



December 22th, 2022

Florida Department of Transportation

Re: Saximeter-Q Data collection comparison

Pile Dynamics, Inc (PDI) submits twenty-four individually collected data sets comparing the use of the Saximeter (model SAX-Q) drive log device with results from the Pile Driving Analyzer (PDA) for your review. We hope for approval of the SAX-Q as a drive log device used on Florida Department of Transportation projects.

PDI developed the original patent for the Saximeter device in 1979 and has continuously produced such a device up until present day. The Sax-Q represents the latest hammer performance and drive log device manufactured by Pile Dynamics and conforms to the requirement of FDOT Specification 455-10.1.2. Results presented in this study include plotted results from both the SAX-Q and PDA comparing the calculated hammer stroke. Data was collected between September 26th, 2022 and December 15th, 2022 on 25 concrete piles. The following reference table summarizes the data collected including the average difference in stroke, Δ , and the coefficient of correlation, R^2 . The presented data compares the average stroke per foot for data taken during initial drive and a direct blow by blow comparison for data collected during set checks.

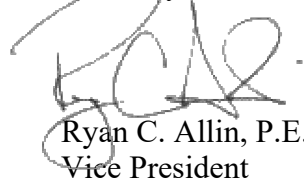
Example Number	Pile Type	Test Type	Comparison Type	Average Δ (ft)	R^2
1	18" Sq PCP	Initial Drive	Average per Foot	-0.02	0.9941
2	18" Sq PCP	Initial Drive	Average per Foot	-0.02	0.9966
3	18" Sq PCP	Initial Drive	Average per Foot	-0.03	0.9997
4	18" Sq PCP	Initial Drive	Average per Foot	-0.03	0.9991
5	18" Sq PCP	Initial Drive	Average per Foot	-0.03	0.9950
6	24" Sq PCP	Initial Drive	Average per Foot	-0.03	1.0000
7a	24" Sq PCP	Initial Drive	Average per Foot	-0.02	0.9995
7b	24" Sq PCP	Set Check	Blow by Blow	-0.02	0.9983
8	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9992
9	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9998
10	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9992

11	18" Sq PCP	Set Check	Blow by Blow	-0.02	1.0000
12	18" Sq PCP	Set Check	Blow by Blow	-0.02	1.0000
13	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9999
14	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9999
15	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9933
16	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9999
17	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9998
18	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9998
19	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9999
20	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9998
21	18" Sq PCP	Set Check	Blow by Blow	-0.03	0.9989
22	18" Sq PCP	Set Check	Blow by Blow	-0.02	0.9999
23	18" Sq PCP	Initial Drive	Average per Foot	-0.03	0.9997
24	18" Sq PCP	Initial Drive	Average per Foot	-0.03	0.9981

These results show an extremely good correlation between calculated results from the PDA and the SAX-Q in cases where the average stroke was compared and where a blow-by-blow comparison was performed. The Sax-Q device consistently matched the calculated stroke from the PDA within 0.03 feet (~3/8") and consistently had a correlation coefficient that was very near or, in several data sets at, unity.

We offer our gratitude to GRL Engineers, Inc. and Foundation & Geotechnical Engineers, LLC for help in obtaining both data from the Sax-Q and PDA as well as video capture. We thank the Florida Department of Transportation for reviewing this request and appreciate your consideration.

Sincerely,



Ryan C. Allin, P.E.
Vice President

Example 1

Project: 750450

**Pile Name: - End Bent 5
Pile 1**

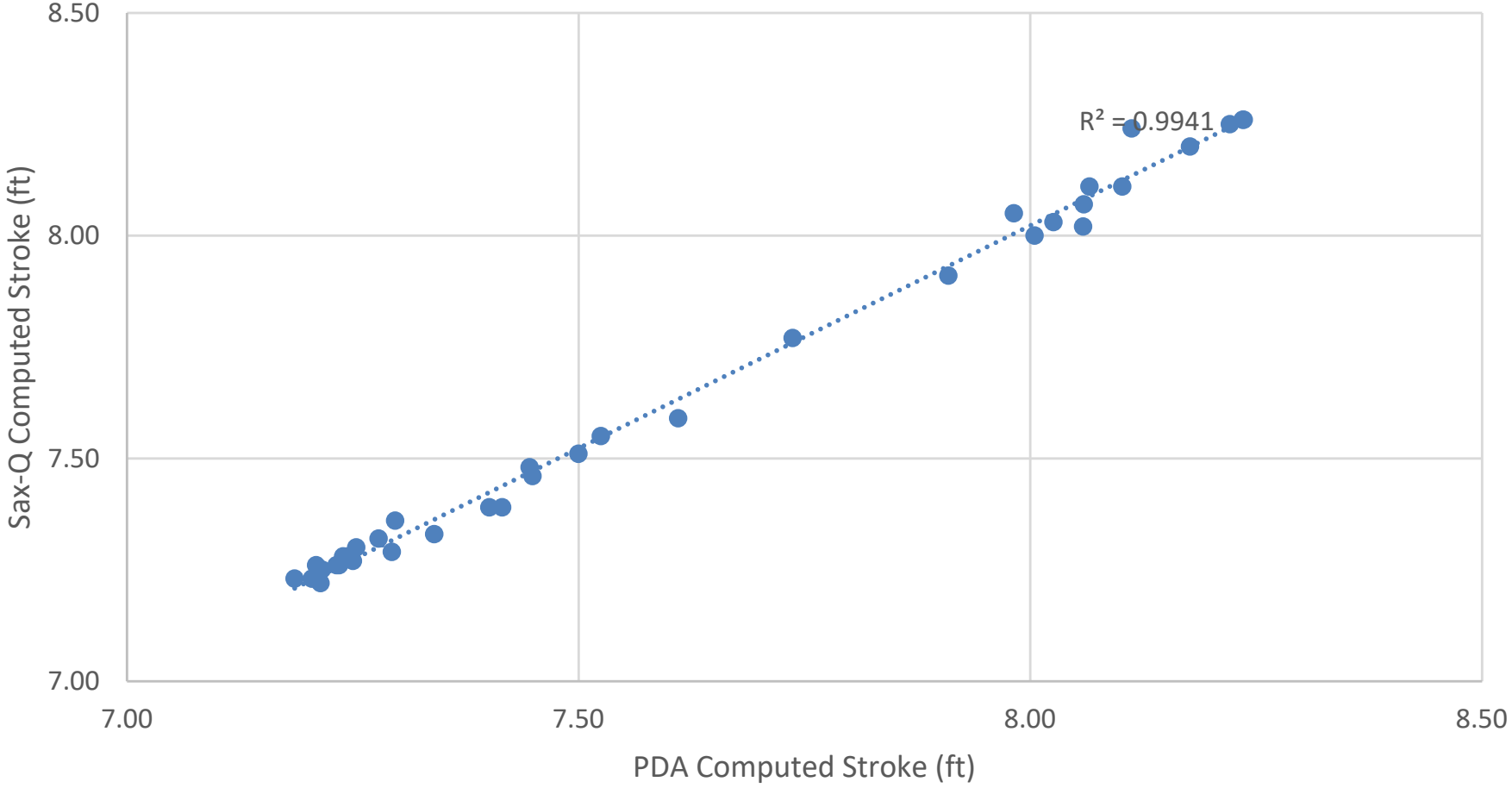
Pile Type: 18" SQ. PCP

Test Type: Initial Drive

Project 750450 - END BENT 5 PILE 1 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	Sax BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
76	68	7.02	62	7.00	0.02	-0.33%
77	42	7.28	42	7.28	0.00	0.03%
78	31	7.25	31	7.30	-0.05	0.63%
79	28	7.21	28	7.22	-0.01	0.08%
80	24	7.25	24	7.27	-0.02	0.27%
81	23	7.23	23	7.26	-0.03	0.38%
82	24	7.19	24	7.23	-0.04	0.61%
83	23	7.24	23	7.28	-0.04	0.56%
84	23	7.20	23	7.23	-0.03	0.35%
85	21	7.29	21	7.29	0.00	-0.05%
86	24	7.21	24	7.26	-0.05	0.70%
87	21	7.22	21	7.25	-0.03	0.47%
88	23	7.25	23	7.28	-0.03	0.48%
89	23	7.23	23	7.26	-0.03	0.35%
90	23	7.34	23	7.33	0.01	-0.14%
91	23	7.28	23	7.32	-0.04	0.57%
92	23	7.42	22	7.39	0.03	-0.35%
93	22	7.30	22	7.36	-0.06	0.86%
94	24	7.40	25	7.39	0.01	-0.15%
95	22	7.45	22	7.48	-0.03	0.46%
96	25	7.45	25	7.46	-0.01	0.15%
97	22	7.50	22	7.51	-0.01	0.13%
98	22	7.52	22	7.55	-0.03	0.33%
99	27	7.61	27	7.59	0.02	-0.27%
100	40	7.74	40	7.77	-0.03	0.42%
101	56	7.91	56	7.91	0.00	0.01%
102	47	8.00	47	8.00	0.00	-0.06%
103	45	8.03	45	8.03	0.00	0.05%
104	38	7.98	38	8.05	-0.07	0.85%
105	34	8.06	34	8.02	0.04	-0.48%
106	24	8.07	24	8.11	-0.04	0.55%
107	28	8.10	28	8.11	-0.01	0.10%
108	35	8.06	35	8.07	-0.01	0.13%
109	35	8.18	35	8.20	-0.02	0.28%
110	44	8.24	44	8.26	-0.02	0.29%
111	43	8.22	43	8.25	-0.03	0.35%
112	45	8.24	45	8.26	-0.02	0.30%
113	50	8.11	50	8.24	-0.13	1.55%
Overall Average					-0.02	0.27%

Project 750450 - END BENT 5 PILE 1
Sax Q vs PDA - Avg. Per Foot Comparison



Case Method & iCAP® Results

417-149 BOGGY CREEK - END BENT 5 PILE 1

APE D36-32

OP: GRL-BM

Date: 22-September-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 118.00 ft

