Appendix A

Listing of the EPOLLS Database

A complete listing of the data on lateral spreads in the EPOLLS database is presented in this appendix. In Chapter 6, an overview of this data is given including definitions of the compiled parameters and a general discussion of the case studies. The EPOLLS case studies were taken from numerous earthquake damage and site investigation reports. These publications are listed in Appendix B under each of the sixteen earthquakes represented in the EPOLLS database.

An EPOLLS "case study" represents a single event of liquefaction and lateral spreading that was observed after an earthquake. Seventy-eight case studies were compiled in the EPOLLS database. For each case study, as many as 70 entries of descriptive information and quantitative data were compiled in the EPOLLS database. These entries are associated with "field names" such as the location of the lateral spread, earthquake magnitude, surface slope, etc. These field names are defined here in groups in the following tables:

Table:	Contents:	Additional details given:
A.1	Case study names and displacements	Section 6.3
A.2	Seismological parameters	Section 6.4
A.3	Geometrical parameters	Section 6.5
A.4	Topographical parameters	Section 6.6
A.5	Geotechnical parameters	Section 6.7

Following Table A.5, a complete listing of the data for all 78 EPOLLS case studies is presented.

Table A.1. Field names for case study names and displacements in the EPOLLS database.

Field Name	Units	Definition and Notes
Slide_ID		identification number for lateral spread case study
Slide_Name		name given to lateral spread case study
Location		description of geographic location of lateral spread site
Earthquake		year: name of earthquake causing lateral spread
Num_Horz		number of horizontal displacement vectors used to determine *Avg_Horz*, *StD_Horz*, and *Max_Horz* Note: *(approx)* = values are estimated based on reported average or maximum displacement
Avg_Horz	m	average (mean) of observed horizontal displacements
StD_Horz	m	standard deviation of observed horizontal displacements
Max_Horz	m	maximum of observed horizontal displacements
Num_Vert		number of vertical displacements used to determine *Avg_Vert*, *StD_Vert*, and *Max_Vert* Note: *(approx)* = values are estimated based on reported average or maximum displacement Note: settlements are positive vertical displacements; uplift or heaving are negative vertical displacements.
Avg_Vert	m	average (mean) of observed vertical displacements
StD_Vert	m	standard deviation of observed vertical displacements
Max_Vert	m	maximum of observed vertical displacements

Table A.2. Field names for seismological parameters in the EPOLLS database.

Field Name	Units	Definition and Notes
EQ_Mw	--	moment magnitude of earthquake: $M_w = \frac{2}{3} \log M_o - 10.7$; M_o = seismic moment in dyne-cm
EQ_Ms	--	surface-wave magnitude of earthquake
Focal_Depth	km	focal depth: depth of earthquake hypocenter below surface of the earth
Epict_Dist	km	epicentral distance: horizontal distance from lateral spread to point on surface of earth above the earthquake hypocenter
Hypoc_Dist	km	hypocentral distance: $Hypoc\_Dist = (Epic\_Dist^2 + Focal\_Depth^2)^{1/2}$
Fault_Dist	km	shortest horizontal distance from lateral spread to the surface projection of the fault rupture or zone of seismic energy release
Accel_max	g	peak horizontal acceleration at the ground surface of the site that would occur in the absence of excess pore pressures or liquefaction generated by the earthquake
Duration	sec	duration of strong earthquake motions at the site, measured as time between first and last occurrence of a surface acceleration ≥ 0.05 g

Table A.3. Field names for geometrical parameters in the EPOLLS database.

Field Name	Units	Definition and Notes
Banded_Area?	T or F	TRUE = lateral spread of the banded-area type (sliding is in a relatively narrow band, head and toe of slide are roughly parallel, and the flanks are relatively far apart and poorly defined) FALSE = surface area of lateral spread is bounded on all sides (head, toe, and flanks of the slide area enclose a slide area of a finite size)
Slide_Area	m^2	surface area of lateral spread (undefined for *Banded_Area?* = True)
Slide_Length	m	maximum length measured horizontally from head to toe of lateral spread in prevailing direction of movement
Divergence	--	divergence factor for the lateral spread indicating the increase (+) or decrease (-) in spread width in prevailing direction of movement

Table A.4. Field names for topographical parameters in the EPOLLS database.

Field Name	Units	Definition and Notes
Direct_Slide	degrees	angle measured in the horizontal plane between the prevailing direction of movement and a line drawn perpendicular to the principle topographical contour lines or a free face
Free_Face?	T or F	TRUE = free face along toe of lateral spread FALSE = no free face along toe of lateral spread Note: free face ≡ any abrupt, essentially vertical change in topography such as a stream bank, road cut, deep drainage ditch, etc.
Bulkhead?	T or F	TRUE = free face consists of a flexible, earth-retaining wall providing minimal support to the slide (for example, steel sheet piles) FALSE = free face without wall structure, or no free face present Note: EPOLLS method does not apply to sites with relatively large, massive walls that would significantly restrain a lateral spread
Face_Height	m	height of free face, measured vertically from toe to crest of the free face (when free face is a stream bank, *Face_Height* is measured from the bottom of the stream and does not include height of narrow levees along top; *Face_Height* = 0 when no free face present)
Top_%Slope	%	average slope across surface of lateral spread, measured as change in elevation over the distance from the head to the toe regions of slide Note: when a free face is present, the surface slope is measured from the head of the slide to the crest of the free face Note: negative values indicate the surface slopes in a direction opposite to the prevailing direction of movement
Eff_%Slope	%	effective surface slope *Eff_%Slope* =*Top_%Slope* + 100*(*Face_Height*) / (*Slide_Length*)
Bot_%Slope	%	average slope along the bottom of the liquefied deposit, measured as the change in elevation from the head to the toe regions of the slide Note: negative values indicate the bottom slopes in a direction opposite to the prevailing direction of movement

Table A.5. Field names for geotechnical parameters in the EPOLLS database.

Note: The geotechnical parameters in this table are determined from the analysis of individual soil borings. Using the values computed from all of the soil borings at a given site, these parameters are estimated:

- *Avg-* parameters represent the average conditions across the lateral spread.
- *Rng-* parameters represent the range in conditions across the lateral spread, and are computed as the difference between the maximum and minimum values of the parameter.

Field Name	Units	Definition and Notes
Num_Boring		number of soil borings used to define geotechnical parameters
Avg-Z_GrWater *Rng-Z_GrWater*	m	depth to groundwater table
Thickness of liquefied soil:		
Avg-Z_TopLiq *Rng-Z_TopLiq*	m	depth to top of liquefied sublayer (minimum depth to any liquefied soil)
Avg-Z_BotLiq *Rng-Z_BotLiq*	m	depth to bottom of liquefied soil (maximum depth to any liquefied soil)
Avg-Thick_Liq *Rng-Thick_Liq*	m	thickness of liquefied soil (usually equal to *Z_BotLiq* - *Z_TopLiq*)
Average shear resistance of liquefied soil:		
Avg-Index_Liq *Rng-Index_Liq*	--	index of liquefied thickness in upper 20 m *Index_Liq* = $(\sum F \cdot W \cdot \Delta z) / (\sum W \cdot \Delta z)$
Avg-FS_Liq *Rng-FS_Liq*	--	average factor of safety measured in liquefied soil thickness FS_{liq} = CRR / CSR
Avg-N160_Liq *Rng-N160_Liq*	blows per ft	average $(N_1)_{60}$ measured in liquefied soil thickness

Table A.5 (*continued*). Field names for geotechnical parameters in the EPOLLS database.

