3	0.0	
03-May-19	19.88	0.38	5.61	3.80	63.43	0.69	2.93	2.70	1.12	94.79	2.11	1.48	51.06	18.48	8.44	96.95	3.05	0.048	3577	10.4	125	02:35	21.5	55.6	0.0	
04-May-19	19.90	0.37	5.63	3.78	63.42	0.68	2.91	2.64	1.26	94.70	2.11	1.49	50.25	19.15	8.52	97.01	2.99	0.046	3596	9.7	130	02:45	21.4	55.9	1.0	
05-May-19	20.06	0.32	5.60	3.76	63.35	0.68	2.85	2.68	1.12	94.07	2.14	1.49	49.72	20.01	8.48	96.97	3.03	0.048	3559	10.1	140	02:50	21.5	56.6	0.0	
06-May-19	19.90	0.31	5.58	3.67	63.41	0.69	2.91	2.85	1.50	94.87	2.15	1.52	49.72	19.54	8.58	96.80	3.20	0.061	3554	11.0	120	02:25	22.5	54.9	0.0	
07-May-19	19.96	0.31	5.66	3.69	63.39	0.69	2.80	2.73	1.52	94.56	2.13	1.53	48.85	20.37	8.76	96.92	3.08	0.066	3541	10.6	125	02:35	22.0	55.9	0.0	
08-May-19	19.95	0.31	5.60	3.63	63.25	0.71	2.95	2.93	1.40	94.38	2.16	1.54	48.91	20.30	8.70	96.72	3.28	0.056	3548	10.5	125	02:35	21.8	55.8	0.0	
09-May-19	19.95	0.28	5.65	3.65	63.41	0.73	2.89	2.72	1.48	94.59	2.15	1.55	49.04	20.20	8.80	96.93	3.07	0.049	3554	10.6	125	02:35	23.2	56.7	0.0	
10-May-19	19.94	0.33	5.66	3.67	63.33	0.68	2.94	2.80	1.60	94.42	2.14	1.54	48.06	20.91	8.79	96.85	3.15	0.065	3507	10.4	120	02:35	22.5	54.6	1.0	
11-May-19	19.88	0.39	5.68	3.69	63.31	0.68	3.01	2.74	1.68	94.50	2.12	1.54	47.75	20.97	8.81	96.91	3.09	0.062	3510	10.3	120	02:25	23.1	54.5	0.0	
12-May-19	19.86	0.38	5.69	3.72	63.34	0.67	2.94	2.78	1.76	94.66	2.11	1.53	47.79	20.89	8.78	96.87	3.13	0.067	3577	9.5	130	02:40	21.8	54.6	1.0	
13-May-19	19.85	0.39	5.68	3.76	63.37	0.68	2.99	2.68	1.76	94.67	2.10	1.51	47.85	20.81	8.69	96.97	3.03	0.059	3541	9.7	120	02:30	21.0	54.2	0.0	
14-May-19	19.95	0.38	5.68	3.81	63.41	0.67	2.87	2.60	1.54	94.41	2.10	1.49	48.42	20.67	8.61	97.05	2.95	0.058	3486	10.1	125	02:30	20.6	54.1	1.0	
15-May-19	20.09	0.41	5.66	3.78	63.26	0.66	2.81	2.76	1.20	93.74	2.13	1.50	48.48	21.03	8.60	96.89	3.11	0.063	3613	10.4	125	02:30	21.5	54.7	1.0	
16-May-19	19.86	0.43	5.68	3.71	63.25	0.68	3.02	2.83	1.12	94.46	2.12	1.53	49.88	19.31	8.77	96.82	3.18	0.067	3632	9.9	125	02:35	21.3	55.8	0.0	
17-May-19	19.82	0.41	5.68	3.76	63.41	0.67	2.83	2.88	1.54	95.03	2.10	1.51	49.59	19.41	8.69	96.77	3.23	0.074	3577	9.9	120	02:30	21.3	53.7	0.0	
18-May-19	20.01	0.35	5.57	3.74	63.36	0.66	2.81	2.																		