EM: 7,044 ksi

WS: 14,750.0 f/s

JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search

STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips
62	76.00	62	AV57	2.24	2.28	1.75	0.37	7.00	20.7	100	436
104	77.00	42	AV42	2.50	2.57	1.56	0.43	7.28	23.3	100	370
135	78.00	31	AV31	2.50	2.57	1.36	0.65	7.30	23.9	100	343
163	79.00	28	AV28	2.45	2.51	1.16	0.78	7.22	23.2	100	338
187	80.00	24	AV24	2.43	2.50	1.08	0.83	7.27	23.4	100	335
210	81.00	23	AV23	2.39	2.63	1.02	0.83	7.26	23.1	100	327
234	82.00	24	AV24	2.36	2.58	0.97	0.83	7.23	22.8	100	321
257	83.00	23	AV23	2.36	2.49	0.96	0.81	7.28	23.0	100	320
280	84.00	23	AV23	2.33	2.39	0.94	0.80	7.23	22.9	100	310
301	85.00	21	AV21	2.33	2.60	0.92	0.77	7.29	22.9	100	310
325	86.00	24	AV24	2.30	2.77	0.89	0.72	7.26	22.4	100	311
346	87.00	21	AV21	2.26	2.73	0.83	0.71	7.25	22.0	100	305
369	88.00	23	AV23	2.26	2.71	0.83	0.70	7.28	22.0	100	305
392	89.00	23	AV23	2.25	2.74	0.80	0.69	7.26	21.7	100	299
415	90.00	23	AV23	2.28	2.75	0.81	0.71	7.33	22.0	100	297
438	91.00	23	AV23	2.28	2.76	0.80	0.71	7.32	22.0	100	292
460	92.00	22	AV22	2.32	2.80	0.82	0.74	7.39	22.2	100	286
482	93.00	22	AV22	2.30	2.70	0.78	0.75	7.36	22.0	100	277
507	94.00	25	AV25	2.36	2.83	0.79	0.80	7.39	22.1	100	275
529	95.00	22	AV22	2.41	2.83	0.81	0.86	7.48	22.6	100	278
554	96.00	25	AV25	2.45	2.88	0.81	0.92	7.46	22.6	100	283
576	97.00	22	AV22	2.51	2.98	0.84	0.98	7.51	23.2	100	282
598	98.00	22	AV22	2.58	3.03	0.86	1.04	7.55	23.5	100	286
625	99.00	27	AV27	2.65	3.11	1.01	0.97	7.59	24.0	100	319
665	100.00	40	AV40	2.78	3.24	1.49	0.54	7.77	25.1	100	410
721	101.00	56	AV56	2.89	3.38	1.83	0.40	7.91	26.4	100	480
768	102.00	47	AV47	2.98	3.46	1.97	0.42	8.00	27.5	100	494
813	103.00	45	AV45	3.02	3.58	2.00	0.42	8.03	27.9	100	487
851	104.00	38	AV38	3.05	3.63	1.89	0.55	8.05	28.3	100	437
885	105.00	34	AV34	3.05	3.56	1.69	0.77	8.02	28.3	100	372
909	106.00	24	AV24	3.06	3.47	1.56	0.95	8.11	28.9	100	333
937	107.00	28	AV28	3.06	3.48	1.56	1.00	8.11	28.7	100	331
972	108.00	35	AV35	3.08	3.49	1.84	0.86	8.07	28.3	100	341
1007	109.00	35	AV35	3.13	3.61	2.03	0.78	8.20	29.2	100	364
1051	110.00	44	AV44	3.13	3.61	2.13	0.69	8.26	29.4	100	404
1094	111.00	43	AV43	3.11	3.57	2.26	0.57	8.25	29.1	100	421
1139	112.00	45	AV45	3.11	3.50	2.38	0.46	8.26	29.6	96	448
1189	113.00	50	AV50	3.08	3.42	2.44	0.40	8.24	29.3	86	477

Sensors

Blows: 6-1189

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	S679	142.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

GRL Engineers, Inc.
PDILOT2 2022.1.62.0

Case Method & iCAP® Results

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417-149 BOGGY CREEK - END BENT 5 PILE 1
OP: GRL-BM

APE D36-32
Date: 22-September-2022

Time Summary

Drive 41 minutes 49 seconds 1:28 PM - 2:10 PM BN 1 - 1189

DC:		STATE OF FLORIDA DOT							Min Tip	1 ft to c/o	c/o	700-010-60 Construction Jul-22			
PILE DRIVING LOG															
Structure No.:		750450		Depth Table Extended (ft):			Bent/Pier No.:			5		Pile No.:		1	
Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	
75.00	1	76.00	68	7.023	108.00 - 109.00		35	8.177		-					
76.00	-	77.00	42	7.278	109.00 - 110.00		44	8.236		-					
77.00	-	78.00	31	7.254	110.00 - 111.00		43	8.221		-					
78.00	-	79.00	28	7.215	111.00 - 112.00		45	8.235		-					
79.00	-	80.00	24	7.25	112.00 - 113.00		50	8.112		-					
80.00	-	81.00	23	7.232	113.00 - 113.10					-					
81.00	-	82.00	24	7.186	113.10 - 114.00					-					
82.00	-	83.00	23	7.24	114.00 - 115.00					-					
83.00	-	84.00	23	7.205	115.00 - 116.00					-					
84.00	-	85.00	21	7.293	116.00 - 117.00					-					
85.00	-	86.00	24	7.209	117.00 - 118.00					-					
86.00	-	87.00	21	7.216	118.00 - 119.00					-					
87.00	-	88.00	23	7.245	119.00 - 120.00					-					
88.00	-	89.00	23	7.235	120.00 - 121.00					-					
89.00	-	90.00	23	7.34	121.00 - 122.00					-					
90.00	-	91.00	23	7.279	122.00 - 123.00					-					
91.00	-	92.00	23	7.416	123.00 - 124.00					-					
92.00	-	93.00	22	7.297	124.00 - 125.00					-					
93.00	-	94.00	24	7.401	-					-					
94.00	-	95.00	22	7.446	-					-					
95.00	-	96.00	25	7.449	-					-					
96.00	-	97.00	22	7.5	-					-					
97.00	-	98.00	22	7.525	-					-					
98.00	-	99.00	27	7.61	-					-					
99.00	-	100.00	40	7.737	-					-					
100.00	-	101.00	56	7.909	-					-					
101.00	-	102.00	47	8.005	-					-					
102.00	-	103.00	45	8.026	-					-					
103.00	-	104.00	38	7.982	-					-					
104.00	-	105.00	34	8.059	-					-					
105.00	-	106.00	24	8.066	-					-					
106.00	-	107.00	28	8.102	-					-					
107.00	-	108.00	35	8.059	Recording pause	-				-					

Example 2

Project: 750450

**Pile Name: - End Bent 5
Pile 2**

Pile Type: 18" SQ. PCP

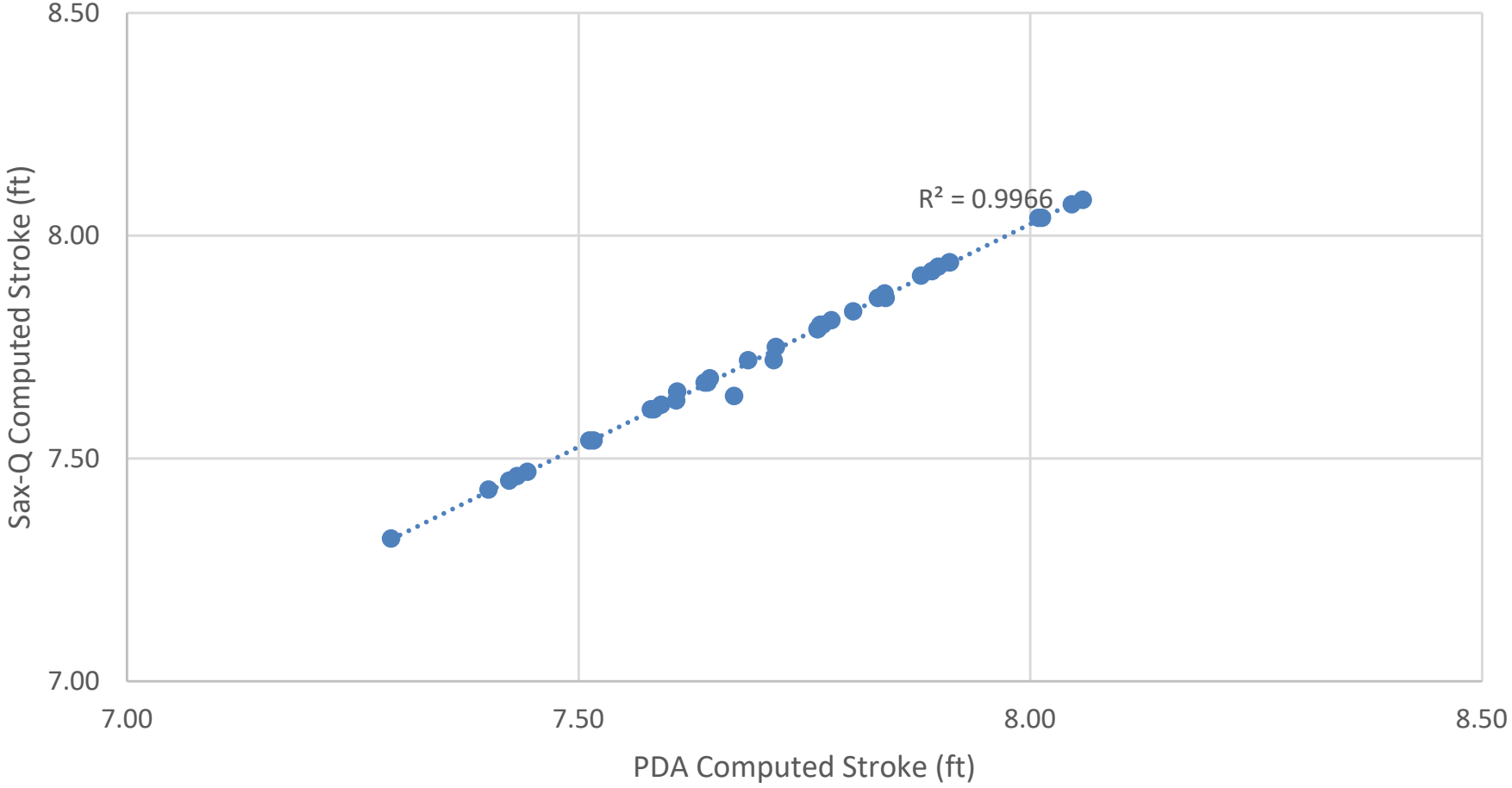
Test Type: Initial Drive

Project 750450 - END BENT 5 PILE 2 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	SAX BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
76	88	7.58	90	7.56	0.02	-0.30%
77	44	7.57	44	7.60	-0.03	0.38%
78	38	7.65	38	7.68	-0.03	0.45%
79	34	7.58	34	7.61	-0.03	0.35%
80	34	7.61	34	7.65	-0.04	0.53%
81	36	7.59	36	7.62	-0.03	0.37%
82	37	7.61	37	7.63	-0.02	0.29%
83	34	7.67	34	7.64	0.03	-0.42%
84	35	7.72	35	7.72	0.00	0.05%
85*	36	7.58	36	7.61	-0.03	0.39%
86	33	7.64	33	7.67	-0.03	0.36%
87	34	7.64	34	7.67	-0.03	0.40%
88	31	7.69	31	7.72	-0.03	0.42%
89	30	7.76	30	7.79	-0.03	0.32%
90	34	7.84	34	7.87	-0.03	0.39%
91	26	7.84	26	7.86	-0.02	0.26%
92	28	7.83	28	7.86	-0.03	0.37%
93	33	7.80	33	7.83	-0.03	0.33%
94	26	7.91	26	7.94	-0.03	0.37%
95	25	7.90	25	7.93	-0.03	0.40%
96	27	7.89	27	7.92	-0.03	0.36%
97	27	8.01	27	8.04	-0.03	0.34%
98	27	8.06	27	8.08	-0.02	0.27%
99	26	7.78	26	7.81	-0.03	0.38%
100	47	7.42	47	7.45	-0.03	0.36%
101	54	7.44	54	7.47	-0.03	0.36%
102	59	7.43	59	7.46	-0.03	0.37%
103	61	7.29	61	7.32	-0.03	0.37%
104	53	7.40	53	7.43	-0.03	0.40%
105	41	7.51	41	7.54	-0.03	0.37%
106	40	7.52	40	7.54	-0.02	0.31%
107	35	7.72	35	7.75	-0.03	0.41%
108	26	7.77	26	7.80	-0.03	0.41%
109	29	7.76	29	7.79	-0.03	0.33%
110	42	7.77	42	7.80	-0.03	0.38%
111	42	7.88	42	7.91	-0.03	0.39%
112	39	8.01	39	8.04	-0.03	0.38%
113	48	7.91	48	7.94	-0.03	0.36%
114	51	8.05	51	8.07	-0.02	0.30%
Overall Average					-0.02	0.32%