Field Name	Units	Definition and Notes
Minimum shear resistance of liquefied soil:		
Avg-FS_Min *Rng-FS_Min*	--	minimum factor of safety measured in potentially liquefiable soil
Avg-N160_MnFS *Rng-N160_MnFS*	blows per ft	measured $(N_1)_{60}$ corresponding to *FS_Min*
Avg-Z_MnFS *Rng-Z_MnFS*	m	depth corresponding to *FS_Min*
Avg-N160_Min *Rng-N160_Min*	blows per ft	lowest $(N_1)_{60}$ measured in potentially liquefiable soil
Avg-Z_MnN160 *Rng-Z_MnN160*	m	depth corresponding to *N160_Min*
Grain size characteristics of liquefied soil:		
Avg-D50_Liq *Rng-D50_Liq*	mm	average of mean grain size (D_{50}) in liquefied soil thickness
Avg-Cu_Liq *Rng-Cu_Liq*	--	average coefficient of uniformity ($C_u = D_{60}/D_{10}$) in liquefied soil thickness
Avg-Clay_Liq *Rng-Clay_Liq*	%	average clay content (percent finer than 0.005 mm) in liquefied soil thickness
Avg-Fine_Liq *Rng-Fine_Liq*	%	average fines content (percent finer than 0.075 mm) in liquefied soil thickness
Strength and permeability of unliquefied surficial cap and base soil:		
Avg-N160_Cap *Rng-N160_Cap*	blows per ft	average $(N_1)_{60}$ measured above *Z_TopLiq*
Avg-Fine_Cap *Rng-Fine_Cap*	%	average fines content (percent finer than 0.075 mm) in soil above *Z_TopLiq* (restricted to no more than one stratum above *Z_TopLiq*)
Avg-Fine_Base *Rng-Fine_Base*	%	average fines content (percent finer than 0.075 mm) in soil below *Z_BotLiq* (restricted to no more than one stratum below *Z_BotLiq*)

Slide_ID	Slide_Name	Location	Earthquake
1	Sullivan Marsh Area	South of Market St, San Francisco, California	1906: San Francisco, California
2	Mission Creek Area	16th to 19th St., San Francisco, California	1906: San Francisco, California
3	Salinas River Bridge	St. Hwy. 68, 6.4 km southwest of Salinas, California	1906: San Francisco, California
4	Coyote Creek Bridge	St. Hwy. 237, Milpitas, Calif.	1906: San Francisco, California
5	Kawakubo Area	Furu-Tone River: Kasukabe City, Japan	1923: Kanto, Japan
6	Yoshino River - North Quadrant	Morita Area, Fukui, Japan	1948: Fukui, Japan
7	Yoshino River - East Quadrant	Morita Area, Fukui, Japan	1948: Fukui, Japan
8	Yoshino River - South Quadrant	Morita Area, Fukui, Japan	1948: Fukui, Japan
9	Yoshino River - West Quadrant	Morita Area, Fukui, Japan	1948: Fukui, Japan
10	Railroad Bridge MP 3.0 - South Bank	Resurrection River, Seward, Alaska	1964: Prince William Sound, Alaska
11	Railroad Bridges MP 3.0 to MP 3.2	Resurrection River, Seward, Alaska	1964: Prince William Sound, Alaska
12	Railroad Bridges MP 3.2 to MP 3.3	Resurrection River, Seward, Alaska	1964: Prince William Sound, Alaska
13	Seward-Anchorage Highway Bridge No. 605A	Snow River, Kenai Lake, Alaska	1964: Prince William Sound, Alaska
14	Railroad Bridge MP 63.0 - South Bank	Portage Creek, Portage, Alaska	1964: Prince William Sound, Alaska
15	Railroad Bridge MP 63.0 - North Bank	Portage Creek, Portage, Alaska	1964: Prince William Sound, Alaska
16	Railroad Bridge MP 63.5 - South Bank	Portage Creek, Portage, Alaska	1964: Prince William Sound, Alaska
17	Railroad Bridge MP 63.5 - North Bank	Portage Creek, Portage, Alaska	1964: Prince William Sound, Alaska
18	Railroad Bridge MP 64.7 - South Bank	Twentymile River, Portage, Alaska	1964: Prince William Sound, Alaska
19	Railroad Bridge MP 114.3	Ship Creek, Anchorage, Alaska	1964: Prince William Sound, Alaska
20	Glenn Highway Bridge No.1121 -South Bank	Knik River, Palmer, Alaska	1964: Prince William Sound, Alaska
21	Railroad Bridge MP 147.1 - North Bank	Matanuska River, Palmer, Alaska	1964: Prince William Sound, Alaska
22	Railroad Bridge MP 147.4 - North Bank	Matanuska River, Palmer, Alaska	1964: Prince William Sound, Alaska
23	Railroad Bridge MP 147.5 - South Bank	Matanuska River, Palmer, Alaska	1964: Prince William Sound, Alaska
24	Railroad Bridge MP 148.3 - South Bank	Matanuska River, Palmer, Alaska	1964: Prince William Sound, Alaska
25	Shinko Area	Shinano River, Niigata, Japan	1964: Niigata, Japan
26	Kawagishi Area	Shinano River, Niigata, Japan	1964: Niigata, Japan
27	Hakusan Park	Shinano River, Niigata, Japan	1964: Niigata, Japan
28	Meteorological Observatory	Shinano River, Niigata, Japan	1964: Niigata, Japan
29	Bandai Bridge - North Bank	Shinano River, Niigata, Japan	1964: Niigata, Japan
30	Bandai Bridge - South Bank	Shinano River, Niigata, Japan	1964: Niigata, Japan
31	NHK and Hokuriku Buildings	West of Higashi Odori St, Niigata, Japan	1964: Niigata, Japan
32	Hotel Niigata	East of Higashi Odori St, Niigata, Japan	1964: Niigata, Japan
33	Bandai Island	East Bank, Shinano River, Niigata, Japan	1964: Niigata, Japan
34	North Pier - East Side	Shinano & Kurinoki River, Niigata, Japan	1964: Niigata, Japan
35	Ubibe Area	Shinano River Estuary, Niigata, Japan	1964: Niigata, Japan
37	Route 7 to Tsusen River	Ohgata Area, Niigata, Japan	1964: Niigata, Japan
38	Ohgata Primary School	Ohgata Area, Niigata, Japan	1964: Niigata, Japan
39	Shinkawa Area	West bank, Agano River, Niigata, Japan	1964: Niigata, Japan
40	Jensen Water Filtration Plant	Van Norman Complex, San Fernando, California	1971: San Fernando, California
41	San Fernando Valley Juvenile Hall	Van Norman Complex, San Fernando, California	1971: San Fernando, California
42	Villalobos River Delta	La Playa, Lake Amatitlan, Guatemala	1976: Guatemala
43	Heber Road	East of Heber/south of Holtville, California	1979: Imperial Valley, California
44	River Park	East bank of New River, Brawley, California	1979: Imperial Valley, California
45	South slope of Maeyama Hill	Arayafu Area, Noshiro, Japan	1983: Nihonkai-Chubu, Japan
46	Northeast slope of Maeyama Hill	Jusshuzaki Area, Noshiro, Japan	1983: Nihonkai-Chubu, Japan
47	North slope of Maeyama Hill	Yosuga Area, Noshiro, Japan	1983: Nihonkai-Chubu, Japan
48	Kawatogawa - Nagasaki Areas	South of Road #7, Noshiro, Japan	1983: Nihonkai-Chubu, Japan
49	Aoba - Shonan - Matsumi Areas	West of Noshiro Oga Road, Noshiro, Japan	1983: Nihonkai-Chubu, Japan
50	Pence Ranch	Highway 93, Thousand Springs Valley, Idaho	1983: Borah Peak, Idaho
51	Whiskey Springs	Big Lost River Valley, northwest of Mackay, Idaho	1983: Borah Peak, Idaho
52	Wildlife Liquefaction Array	Alamo River, south of Calipatria, California	1987: Superstition Hills, California
53	Sullivan Marsh Area	South of Market St, San Francisco, California	1989: Loma Prieta, California
54	Mission Creek Area	16th to 19th St., San Francisco, California	1989: Loma Prieta, California
55	Moss Landing Spit	Eastern shore of Monterey Bay, California	1989: Loma Prieta, California
56	Clint Miller Farms	South of Pajaro River, Watsonville, California	1989: Loma Prieta, California
57	Farris Farm	North of Pajaro River, Watsonville, California	1989: Loma Prieta, California
100	Magsaysay Bridge - West Bank	Pantal River, Dagupan, Philippines	1990: Luzon, Philippines
101	Magsaysay Bridge - East Bank	Pantal River, Dagupan, Philippines	1990: Luzon, Philippines
102	Fernandez Avenue	Pantal River, Dagupan, Philippines	1990: Luzon, Philippines
103	Nable Street	Pantal River, Dagupan, Philippines	1990: Luzon, Philippines
104	Rio Estrella HW Bridge - South Bank	Highway 36, northwest of Pandora, Costa Rica	1991: Telire-Limon, Costa Rica
105	Rio Bananito Railroad Bridge - South Bank	Bananito River, southeast of Bomba, Costa Rica	1991: Telire-Limon, Costa Rica
106	Rio Bananito Railroad Bridge - North Bank	Bananito River, southeast of Bomba, Costa Rica	1991: Telire-Limon, Costa Rica
107	Rio Matina Railroad Bridge - South Bank	Matina River, south of Matina, Costa Rica	1991: Telire-Limon, Costa Rica
108	Rio Matina Railroad Bridge - North Bank	Matina River, south of Matina, Costa Rica	1991: Telire-Limon, Costa Rica
109	Area A - 1000 m from river mouth	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
110	Area C West - 1000 m west of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
111	Area C Center - 900 m west of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
112	Area C East - 750 m west of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
113	Area D West - 150 m east of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
114	Area D East - 300 m east of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
115	Area E West - 450 m east of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
116	Area E North - 600 m east of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
117	Area E East - 700 m east of Shinei Bridge	Shiribeshi-toshibetsu River, Japan	1993: Hokkaido Nansei-oki, Japan
118	San Fernando Valley Juvenile Hall	Van Norman Complex, San Fernando, California	1994: Northridge, California
119	Hansen Dam Lakebed	Southeast of San Fernando, California	1994: Northridge, California
120	Rory Lane, Simi Valley	Along Simi Arroyo, Simi Valley, California	1994: Northridge, California
121	Potrero Canyon - Site A	15 km west of Santa Clarita, California	1994: Northridge, California

