

## PERFORMANCE DATABASE COLUMN DEFINITIONS

	COLUMNS	DATA TYPE	DEFINITION	
<b>EVENT</b>	1	Event No.	<i>Informational</i>	Event Number
	2	Event ID	<i>Informational</i>	[Test] - [Event number in test] - [Structure or Free-Field]
	3	Research ID	<i>Informational</i>	[Lead researcher running the test][test number in the testing series]
	4	Test	<i>Informational</i>	T [liquefiable layer thickness (m)] - [liquefiable layer $D_R$ (%)] - [additional info.]
	5	ESN	<i>Informational</i>	Event Sequence Number: The $n^{\text{th}}$ motion in the testing sequence for each test
	6	Struct	<i>Informational</i>	Name of structure or Free-Field (FF) in the event
	7	Nscale	<i>Measured</i>	Average scaling factor achieved during spin-up
<b>SOIL PROPERTIES</b>	8	Visc (cSt)	<i>Measured</i>	Viscosity of the pore fluid used in the model; measured before testing starts
	9	Water (m)	<i>Measured</i>	Average depth to water (+) or elevation (-) measured relative to the soil surface
	10	Mat_L1	<i>Informational</i>	Material type used for the construction of Layer 1
	11	H_L1 (m)	<i>Measured</i>	Initial prototype thickness of Layer 1
	12	Dr_L1	<i>Inferred</i>	Initial nominal Relative Density ( $D_R$ ) of Layer 1
	13	Mat_L2	<i>Informational</i>	Material type used for the construction of Layer 2
	14	H_L2 (m)	<i>Measured</i>	Initial prototype thickness of Layer 2
	15	Dr_L2	<i>Inferred</i>	Initial nominal Relative Density ( $D_R$ ) of Layer 2
	16	Mat_L3	<i>Informational</i>	Material type used for the construction of Layer 3
	17	H_L3 (m)	<i>Measured</i>	Initial prototype thickness of Layer 3
	18	Dr_L3	<i>Inferred</i>	Initial nominal Relative Density ( $D_R$ ) of Layer 3
	19	Mat_L4	<i>Informational</i>	Material type used for the construction of Layer 4
	20	H_L4 (m)	<i>Measured</i>	Initial prototype thickness of Layer 4
	21	Dr_L4	<i>Inferred</i>	Initial nominal Relative Density ( $D_R$ ) of Layer 4
22	CurvedSurf	<i>Informational</i>	Is the surface of the soil curved to match centrifuge g-field radius?	
<b>STRUCTURAL PROPERTIES</b>	23	W (m)	<i>Measured</i>	Width of the structural footing (running N-S in the container)
	24	L (m)	<i>Measured</i>	Length of the structural footing (running E-W in the container)
	25	t (m)	<i>Measured</i>	Thickness of the footing
	26	H (m)	<i>Measured</i>	Height of the structure from the bottom of the footing to the top of the deck
	27	H_cm (m)	<i>Measured</i>	Height from the base of the footing to the center of mass of the entire structure
	28	H_cd (m)	<i>Measured</i>	Height from the base of the footing to the center of mass of the deck mass
	29	M_struct (kg)	<i>Measured</i>	Mass of the full structure
	30	M_deck (kg)	<i>Measured</i>	Mass of the deck
	31	M_col (kg)	<i>Measured</i>	Mass of the columns
	32	M_foot (kg)	<i>Measured</i>	Mass of the footing
	33	Embed (m)	<i>Measured</i>	Initial footing embedment depth; measured from soil surface to bottom of footing
	34	q (kPa)	<i>Derived</i>	Bearing pressure of structure: total structural weight over the footing area
	35	T_fb (s)	<i>Measured</i>	Fixed-base period of the structure; measured before testing
	36	Modification	<i>Informational</i>	Ground modification: ground improvement, adjacent bldgs., piles, etc.