* - note that synchronization 84-85 ft penetration required blow by blow comparison to remove null values and synchronize data (results for both increments follow)

Project 750450 - END BENT 5 PILE 2
Sax Q vs PDA - Avg. Per Foot Comparison



84-85 ft penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q - PDA
381	7.55	84.03	385	7.28		excluded
382	7.25	84.06	386	7.78		-0.03
383	7.76	84.08	387	7.50		-0.02
384	7.49	84.11	388	7.82		-0.01
385	excluded	84.14	389	7.68	84.03	excluded
386	excluded	84.17	390	7.51	84.06	excluded
387	excluded	84.19	391	7.6	84.09	excluded
388	7.48	84.22	392	7.72	84.13	-0.03
389	7.58	84.25	393	7.7	84.16	-0.02
390	7.69	84.28	394	7.83	84.19	-0.03
391	7.67	84.31	395	7.64	84.22	-0.03
392	7.80	84.33	396	7.74	84.25	-0.03
393	7.62	84.36	397	7.63	84.28	-0.02
394	7.71	84.39	398	7.82	84.31	-0.03
395	7.60	84.42	399	7.35	84.34	-0.03
396	7.79	84.44	400	7.54	84.38	-0.03
397	7.35	84.47	401	7.56	84.41	0.00
398	7.48	84.50	402	7.58	84.44	-0.06
399	7.54	84.53	403	7.57	84.47	-0.02
400	7.55	84.56	404	7.49	84.5	-0.03
401	7.54	84.58	405	7.83	84.53	-0.03
402	7.47	84.61	406	7.62	84.56	-0.02
403	7.81	84.64	407	7.63	84.59	-0.02
404	7.59	84.67	408	7.54	84.63	-0.03
405	7.64	84.69	409	7.66	84.66	0.01
406	7.47	84.72	410	7.42	84.69	-0.07
407	7.62	84.75	411	7.6	84.72	-0.04
408	7.39	84.78	412	7.59	84.75	-0.03
409	7.57	84.81	413	7.74	84.78	-0.03
410	7.56	84.83	414	7.48	84.81	-0.03
411	7.73	84.86	415	7.59	84.84	-0.01
412	7.43	84.89	416	7.66	84.88	-0.05
413	7.56	84.92	417	7.5	84.91	-0.03
414	7.63	84.94	418	7.68	84.94	-0.03
415	7.51	84.97			84.97	0.01
416	7.64	85.00			85	-0.04

7.58

7.61

Case Method & iCAP® Results

417-149 BOGGY CREEK - END BENT 5 PILE 2

APE D36-32

OP: GRL-BM

Date: 22-September-2022

AR: 324.00 in²
 LE: 118.00 ft
 WS: 14,750.0 f/s

SP: 0.150 k/ft³
 EM: 7,044 ksi
 JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips
90	76.00	90	AV90	2.48	2.70	2.07	0.53	7.56	22.7	100	597
134	77.00	44	AV44	2.58	3.05	1.82	0.39	7.60	23.8	100	460
172	78.00	38	AV38	2.57	3.10	1.65	0.35	7.68	24.1	100	394
206	79.00	34	AV34	2.52	3.01	1.52	0.40	7.61	23.4	100	356
240	80.00	34	AV34	2.48	3.01	1.45	0.40	7.65	22.9	100	357
276	81.00	36	AV36	2.41	2.91	1.39	0.38	7.62	21.9	100	359
313	82.00	37	AV37	2.37	2.82	1.34	0.35	7.63	21.4	100	352
347	83.00	34	AV34	2.33	2.69	1.23	0.34	7.64	21.2	100	345
382	84.00	35	AV35	2.32	2.67	1.15	0.36	7.72	21.3	100	342
418	85.00	36	AV36	2.27	2.59	1.11	0.38	7.61	20.8	100	332
451	86.00	33	AV33	2.29	2.61	1.08	0.40	7.67	21.0	100	325
485	87.00	34	AV34	2.32	2.64	1.06	0.44	7.67	21.3	100	318
516	88.00	31	AV31	2.38	2.66	1.00	0.52	7.72	21.7	100	308
546	89.00	30	AV30	2.45	2.67	0.97	0.59	7.79	22.4	100	296
580	90.00	34	AV34	2.56	2.73	0.96	0.70	7.87	22.8	100	288
606	91.00	26	AV26	2.65	2.75	0.94	0.81	7.86	23.5	100	271
634	92.00	28	AV28	2.69	2.81	0.94	0.87	7.86	23.4	100	266
667	93.00	33	AV33	2.74	2.81	0.94	0.97	7.83	23.7	100	271
693	94.00	26	AV26	2.81	2.85	0.93	1.06	7.94	24.6	100	278
718	95.00	25	AV25	2.81	2.91	0.95	1.05	7.93	24.6	100	280
745	96.00	27	AV27	2.83	2.89	0.99	1.08	7.92	24.6	100	284
772	97.00	27	AV27	2.88	2.95	1.02	1.12	8.04	25.5	100	287
799	98.00	27	AV27	2.91	3.03	1.05	1.12	8.08	25.8	100	290
825	99.00	26	AV26	2.84	2.99	1.10	1.00	7.81	24.5	100	286
872	100.00	47	AV47	2.74	2.99	1.46	0.40	7.45	22.7	100	390
926	101.00	54	AV54	2.76	2.96	1.85	0.33	7.47	23.4	100	482
985	102.00	59	AV59	2.75	2.98	1.95	0.33	7.46	23.2	100	501
1046	103.00	61	AV61	2.72	3.08	1.91	0.31	7.32	22.5	100	479
1099	104.00	53	AV53	2.77	3.16	1.80	0.35	7.43	23.4	100	427
1140	105.00	41	AV41	2.78	3.24	1.66	0.50	7.54	24.0	100	362
1180	106.00	40	AV40	2.77	3.14	1.56	0.68	7.54	23.6	100	314
1215	107.00	35	AV35	2.81	3.32	1.55	0.77	7.75	24.4	100	299
1241	108.00	26	AV26	2.86	3.31	1.61	0.74	7.80	24.9	100	301
1270	109.00	29	AV29	2.87	3.29	1.68	0.67	7.79	24.7	100	308
1312	110.00	42	AV42	2.88	3.13	1.82	0.55	7.80	24.8	100	365
1354	111.00	42	AV42	2.90	3.07	1.95	0.55	7.91	25.5	93	390
1393	112.00	39	AV39	2.93	3.15	2.05	0.52	8.04	25.9	83	389
1441	113.00	48	AV48	2.89	3.05	2.14	0.40	7.94	25.2	85	431
1492	114.00	51	AV51	2.87	2.96	2.20	0.34	8.07	25.4	100	464

Sensors

Blows: 1-1492

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	S679	142.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

GRL Engineers, Inc.
PDILOT2 2022.1.62.0

Case Method & iCAP® Results

Page 2
Printed 19-December-2022

417-149 BOGGY CREEK - END BENT 5 PILE 2
OP: GRL-BM

APE D36-32
Date: 22-September-2022

Time Summary

Drive 35 minutes 2 seconds 3:34 PM - 4:09 PM BN 1 - 1492

DC:		STATE OF FLORIDA DOT							Min Tip	1 ft to c/o	c/o	700-010-60 Construction Jul-22			
PILE DRIVING LOG															
Structure No.:		750450		Depth Table Extended (ft):			Bent/Pier No.:			5		Pile No.:		2	
Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	
75.00	1	76.00	88	7.583	Recording pause	108.00 - 109.00	29	7.765		-					
76.00	-	77.00	44	7.571		109.00 - 110.00	42	7.77		-					
77.00	-	78.00	38	7.645		110.00 - 111.00	42	7.879		-					
78.00	-	79.00	34	7.583		111.00 - 112.00	39	8.009		-					
79.00	-	80.00	34	7.609		112.00 - 113.00	48	7.911		-					
80.00	-	81.00	36	7.591		113.00 - 114.00	51	8.046		-					
81.00	-	82.00	37	7.608		114.00 - 114.14				-					
82.00	-	83.00	34	7.672		114.14 - 115.00				-					
83.00	-	84.00	35	7.716		115.00 - 116.00				-					
84.00	-	85.00	36	7.395		116.00 - 117.00				-					
85.00	-	86.00	33	7.643		117.00 - 118.00				-					
86.00	-	87.00	34	7.64		118.00 - 119.00				-					
87.00	-	88.00	31	7.688		119.00 - 120.00				-					
88.00	-	89.00	30	7.765		120.00 - 121.00				-					
89.00	-	90.00	34	7.839		121.00 - 122.00				-					
90.00	-	91.00	26	7.84		122.00 - 123.00				-					
91.00	-	92.00	28	7.831		123.00 - 124.00				-					
92.00	-	93.00	33	7.804		124.00 - 125.00				-					
93.00	-	94.00	26	7.91		-				-					
94.00	-	95.00	25	7.898		-				-					
95.00	-	96.00	27	7.891		-				-					
96.00	-	97.00	27	8.013		-				-					
97.00	-	98.00	27	8.058		-				-					
98.00	-	99.00	26	7.78		-				-					
99.00	-	100.00	47	7.423		-				-					
100.00	-	101.00	54	7.443		-				-					
101.00	-	102.00	59	7.432		-				-					
102.00	-	103.00	61	7.293		-				-					
103.00	-	104.00	53	7.4		-				-					
104.00	-	105.00	41	7.512		-				-					
105.00	-	106.00	40	7.517		-				-					
106.00	-	107.00	35	7.718		-				-					
107.00	-	108.00	26	7.768		-				-					