Slide_ID	Num_Horz	Avg_Horz	StD_Horz	Max_Horz	Num_Vert	Avg_Vert	StD_Vert	Max_Vert
1	7	1.00	0.40	1.80	6	0.60	0.50	0.90
2	5	1.20	0.70	2.40	7	0.90	0.50	1.80
3	(approx)			1.80	(approx)			3.00
4	(approx)	0.50						
5	19	0.90	0.49	1.50				
6	24	1.96	0.84	4.00				
7	25	1.89	0.99	4.30				
8	36	1.69	0.71	3.40				
9	24	1.56	0.65	3.69				
10	(approx)	0.30						
11	(approx)	0.29						
12	(approx)	0.47						
13	(approx)	2.40			(approx)	1.00		1.50
14	8	0.30	0.18	0.61				
15	3	1.20		1.90				
16	8	1.22	0.45	1.85				
17	3	0.09						
18	(approx)	1.60			6	0.27		
19	(approx)	0.17						
20	1			0.60				
21	(approx)	0.30						
22	(approx)	0.24						
23	(approx)	0.20						
24	(approx)	1.40						
25	14	3.75	2.45	9.25	14	0.27	0.44	1.07
26	75	3.94	2.97	11.81	71	0.65	0.64	3.45
27	24	3.76	1.94	8.72	23	1.23	0.59	2.24
28	38	2.08	1.21	6.49	37	0.14	0.61	1.82
29	46	4.21	1.98	8.82	45	1.13	0.87	2.87
30	26	4.78	2.64	10.15	26	1.14	1.03	3.78
31	37	1.22	0.41	2.07	37	0.04	0.47	1.11
32	72	2.34	1.01	4.65	64	1.04	0.61	2.96
33	9	4.71	2.39	9.79	8			2.96
34	16	0.98	0.64	2.16	16	1.40	1.00	3.16
35	22	4.59	2.66	10.55	22	0.61	0.62	2.03
37	63	3.23	1.55	6.46	63	0.08	0.59	1.39
38	66	4.74	2.10	8.34	63	0.52	0.78	1.85
39	84	2.76	1.43	7.64	82	0.29	0.50	2.10
40	26	1.02	1.19	3.69	5	0.80	0.79	2.82
41	79	0.90	0.58	1.82	84	0.25	0.24	0.86
42	(approx)			9.60	(approx)			1.00
43	33	1.40	1.19	4.24				
44	(approx)	0.10			(approx)	0.00		
45	28	1.47	0.66	2.92				
46	34	1.46	0.43	2.72				
47	59	1.58	0.83	4.01				
48	57	1.26	0.42	2.65				
49	187	1.55	0.58	3.25				
50	(approx)	0.30		0.75				
51	(approx)	1.20		1.50	(approx)			-1.20
52	3	0.17	0.06	0.23				
53	(approx)	0.00						
54	(approx)	0.00			(approx)	0.30		
55	3	0.30		0.40	3	0.20		0.30
56	16	0.06	0.04	0.30	52	0.08	0.07	0.24
57	(approx)			0.30				
100	(approx)			6.00				
101	3	3.00		5.00				
102	(approx)	2.00		3.00	(approx)	0.50		1.00
103	(approx)	1.50		3.00	(approx)	0.50		1.00
104	(approx)	1.50		2.50				
105	(approx)	1.30						
106	(approx)	2.20						
107	3	1.00		1.20				
108	4	0.20		0.44	4	0.24		0.34
109	11	1.38	1.06	3.91	11	0.55	0.18	0.84
110	17	0.68	0.35	1.40	18	0.43	0.29	0.97
111	4	0.57		0.79	4	0.56		0.81
112	6	1.38		2.94	6	0.25		0.52
113	3	0.93		1.37	3	0.62		0.77
114	6	0.81	0.41	1.49	6	0.25	0.15	0.39
115	6	1.48	0.29	1.92	6	0.19	0.24	0.57
116	11	0.67	0.27	1.10	12	0.27	0.28	0.54
117	13	1.36	0.90	3.39	13	0.14	0.23	0.45
118	(approx)	0.08		0.15				
119	(approx)			0.90	(approx)			0.30
120	(approx)			0.20	(approx)			0.20
121	18	0.05	0.03	0.10	7	0.09	0.09	0.25