12-Jun-19	20.05	0.37	5.68	3.63	63.40	0.61	2.95	2.65	1.45	94.07	2.15	1.56	48.02	21.26	8.91	97.00	3.00	0.052	3504	10.8	130	02:40	21.3	54.2	0.0
13-Jun-19	20.06	0.33	5.68	3.65	63.25	0.61	2.95	2.84	1.35	93.78	2.15	1.56	47.71	21.52	8.88	96.81	3.19	0.057	3554	10.4	135	02:45	21.0	54.5	0.0
14-Jun-19	20.10	0.35	5.61	3.67	63.35	0.61	2.95	2.65	1.32	93.87	2.17	1.53	48.37	21.13	8.66	97.00	3.00	0.047	3558	10.5	135	02:45	21.0	54.3	0.0
15-Jun-19	20.04	0.36	5.57	3.67	63.25	0.60	3.08	2.74	1.29	93.89	2.17	1.52	48.44	20.91	8.55	96.91	3.09	0.050	3486	10.3	145	03:00	21.5	54.3	0.0
16-Jun-19	20.18	0.38	5.59	3.75	63.45	0.57	2.71	2.57	1.57	93.92	2.16	1.49	47.86	21.75	8.47	97.08	2.92	0.050	3504	10.5	155	03:10	21.1	53.5	0.0
17-Jun-19	20.17	0.36	5.61	3.74	63.31	0.58	2.95	2.53	1.29	93.47	2.16	1.50	47.70	21.84	8.54	97.12	2.88	0.044	3554	10.8	145	03:00	22.8	55.5	0.0
18-Jun-19	20.07	0.36	5.62	3.73	63.20	0.54	3.15	2.71	1.29	93.48	2.15	1.51	47.39	21.79	8.58	96.94	3.06	0.043	3504	10.4	140	02:55	21.2	54.6	0.0
19-Jun-19	19.94	0.39	5.51	3.61	63.31	0.51	3.02	3.10	1.43	94.61	2.19	1.53	49.54	19.80	8.49	96.55	3.45	0.045	3523	10.2	130	02:55	21.9	53.8	0.0
20-Jun-19	20.19	0.31	5.55	3.71	63.31	0.52	2.89	2.71	1.57	93.58	2.18	1.50	47.03	22.41	8.43	96.94	3.06	0.043	3507	10.5	130	02:40	21.8	53.8	0.0
21-Jun-19	20.13	0.32	5.59	3.73	63.33	0.52	2.97	2.69	1.32	93.68	2.16	1.50	48.06	21.46	8.50	96.96	3.04	0.040	3513	10.5	130	02:45	22.0	55.0	0.0
22-Jun-19	20.03	0.37	5.56	3.74	63.28	0.52	3.04	2.89	1.26	93.97	2.15	1.49	48.85	20.58	8.41	96.76	3.24	0.033	3521	10.5	125	02:35	21.5	55.7	0.0
23-Jun-19	19.86	0.36	5.54	3.73	63.22	0.50	2.88	3.27	1.48	94.79	2.14	1.49	49.60	19.52	8.37	96.38	3.62	0.032	3684	10.2	130	02:45	20.9	54.2	1.0
24-Jun-19	20.03	0.36	5.57	3.77	63.33	0.51	2.94	2.83	1.20	94.11	2.14	1.48	49.47	20.11	8.38	96.82	3.18	0.036	3577	10.4	130	02:40	22.4	56.3	1.0
25-Jun-19	19.92	0.37	5.56	3.75	63.24	0.52	2.96	2.99	1.19	94.43	2.14	1.48	50.02	19.38	8.39	96.66	3.34	0.031	3596	10.1	155	02:40	21.1	54.9	1.0
26-Jun-19	20.11	0.36	5.54	3.77	63.39	0.51	2.89	2.76	1.12	93.98	2.16	1.47	49.77	20.11	8.30	96.89	3.11	0.033	3523	9.6	155	03:05	20.8	54.3	1.0
27-Jun-19	20.02	0.37	5.56	3.76	63.28	0.52	2.89	2.94	1.00	94.15	2.15	1.48	50.38	19.39	8.37	96.71	3.29	0.026	3467	10.8	140	02:50	21.5	54.4	0.0
28-Jun-19																									
29-Jun-19																									
30-Jun-19																									
01-Jul-19	20.15	0.26	5.53	3.73	63.12	0.54	2.93	2.84	1.10	93.42	2.18	1.48	48.46	21.21	8.34	96.81	3.19	0.056	3631	10.5	130	02:45	22.3	54.9	1.0
02-Jul-19	20.16	0.38	5.55	3.77	63.30	0.56	2.98	2.64	1.26	93.53	2.16	1.47	48.13	21.49	8.33	97.01	2.99	0.052	3577	10.4	130	02:45	21.9	54.4	1.0
03-Jul-19	20.06	0.35	5.58	3.67	63.32	0.58	3.03	2.77	1.21	93.95	2.17	1.52	48.98	20.56	8.58	96.88	3.12	0.059	3596	10.3	130	02:50	21.7	55.6	0.0
04-Jul-19	20.00	0.38	5.61	3.71	63.35	0.58	2.93	2.82	1.51	94.26	2.15	1.51	48.36	20.86	8.59	96.83	3.17	0.055	3577	10.5	135	02:45	21.3	54.4	0.0
05-Jul-19	20.09	0.61	5.63	3.75	63.11	0.66	3.05	2.74	1.40	93.33	2.14	1.50	46.61	22.43	8.57	96.91	3.09	0.044	3634	10.3	130	02:50	22.9	55.9	0.0
06-Jul-19	20.04	0.49	5.58	3.74	63.21	0.69	2.93	2.79	1.12	93.91	2.15	1.49	49.23	20.31	8.46	96.86	3.14	0.048	3534	10.4	135	02:45	21.0	54.2	0.0