Example 3

Project: 750450

**Pile Name: - End Bent 5
Pile 3**

Pile Type: 18" SQ. PCP

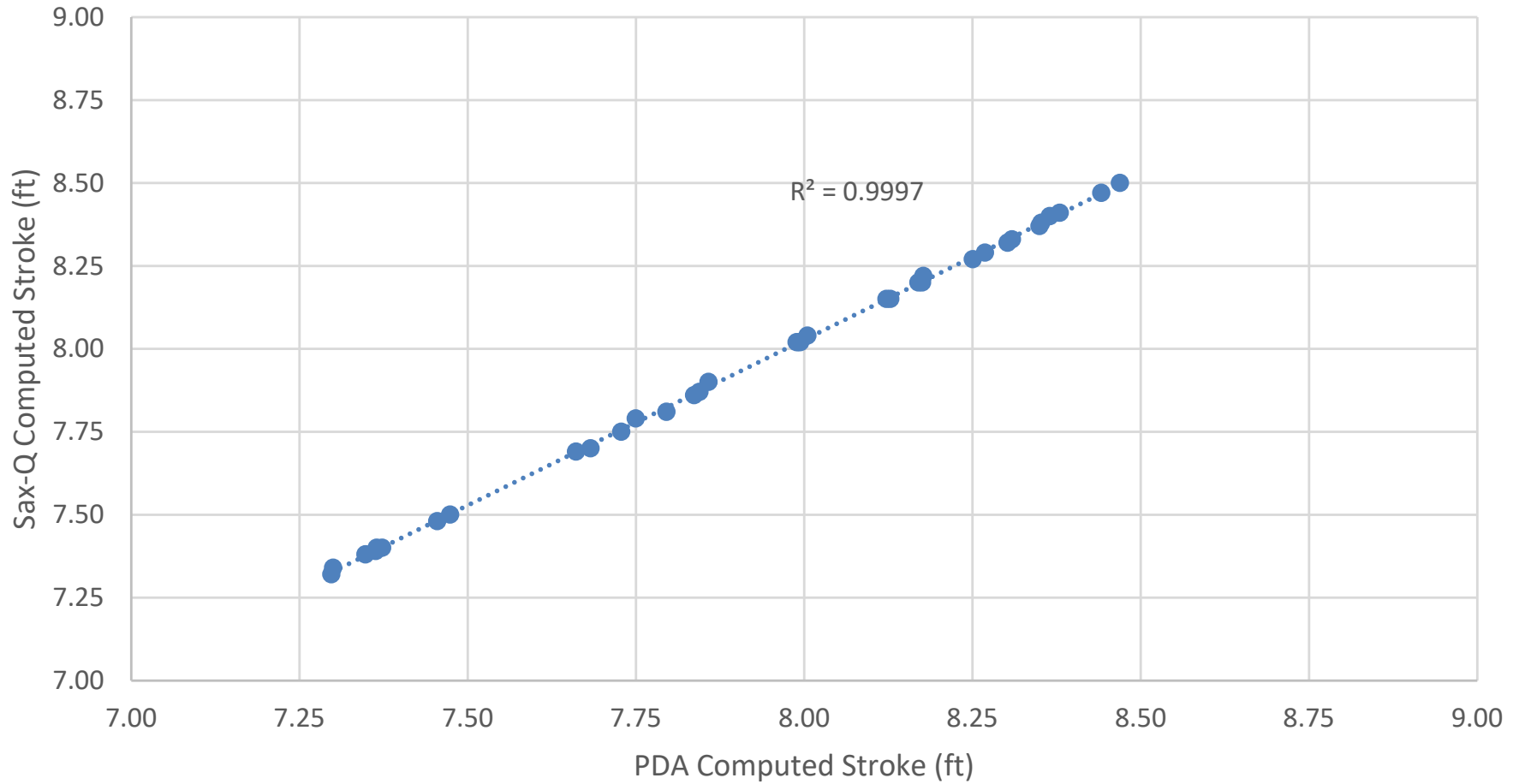
Test Type: Initial Drive

Project 750450 - END BENT 5 PILE 3 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	Sax BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
76*	90	7.30	86	7.34	-0.04	0.54%
77	71	7.45	71	7.48	-0.03	0.33%
78	48	7.47	48	7.50	-0.03	0.35%
79	40	7.37	40	7.40	-0.03	0.36%
80	39	7.30	39	7.32	-0.02	0.31%
81	39	7.35	39	7.38	-0.03	0.43%
82	37	7.36	37	7.39	-0.03	0.36%
83	37	7.36	37	7.40	-0.04	0.47%
84	33	7.66	33	7.69	-0.03	0.38%
85	32	7.68	32	7.70	-0.02	0.23%
86	31	7.73	31	7.75	-0.02	0.28%
87	33	7.75	33	7.79	-0.04	0.51%
88	28	7.80	28	7.81	-0.01	0.19%
89	33	7.84	33	7.87	-0.03	0.33%
90	31	7.84	31	7.86	-0.02	0.30%
91	27	7.86	27	7.90	-0.04	0.53%
92	34	7.99	34	8.02	-0.03	0.32%
93	24	7.99	24	8.02	-0.03	0.39%
94	27	8.00	27	8.04	-0.04	0.44%
95	28	8.12	28	8.15	-0.03	0.34%
96	32	8.18	32	8.20	-0.02	0.30%
97	25	8.25	25	8.27	-0.02	0.23%
98	27	7.99	27	8.02	-0.03	0.36%
99	32	8.18	32	8.22	-0.04	0.52%
100	43	8.30	43	8.32	-0.02	0.21%
101	43	8.35	43	8.38	-0.03	0.33%
102	50	8.27	50	8.29	-0.02	0.25%
103	44	8.37	44	8.40	-0.03	0.42%
104	44	8.35	44	8.37	-0.02	0.24%
105	37	8.13	37	8.15	-0.02	0.27%
106	34	8.31	34	8.33	-0.02	0.25%
107	41	8.44	41	8.47	-0.03	0.34%
108	33	8.47	33	8.50	-0.03	0.36%
109	47	8.38	47	8.41	-0.03	0.36%
110*	51	8.17	51	8.20	-0.03	0.37%
Overall Average					-0.03	0.35%

* - note that synchronization in the first and last foot required blow by blow comparison to remove null values and synchronize data (results for both increments follow)

Project 750450 - END BENT 5 PILE 3
Sax Q vs PDA - Avg. Per Foot Comparison



First Foot (76 ft Penetration)

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q - PDA
1	exclude	75.01	1	exclude	75.01	exclude
2	exclude	75.02	2	5.92	75.02	exclude
3	exclude	75.03	3	6.39	75.04	exclude
4	exclude	75.04	4	6.5	75.05	exclude
5	5.99	75.06	5	6.57	75.06	0.07
6	6.43	75.07	6	6.87	75.07	0.04
7	6.38	75.08	7	6.98	75.09	-0.12
8	6.54	75.09	8	6.93	75.1	-0.03
9	6.84	75.10	9	7.02	75.11	-0.03
10	6.95	75.11	10	7.17	75.12	-0.03
11	6.90	75.12	11	7.18	75.13	-0.03
12	6.99	75.13	12	7.23	75.15	-0.03
13	exclude	75.14	13	7.22	75.16	exclude
14	exclude	75.16	14	7.21	75.17	exclude
15	exclude	75.17	15	7.22	75.18	exclude
16	7.20	75.18	16	7.18	75.2	-0.03
17	7.19	75.19	17	7.21	75.21	-0.03
18	7.18	75.20	18	7.18	75.22	-0.03
19	7.19	75.21	19	7.18	75.23	-0.03
20	7.14	75.22	20	7.36	75.24	-0.04
21	7.18	75.23	21	7.39	75.26	-0.03
22	7.15	75.24	22	7.29	75.27	-0.03
23	7.15	75.26	23	7.24	75.28	-0.03
24	7.33	75.27	24	7.4	75.29	-0.03
25	7.36	75.28	25	7.31	75.3	-0.03
26	7.26	75.29	26	7.25	75.32	-0.03
27	7.22	75.30	27	7.29	75.33	-0.02
28	7.36	75.31	28	7.39	75.34	-0.04
29	7.28	75.32	29	7.38	75.35	-0.03
30	7.23	75.33	30	7.33	75.37	-0.02
31	7.25	75.34	31	7.26	75.38	-0.04
32	7.37	75.36	32	7.41	75.39	-0.02
33	7.35	75.37	33	7.29	75.4	-0.03
34	7.29	75.38	34	7.34	75.41	-0.04
35	7.23	75.39	35	7.3	75.43	-0.03
36	7.39	75.40	36	7.51	75.44	-0.02
37	7.28	75.41	37	7.34	75.45	-0.01
38	7.31	75.42	38	7.49	75.46	-0.03
39	7.28	75.43	39	7.21	75.48	-0.02
40	7.47	75.44	40	7.3	75.49	-0.04
41	7.31	75.46	41	7.58	75.5	-0.03
42	7.46	75.47	42	7.42	75.51	-0.03

43	7.19	75.48	43	7.62	75.52	-0.02
44	7.27	75.49	44	7.44	75.54	-0.03
45	7.57	75.50	45	7.62	75.55	-0.01
46	7.37	75.51	46	7.57	75.56	-0.05
47	exclude	75.52	47	7.5	75.57	exclude
48	exclude	75.53	48	7.39	75.59	exclude
49	exclude	75.54	49	7.6	75.6	exclude
50	exclude	75.56	50	7.55	75.61	exclude
51	7.54	75.57	51	7.51	75.62	-0.03
52	7.47	75.58	52	7.44	75.63	-0.03
53	7.36	75.59	53	7.66	75.65	-0.03
54	7.57	75.60	54	7.31	75.66	-0.03
55	7.53	75.61	55	7.57	75.67	-0.02
56	7.48	75.62	56	7.35	75.68	-0.03
57	7.41	75.63	57	7.54	75.7	-0.03
58	7.64	75.64	58	7.47	75.71	-0.02
59	7.29	75.66	59	7.42	75.72	-0.02
60	7.55	75.67	60	7.64	75.73	-0.02
61	7.32	75.68	61	7.43	75.74	-0.03
62	7.52	75.69	62	7.49	75.76	-0.02
63	7.45	75.70	63	7.58	75.77	-0.02
64	7.40	75.71	64	7.39	75.78	-0.02
65	7.62	75.72	65	7.43	75.79	-0.02
66	7.39	75.73	66	7.48	75.8	-0.04
67	7.47	75.74	67	7.58	75.82	-0.02
68	7.55	75.76	68	7.48	75.83	-0.03
69	7.38	75.77	69	7.44	75.84	-0.01
70	7.38	75.78	70	7.43	75.85	-0.05
71	7.48	75.79	71	7.31	75.87	0.00
72	7.52	75.80	72	7.54	75.88	-0.06
73	7.50	75.81	73	7.49	75.89	0.02
74	7.36	75.82	74	7.44	75.9	-0.08
75	7.42	75.83	75	7.46	75.91	-0.01
76	7.32	75.84	76	7.45	75.93	0.01
77	7.52	75.86	77	7.32	75.94	-0.02
78	7.46	75.87	78	7.25	75.95	-0.03
79	7.35	75.88	79	7.44	75.96	-0.09
80	7.49	75.89	80	7.54	75.98	0.03
81	7.37	75.90	81	7.59	75.99	-0.08
82	7.30	75.91	82	7.45	76	-0.02
83	7.23	75.92	83	7.57	76.01	-0.02
84	7.41	75.93	84	7.51	76.03	-0.03
85	7.56	75.94	85	7.55	76.04	0.02
86	7.55	75.96	86	7.52	76.05	-0.04
87	7.44	75.97	87	7.5	76.07	-0.01