Slide_ID	EQ_Mw	EQ_Ms	Focal_Depth	Epict_Dist	Hypoc_Dist	Fault_Dist	Accel_max	Duration
1	7.7	8.3	12.0	45.5	47.1	13.0	0.44	45.
2	7.7	8.3	12.0	45.5	47.1	12.0	0.46	45.
3	7.7	8.3	12.0	184.0	184.4	26.5	0.26	102.
4	7.7	8.3	12.0	102.0	102.7	23.5	0.29	72.
5	7.9	8.2	14.0	100.0	101.0	20.0	0.24	87.
6	7.0	7.3	30.0	6.5	30.7	0.0	0.25	4.
7	7.0	7.3	30.0	6.5	30.7	0.0	0.25	4.
8	7.0	7.3	30.0	6.5	30.7	0.0	0.25	4.
9	7.0	7.3	30.0	6.5	30.7	0.0	0.25	4.
10	9.2	8.4	35.0	147.0	151.1	31.0	0.52	88.
11	9.2	8.4	35.0	147.0	151.1	31.0	0.52	88.
12	9.2	8.4	35.0	147.0	151.1	31.0	0.52	88.
13	9.2	8.4	35.0	138.0	142.4	35.0	0.47	87.
14	9.2	8.4	35.0	84.0	91.0	60.0	0.31	75.
15	9.2	8.4	35.0	84.0	91.0	60.0	0.31	75.
16	9.2	8.4	35.0	84.0	91.0	60.0	0.31	75.
17	9.2	8.4	35.0	84.0	91.0	60.0	0.31	75.
18	9.2	8.4	35.0	84.0	91.0	60.0	0.31	75.
19	9.2	8.4	35.0	135.0	139.5	119.0	0.18	86.
20	9.2	8.4	35.0	95.0	101.2	100.0	0.21	77.
21	9.2	8.4	35.0	95.0	101.2	100.0	0.21	77.
22	9.2	8.4	35.0	95.0	101.2	100.0	0.21	77.
23	9.2	8.4	35.0	95.0	101.2	100.0	0.21	77.
24	9.2	8.4	35.0	95.0	101.2	100.0	0.21	77.
25	7.6	7.4	40.0	51.0	64.8	16.0	0.16	19.
26	7.6	7.4	40.0	51.0	64.8	16.0	0.16	19.
27	7.6	7.4	40.0	50.0	64.0	15.0	0.16	19.
28	7.6	7.4	40.0	50.0	64.0	15.0	0.16	19.
29	7.6	7.4	40.0	48.0	62.5	13.0	0.17	19.
30	7.6	7.4	40.0	49.0	63.3	14.0	0.17	19.
31	7.6	7.4	40.0	49.0	63.3	14.0	0.17	19.
32	7.6	7.4	40.0	49.0	63.3	14.0	0.17	19.
33	7.6	7.4	40.0	48.0	62.5	13.0	0.17	19.
34	7.6	7.4	40.0	47.0	61.7	13.0	0.17	19.
35	7.6	7.4	40.0	46.0	61.0	11.0	0.17	19.
37	7.6	7.4	40.0	47.0	61.7	12.0	0.17	19.
38	7.6	7.4	40.0	47.0	61.7	12.0	0.17	19.
39	7.6	7.4	40.0	45.0	60.2	11.0	0.18	19.
40	6.7	6.5	8.4	14.0	16.3	0.5	0.50	15.
41	6.7	6.5	8.4	13.0	15.5	1.0	0.50	14.
42	7.6	7.5	5.0	170.0	170.1	40.0	0.15	88.
43	6.5	6.8	10.0	11.5	15.2	1.6	0.46	14.
44	6.5	6.8	10.0	42.0	43.2	4.4	0.40	12.
45	7.9	7.7	15.0	98.0	99.1	60.0	0.25	30.
46	7.9	7.7	15.0	98.0	99.1	60.0	0.25	30.
47	7.9	7.7	15.0	98.0	99.1	60.0	0.25	30.
48	7.9	7.7	15.0	98.0	99.1	60.0	0.25	30.
49	7.9	7.7	15.0	98.0	99.1	60.0	0.25	30.
50	6.9	7.3	16.0	9.3	18.5	8.0	0.30	12.
51	6.9	7.3	16.0	7.0	17.5	0.0	0.40	11.
52	6.5	6.6	2.0	31.0	31.1	24.0	0.21	26.
53	7.0	7.1	17.6	91.0	92.7	67.0	0.17	8.
54	7.0	7.1	17.6	89.0	90.7	65.0	0.17	8.
55	7.0	7.1	17.6	27.0	32.2	12.0	0.25	14.
56	7.0	7.1	17.6	19.0	25.9	1.0	0.39	11.
57	7.0	7.1	17.6	19.0	25.9	1.0	0.39	11.
100	7.6	7.8	25.0	104.0	107.0	65.0	0.20	16.
101	7.6	7.8	25.0	104.0	107.0	65.0	0.20	16.
102	7.6	7.8	25.0	104.0	107.0	65.0	0.20	16.
103	7.6	7.8	25.0	104.0	107.0	65.0	0.20	16.
104	7.7	7.5	21.5	27.4	34.8	25.7	0.27	12.
105	7.7	7.5	21.5	27.2	34.7	24.1	0.28	12.
106	7.7	7.5	21.5	27.2	34.7	24.1	0.28	12.
107	7.7	7.5	21.5	46.7	51.4	25.7	0.27	14.
108	7.7	7.5	21.5	46.7	51.4	25.7	0.27	14.
109	7.7	7.6	34.0	67.0	75.1	12.0	0.25	60.
110	7.7	7.6	34.0	70.0	77.8	13.0	0.25	60.
111	7.7	7.6	34.0	70.0	77.8	13.0	0.25	60.
112	7.7	7.6	34.0	70.0	77.8	13.0	0.25	60.
113	7.7	7.6	34.0	70.0	77.8	15.0	0.25	60.
114	7.7	7.6	34.0	70.0	77.8	15.0	0.25	60.
115	7.7	7.6	34.0	70.0	77.8	15.0	0.25	60.
116	7.7	7.6	34.0	70.0	77.8	15.0	0.25	60.
117	7.7	7.6	34.0	70.0	77.8	15.0	0.25	60.
118	6.7	6.8	18.4	12.1	22.0	2.8	0.83	9.
119	6.7	6.8	18.4	14.6	23.5	5.0	0.34	14.
120	6.7	6.8	18.4	13.6	22.9	1.3	0.90	11.
121	6.7	6.8	18.4	26.2	32.0	12.1	0.46	14.