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<b>BASE MOTION</b>	37	Motion	<i>Informational</i>	Name and relative size of the input motion
	38	Amp	<i>Measured</i>	Amplification factor imposed on the input motion file
	39	IF (Hz)	<i>Measured</i>	Input motion frequency
	40	RPM	<i>Measured</i>	Revolutions per minute of the centrifuge bucket during the event
	41	PGA_B (g)	<i>Measured</i>	Peak Base Acceleration: base plate peak acceleration on the centrifuge
	42	PGV_B (cm/s)	<i>Derived</i>	Peak Base Velocity: peak velocity derived from integration of the base accel.-time history with a high pass filter and corner frequency of 0.2Hz.
	43	CAV5 (g-s)	<i>Derived</i>	Cumulative Absolute Velocity: ground motion intensity meas. calculated by the time-integral of the absolute acceleration-time series over a threshold of 0.005g
	44	CAVstd (g-s)	<i>Derived</i>	CAV over a threshold of 0.025g
	45	la (m/s)	<i>Derived</i>	Arias Intensity: ground motion intensity meas. calculated by the time-integral of the square of the acceleration time history
	46	SIR (m/s/s)	<i>Derived</i>	Shaking Intensity Rate: ground motion intensity meas. calculated by summing the Arias Intensity (5–75%) over the duration (5–75%) of the motion
	47	cCAV5 (g-s)	<i>Derived</i>	Cumulative CAV5 up to and including the event
	48	cCAVstd (g-s)	<i>Derived</i>	Cumulative CAVstd up to and including the event
	49	cla (m/s)	<i>Derived</i>	Cumulative la up to and including the event
<b>SURFACE MOTION</b>	50	PGA_S 1 (g)	<i>Measured</i>	Maximum surface acceleration measured by surface accelerometer #1
	51	PGA_S 2 (g)	<i>Measured</i>	Maximum surface acceleration measured by surface accelerometer #2
	52	PGA_S 3 (g)	<i>Measured</i>	Maximum surface acceleration measured by surface accelerometer #3
	53	PGA_S 4 (g)	<i>Measured</i>	Maximum surface acceleration measured by surface accelerometer #4
	54	ACC No	<i>Informational</i>	Surface accelerometer number used for surface motion analysis
	55	PGV_S (cm/s)	<i>Derived</i>	Peak Surface Velocity: peak velocity derived from integration of the surface accel.-time history with a high pass filter and corner frequency of 0.2Hz.
	56	CAV5_S (g-s)	<i>Derived</i>	Surface Cumulative Absolute Velocity: ground motion intensity meas. calculated by the time-integral of the absolute acceleration-time series over a threshold of 0.005g
	57	CAVstd_S (g-s)	<i>Derived</i>	Surface CAV over a threshold of 0.025g
	58	la_S (m/s)	<i>Derived</i>	Surface Arias Intensity: ground motion intensity meas. calculated by the time-integral of the square of the acceleration time history
	59	SIR_S (m/s/s)	<i>Derived</i>	Surface Shaking Intensity Rate: ground motion intensity meas. calculated by summing the Arias Intensity (5–75%) over the duration (5–75%) of the motion
	60	cCAV5_S (g-s)	<i>Derived</i>	Surface Cumulative CAV5 up to and including the event
	61	cCAVstd_S (g-s)	<i>Derived</i>	Surface Cumulative CAVstd up to and including the event
	62	cla_S (m/s)	<i>Derived</i>	Surface Cumulative la up to and including the event

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	COLUMNS	DATA TYPE	DEFINITION	
<b>RESULTS</b>	63	Set (mm)	<i>Derived</i>	Incremental settlement of the structure or free-field for the specific event
	64	cSet (mm)	<i>Derived</i>	Cumulative settlement of the structure or free-field up to and including the event
	65	Rot (rad)	<i>Derived</i>	Incremental in-plane rotation of the structure for the specific event
	66	cRot (rad)	<i>Derived</i>	Cumulative in-plane rotation of the structure up to and including the event
<b>MISC.</b>	67	References	<i>Informational</i>	References and sources of data (Data Reports, Journal Papers, etc.)
	68	NEEShub	<i>Informational</i>	NEEShub project name and experiment
	69	DOI	<i>Informational</i>	Digital Object Identifier for the cited data
	70	BMA File	<i>Informational</i>	Base motion time history file: Col 0–2: time, East base accel., West base accel.
	71	SMA File	<i>Informational</i>	Surface motion time history file: Col 0–N: time, accel. 1, accel. 2,...accel. N
	72	SMA Sensor	<i>Informational</i>	Sensor names of surface accel. 1 through N in columns 50-53 and 71
	73	Container Info	<i>Informational</i>	Information on the container used in the experiment
	74	Comments	<i>Informational</i>	Comments on the footing, structure, test, motion, etc.