07-Jul-19	19.91	0.45	5.55	3.76	63.25	0.68	2.98	2.88	1.68	94.47	2.14	1.48	48.13	20.77	8.35	96.77	3.23	0.051	3663	10.3	135	02:45	21.0	54.5	1.0
08-Jul-19	19.85	0.43	5.57	3.77	63.21	0.67	3.06	2.90	1.68	94.53	2.13	1.48	48.05	20.66	8.38	96.75	3.25	0.051	3684	10.1	130	02:35	22.9	53.8	0.0
09-Jul-19	19.85	0.45	5.57	3.78	63.24	0.68	3.04	2.85	1.26	94.59	2.12	1.47	49.93	19.25	8.36	96.80	3.20	0.050	3631	10.2	135	02:45	21.7	55.9	0.0
10-Jul-19	19.82	0.44	5.54	3.77	63.28	0.69	2.94	2.96	1.12	94.94	2.13	1.47	51.39	18.06	8.30	96.69	3.31	0.046	3596	10.7	130	02:40	20.8	54.0	1.0
11-Jul-19	19.84	0.45	5.55	3.76	63.25	0.68	3.06	2.81	1.05	94.68	2.13	1.48	51.00	18.40	8.35	96.84	3.16	0.052	3631	10.7	135	02:45	21.7	54.3	0.0
12-Jul-19	19.81	0.42	5.57	3.75	63.18	0.69	3.04	2.99	1.26	94.69	2.13	1.49	50.03	19.05	8.42	96.66	3.34	0.029	3577	11.2	150	03:05	21.3	53.6	0.0
13-Jul-19	19.92	0.48	5.56	3.77	63.24	0.68	2.96	2.81	1.26	94.41	2.14	1.47	49.70	19.61	8.36	96.84	3.16	0.030	3560	10.8	135	02:55	21.5	54.4	0.0
14-Jul-19	19.86	0.52	5.54	3.78	63.35	0.69	3.01	2.81	1.40	94.80	2.13	1.47	50.02	19.21	8.29	96.84	3.16	0.054	3541	11.3	150	03:05	21.4	53.6	0.0
15-Jul-19	20.06	0.55	5.56	3.76	63.33	0.68	2.99	2.60	1.23	93.96	2.15	1.48	49.06	20.50	8.37	97.05	2.95	0.048	3577	10.5	130	02:50	22.1	54.4	0.0
16-Jul-19	20.01	0.56	5.54	3.77	63.34	0.69	2.93	2.71	1.26	94.27	2.15	1.47	49.65	19.92	8.30	96.94	3.06	0.055	3596	10.9	140	03:05	21.7	54.8	0.0
17-Jul-19	19.94	0.53	5.53	3.78	63.18	0.68	3.02	2.90	1.54	94.22	2.14	1.46	48.18	20.82	8.26	96.75	3.25	0.066	3613	10.8	140	03:00	21.9	54.0	0.0
18-Jul-19	19.88	0.55	5.54	3.77	63.22	0.69	2.99	2.93	1.26	94.55	2.14	1.47	49.98	19.29	8.30	96.72	3.28	0.038	3598	10.6	135	02:55	21.0	55.6	0.0
19-Jul-19	20.08	0.44	5.51	3.75	63.16	0.73	2.99	2.73	1.12	93.71	2.17	1.47	49.01	20.60	8.26	96.92	3.08	0.044	3541	10.5	135	02:55	20.6	53.6	1.0
20-Jul-19	20.04	0.35	5.60	3.73	63.10	0.80	3.04	2.65	1.12	93.60	2.15	1.50	48.35	20.98	8.53	97.00	3.00	0.051	3596	9.5	130	02:40	21.4	54.0	1.0
21-Jul-19	19.90	0.36	5.51	3.79	63.30	0.76	3.00	2.69	1.26	94.61	2.14	1.45	50.29	19.11	8.19	96.96	3.04	0.048	3486	10.4	135	02:45	21.0	54.6	0.0
22-Jul-19	20.00	0.36	5.49	3.74	63.25	0.78	3.10	2.53	1.16	94.10	2.17	1.47	49.66	19.88	8.22	97.12	2.88	0.050	3449	10.9	140	02:50	21.3	54.7	1.0
23-Jul-19	20.06	0.35	5.58	3.77	63.12	0.79	3.04	2.70	1.12	93.54	2.15	1.48	48.36	21.03	8.41	96.95	3.05	0.048	3486	10.0	145	02:55	20.8	54.9	0.0
24-Jul-19	19.95	0.36	5.47	3.73	63.02	0.88	3.00	2.88	1.26	94.10	2.17	1.47	49.13	20.13	8.18	96.77	3.23	0.062	3504	10.8	135	02:45	21.0	54.0	1.0
25-Jul-19	19.96	0.35	5.54	3.78	62.95	0.92	2.99	2.85	1.20	93.80	2.14	1.47	48.50	20.64	8.29	96.80	3.20	0.062	3554	10.0	145	02:55	21.0	54.6	2.0
26-Jul-19	19.91	0.36	5.51	3.76	62.75	1.10	3.05	2.88	1.32	93.70	2.15	1.47	47.63	21.15	8.24	96.77	3.23	0.062	3586	11.2	145	02:50	21.3	54.6	0.0
27-Jul-19	19.96	0.35	5.50	3.75	62.93	0.89	3.04	2.92	1.40	93.81	2.16	1.47	47.77	21.19	8.23	96.73	3.27	0.050	3504	10.8	145	02:55	21.1	54.7	0.0

25-Sep-19	20.00	0.42	5.31	3.75	63.30	0.74	2.90	2.93	1.52	94.69	2.21	1.42	50.16	19.50	7.73	96.72	3.28	0.061	3631	10.9	155	03:10	22.9	55.6	2.0