Slide_ID	Banded_Area?	Slide_Area	Slide_Length	Divergence	Direct_Slide	Free_Face?	Bulkhead?	Face_Height	Top_%Slope	Eff_%Slope	Bot_%Slope
1	FALSE	560000.	1360.	-0.04	10.	FALSE	FALSE	0.0	0.6	0.6	0.8
2	FALSE	150000.	790.	0.18	20.	FALSE	FALSE	0.0	1.3	1.3	1.9
3	TRUE				0.	TRUE	FALSE	3.7	1.1		-1.9
4	TRUE		530.		0.	TRUE	FALSE	7.5	0.1	1.52	0.6
5	FALSE	823000.	480.	0.55	0.	TRUE	FALSE	2.4	0.7	1.2	0.4
6	FALSE	79530.	270.	-0.33	35.	FALSE	FALSE	0.0	0.4	0.4	
7	FALSE	80690.	190.	0.88	0.	FALSE	FALSE	0.0	0.5	0.5	
8	TRUE		250.	0.53	0.	FALSE	FALSE	0.0	0.4	0.4	
9	FALSE	105100.	290.	-0.67	0.	FALSE	FALSE	0.0	0.3	0.3	
10	TRUE		87.	0.21		TRUE	FALSE	1.8	0.07	2.14	
11	FALSE	53700.	220.	0.59		TRUE	FALSE	1.8	0.1	0.92	
12	FALSE	58600.	370.	-0.22		TRUE	FALSE	1.8	0.2	0.69	
13	FALSE					FALSE	FALSE	0.0	0.1	0.1	
14	FALSE		90.	0.37	0.	TRUE	FALSE	1.8	0.05	2.05	
15	TRUE		50.	-0.15	5.	TRUE	FALSE	1.8	-0.2	3.4	
16	TRUE		125.	0.16	40.	TRUE	FALSE	3.0	0.2	2.6	
17	TRUE		110.	0.09	10.	TRUE	FALSE	3.0	0.2	2.93	
18	TRUE		235.	0.18	0.	TRUE	FALSE	4.9	0.1	2.19	
19						TRUE	FALSE	5.0	3.0		
20	TRUE		115.	0.14	35.	TRUE	FALSE	6.0	0.5	5.72	
21	FALSE	7560.	67.	0.00	5.	TRUE	FALSE	7.3	0.1	11.0	
22	TRUE		25.	0.00	25.	TRUE	FALSE	3.7	0.1	14.9	
23	FALSE	54000.	180.	0.04	0.	TRUE	FALSE	3.7	0.1	2.16	
24	TRUE		150.	0.46	0.	TRUE	FALSE	3.0	0.7	2.7	
25	TRUE		290.	0.24	0.	TRUE	TRUE	6.0	0.7	2.77	
26	TRUE		370.	0.01	0.	TRUE	TRUE	5.5	0.0	1.49	0.0
27	FALSE	204000.	470.	0.45	25.	TRUE	TRUE	4.6	0.0	0.98	0.9
28	TRUE		330.	-0.16	20.	TRUE	TRUE	4.2	0.0	1.27	
29	FALSE	854000.	520.	1.95	0.	TRUE	TRUE	4.6	-0.7	0.18	1.7
30	TRUE		320.	-0.12	0.	TRUE	TRUE	5.0	0.0	1.56	1.5
31	FALSE	78300.	320.	0.44	0.	FALSE	FALSE	0.0	0.0	0.0	0.8
32	FALSE	215000.	500.	0.20	0.	FALSE	FALSE	0.0	0.3	0.3	0.3
33	TRUE		480.	-0.05	15.	TRUE	TRUE	3.5	-0.3	0.43	-0.8
34	TRUE		140.	0.00	5.	TRUE	TRUE	3.0	0.5	2.64	
35	FALSE	329000.	450.	0.41	0.	TRUE	TRUE	3.3	1.0	1.73	3.1
37	FALSE	348000.	910.	0.17	20.	FALSE	FALSE	0.0	0.2	0.2	-0.2
38	FALSE	195000.	370.	0.78	0.	FALSE	FALSE	0.0	0.6	0.6	0.8
39	TRUE		740.	0.40	0.	FALSE	FALSE	0.0	0.3	0.3	0.9
40	FALSE	863800.	930.	-0.24	0.	TRUE	FALSE	9.0	1.0	1.97	5.6
41	FALSE	464700.	1340.	0.06	0.	FALSE	FALSE	0.0	1.8	1.8	1.0
42						TRUE	FALSE	1.6	3.2		
43	FALSE	13500.	110.	-0.28	0.	TRUE	FALSE	1.5	0.3	1.66	
44	FALSE		320.		0.	TRUE	FALSE	1.7	0.4	0.93	0.2
45	FALSE	64950.	245.	0.66	0.	FALSE	FALSE	0.0	5.2	5.2	
46	FALSE	72130.	325.	0.85	25.	FALSE	FALSE	0.0	2.1	2.1	
47	FALSE	168200.	535.	0.42	0.	FALSE	FALSE	0.0	1.0	1.0	-0.2
48	FALSE	220000.	600.	-0.49	0.	FALSE	FALSE	0.0	0.8	0.8	
49	FALSE	561200.	870.	-0.30	0.	FALSE	FALSE	0.0	0.4	0.4	0.3
50	FALSE	8800.	40.	0.00	30.	FALSE	FALSE	0.0	4.0	4.0	-2.0
51	TRUE		105.	0.00	15.	FALSE	FALSE	0.0	9.5	9.5	3.5
52	TRUE		20.		60.	TRUE	FALSE	2.4	-0.47	11.53	3.7
53	FALSE	400000.	1000.	-0.03		FALSE	FALSE	0.0	0.6	0.6	
54	FALSE	82000.	350.	0.30		FALSE	FALSE	0.0	1.0	1.0	
55	TRUE		130.	0.00		TRUE	TRUE	3.4			
56	FALSE	192000.	150.	-0.07	40.	TRUE	FALSE	4.3	0.15	3.02	
57	TRUE		170.	0.00		TRUE	FALSE	4.3			
100	TRUE		100.	0.00		TRUE	FALSE	4.0			
101	FALSE	14000.	90.	-0.29		TRUE	FALSE	10.0			
102	TRUE		75.	0.00		TRUE	FALSE	5.0			
103	TRUE		140.	0.00		TRUE	TRUE	5.0			
104						TRUE	FALSE				
105						TRUE	FALSE				
106						TRUE	FALSE				
107						TRUE	FALSE				
108						TRUE	FALSE				
109	FALSE		350.	0.14	0.	FALSE	FALSE	0.0	0.37	0.37	
110	FALSE		380.			FALSE	FALSE	0.0	0.08	0.08	
111	TRUE		100.	-0.48	0.	TRUE	FALSE	1.0	1.0	2.0	
112	TRUE		140.			FALSE	FALSE	0.0	1.0	1.0	
113	TRUE		70.	0.67		TRUE	FALSE	1.1	0.9	2.47	1.9
114	TRUE		90.		0.	FALSE	FALSE	0.0	1.0	1.0	-3.0
115	FALSE	21500.	160.	0.17	0.	TRUE	FALSE	1.3	0.54	1.35	
116	FALSE	21300.	160.	-0.21	55.	TRUE	FALSE	0.7	-0.1	0.34	
117	FALSE	45100.	140.	0.10	0.	TRUE	FALSE	0.8	1.33	1.9	
118	FALSE					FALSE	FALSE	0.0	1.4	1.4	1.1
119											
120			75.			TRUE	TRUE	2.6	1.0	4.47	
121											