88	7.50	75.98	88	7.61	76.08	-0.07
89	7.48	75.99	89	7.43	76.09	-0.03
90	7.52	76.00	90	7.35	76.11	-0.03

Average 7.30

7.34

Last Foot (109-110 ft Penetration)

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q-PDA
1299	8.47	109.02	1299	8.57	109.02	exclude
1300	8.43	109.04	1300	8.62	109.04	exclude
1301	8.08	109.06	1301	8.49	109.06	exclude
1302	8.54	109.08	1302	8.03	109.08	-0.03
1303	8.59	109.10	1303	8.72	109.1	-0.03
1304	8.46	109.12	1304	8.56	109.12	-0.03
1305	8.01	109.14	1305	8.29	109.14	-0.02
1306	8.70	109.16	1306	8.52	109.16	-0.02
1307	8.54	109.18	1307	8.39	109.18	-0.02
1308	8.27	109.20	1308	8.48	109.2	-0.02
1309	8.50	109.22	1309	8.52	109.22	-0.02
1310	8.37	109.24	1310	8.48	109.24	-0.02
1311	8.44	109.25	1311	8.34	109.27	-0.04
1312	exclude	109.27	1312	8.27	109.29	exclude
1313	exclude	109.29	1313	8.31	109.31	exclude
1314	exclude	109.31	1314	8.28	109.33	exclude
1315	8.32	109.33	1315	8.34	109.35	-0.02
1316	8.23	109.35	1316	8.14	109.37	-0.04
1317	8.28	109.37	1317	8.29	109.39	-0.03
1318	8.27	109.39	1318	8.35	109.41	-0.01
1319	8.30	109.41	1319	8.24	109.43	-0.04
1320	8.12	109.43	1320	8.59	109.45	-0.02
1321	8.26	109.45	1321	8.27	109.47	-0.03
1322	8.32	109.47	1322	8.16	109.49	-0.03
1323	8.21	109.49	1323	8.47	109.51	-0.03
1324	8.57	109.51	1324	8.33	109.53	-0.02
1325	8.24	109.53	1325	8.3	109.55	-0.03
1326	8.13	109.55	1326	8.21	109.57	-0.03
1327	8.44	109.57	1327	8.23	109.59	-0.03
1328	8.30	109.59	1328	8.4	109.61	-0.03
1329	8.27	109.61	1329	8.13	109.63	-0.03
1330	8.17	109.63	1330	8.05	109.65	-0.04
1331	8.20	109.65	1331	8.05	109.67	-0.03
1332	8.36	109.67	1332	8.31	109.69	-0.04
1333	8.11	109.69	1333	8.05	109.71	-0.02
1334	8.02	109.71	1334	8.15	109.73	-0.03
1335	8.02	109.73	1335	8.16	109.76	-0.03
1336	8.28	109.75	1336	8.27	109.78	-0.03
1337	8.02	109.76	1337	8.37	109.8	-0.03
1338	8.12	109.78	1338	8.53	109.82	-0.03
1339	8.12	109.80	1339	7.95	109.84	-0.04
1340	8.24	109.82	1340	8.12	109.86	-0.03

1341	8.35	109.84	1341	8.46	109.88	-0.02
1342	8.50	109.86	1342	5.97	109.9	-0.03
1343	7.92	109.88	1343	5.41	109.92	-0.03
1344	8.09	109.90	1344	exclude	109.94	-0.03
1345	8.43	109.92	1345	exclude	109.96	-0.03
1346	5.95	109.94	1346	exclude	109.98	-0.02
1347	5.42	109.96	1347	exclude	110	0.01

average 8.17

8.20

Case Method & iCAP® Results

417-149 BOGGY CREEK - END BENT 5 PILE 3

APE D36-32

OP: GRL-BM

Date: 22-September-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 118.00 ft

EM: 7,044 ksi

WS: 14,750.0 f/s

JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search

STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips
86	76.00	86	AV86	2.51	2.90	2.06	0.47	7.34	22.9	100	571
157	77.00	71	AV71	2.68	3.04	1.95	0.35	7.48	24.2	100	486
205	78.00	48	AV48	2.66	2.80	1.74	0.28	7.50	23.9	100	404
245	79.00	40	AV40	2.59	2.83	1.55	0.28	7.40	23.4	100	365
284	80.00	39	AV39	2.51	2.85	1.44	0.24	7.32	22.6	100	362
323	81.00	39	AV39	2.47	2.84	1.35	0.23	7.38	22.1	100	360
360	82.00	37	AV37	2.42	2.67	1.28	0.25	7.39	21.7	100	341
397	83.00	37	AV37	2.38	2.57	1.22	0.23	7.40	21.4	100	341
430	84.00	33	AV33	2.42	2.57	1.15	0.30	7.69	22.7	100	333
462	85.00	32	AV32	2.42	2.52	1.10	0.36	7.70	22.6	100	317
493	86.00	31	AV31	2.45	2.57	1.08	0.41	7.75	22.6	100	308
526	87.00	33	AV33	2.52	2.61	1.08	0.49	7.79	22.9	100	298
554	88.00	28	AV28	2.57	2.66	1.11	0.54	7.81	23.2	100	290
587	89.00	33	AV33	2.67	2.75	1.13	0.65	7.87	23.9	100	287
618	90.00	31	AV31	2.74	2.77	1.13	0.74	7.86	24.3	100	285
645	91.00	27	AV27	2.81	2.83	1.13	0.80	7.90	24.9	100	296
679	92.00	34	AV34	2.92	3.04	1.17	0.89	8.02	25.6	100	309
703	93.00	24	AV24	2.96	2.99	1.16	0.92	8.02	26.0	100	312
730	94.00	27	AV27	3.00	3.06	1.15	0.94	8.04	26.2	100	325
758	95.00	28	AV28	3.06	3.23	1.25	0.95	8.15	26.8	100	339
790	96.00	32	AV32	3.12	3.33	1.29	0.94	8.20	27.4	100	353
815	97.00	25	AV25	3.17	3.45	1.34	0.95	8.27	28.3	100	361
842	98.00	27	AV27	3.14	3.44	1.37	0.88	8.02	27.4	100	352
874	99.00	32	AV32	3.17	3.44	1.52	0.71	8.22	28.0	100	354
917	100.00	43	AV43	3.19	3.43	1.83	0.34	8.32	28.6	100	435
960	101.00	43	AV43	3.19	3.35	2.00	0.28	8.38	29.0	100	501
1010	102.00	50	AV50	3.17	3.26	2.09	0.32	8.29	29.2	100	526
1054	103.00	44	AV44	3.19	3.31	2.10	0.33	8.40	29.8	100	509
1098	104.00	44	AV44	3.20	3.34	2.02	0.34	8.37	29.9	100	462
1135	105.00	37	AV37	3.14	3.40	1.85	0.45	8.15	28.7	100	404
1169	106.00	34	AV34	3.15	3.44	1.85	0.50	8.33	28.9	100	387
1210	107.00	41	AV41	3.19	3.59	1.97	0.41	8.47	29.3	100	411
1243	108.00	33	AV33	3.19	3.77	2.03	0.33	8.50	29.6	100	422
1290	109.00	47	AV47	3.15	3.99	2.10	0.23	8.41	28.5	100	458
1341	110.00	51	AV51	3.14	4.26	2.19	0.24	8.32	28.3	100	525

Sensors

Blows: 1-1341

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	S679	142.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

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Case Method & iCAP® Results

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417-149 BOGGY CREEK - END BENT 5 PILE 3
OP: GRL-BM

APE D36-32
Date: 22-September-2022

Time Summary

Drive 31 minutes 56 seconds 5:35 PM - 6:07 PM BN 1 - 1341

DC:		STATE OF FLORIDA DOT							Min Tip	1 ft to c/o	c/o	700-010-60 Construction Jul-22			
PILE DRIVING LOG															
Structure No.:		750450		Depth Table Extended (ft):			Bent/Pier No.:			5		Pile No.:		3	
Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	
Input Start LP↓															
75.00	1	76.00	90	7.035	108.00 - 109.00		47	8.38		-					
76.00		77.00	71	7.455	109.00 - 110.00		51	8.024		-					
77.00		78.00	48	7.474	110.00 - 110.12					-					
78.00		79.00	40	7.373	110.12 - 111.00					-					
79.00		80.00	39	7.298	111.00 - 112.00					-					
80.00		81.00	39	7.348	112.00 - 113.00					-					
81.00		82.00	37	7.363	113.00 - 114.00					-					
82.00		83.00	37	7.365	114.00 - 115.00					-					
83.00		84.00	33	7.661	115.00 - 116.00					-					
84.00		85.00	32	7.683	116.00 - 117.00					-					
85.00		86.00	31	7.728	117.00 - 118.00					-					
86.00		87.00	33	7.75	118.00 - 119.00					-					
87.00		88.00	28	7.795	119.00 - 120.00					-					
88.00		89.00	33	7.844	120.00 - 121.00					-					
89.00		90.00	31	7.837	121.00 - 122.00					-					
90.00		91.00	27	7.858	122.00 - 123.00					-					
91.00		92.00	34	7.994	123.00 - 124.00					-					
92.00		93.00	24	7.989	-					-					
93.00		94.00	27	8.005	-					-					
94.00		95.00	28	8.122	-					-					
95.00		96.00	32	8.175	-					-					
96.00		97.00	25	8.251	-					-					
97.00		98.00	27	7.991	-					-					
98.00		99.00	32	8.177	-					-					
99.00		100.00	43	8.302	-					-					
100.00		101.00	43	8.352	-					-					
101.00		102.00	50	8.269	-					-					
102.00		103.00	44	8.365	-					-					
103.00		104.00	44	8.35	-					-					
104.00		105.00	37	8.128	-					-					
105.00		106.00	34	8.309	-					-					
106.00		107.00	41	8.442	-					-					
107.00		108.00	33	8.469	-					-					