26-Sep-19	19.92	0.40	5.27	3.72	63.37	0.79	3.01	2.90	1.90	95.11	2.22	1.42	49.50	19.76	7.67	96.75	3.25	0.063	3649	9.1	150	03:15	22.6	55.7	1.0
27-Sep-19	20.01	0.39	5.25	3.74	63.35	0.80	3.04	2.81	1.96	94.69	2.22	1.40	48.51	20.77	7.58	96.84	3.16	0.060	3631	9.8	140	03:00	23.1	54.6	0.0
28-Sep-19	19.94	0.38	5.26	3.76	63.45	0.81	3.01	2.78	1.54	95.13	2.21	1.40	51.15	18.58	7.58	96.87	3.13	0.058	3559	9.9	165	03:15	22.8	54.0	0.0
29-Sep-19	19.89	0.37	5.24	3.77	63.43	0.81	2.97	2.90	1.68	95.38	2.21	1.39	51.12	18.46	7.51	96.75	3.25	0.058	3596	10.2	160	03:15	23.2	54.9	0.0
30-Sep-19	19.88	0.38	5.21	3.75	63.48	0.80	2.93	2.96	1.12	95.61	2.22	1.39	54.02	16.24	7.46	96.69	3.31	0.053	3596	10.2	165	03:15	23.2	55.3	0.0
01-Oct-19	19.92	0.37	5.24	3.77	63.42	0.73	3.03	2.89	1.73	95.17	2.21	1.39	50.47	19.03	7.51	96.76	3.24	0.052	3577	9.9	150	03:05	22.9	53.8	0.0
02-Oct-19	19.96	0.38	5.33	3.76	63.45	0.72	2.94	2.82	1.84	95.00	2.20	1.42	49.51	19.88	7.76	96.83	3.17	0.057	3559	10.0	160	03:15	22.8	54.6	0.0
03-Oct-19	19.93	0.37	5.31	3.77	63.44	0.73	2.98	2.82	1.68	95.09	2.19	1.41	50.35	19.15	7.69	96.83	3.17	0.068	3541	9.9	150	03:05	22.6	54.0	1.0
04-Oct-19	19.94	0.38	5.30	3.77	63.40	0.74	2.90	2.90	1.68	95.09	2.20	1.41	50.41	19.14	7.67	96.75	3.25	0.072	3596	9.9	165	03:20	22.4	55.7	1.0
05-Oct-19	20.03	0.36	5.32	3.79	63.41	0.70	2.94	2.78	1.54	94.64	2.20	1.40	50.06	19.66	7.69	96.87	3.13	0.064	3586	9.3	145	03:05	21.9	54.3	0.0
06-Oct-19	20.00	0.35	5.30	3.78	63.44	0.71	2.90	2.87	1.68	94.90	2.20	1.40	50.10	19.54	7.65	96.78	3.22	0.062	3556	9.9	145	03:00	21.9	54.1	0.0
07-Oct-19	19.98	0.40	5.25	3.72	63.50	0.74	2.91	2.86	1.74	95.21	2.23	1.41	50.65	19.07	7.62	96.79	3.21	0.063	3556	10.6	150	03:10	22.3	55.0	0.0
08-Oct-19	19.92	0.38	5.27	3.74	63.48	0.75	2.93	2.91	1.90	95.35	2.21	1.41	50.15	19.28	7.64	96.74	3.26	0.060	3504	10.4	155	03:10	21.5	54.0	1.0
09-Oct-19	19.88	0.36	5.25	3.75	63.46	0.78	2.96	2.90	1.92	95.48	2.21	1.40	50.33	19.03	7.57	96.75	3.25	0.065	3596	10.3	155	03:20	22.5	54.1	0.0
10-Oct-19	19.91	0.37	5.28	3.75	63.37	0.74	3.02	2.93	1.76	95.09	2.20	1.41	50.01	19.35	7.65	96.72	3.28	0.065	3634	10.2	150	03:15	23.1	55.5	1.0
11-Oct-19	19.87	0.37	5.29	3.76	63.41	0.75	2.99	2.93	1.58	95.33	2.20	1.41	51.22	18.33	7.66	96.72	3.28	0.052	3649	10.3	140	03:00	22.1	55.5	0.0
12-Oct-19	19.89	0.37	5.31	3.76	63.38	0.77	2.94	2.95	1.82	95.22	2.19	1.41	49.97	19.33	7.71	96.70	3.3	0.050	3667	9.7	160	03:15	22.1	54.0	1.0
13-Oct-19	19.92	0.38	5.29	3.78	63.37	0.76	2.96	2.90	1.40	95.08	2.20	1.40	51.47	18.28	7.63	96.75	3.25	0.059	3631	9.8	155	03:10	22.7	54.4	0.0
14-Oct-19	19.96	0.37	5.36	3.78	63.35	0.75	2.93	2.86	1.96	94.79	2.18	1.42	48.41	20.70	7.81	96.79	3.21	0.054	3605	10.1	165	03:15	22.9	54.1	0.0
15-Oct-19	19.90	0.38	5.37	3.77	63.31	0.73	2.98	2.92	1.68	94.91	2.18	1.42	49.65	19.60	7.85	96.73	3.27	0.062	3719	10.1	150	03:05	22.9	54.1	1.0
16-Oct-19	19.88	0.37	5.38	3.78	63.37	0.72	2.93	2.92	1.68	95.11	2.17	1.42	50.11	19.19	7.86	96.73	3.27	0.066	3559	9.9	150	03:05	22.0	54.8	1.0
17-Oct-19	19.91	0.38	5.39	3.77	63.38	0.73	2.91	2.93	1.68	95.02	2.17	1.43	49.92	19.42	7.90	96.72	3.28	0.063	3737	10.3	150	03:05	21.8	55.3	1.0