Slide_ID	Num_Boring	Avg-Z_GrWater	Rng-Z_GrWater	Avg-Z_TopLiq	Rng-Z_TopLiq	Avg-Z_BotLiq	Rng-Z_BotLiq	Avg-Thick_Liq	Rng-Thick_Liq	Avg-Index_Liq	Rng-Index_Liq	Avg-FS_Liq	Rng-FS_Liq
1	9	1.7	2.5	1.7	2.5	4.4	4.7	2.7	3.0	0.15	0.25	0.43	0.80
2	9	2.0	1.7	2.0	1.7	6.4	3.1	4.4	4.3	0.40	0.44	0.35	0.50
3	3	0.6		0.6		7.4		6.8		0.14	0.12	0.45	0.47
4	3	2.3	1.2	3.4	3.5	4.1	3.6	0.7	1.4	0.03	0.06	0.69	0.22
5	3	1.0	1.3	1.0	1.3	4.8	2.6	3.8	1.8	0.35	0.18	0.43	0.21
6													
7													
8	2	3.0	0.3	12.2	4.5	18.3	0.3	6.1	4.2	0.04	0.06	0.77	0.09
9	2	3.1	0.6	6.9	5.9	14.6	6.4	7.8	0.5	0.11	0.16	0.67	0.42
10													
11	1	2.0		2.0		9.9		7.8		0.46		0.17	
12	3	2.5	1.0	2.5	1.0	16.0	0.6	13.5	0.4	0.41	0.01	0.23	0.08
13	3	1.5		1.5		29.3	12.3	27.6	12.0	0.83	0.08	0.20	0.07
14	1	2.4		5.1		9.7		4.6		0.14		0.46	
15	1	2.4		2.5		8.3		5.8		0.16		0.56	
16	4	1.4	2.0	1.4	2.0	9.2	7.6	7.8	5.6	0.33	0.10	0.32	0.50
17	1	1.2		1.2		10.9		9.7		0.37		0.48	
18	4	1.7	3.3	1.7	3.3	9.2	6.8	7.5	6.8	0.28	0.18	0.48	0.19
19	1	2.4		2.7		6.5		3.8		0.14		0.61	
20	2	6.0		9.8	7.5	25.9	4.9	16.1	2.6	0.37	0.39	0.49	0.13
21	2	7.3		7.3		36.0	3.7	28.7	3.7	0.45	0.01	0.40	0.18
22	1	3.7		3.7		27.8		24.1		0.56		0.23	
23	1	3.7		3.7		16.4		12.7		0.37		0.11	
24	2	3.0		3.0		26.2	6.3	23.2	6.3	0.46	0.18	0.50	0.16
25													
26	2	3.0	0.0	3.0	0.0	12.2	1.1	9.2	1.1	0.13	0.04	0.80	0.08
27	3	1.0	0.0	1.0	0.0	12.1	5.3	11.7	4.3	0.33	0.18	0.62	0.33
28	2	1.8	0.4	1.8	0.4	4.0	0.0	2.2	0.4	0.03	0.02	0.91	0.08
29	12	1.2	1.4	3.2	7.8	14.4	13.4	11.3	14.9	0.23	0.34	0.67	0.30
30	4	1.5	1.0	3.0	4.0	11.8	6.9	8.7	8.9	0.19	0.24	0.69	0.14
31	4	2.0	3.3	2.2	3.2	10.9	2.9	8.7	6.1	0.20	0.08	0.65	0.16
32	12	1.1	2.3	1.9	6.0	11.0	9.6	9.1	9.0	0.23	0.44	0.68	0.28
33	3	1.8	1.4	3.4	2.1	13.3	4.4	9.8	5.1	0.23	0.14	0.63	0.08
34													
35	3	1.2	0.9	2.4	2.8	14.4	3.2	10.7	2.3	0.29	0.23	0.60	0.21
37	5	2.0	1.9	2.2	1.7	8.4	5.2	6.2	6.1	0.15	0.17	0.44	0.41
38	8	2.0	1.0	2.6	1.6	7.3	5.7	4.6	6.1	0.06	0.09	0.87	0.29
39	4	2.0	2.2	2.0	2.2	5.8	0.7	3.8	2.0	0.15	0.11	0.61	0.13
40	20	10.3	18.1	7.0	15.0	11.7	15.2	2.1	6.7	0.05	0.39	0.63	0.65
41	6	5.7	4.1	5.7	4.1	7.6	5.8	1.8	1.7	0.04	0.07	0.69	0.42
42	2	2.1	0.9	3.0	1.4			18.6	2.1	0.27	0.33	0.63	0.27
43	7	1.7	0.4	1.8	0.7	5.3	3.0	3.4	3.3	0.22	0.31	0.55	0.44
44	3	0.4	0.6	1.2	2.9	6.5	3.3	4.1	2.0	0.17	0.20	0.53	0.74
45	3	1.3	1.3	1.3	1.3	11.2	8.1	6.3	8.9	0.15	0.15	0.43	0.54
46	1	0.9		0.9		10.6		4.7		0.22		0.40	
47	7	2.2	3.4	2.5	4.9	8.0	6.3	4.9	4.6	0.29	0.46	0.51	0.54
48	1	1.9		2.9		10.6		6.1		0.20		0.61	
49	15	2.0	1.7	2.6	6.2	8.8	8.3	5.0	5.7	0.16	0.26	0.63	0.57
50	4	1.5	0.0	1.5	0.0	7.4	2.7	5.9	2.7	0.25	0.08	0.63	0.06
51	3	5.8	7.6	6.1	8.5	14.5	10.4	8.4	3.4	0.16	0.25	0.67	0.41
52	6	1.8	0.7	2.2	1.3	3.9	3.0	1.7	3.6	0.01	0.03	0.89	0.09
53	9	1.9	2.5					0.0	2.8	0.01	0.06	0.98	0.17
54	9	2.0	1.7	2.9	3.2	5.8	5.1	2.2	6.9	0.06	0.20	0.78	0.40
55	6	2.2	1.4	2.5	2.0	6.5	2.4	4.0	0.4	0.10	0.05	0.72	0.24
56	3	5.1	1.1	5.3	0.8	10.5	4.8	5.2	4.0	0.09	0.05	0.75	0.48
57	3	4.6	0.7	5.1	2.0	8.3	1.8	3.2	3.2	0.08	0.09	0.70	0.14
100	1	1.8		1.8		20.0		18.2		0.22		0.73	
101	2	0.8	0.1	3.5	5.1	23.1		13.9		0.18	0.03	0.60	0.25
102	2	0.8	0.0	0.8	0.0	18.0	1.7	17.2	1.7	0.24	0.12	0.74	0.02
103	1	0.8		0.8		22.8		15.7		0.23		0.75	
104	1	3.3		3.3		4.1		0.8		0.04		0.41	
105													
106													
107													
108													
109													
110													
111													
112													
113	4	1.4	1.9	1.9	0.6	7.7	3.0	5.8	3.6	0.35	0.18	0.38	0.21
114	3	1.5	1.2	1.5	1.2	7.8	3.0	6.3	3.6	0.37	0.18	0.30	0.09
115													
116													
117													
118	6	5.7	4.1	6.6	4.4	13.1	7.3	4.7	5.0	0.10	0.12	0.35	0.38
119													
120													
121													