Example 4

Project: 750450

**Pile Name: - End Bent 5
Pile 4**

Pile Type: 18" SQ. PCP

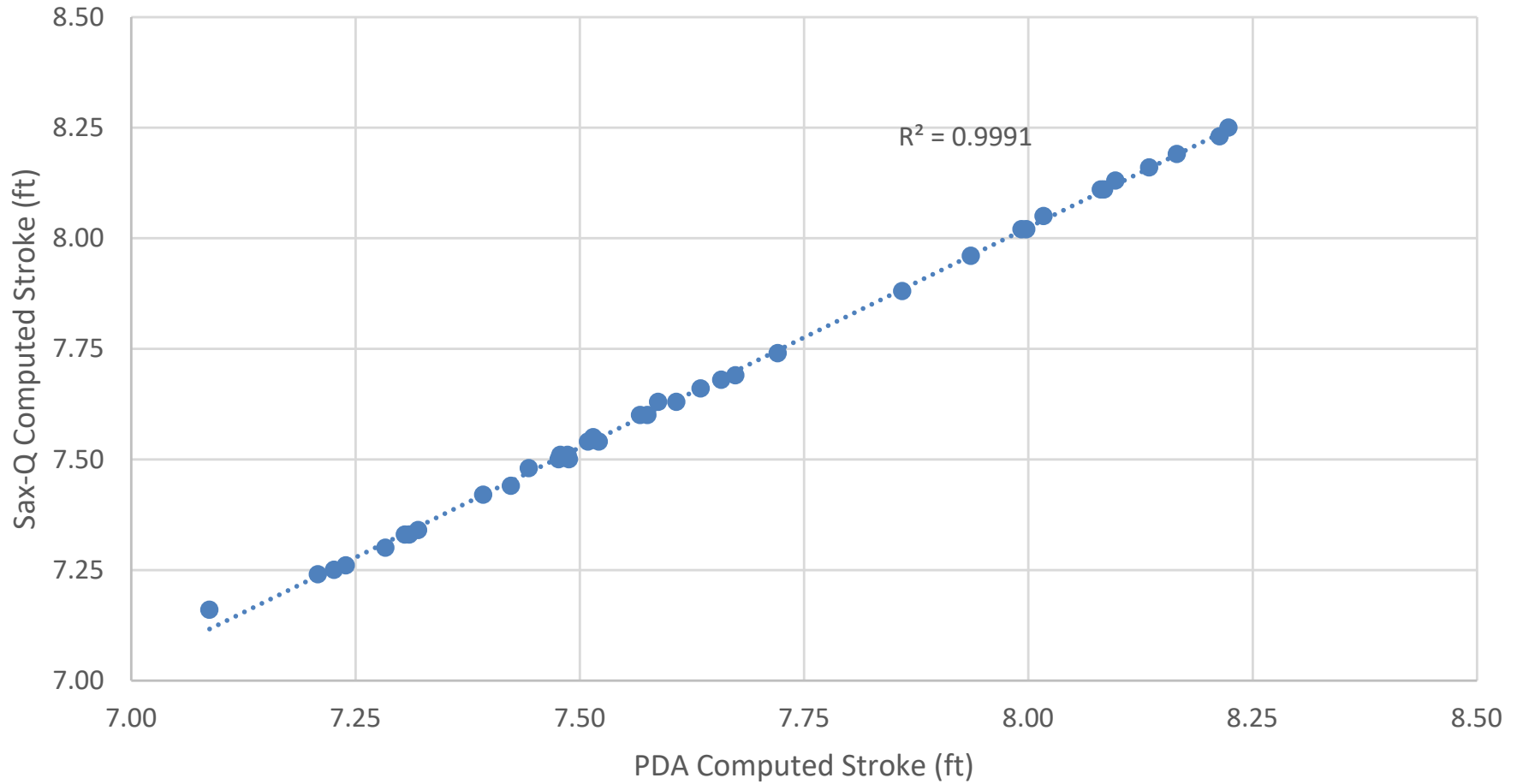
Test Type: Initial Drive

Project 750450 - END BENT 5 PILE 4 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	Sax BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
76	138	7.09	137	7.16	-0.07	1.01%
77	107	7.48	107	7.50	-0.02	0.31%
78	61	7.51	61	7.54	-0.03	0.41%
79	41	7.39	41	7.42	-0.03	0.37%
80*	41	7.31	41	7.33	-0.02	0.27%
81*	25	7.32	25	7.34	-0.02	0.27%
82	30	7.24	30	7.26	-0.02	0.29%
83	32	7.23	32	7.25	-0.02	0.33%
84	35	7.21	35	7.24	-0.03	0.44%
85	36	7.28	36	7.30	-0.02	0.23%
86	29	7.30	29	7.33	-0.03	0.34%
87	27	7.42	27	7.44	-0.02	0.22%
88	30	7.48	30	7.51	-0.03	0.42%
89	31	7.51	31	7.55	-0.04	0.46%
90	31	7.49	31	7.50	-0.01	0.16%
91	25	7.52	25	7.54	-0.02	0.25%
92	25	7.61	25	7.63	-0.02	0.29%
93	26	7.66	26	7.68	-0.02	0.29%
94	28	7.59	28	7.63	-0.04	0.56%
95	24	7.63	24	7.66	-0.03	0.33%
96	23	7.57	23	7.60	-0.03	0.43%
97	24	7.67	24	7.69	-0.02	0.22%
98	24	7.44	24	7.48	-0.04	0.49%
99	28	7.49	28	7.51	-0.02	0.31%
100	32	7.58	32	7.60	-0.02	0.32%
101	39	7.72	39	7.74	-0.02	0.25%
102	39	7.86	39	7.88	-0.02	0.26%
103	58	7.94	58	7.96	-0.02	0.30%
104	45	8.02	45	8.05	-0.03	0.41%
105	45	7.99	45	8.02	-0.03	0.34%
106	42	8.00	42	8.02	-0.02	0.28%
107	36	8.08	36	8.11	-0.03	0.36%
108	42	8.08	42	8.11	-0.03	0.31%
109	47	8.17	47	8.19	-0.02	0.30%
110	39	8.10	40	8.13	-0.03	0.40%
111	40	8.13	40	8.16	-0.03	0.31%
112	45	8.22	45	8.25	-0.03	0.33%
113	61	8.21	61	8.23	-0.02	0.20%
Overall Average					-0.03	0.34%

* - note that synchronization at penetration 80 and 81 feet required blow by blow comparison to remove null values and synchronize data (results for both increments follow)

Project 750450 - END BENT 5 PILE 4
Sax Q vs PDA - Avg. Per Foot Comparison



79-80 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q-PDA
348	7.50	79.02	347	7.53	79.02	-0.03
349	7.39	79.05	348	7.43	79.05	-0.04
350	7.46	79.07	349	7.5	79.07	-0.04
351	7.61	79.10	350	7.64	79.1	-0.03
352	7.07	79.12	351	7.1	79.12	-0.03
353	7.20	79.15	352	7.22	79.14	-0.02
354	7.20	79.17	353	7.23	79.17	-0.03
355	7.50	79.20	354	7.52	79.19	-0.02
356	7.19	79.22	355	7.23	79.21	-0.04
357	7.58	79.24	356	7.61	79.24	-0.03
358	7.51	79.27	357	7.53	79.26	-0.02
359	7.22	79.29	358	7.26	79.29	-0.04
360	7.38	79.32	359	7.4	79.31	-0.02
361	7.56	79.34	360	7.59	79.33	-0.03
362	7.28	79.37	361	7.3	79.36	-0.02
363	7.07	79.39	362	7.1	79.38	-0.03
364	7.39	79.41	363	7.42	79.4	-0.03
365	7.19	79.44	364	7.23	79.43	-0.04
366	7.27	79.46	365	7.29	79.45	-0.02
367	7.16	79.49	366	7.19	79.48	-0.03
368	7.31	79.51	367	7.33	79.5	-0.02
369	7.19	79.54	368	7.23	79.52	-0.04
370	7.20	79.56	369	7.22	79.55	-0.02
371	7.54	79.59	370	7.56	79.57	-0.02
372	7.02	79.61	371	7.06	79.6	-0.04
373	7.35	79.63	372	7.36	79.62	-0.01
374	7.35	79.66	373	7.39	79.64	-0.04
375	7.28	79.68	374	7.31	79.67	-0.03
376	7.29	79.71	375	7.31	79.69	-0.02
377	7.38	79.73	376	7.41	79.71	-0.03
378	7.10	79.76	377	7.13	79.74	-0.03
379	6.97	79.78	378	7	79.76	-0.03
380	7.40	79.80	379	7.41	79.79	-0.01
381	7.34	79.83	380	7.38	79.81	-0.04
382	7.37	79.85	381	7.4	79.83	-0.03
383	6.91	79.88	382	6.94	79.86	-0.03
384	7.20	79.90	383	7.23	79.88	-0.03
385	7.41	79.93	384	7.44	79.9	-0.03
386	7.44	79.95	385	7.46	79.93	-0.02
387	7.49	79.98	386	7.52	79.95	-0.03
388	2.27	80.00	387	7.16	80	excluded

average 7.31

7.33

81 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q - PDA
389	exclude	80.04	389	7.05	80.04	exclude
390	7.24	80.08	390	7.25	80.07	-0.01
391	7.28	80.12	391	7.33	80.11	-0.05
392	7.44	80.16	392	7.45	80.15	-0.01
393	7.20	80.20	393	7.24	80.19	-0.04
394	7.16	80.24	394	7.19	80.22	-0.03
395	7.15	80.28	395	7.19	80.26	-0.04
396	7.30	80.32	396	7.31	80.3	-0.01
397	7.43	80.36	397	7.45	80.33	-0.02
398	7.24	80.40	398	7.28	80.37	-0.04
399	7.47	80.44	399	7.5	80.41	-0.03
400	7.38	80.48	400	7.41	80.44	-0.03
401	7.23	80.52	401	7.25	80.48	-0.02
402	7.35	80.56	402	7.37	80.52	-0.02
403	7.43	80.60	403	7.45	80.56	-0.02
404	7.39	80.64	404	7.41	80.59	-0.02
405	7.36	80.68	405	7.39	80.63	-0.03
406	7.51	80.72	406	7.52	80.67	-0.01
407	7.45	80.76	407	7.47	80.7	-0.02
408	7.58	80.80	408	7.62	80.74	-0.04
409	7.20	80.84	409	7.25	80.78	-0.05
410	7.60	80.88	410	7.61	80.81	-0.01
411	7.11	80.92	411	7.15	80.85	-0.04
412	7.17	80.96	412	7.2	80.89	-0.03
413	7.11	81.00	413	7.14	80.93	-0.03

Average 7.32

7.34

Case Method & iCAP® Results

417-149 BOGGY CREEK - END BENT 5 PILE 4

APE D36-32

OP: GRL-BM

Date: 26-September-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 118.00 ft