18-Oct-19	19.86	0.37	5.35	3.77	63.44	0.71	3.02	2.85	1.68	95.27	2.18	1.42	50.50	18.84	7.80	96.80	3.2	0.065	3702	10.5	145	03:00	21.9	54.0	0.0
19-Oct-19	19.95	0.37	5.39	3.72	63.38	0.70	2.92	2.95	1.74	94.89	2.19	1.45	49.42	19.91	7.99	96.70	3.3	0.059	3649	10.1	140	03:00	22.3	55.9	0.0
20-Oct-19	19.90	0.36	5.40	3.76	63.40	0.75	2.98	2.81	1.76	95.01	2.17	1.44	49.50	19.71	7.95	96.84	3.16	0.074	3596	10.0	145	03:00	22.5	55.9	0.0
21-Oct-19	19.94	0.37	5.36	3.75	63.33	0.76	3.01	2.83	1.65	94.78	2.19	1.43	49.56	19.78	7.86	96.82	3.18	0.068	3613	10.4	155	03:10	22.2	54.7	1.0
22-Oct-19	20.00	0.39	5.31	3.72	63.53	0.82	2.92	2.69	1.70	95.06	2.21	1.43	50.35	19.36	7.78	96.96	3.04	0.061	3631	10.0	150	03:10	22.5	56.2	0.0
23-Oct-19	19.98	0.41	5.32	3.67	63.42	0.80	2.96	2.82	1.82	94.96	2.22	1.45	49.46	19.97	7.89	96.83	3.17	0.070	3631	10.9	150	03:10	22.8	56.0	0.0
24-Oct-19	19.86	0.39	5.29	3.69	63.25	0.81	3.12	2.95	1.78	95.05	2.21	1.43	49.56	19.55	7.78	96.70	3.3	0.065	3613	10.8	150	03:10	23.2	56.3	0.0
25-Oct-19	19.93	0.38	5.28	3.68	63.30	0.82	3.04	2.96	1.96	94.95	2.22	1.43	48.80	20.32	7.77	96.69	3.31	0.067	3684	11.6	145	03:05	23.2	55.5	0.0
26-Oct-19																									
27-Oct-19	19.87	0.37	5.31	3.62	63.39	0.81	3.02	2.99	1.82	95.36	2.23	1.47	50.14	19.14	7.95	96.66	3.34	0.061	3754	10.1	150	03:05	23.0	55.5	1.0
28-Oct-19	19.96	0.38	5.33	3.70	63.45	0.81	3.01	2.74	1.96	94.98	2.21	1.44	48.91	20.33	7.86	96.91	3.09	0.071	3719	10.2	155	03:10	22.0	54.8	1.0
29-Oct-19	19.88	0.37	5.36	3.75	63.40	0.82	2.93	2.83	1.82	95.22	2.18	1.43	49.84	19.40	7.86	96.82	3.18	0.073	3754	9.6	140	02:55	22.3	55.1	0.0
30-Oct-19	19.86	0.38	5.29	3.74	63.34	0.81	2.99	2.98	1.82	95.28	2.20	1.41	50.06	19.17	7.69	96.67	3.33	0.071	3788	10.1	150	03:05	22.3	55.1	0.0
31-Oct-19	19.90	0.38	5.31	3.75	63.30	0.82	3.02	2.89	1.90	94.97	2.20	1.42	49.03	20.07	7.73	96.76	3.24	0.054	3619	10.8	160	03:15	22.1	54.2	1.0
01-Nov-19	19.94	0.39	5.33	3.75	63.27	0.80	2.96	2.92	1.76	94.79	2.20	1.42	49.21	20.04	7.78	96.73	3.27	0.057	3649	10.6	155	03:10	22.7	55.1	1.0
02-Nov-19	19.97	0.38	5.35	3.75	63.33	0.78	2.92	2.82	1.68	94.77	2.19	1.43	49.53	19.89	7.83	96.83	3.17	0.060	3631	10.5	155	03:15	22.2	55.9	1.0
03-Nov-19																									
04-Nov-19	20.05	0.39	5.27	3.72	63.41	0.80	2.92	2.78	1.68	94.73	2.23	1.42	49.83	19.89	7.67	96.87	3.13	0.061	3754	10.2	145	03:05	22.9	56.4	0.0
05-Nov-19	20.10	0.38	5.31	3.67	63.36	0.80	2.96	2.77	1.40	94.39	2.24	1.45	50.06	19.86	7.87	96.88	3.12	0.054	3631	10.3	150	03:05	22.7	56.4	0.0
06-Nov-19	19.95	0.42	5.29	3.63	63.43	0.78	2.93	2.95	1.70	95.22	2.24	1.46	50.56	19.06	7.88	96.70	3.3	0.061	3754	11.1	150	03:10	22.7	56.5	0.0
07-Nov-19	20.02	0.41	5.25	3.61	63.50	0.80	2.95	2.84	1.62	95.10	2.26	1.45	50.88	19.02	7.80	96.81	3.19	0.065	3694	10.8	150	03:05	23.2	56.1	1.0
08-Nov-19	20.01	0.43	5.22	3.65	63.51	0.81	2.93	2.85	1.59	95.20	2.26	1.43	51.32	18.66	7.66	96.80	3.2	0.064	3719	10.6	145	03:10	22.9	54.3	0.0
09-Nov-19	19.99	0.41	5.26	3.66	63.48	0.82	2.99	2.77	1.68	95.09	2.24	1.44	50.53	19.19	7.75	96.88	3.12	0.051	3702	10.3	160	03:15	22.7	55.8	1.0
10-Nov-19	19.94	0.42	5.27	3.65	63.41	0.81	2.98	2.91	1.68	95.19	2.24	1.44	50.60	19.00	7.79	96.74	3.26	0.045	3722	10.5	160	03:20	22.3	54.5	0.0