Slide_ID	Avg-N160_Liq	Rng-N160_Liq	Avg-FS_Min	Rng-FS_Min	Avg-N160_MnFS	Rng-N160_MnFS	Avg-Z_MnFS	Rng-Z_MnFS	Avg-N160_Min	Rng-N160_Min	Avg-Z_MnN160	Rng-Z_MnN160
1	16.6	20.6	0.35	0.15	13.0	10.7	3.3	0.9	13.0	10.7	3.3	0.9
2	13.0	12.8	0.24	0.28	7.0	11.9	4.0	4.4	6.5	10.1	3.9	4.4
3	11.8	8.4	0.53	0.21	8.6	1.7	4.9	5.4	7.8	1.8	6.4	7.8
4	12.6	8.0	0.62	0.15	10.6	8.0	3.1	2.5	10.6	8.0	3.1	2.5
5	10.4	3.6	0.31	0.04	6.8	7.7	2.4	1.9	5.2	4.4	1.7	2.9
6												
7												
8	14.5	1.0	0.51	0.20	9.5	4.8	12.2	4.5	9.5	4.8	12.2	4.5
9	10.8	7.1	0.49	0.22	6.9	4.8	11.0	4.9	6.9	4.8	11.0	4.9
10												
11	17.6		0.91		10.5		4.4		10.5		4.4	
12	21.0	1.5	0.08	0.04	6.1	0.1	6.3	2.6	6.1	0.1	6.3	2.6
13	9.5	2.8	0.10	0.08	7.4	2.4	8.6	2.0	4.1	3.0	20.6	19.4
14	15.2		0.32		15.1		9.1		13.2		5.3	
15	16.3		0.49		15.2		8.2		15.2		8.2	
16	16.5	4.8	0.28	0.08	9.9	7.7	4.2	4.1	9.9	7.7	4.2	4.1
17	20.3		0.39		18.9		4.6		15.4		7.6	
18	18.9	8.0	0.29	0.08	14.1	9.2	4.5	2.7	11.5	10.6	6.3	8.7
19	6.4		0.33		1.0		6.3		1.0		6.3	
20	14.7	2.1	0.20	0.23	6.9	9.4	10.3	6.7	6.3	8.1	20.2	26.5
21	17.7	0.9	0.23	0.19	8.0	10.0	10.0	3.7	2.8	0.5	20.7	25.0
22	16.5		0.16		6.0		5.5		5.6		12.1	
23	22.9		0.10		3.0		5.2		3.0		5.2	
24	18.4	5.3	0.25	0.06	10.2	2.5	6.4	2.4	9.9	3.2	11.5	7.8
25												
26	10.0	0.7	0.50	0.10	5.2	3.7	7.0	7.0	5.2	3.7	7.0	7.0
27	10.6	5.6	0.39	0.29	5.5	7.4	4.5	4.0	5.5	7.4	4.5	4.0
28	8.6	3.0	0.90	0.07	3.4	0.4	2.8	1.5	3.4	0.4	2.8	1.5
29	11.3	7.1	0.37	0.28	4.5	8.9	6.9	14.0	4.2	8.9	6.1	14.0
30	10.0	5.3	0.46	0.31	5.8	7.8	8.7	6.8	5.6	7.0	6.8	6.8
31	9.3	6.2	0.44	0.14	6.2	5.7	6.4	1.5	5.3	5.7	4.7	5.2
32	10.7	8.5	0.46	0.48	7.0	10.7	5.5	7.0	5.6	10.0	3.5	7.0
33	9.8	3.7	0.49	0.21	6.5	5.6	4.3	0.3	6.5	5.6	4.3	0.3
34												
35	9.8	2.3	0.32	0.08	4.8	2.7	9.4	4.8	3.2	2.5	7.7	5.9
37	9.3	3.3	0.55	0.41	7.6	6.5	6.7	6.7	6.9	5.1	4.0	1.7
38	12.5	4.6	0.65	0.46	9.3	9.1	5.4	5.4	8.9	8.1	4.6	5.6
39	8.5	5.0	0.46	0.07	5.0	3.1	2.9	2.3	4.8	2.4	2.6	2.3
40	9.5	15.2	0.88	1.26	10.2	14.7	12.4	16.0	11.1	24.7	12.6	18.5
41	8.0	8.9	0.65	0.38	7.2	8.8	6.3	5.6	7.2	8.8	6.3	5.6
42	10.3	3.4	0.41	0.34	2.8	1.6	17.2	5.4	2.8	1.7	17.8	6.7
43	9.1	10.7	0.43	0.50	6.6	13.6	3.4	1.3	6.6	13.6	3.4	1.3
44	17.7	6.1	0.40	0.37	9.6	15.0	3.6	4.0	8.0	15.0	3.0	4.0
45	16.6	11.5	0.32	0.16	9.1	4.0	6.7	5.0	8.4	3.7	4.4	4.8
46	10.5		0.13		2.2		10.5		2.2		10.5	
47	11.2	13.4	0.35	0.47	6.9	8.7	5.9	7.5	6.9	8.7	4.8	8.5
48	15.6		0.17		2.6		4.0		2.6		4.0	
49	15.6	10.6	0.47	0.56	11.4	15.8	5.9	7.0	10.6	13.6	4.2	7.0
50	12.4	1.0	0.33	0.25	4.6	7.0	2.6	1.8	4.6	7.0	2.6	1.8
51	10.3	4.8	0.43	0.22	5.5	3.0	9.6	10.0	4.8	2.4	7.7	5.8
52	4.8	2.0	0.94	0.24	3.9	4.4	3.5	3.4	2.2	2.5	2.0	0.6
53			1.17	0.49	13.0	10.7	3.3	1.9	13.0	10.7	3.2	1.9
54	7.5	6.7	0.82	0.96	7.0	8.7	4.0	4.4	6.5	10.1	3.9	4.4
55	12.0	3.2	0.51	0.09	8.7	2.7	9.1	9.3	8.7	2.7	9.1	9.3
56	11.5	4.2	0.44	0.09	5.3	7.1	7.6	4.7	5.3	7.0	7.1	4.7
57	14.5	5.7	0.60	0.28	11.7	8.1	6.5	2.4	11.7	8.1	6.5	2.4
100	8.7		0.25		2.5		9.4		2.5		9.4	
101	6.1	4.9	0.37	0.13	2.9	2.3	6.4	7.3	1.5	0.5	5.0	4.3
102	10.1	0.6	0.35	0.08	4.2	4.9	2.1	2.0	1.4	0.9	1.5	0.8
103	7.3		0.47		2.6		2.8		1.8		1.3	
104	6.6		0.36		5.1		3.4		5.1		3.4	
105												
106												
107												
108												
109												
110												
111												
112												
113	8.2	7.3	0.20	0.10	2.6	3.8	2.6	1.1	2.6	3.8	2.6	1.1
114	5.8	1.3	0.17	0.04	2.1	2.6	3.8	2.5	1.9	2.0	2.8	1.0
115												
116												
117												
118	15.4	11.2	0.45	0.26	10.0	12.5	8.4	9.3	10.0	12.5	8.4	9.3
119												
120												
121												