EM: 7,044 ksi

WS: 14,750.0 f/s

JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search

STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips
137	76.00	137	AV137	2.21	2.83	2.28	0.58	7.16	20.7	100	638
244	77.00	107	AV107	2.35	2.75	2.08	0.50	7.50	22.6	99	560
305	78.00	61	AV61	2.30	2.55	1.76	0.39	7.54	22.9	100	452
346	79.00	41	AV41	2.22	2.41	1.52	0.39	7.42	22.7	100	406
387	80.00	41	AV41	2.16	2.39	1.37	0.32	7.33	22.1	100	355
412	81.00	25	AV25	2.17	2.51	1.29	0.29	7.35	22.2	98	331
442	82.00	30	AV30	2.17	2.53	1.28	0.28	7.26	21.6	97	326
474	83.00	32	AV32	2.18	2.48	1.23	0.33	7.25	21.6	96	320
509	84.00	35	AV35	2.20	2.56	1.25	0.30	7.24	21.5	99	333
545	85.00	36	AV36	2.23	2.66	1.24	0.32	7.30	21.9	99	342
574	86.00	29	AV29	2.31	2.76	1.20	0.43	7.33	22.9	100	331
601	87.00	27	AV27	2.42	2.88	1.20	0.50	7.44	23.5	100	340
631	88.00	30	AV30	2.52	2.98	1.26	0.53	7.51	24.0	100	352
662	89.00	31	AV31	2.59	3.07	1.23	0.63	7.55	24.2	100	333
693	90.00	31	AV31	2.60	3.09	1.12	0.75	7.50	23.8	100	313
718	91.00	25	AV25	2.66	3.25	1.11	0.83	7.54	24.4	100	305
743	92.00	25	AV25	2.72	3.37	1.07	0.91	7.63	24.8	100	303
769	93.00	26	AV26	2.76	3.47	1.04	0.98	7.68	25.1	100	304
797	94.00	28	AV28	2.72	3.14	0.96	1.03	7.63	24.1	100	310
821	95.00	24	AV24	2.77	3.04	0.98	1.13	7.66	24.6	100	313
844	96.00	23	AV23	2.78	3.16	1.09	1.13	7.60	24.2	97	312
868	97.00	24	AV24	2.83	3.24	1.15	1.15	7.69	24.8	95	320
892	98.00	24	AV24	2.76	3.14	1.16	1.07	7.48	23.8	95	319
920	99.00	28	AV28	2.77	3.19	1.16	1.03	7.51	23.8	97	321
952	100.00	32	AV32	2.80	3.26	1.26	0.91	7.60	24.4	98	330
991	101.00	39	AV39	2.83	3.40	1.48	0.70	7.74	24.9	99	363
1030	102.00	39	AV39	2.81	3.32	1.76	0.41	7.88	25.1	99	458
1088	103.00	58	AV58	2.79	2.97	1.90	0.38	7.96	24.7	100	505
1133	104.00	45	AV45	2.80	2.98	1.85	0.39	8.05	25.2	100	496
1178	105.00	45	AV45	2.80	3.02	1.69	0.40	8.02	25.1	100	452
1220	106.00	42	AV42	2.80	3.09	1.61	0.45	8.02	25.2	100	436
1256	107.00	36	AV36	2.81	3.18	1.66	0.45	8.11	25.6	100	446
1298	108.00	42	AV42	2.80	3.19	1.70	0.38	8.11	25.4	100	459
1345	109.00	47	AV47	2.81	3.15	1.73	0.34	8.19	25.8	100	475
1385	110.00	40	AV40	2.80	2.99	1.75	0.29	8.13	25.5	100	471
1425	111.00	40	AV40	2.81	2.93	1.80	0.29	8.16	25.3	100	465
1470	112.00	45	AV45	2.79	2.88	1.96	0.29	8.25	25.5	100	551
1531	113.00	61	AV61	2.77	2.94	2.02	0.31	8.23	25.6	100	575

Sensors

Blows: 1-1531

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	S679	142.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

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Case Method & iCAP® Results

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417-149 BOGGY CREEK - END BENT 5 PILE 4
OP: GRL-BM

APE D36-32
Date: 26-September-2022

Time Summary

Drive 35 minutes 53 seconds 9:01 AM - 9:37 AM BN 1 - 1531

DC:		STATE OF FLORIDA DOT							Min Tip	1 ft to c/o	c/o	700-010-60 Construction Jul-22			
PILE DRIVING LOG															
Structure No.:		750451		Depth Table Extended (ft):			Bent/Pier No.:			5		Pile No.:		4	
Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	
75.00	1	76.00	138	7.087	108.00 - 109.00		47	8.166		-					
76.00		77.00	107	7.477	109.00 - 110.00		39	8.097		-					
77.00		78.00	61	7.509	110.00 - 111.00		40	8.135		-					
78.00		79.00	41	7.392	111.00 - 112.00		45	8.223		-					
79.00		80.00	41	7.184	112.00 - 113.00		61	8.213		-					
80.00		81.00	25	7.219	113.00 - 114.00					-					
81.00		82.00	30	7.239	114.00 - 115.00					-					
82.00		83.00	32	7.226	115.00 - 116.00					-					
83.00		84.00	35	7.208	116.00 - 117.00					-					
84.00		85.00	36	7.283	117.00 - 118.00					-					
85.00		86.00	29	7.305	118.00 - 119.00					-					
86.00		87.00	27	7.423	119.00 - 120.00					-					
87.00		88.00	30	7.478	120.00 - 121.00					-					
88.00		89.00	31	7.515	121.00 - 122.00					-					
89.00		90.00	31	7.488	122.00 - 123.00					-					
90.00		91.00	25	7.521	123.00 - 124.00					-					
91.00		92.00	25	7.608	124.00 - 125.00					-					
92.00		93.00	26	7.658	-					-					
93.00		94.00	28	7.587	-					-					
94.00		95.00	24	7.635	-					-					
95.00		96.00	23	7.567	-					-					
96.00		97.00	24	7.673	-					-					
97.00		98.00	24	7.443	-					-					
98.00		99.00	28	7.487	-					-					
99.00		100.00	32	7.575	-					-					
100.00		101.00	39	7.721	-					-					
101.00		102.00	39	7.859	-					-					
102.00		103.00	58	7.936	-					-					
103.00		104.00	45	8.017	-					-					
104.00		105.00	45	7.992	-					-					
105.00		106.00	42	7.998	-					-					
106.00		107.00	36	8.081	-					-					
107.00		108.00	42	8.085	-					-					

Example 5

Project: 750450

**Pile Name: - End Bent 5
Pile 6**

Pile Type: 18" SQ. PCP

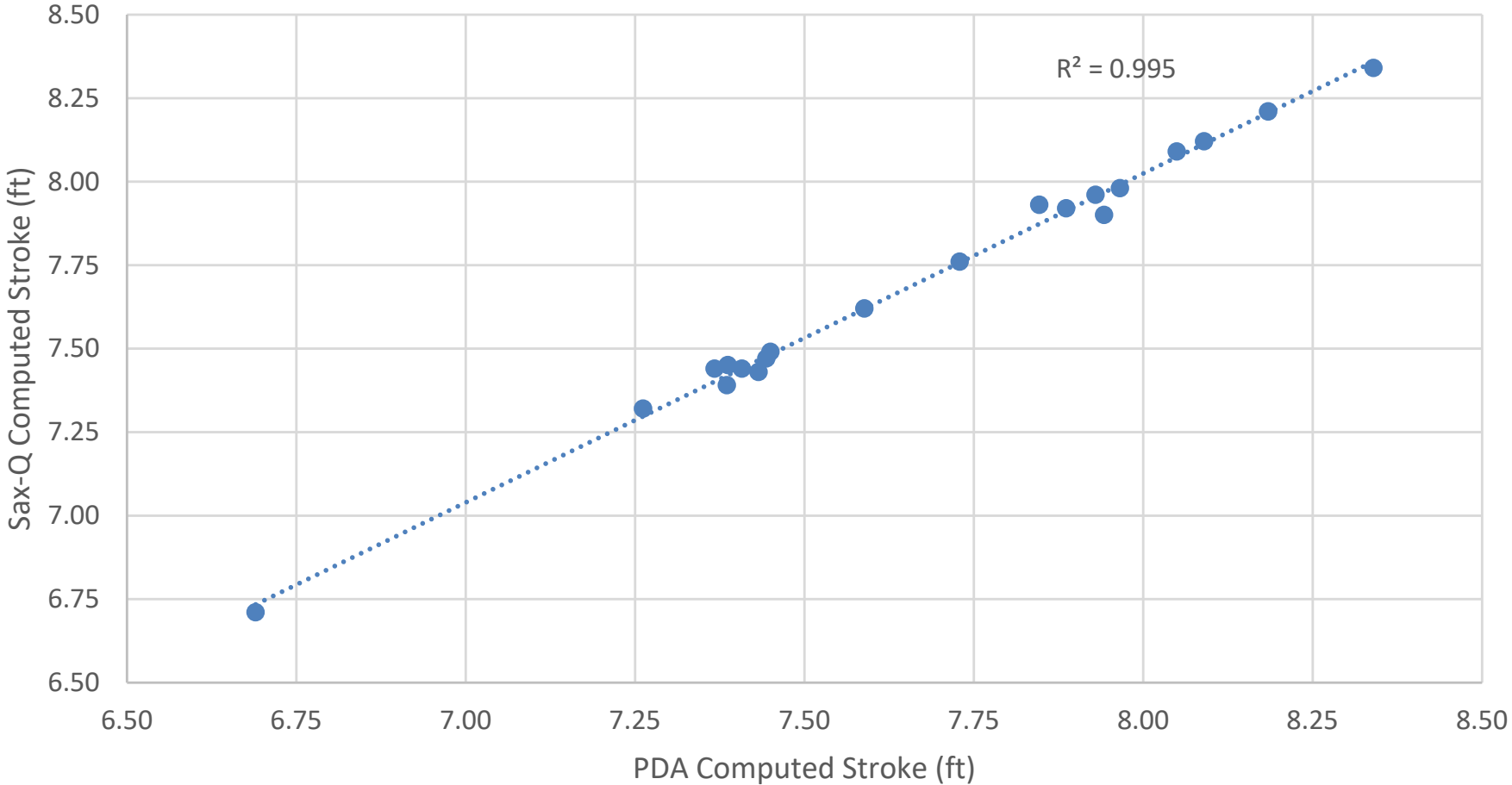
Test Type: Initial Drive

Project 750450 - END BENT 5 PILE 6 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	Sax BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
91*	59	6.69	62	6.71	-0.02	0.30%
92	45	7.26	46	7.32	-0.06	0.79%
93	46	7.39	46	7.39	0.00	0.06%
94	40	7.37	40	7.44	-0.07	0.98%
95	47	7.41	47	7.44	-0.03	0.43%
96*	41	7.45	41	7.49	-0.04	0.53%
97	44	7.39	44	7.45	-0.06	0.84%
98	46	7.43	46	7.43	0.00	-0.03%
99	47	7.44	47	7.47	-0.03	0.35%
100	77	7.59	77	7.62	-0.03	0.41%
101	82	7.73	82	7.76	-0.03	0.40%
102	78	7.89	78	7.92	-0.03	0.42%
103	69	7.85	69	7.93	-0.08	1.05%
104	70	7.94	70	7.90	0.04	-0.54%
105	59	7.93	59	7.96	-0.03	0.38%
106	43	7.97	43	7.98	-0.01	0.18%
107	49	8.05	49	8.09	-0.04	0.50%
108*	58	8.09	58	8.12	-0.03	0.37%
109	53	8.18	53	8.21	-0.03	0.31%
110*	72	8.34	67	8.34	0.00	0.00%
Overall Average					-0.03	0.39%