11-Nov-19	19.99	0.41	5.29	3.66	63.42	0.82	3.02	2.78	1.68	94.91	2.23	1.45	49.99	19.60	7.83	96.87	3.13	0.049	3684	10.4	165	03:20	22.9	55.1	0.0
12-Nov-19	19.90	0.42	5.26	3.65	63.38	0.87	3.01	2.93	1.68	95.29	2.23	1.44	50.76	18.76	7.76	96.72	3.28	0.051	3702	10.1	155	03:10	22.7	54.5	0.0
13-Nov-19																									
14-Nov-19	19.92	0.42	5.24	3.65	63.37	0.84	3.03	2.95	1.46	95.21	2.24	1.44	51.54	18.23	7.71	96.70	3.3	0.057	3771	10.8	155	03:10	23.3	54.7	0.0
15-Nov-19	20.00	0.40	5.28	3.71	63.46	0.81	3.03	2.70	1.68	94.89	2.22	1.42	50.05	19.58	7.71	96.95</									

08-Jan-20	20.05	0.38	5.38	3.70	63.47	0.79	3.04	2.54	1.26	94.53	2.21	1.45	50.73	19.21	8.00	97.06	2.94	0.050	3771	10.9	155	03:15	22.6	56.9	0.0
09-Jan-20	20.08	0.39	5.39	3.67	63.46	0.78	3.12	2.47	1.45	94.31	2.22	1.47	49.44	20.27	8.07	97.13	2.87	0.046	3754	10.8	155	03:10	22.7	56.1	0.0
10-Jan-20	19.98	0.40	5.43	3.72	63.41	0.78	3.14	2.44	1.40	94.51	2.18	1.46	49.80	19.71	8.10	97.16	2.84	0.053	3771	10.7	155	03:10	22.5	57.2	0.0
11-Jan-20	20.01	0.39	5.42	3.74	63.38	0.78	3.06	2.48	1.45	94.52	2.18	1.45	49.51	20.02	8.03	97.12	2.88	0.045	3719	10.6	150	03:05	22.2	57.3	0.0
12-Jan-20	19.99	0.38	5.41	3.68	63.45	0.77	2.91	2.67	1.40	94.85	2.20	1.47	50.74	19.04	8.11	96.93	3.07	0.040	3788	10.9	140	03:00	22.5	56.5	0.0
13-Jan-20	19.95	0.40	5.46	3.71	63.45	0.73	2.98	2.60	1.32	94.82	2.18	1.47	50.79	18.88	8.19	97.00	3.00	0.033	3754	10.6	140	03:05	22.8	56.9	1.0
14-Jan-20	20.03	0.36	5.41	3.70	63.43	0.72	2.99	2.62	1.28	94.55	2.20	1.46	50.58	19.27	8.08	96.98	3.02	0.040	3856	10.6	145	03:05	22.3	57.6	0.0
15-Jan-20	20.10	0.39	5.46	3.71	63.43	0.76	2.88	2.61	1.42	94.29	2.19	1.47	49.44	20.33	8.19	96.99	3.01	0.041	3791	10.6	140	03:00	22.6	57.2	1.0
16-Jan-20	19.95	0.40	5.40	3.65	63.40	0.74	2.96	2.77	1.36	94.93	2.20	1.48	50.97	18.75	8.13	96.83	3.17	0.042	3771	10.7	135	02:50	25.6	58.1	0.0
17-Jan-20	19.98	0.39	5.42	3.68	63.44	0.75	3.04	2.67	1.26	94.72	2.20	1.47	50.90	18.88	8.14	96.93	3.07	0.036	3984	9.3	135	02:45	26.7	57.5	0.0
18-Jan-20	20.04	0.40	5.41	3.70	63.36	0.78	3.07	2.64	1.34	94.31	2.20	1.46	49.75	19.92	8.08	96.96	3.04	0.041	4193	8.1	155	03:10	26.2	56.7	0.0
19-Jan-20	20.07	0.39	5.44	3.71	63.39	0.77	3.04	2.54	1.28	94.21	2.19	1.47	49.76	20.00	8.14	97.06	2.94	0.045	3955	9.6	125	02:45	22.1	56.2	0.0
20-Jan-20	19.99	0.40	5.43	3.70	63.31	0.77	3.09	2.72	1.34	94.39	2.19	1.47	49.73	19.79	8.13	96.88	3.12	0.044	3805	8.9	145	02:55	24.7	56.2	0.0
21-Jan-20	20.07	0.38	5.42	3.71	63.45	0.77	3.04	2.53	1.38	94.34	2.20	1.46	49.73	20.03	8.09	97.07	2.93	0.047	3737	7.9	145	02:55	23.6	56.6	1.0
22-Jan-20	20.08	0.40	5.44	3.71	63.43	0.77	2.98	2.59	1.26	94.30	2.19	1.47	50.10	19.78	8.14	97.01	2.99	0.045	3631	10.5	130	02:40	22.4	56.2	0.0
23-Jan-20	19.98	0.39	5.45	3.73	63.47	0.78	3.01	2.56	1.45	94.70	2.18	1.46	50.06	19.51	8.13	97.04	2.96	0.047	3649	8.6	145	02:55	22.5	56.1	0.0
24-Jan-20	19.98	0.41	5.44	3.67	63.55	0.75	2.98	2.51	1.45	94.93	2.19	1.48	50.63	19.09	8.21	97.09	2.91	0.047	3667	9.0	150	03:05	22.3	56.0	1.0
25-Jan-20	19.96	0.40	5.44	3.68	63.45	0.73	3.11	2.55	1.68	94.70	2.19	1.48	49.05	20.22	8.19	97.05	2.95	0.048	3649	9.3	145	03:05	24.9	58.9	1.0
