Table 4
Physical Properties of Solidification Mix Designs
Basis of Design Report for In Situ Solidification
Hempstead Former MGP Site

Sample Location	Mix Design Identification	Reagent Dose[1] (GGBFS:Cement %)	Additive [2] (amount added)	Unconfined Compressive Strength (psi)	Hydraulic Conductivity (cm/sec)	Viscosity (centipoise)
TIER 1						
ISS-01	5524+5524A-**1**	10	N/A	260.2	3.3E-07	N/A
	5524+5524A-**2**	20	N/A	1109.5	5.1E-08	N/A
	5524+5524A-**3**	30	N/A	2358.2	3.0E-08	N/A
	5524+5524A-**4**	40	N/A	2788.6	1.6E-08	N/A
ISS-02	5521+5521A-**1**	10	N/A	370.8	2.8E-07	N/A
	5521+5521A-**2**	20	N/A	838.2	5.2E-08	N/A
	5521+5521A-**3**	30	N/A	1876.7	6.3E-08	N/A
	5521+5521A-**4**	40	N/A	1974.2	2.9E-08	N/A
ISS-03	5522+5523-**1**	10	N/A	428.0	3.1E-07	N/A
	5522+5523-**2**	20	N/A	1102.9	4.9E-08	N/A
	5522+5523-**3**	30	N/A	1730.8	3.7E-08	N/A
	5522+5523-**4**	40	N/A	2509.8	2.2E-08	N/A
ISS-04	5525+5525A-**1**	10	N/A	749.6	3.9E-08	N/A
	5525+5525A-**2**	20	N/A	1895.7	1.0E-08	N/A
	5525+5525A-**3**	30	N/A	2414.7	8.4E-09	N/A
	5525+5525A-**4**	40	N/A	2786.7	5.2E-09	N/A
TIER 2						
ISS-02	5521+5521A-**5**	5	N/A	21.4	4.0E-05	1,360,000
	5521+5521A-**6**	7.5	N/A	232	7.5E-07	1,620,000
	5521+5521A-**1**	10	N/A	461.8	1.6E-07	1,590,000
	5521+5521A-**7**	10	1 % bentonite	727.4	1.1E-08	1,680,000
	5521+5521A-**8**	10	1 % organoclay	602	3.6E-08	1,270,000
ISS-04	5525+5525A-**5**	5	N/A	118	5.6E-06	818,000
	5525+5525A-**6**	7.5	N/A	338.7	1.1E-06	1,050,000
	5525+5525A-**1**	10	N/A	683.3	8.8E-08	1,140,000
	5525+5525A-**7**	10	2 % bentonite	434.7	7.9E-09	907,000
	5525+5525A-**8**	10	2 % organoclay	431.3	6.4E-08	146,000
TIER 3						
ISS-02	5521+5521A-**9**	9	N/A	420.8	1.4E-07	1,260,000
	5521+5521A-**14**	9	5% Rheobuild	61.3	7.8E-05	968,000
ISS-04	5525 A,B,C-**9**	9	N/A	643.1	8.6E-08	1,292,000
	5525 A,B,C-**9 dup**	9	N/A	661.6	5.1E-08	1,292,000
	5525 A,B,C-**10**	9	1 % bentonite	489.6	3.4E-08	996,000
	5525 A,B,C-**11**	9	2 % bentonite	408.9	1.3E-08	863,000
	5525 A,B,C**12**	9	1 % organoclay	453.7	3.1E-07	757,000
	5525 A,B,C-**13**	9	2 % organoclay	446.8	1.2E-07	984,000
	5525 A,B,C-**14**	9	5% Rheobuild	447	4.1E-05	1,093,000
TIER 4						
ISS-04	5525-**15-1**	9	N/A	615.5	8.6E-07	967,000
	5525-**16-1**	9	N/A	375.2	3.1E-06	172,000
	5525-**17-1**	9	N/A	320.2	2.3E-06	186,000
	5525-**18-1**	9	N/A	192.7	1.1E-05	257,000
	5525-**19-1**	9	2 % organoclay	720.3	7.7E-07	1,268,000
	5525-**20-1**	9	2 % organoclay	317.3	3.3E-06	117,000
	5525-**21-1**	9	2 % organoclay	248.9	2.6E-06	285,000
	5525-**22-1**	9	2 % organoclay	122.5	1.6E-05	265,000

Notes:

1: Total dose of cementatious materials consisting of 3 parts GGBFS and 1 part cement

2: Rheobuild's dose is equal to 5ml per 100 grams of GGBFS-cement