Slide_ID	Avg-D50_Liq	Rng-D50_Liq	Avg-Cu_Liq	Rng-Cu_Liq	Avg-Clay_Liq	Rng-Clay_Liq	Avg-Fine_Liq	Rng-Fine_Liq	Avg-N160_Cap	Rng-N160_Cap	Avg-Fine_Cap	Rng-Fine_Cap	Avg-Fine_Base	Rng-Fine_Base
1							3.0		17.5	21.5	3.0			
2							13.0	34.0	17.5	28.5	14.4	25.1	50.0	95.0
3	0.35	0.14	3.5	0.7	2.9	0.2	15.7	13.1	5.9	0.8	24.2	3.0	41.0	57.0
4							10.0	10.0	42.3	26.7	13.9	3.3	6.7	3.3
5	0.24	0.17	5.50	8.9			13.3	17.5	1.4	0.2	16.3	17.5		
6														
7														
8							5.0		38.9	1.8				
9							5.0		2.7	2.2				
10														
11	13.50		85.0				5.4						5.0	
12	5.00		65.0				8.2						8.2	
13	0.22	0.25	15.9	5.6	9.2	5.2	46.9	24.0					92.0	
14	1.50		19.0				46.3		27.1		47.3		18.2	
15							66.0						31.0	
16	2.20	3.40	32.1	38.4	1.4	2.3	16.8	17.4	4.6		65.0		66.2	28.0
17	1.60		8.5		2.0		21.0						30.7	
18	1.40	0.80	9.2	2.3	0.0		14.5	20.5					24.9	53.0
19							60.0		23.6		60.0		5.0	
20	2.80	2.80	26.2	8.4	2.0	1.9	14.4	10.4	38.2		9.0		27.3	24.7
21	2.50	0.40	31.1	5.6	3.7	2.2	20.6	9.9					44.3	
22	1.50		20.6		3.9		14.9						32.5	
23	1.40		29.2		1.9		13.8						35.0	
24	0.84	0.29	14.6	8.0	4.1	1.3	24.0	3.0					51.0	60.0
25														
26							4.3	0.6	4.5	10.6	4.0	0.0	12.7	7.4
27					0.6	1.8	5.8	2.5	6.7		60.0		8.7	0.5
28							32.9	10.8	7.2	7.8	27.5	45.0	5.0	0.0
29							11.6	25.0	8.0	20.1	52.5	75.0	7.1	25.0
30							15.5	35.0	17.6	16.1	22.5	35.0	5.0	0.0
31							8.3	13.3	6.8	4.7	14.7	17.5	13.2	23.3
32							8.3	20.6	10.7	9.6	25.7	35.0	5.2	2.2
33							5.0	0.0	16.9	26.3	16.7	35.0	5.0	0.0
34														
35							8.3	5.0	15.6		50.0		5.0	0.0
37							5.0	0.0	7.9	8.6	20.0	0.0	5.0	0.0
38							5.0	0.0	8.7	11.9	15.3	15.0	5.0	0.0
39							5.0	0.0	5.8	5.8	20.0	0.0	5.0	0.0
40	0.09	0.00			12.0	0.0	47.0	0.0	43.0	64.5	47.0	0.0	47.0	0.0
41	0.06	0.04	14.0	0.0	9.6	5.0	62.3	22.0	13.0	12.4	49.2	39.4	58.7	2.8
42	1.00		15.0		2.0		10.0	10.0	7.1	2.1	5.0			
43	0.10	0.03	6.1	5.4	3.8	6.6	22.3	10.6	5.5	6.0	39.3	45.0	56.7	75.5
44	0.12	0.06	4.6	2.0	4.0	4.0	22.5	25.0	16.3		54.0		24.7	29.3
45							5.9	11.9	9.5	6.7	0.0	0.0	80.0	0.0
46							4.0		15.1					
47							3.7	3.0	6.9	9.0	0.0	0.0	57.5	50.0
48							4.0		26.1		0.0		80.0	
49							4.5	19.0	14.7	26.6	14.0	80.0	40.3	75.0
50	6.60	0.20	49.8	0.9	3.0	0.2	4.9	0.3	5.4	11.0	1.0	0.0	5.0	0.0
51	6.70	3.50			8.0	0.1	22.1	6.0	21.4	16.6	17.3	8.0	20.0	0.0
52	0.08	0.04	5.1	6.2	4.2	8.5	34.8	35.5	2.8	2.9	89.7	0.7	46.5	19.5
53							3.0				3.0			
54							8.2	12.5	17.8	27.3	13.6	30.9	49.5	95.0
55	0.67		3.2		1.0		2.6		15.3	10.1	2.6		33.5	61.8
56	0.15	0.11	14.1	26.0	6.1	3.3	19.8	22.5	11.2	11.0	47.4	24.2	11.2	10.7
57	0.21	0.05	2.4	0.4	3.0		9.2	6.5	8.8	9.8	42.7	48.5	9.0	
100	0.22		2.6		2.0		38.3							
101	0.22		2.6		2.0		45.5	9.0						
102	0.22		2.6		2.0		34.4	4.2					89.8	6.3
103	0.22		2.6		2.0		48.0						80.0	
104									12.9				11.0	
105														
106														
107														
108														
109														
110														
111														
112														
113	0.78	0.25	4.5	3.5			5.2	1.4	2.5	1.7	5.0	0.0	38.0	0.0
114	0.71	0.04	3.8	0.5			5.0	0.9	1.7	0.0	5.0		38.0	0.0
115														
116														
117														
118	0.08	0.01	14.5	1.0	9.8	3.7	53.8	8.5	13.1	12.0	46.7	27.1	63.0	10.0
119														
120														
121														