26-Jan-20	20.03	0.39	5.41	3.66	63.54	0.75	2.90	2.62	1.40	94.85	2.21	1.48	50.85	19.06	8.14	96.98	3.02	0.044	3631	10.0	140	03:00	23.1	57.3	0.0
27-Jan-20	20.04	0.40	5.40	3.67	63.54	0.78	2.89	2.54	1.40	94.83	2.21	1.47	50.86	19.09	8.10	97.06	2.94	0.060	3631	10.0	125	02:45	23.1	56.5	0.0
28-Jan-20	20.27	0.41	5.39	3.64	63.34	0.76	2.94	2.55	1.40	93.59	2.24	1.48	48.27	21.70	8.12	97.05	2.95	0.057	3877	8.8	130	02:45	22.4	56.2	0.0
29-Jan-20	20.13	0.39	5.41	3.66	63.39	0.78	3.12	2.49	1.32	93.98	2.22	1.48	49.18	20.61	8.14	97.11	2.89	0.058	3577	10.0	135	02:50	23.1	57.1	0.0
30-Jan-20	20.00	0.41	5.40	3.65	63.51	0.74	3.03	2.63	1.44	94.82	2.21	1.48	50.51	19.24	8.13	96.97	3.03	0.062	3577	9.9	135	02:50	24.6	58.9	0.0
31-Jan-20	19.99	0.40	5.42	3.66	63.55	0.77	3.01	2.59	1.59	94.90	2.20	1.48	50.05	19.56	8.17	97.01	2.99	0.059	3577	9.6	130	02:50	22.8	56.1	0.0
01-Feb-20	20.11	0.40	5.43	3.65	63.52	0.75	3.08	2.47	1.40	94.28	2.21	1.49	49.53	20.29	8.21	97.13	2.87	0.067	3486	7.7	140	02:50	22.2	56.2	1.0
02-Feb-20	19.99	0.39	5.46	3.67	63.45	0.77	3.04	2.61	1.54	94.63	2.19	1.49	49.47	19.99	8.26	96.99	3.01	0.065	3486	9.9	140	02:50	21.8	54.8	0.0
03-Feb-20	20.02	0.40	5.46	3.67	63.51	0.76	3.04	2.54	1.32	94.60	2.19	1.49	50.38	19.39	8.26	97.06	2.94	0.069	3504	9.0	140	02:50	21.9	56.0	0.0
04-Feb-20	20.04	0.41	5.45	3.67	63.43	0.75	3.11	2.56	1.40	94.34	2.20	1.49	49.45	20.15	8.23	97.04	2.96	0.055	3541	7.7	140	02:50	22.1	56.6	0.0
05-Feb-20	19.91	0.40	5.41	3.64	63.36	0.77	3.12	2.81	1.34	94.85	2.20	1.49	50.68	18.85	8.18	96.79	3.21	0.047	3613	10.1	145	02:55	22.7	56.4	0.0
06-Feb-20	19.94	0.41	5.42	3.65	63.31	0.78	3.14	2.76	1.54	94.60	2.20	1.49	49.30	19.98	8.19	96.84	3.16	0.048	3684	9.8	135	02:45	23.7	56.6	0.0
07-Feb-20	19.96	0.40	5.40	3.64	63.49	0.77	3.15	2.54	1.54	94.83	2.21	1.48	50.00	19.51	8.15	97.06	2.94	0.055	3504	10.7	150	03:00	23.1	55.7	0.0
08-Feb-20	19.95	0.41	5.40	3.68	63.35	0.75	3.21	2.56	1.48	94.55	2.20	1.47	49.52	19.84	8.08	97.04	2.96	0.051	3467	10.6	140	03:00	22.5	56.5	1.0
09-Feb-20	19.94	0.40	5.43	3.70	63.35	0.73	3.18	2.65	1.56	94.55	2.18	1.47	49.12	20.11	8.13	96.95	3.05	0.060	3504	11.7	150	03:05	22.4	56.0	1.0
10-Feb-20	19.96	0.38	5.44	3.70	63.48	0.74	3.15	2.52	1.68	94.69	2.18	1.47	49.03	20.24	8.16	97.08	2.92	0.062	3486	11.1	145	03:00	22.5	56.9	0.0
11-Feb-20	19.96	0.40	5.40	3.65	63.39	0.72	3.18	2.62	1.60	94.63	2.21	1.48	49.25	20.07	8.13	96.98	3.02	0.055	3684	10.1	140	02:50	22.2	56.1	0.0
12-Feb-20	19.95	0.36	5.41	3.62	63.35	0.70	3.14	2.73	1.62	94.67	2.21	1.49	49.17	20.11	8.21	96.87	3.13	0.061	3755	10.2	125	02:45	22.3	56.5	0.0
13-Feb-20	19.90	0.41	5.44	3.66	63.39	0.75	3.23	2.55	1.40	94.75	2.19	1.49	50.09	19.27	8.22	97.05	2.95	0.064	3717	11.4	125	02:45	22.5	56.1	0.0
14-Feb-20	19.92	0.40	5.45	3.64	63.34	0.77	3.09	2.79	1.40	94.74	2.19	1.50	50.09	19.32	8.28	96.81	3.19	0.074	3620	11.8	115	02:55	22.1	54.8	1.0
15-Feb-20	19.90	0.41	5.41	3.65	63.43	0.72	3.12	2.77	1.46	94.99	2.20	1.48	50.54	18.93	8.16	96.83	3.17	0.068	3577	9.6	150	03:05	23.0	57.5	0.0
16-Feb-20	19.95	0.40	5.40	3.64	63.45	0.74	3.09	2.74	1.68	94.87	2.21	1.48	49.51	19.85	8.15	96.86	3.14	0.068	3717	11.6	140	03:05	21.7	54.1	0.0
17-Feb-20	19.84	0.42	5.38	3.62	63.31	0.76	3.11	2.98	1.54	95.14	2.20	1.49	50.45	18.82	8.13	96.62	3.38	0.071	3793	11.2	150	03:05	22.4	55.0	0.0
18-Feb-20	19.92	0.41	5.39	3.64	63.34	0.74	3.12	2.84	1.40	94.81	2.21	1.48	50.41	19.08	8.12	96.76	3.24	0.070	3974	9.4	145	03:00	23.2	55.8	0.0
19-Feb-20	20.02	0.42	5.42	3.64	63.43	0.77	3.06	2.68	1.51	94.55	2.21	1.49	49.54	20.02	8.20	96.92	3.08	0.061	3961	10.4	135	02:50	23.2	56.6	0.0
20-Feb-20	19.92	0.41	5.42	3.63	63.38	0.76	3.12	2.76	1.37	94.83	2.20	1.49	50.51	19.01	8.22	96.84	3.16	0.063	3922	11.2	140	02:40	21.1	57.2	1.0
21-Feb-20	19.95	0.35	5.45	3.68	63.31	0.72	3.05	2.82																	

304	21.9	54.4	0.40	3.38	2.90	96.60	3.40	0.063	130	0.0
305	22.2	55.4	0.38	3.48	2.79	96.71	3.29	0.061	125	1.0
306	21.2	55.6	0.38	3.29	2.91	96.59	3.41	0.059	140	0.0
307	21.1	54.1	0.40	3.42	2.93	96.57	3.43	0.061	140	0.0
308	21.5	55.7	0.38	3.43	2.78	96.72	3.28	0.055	125	0.0
309	22.3	55.4	0.37	3.36	2.66	96.84	3.16	0.078	130	0.0
310	22.1	56.7	0.41	3.35	2.55	96.95	3.05	0.060	130	1.0
311	22.0	56.1	0.36	3.26	2.40	97.10	2.90	0.074	130	0.0
312	22.7	56.8	0.37	3.25	2.70	96.80	3.20	0.063	140	1.0
313	22.2	57.8	0.38	3.30	2.50	97.00	3.00	0.075	140	0.0
314	22.1	57.0	0.38	3.35	2.53	96.97	3.03	0.074	130	0.0
315	21.7	55.8	0.39	3.35	2.62	96.88	3.12	0.077	120	0.0
316	22.2	55.9	0.38	3.26	2.82	96.68	3.32	0.072	145	0.0
317	21.6	56.4	0.38	3.37	2.50	97.00	3.00	0.072	120	1.0
318	21.5	57.2	0.37	3.24	2.61	96.89	3.11	0.052	140	1.0
319	21.7	57.2	0.38	3.21	2.71	96.79	3.21	0.070	145	0.0
320	21.2	56.0	0.37	3.22	2.56	96.94	3.06	0.063	135	1.0
321	21.2	55.3	0.38	3.31	2.70	96.80	3.20	0.061	130	0.0
322	21.7	56.1	0.39	3.22	2.76	96.74	3.26	0.050	155	1.0
323	22.3	56.7	0.35	3.20	2.63	96.87	3.13	0.057	140	0.0
324	21.7	56.7	0.40	3.21	2.75	96.75	3.25	0.054	140	1.0
325	23.3	56.5	0.37	3.30	2.80	96.70	3.30	0.056	135	1.0
326	22.8	56.9	0.39	3.31	2.68	96.82	3.18	0.063	145	1.0
327	23.5	57.4	0.35	3.29	2.61	96.89	3.11	0.067	140	1.0
328	21.5	54.2	0.35	3.26	2.68	96.82	3.18	0.054	130	1.0
329	23.4	57.7	0.36	3.19	2.79	96.71	3.29	0.062	130	1.0
330	22.6	57.1	0.30	3.24	2.62	96.88	3.12	0.063	135	0.0
331	22.4	55.2	0.31	3.34	2.61	96.89	3.11	0.078	135	0.0
332	22.5	56.3	0.30	3.25	2.55	96.95	3.05	0.073	135	1.0
I.D	2 days (Mpa)	28 d (Mpa)	Ins. R.	SO3	LOI	clinker	additive	CL	Initial	Expansion
NO.	332	332	332	332	332	332	332	332	332	332
AV. (X)	22.20	55.29	0.38	3.02	2.80	96.83	3.17	0.06	141.34	0.37
MAX.	26.70	58.90	0.61	3.48	3.36	97.17	3.71	0.08	170.00	2.00
MIN.	20.50	52.90	0.25	2.64	2.40	96.29	2.83	0.03	115.00	0.00
SD.	0.834	1.085	0.044	0.126	0.159	0.145	0.145	0.010	11.889	0.502
L (LOWER LIMIT)	≥ 20	≥ 52.5							≥45	
U (UPPER LIMIT)	-----		≤ 5.0	≤3.5	≤ 5.0			≤0.1		
K _{AL}	1.80	1.80							1.42	
K _{AU}		1.42	1.42	1.42	1.42			1.42		
X-SD x K _A ≥ L	20.70	53.33							124.46	
X+SD x K _A ≤ U		56.83	0.44	3.20	3.02			0.07		

304	1.8	1.42		
305	1.8	1.42		
306	1.8	1.42		
307	1.8	1.42		
308	1.8	1.42		
309	1.8	1.42		
310	1.8	1.42		
311	1.8	1.42		
312	1.8	1.42		
313	1.8	1.42		
314	1.8	1.42		
315	1.8	1.42		
316	1.8	1.42		
317	1.8	1.42		
318	1.8	1.42		
319	1.8	1.42		
320	1.8	1.42		
321	1.8	1.42		
322	1.8	1.42		
323	1.8	1.42		
324	1.8	1.42		
325	1.8	1.42		
326	1.8	1.42		
327	1.8	1.42		
328	1.8	1.42		
329	1.8	1.42		
330	1.8	1.42		
331	1.8	1.42		
332	1.8	1.42		