* - note that synchronization at penetrations of 91, 96 108 and 110 feet required blow by blow comparison to remove null values and synchronize data (results for both increments follow)

Project 750450 - END BENT 5 PILE 6
Sax Q vs PDA - Avg. Per Foot Comparison



90-91 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q-PDA
1	0.00	90.02	3	0	90.05	excluded
2	11.19	90.03	4	5	90.06	excluded
3	5.15	90.05	5	5.16	90.08	-0.01
4	5.63	90.07	6	5.64	90.1	-0.01
5	5.71	90.08	7	5.76	90.11	-0.05
6	5.68	90.10	8	5.71	90.13	-0.03
7	5.91	90.12	9	5.92	90.15	-0.01
8	6.10	90.14	10	6.13	90.16	-0.03
9	5.89	90.15	11	5.93	90.18	-0.04
10	5.98	90.17	12	5.99	90.19	-0.01
11	5.95	90.19	13	5.98	90.21	-0.03
12	6.28	90.20	14	6.29	90.23	-0.01
13	6.02	90.22	15	6.06	90.24	-0.04
14	6.06	90.24	16	6.07	90.26	-0.01
15	6.11	90.25	17	6.15	90.27	-0.04
16	6.17	90.27	18	6.19	90.29	-0.02
17	6.16	90.29	19	6.18	90.31	-0.02
18	6.05	90.31	20	6.08	90.32	-0.03
19	6.13	90.32	21	6.15	90.34	-0.02
20	6.06	90.34	22	6.09	90.35	-0.03
21	5.90	90.36	23	5.94	90.37	-0.04
22	6.30	90.37	24	6.32	90.39	-0.02
23	6.42	90.39	25	6.45	90.4	-0.03
24	6.57	90.41	26	6.6	90.42	-0.03
25	6.72	90.42	27	6.74	90.44	-0.02
26	6.83	90.44	28	6.86	90.45	-0.03
27	6.75	90.46	29	6.78	90.47	-0.03
28	6.77	90.47	30	6.8	90.48	-0.03
29	6.91	90.49	31	6.93	90.5	-0.02
30	6.92	90.51	32	6.95	90.52	-0.03
31	7.23	90.53	33	7.25	90.53	-0.02
32	7.06	90.54	34	7.09	90.55	-0.03
33	7.13	90.56	35	7.15	90.56	-0.02
34	6.80	90.58	36	6.82	90.58	-0.02
35	7.27	90.59	37	7.3	90.6	-0.03
36	7.13	90.61	38	7.17	90.61	-0.04
37	7.14	90.63	39	7.17	90.63	-0.03
38	7.21	90.64	40	7.24	90.65	-0.03
39	7.16	90.66	41	7.19	90.66	-0.03
40	7.19	90.68	42	7.21	90.68	-0.02
41	7.09	90.69	43	7.12	90.69	-0.03
42	7.14	90.71	44	7.17	90.71	-0.03

43	6.91	90.73	45	6.94	90.73	-0.03
44	7.17	90.75	46	7.19	90.74	-0.02
45	7.37	90.76	47	7.4	90.76	-0.03
46	7.14	90.78	48	7.16	90.77	-0.02
47	7.24	90.80	49	7.26	90.79	-0.02
48	7.13	90.81	50	7.16	90.81	-0.03
49	7.07	90.83	51	7.09	90.82	-0.02
50	7.12	90.85	52	7.14	90.84	-0.02
51	7.43	90.86	53	7.45	90.85	-0.02
52	7.18	90.88	54	7.2	90.87	-0.02
53	7.21	90.90	55	7.24	90.89	-0.03
54	7.17	90.92	56	7.2	90.9	-0.03
55	7.21	90.93	57	7.23	90.92	-0.02
56	7.44	90.95	58	7.47	90.94	-0.03
57	6.31	90.97	59	7.09	90.95	-0.78
58	7.92	90.98	60	7.15	90.97	0.77
59	7.35	91.00	61	7.39	90.98	-0.04

average 6.69

6.71

95-96 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q-PDA
240	7.34	95.07	242	7.37	95.02	-0.03
241	7.28	95.10	243	7.3	95.05	-0.02
242	7.20	95.12	244	7.23	95.07	-0.03
243	7.42	95.15	245	7.45	95.1	-0.03
244	7.36	95.17	246	7.38	95.12	-0.02
245	7.48	95.20	247	7.52	95.15	-0.04
246	7.54	95.22	248	7.57	95.17	-0.03
247	7.37	95.24	249	7.38	95.2	-0.01
248	7.53	95.27	250	7.55	95.22	-0.02
249	7.44	95.29	251	7.48	95.24	-0.04
250	7.44	95.32	252	7.45	95.27	-0.01
251	7.50	95.34	253	7.53	95.29	-0.03
252	7.48	95.37	254	7.51	95.32	-0.03
253	7.52	95.39	255	7.54	95.34	-0.02
254	7.67	95.41	256	7.69	95.37	-0.02
255	7.57	95.44	257	7.61	95.39	-0.04
256	7.51	95.46	258	7.54	95.41	-0.03
257	7.41	95.49	259	7.43	95.44	-0.02
258	7.36	95.51	260	7.38	95.46	-0.02
259	7.42	95.54	261	7.45	95.49	-0.03
260	7.31	95.56	262	7.33	95.51	-0.02
261	7.50	95.59	263	7.53	95.54	-0.03
262	7.39	95.61	264	7.41	95.56	-0.02
263	7.52	95.63	265	7.55	95.59	-0.03
264	7.46	95.66	266	7.49	95.61	-0.03
265	7.65	95.68	267	7.68	95.63	-0.03
266	7.56	95.71	268	7.59	95.66	-0.03
267	7.53	95.73	269	7.56	95.68	-0.03
268	7.68	95.76	270	7.71	95.71	-0.03
269	7.39	95.78	271	7.43	95.73	-0.04
270	7.50	95.80	272	7.53	95.76	-0.03
271	7.37	95.83	273	7.4	95.78	-0.03
272	7.46	95.85	274	7.49	95.8	-0.03
273	7.62	95.88	275	7.64	95.83	-0.02
274	7.47	95.90	276	7.49	95.85	-0.02
275	7.42	95.93	277	7.45	95.88	-0.03
276	7.44	95.95	278	7.47	95.9	-0.03
277	7.35	95.98	279	7.36	95.93	-0.01
278	7.38	96.00	280	7.41	95.95	-0.03
279	7.33	96.02	281	7.36	95.98	-0.01
280	7.39	96.05	282	7.39	96	-0.01

average 7.45

7.49

107-108 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q - PDA
946	8.23	107.07	943	8.26	107.02	-0.03
947	8.13	107.09	944	8.16	107.03	-0.03
948	8.08	107.10	945	8.1	107.05	-0.02
949	8.19	107.12	946	8.21	107.07	-0.02
950	8.01	107.14	947	8.03	107.09	-0.02
951	7.95	107.16	948	7.98	107.1	-0.03
952	8.13	107.17	949	8.16	107.12	-0.03
953	8.13	107.19	950	8.16	107.14	-0.03
954	8.03	107.21	951	8.05	107.16	-0.02
955	8.05	107.22	952	8.08	107.17	-0.03
956	8.15	107.24	953	8.18	107.19	-0.03
957	8.07	107.26	954	8.1	107.21	-0.03
958	7.85	107.28	955	7.87	107.22	-0.02
959	8.18	107.29	956	8.2	107.24	-0.02
960	8.18	107.31	957	8.21	107.26	-0.03
961	8.29	107.33	958	8.31	107.28	-0.02
962	8.03	107.34	959	8.06	107.29	-0.03
963	8.08	107.36	960	8.1	107.31	-0.02
964	8.18	107.38	961	8.21	107.33	-0.03
965	7.85	107.40	962	7.88	107.34	-0.03
966	8.14	107.41	963	8.16	107.36	-0.02
967	8.02	107.43	964	8.05	107.38	-0.03
968	7.96	107.45	965	7.98	107.4	-0.02
969	8.05	107.47	966	8.07	107.41	-0.02
970	8	107.48	967	8.03	107.43	-0.03
971	8.04	107.50	968	8.07	107.45	-0.03
972	8.02	107.52	969	8.05	107.47	-0.03
973	8.1	107.53	970	8.13	107.48	-0.03
974	8.11	107.55	971	8.14	107.5	-0.03
975	8.05	107.57	972	8.09	107.52	-0.04
976	8	107.59	973	8.02	107.53	-0.02
977	8.12	107.60	974	8.15	107.55	-0.03
978	8	107.62	975	8.03	107.57	-0.03
979	7.94	107.64	976	7.96	107.59	-0.02
980	8.18	107.66	977	8.21	107.6	-0.03
981	8.08	107.67	978	8.1	107.62	-0.02
982	7.97	107.69	979	8	107.64	-0.03
983	8.16	107.71	980	8.18	107.66	-0.02
984	8.01	107.72	981	8.05	107.67	-0.04
985	8.08	107.74	982	8.1	107.69	-0.02
986	7.95	107.76	983	7.98	107.71	-0.03
987	7.99	107.78	984	8.02	107.72	-0.03

988	8.03	107.79	985	8.05	107.74	-0.02
989	8.02	107.81	986	8.05	107.76	-0.03
990	8.17	107.83	987	8.2	107.78	-0.03
991	7.93	107.84	988	7.95	107.79	-0.02
992	8.02	107.86	989	8.05	107.81	-0.03
993	8.16	107.88	990	8.18	107.83	-0.02
994	8.24	107.90	991	8.26	107.84	-0.02
995	8.32	107.91	992	8.34	107.86	-0.02
996	8.22	107.93	993	8.24	107.88	-0.02
997	8.06	107.95	994	8.09	107.9	-0.03
998	exclude	107.97	995	8.19	107.91	exclude
999	exclude	107.98	996	8.44	107.93	exclude
1000	8.33	108.00	997	8.35	107.95	-0.02
1001	8.25	108.02	998	8.27	107.97	-0.02
1002	8.05	108.04	999	8.07	107.98	-0.02
1003	8.28	108.06	1000	8.3	108	-0.02

Average 8.09

8.12

109-110 ft Penetration

Sax-Q			PDA			
BN	STK	PEN	BN	STK	PEN	Sax-Q - PDA
1057	8.29	109.06	1058	8.32	109.01	-0.03
1058	8.23	109.07	1059	8.26	109.03	-0.03
1059	8.28	109.08	1060	8.3	109.04	-0.02
1060	8.27	109.10	1061	8.29	109.06	-0.02
1061	8.31	109.11	1062	8.33	109.07	-0.02
1062	8.19	109.13	1063	8.21	109.09	-0.02
1063	8.12	109.14	1064	8.14	109.1	-0.02
1064	8.13	109.15	1065	8.16	109.12	-0.03
1065	8.25	109.17	1066	8.27	109.13	-0.02
1066	7.88	109.18	1067	7.91	109.15	-0.03
1067	8.12	109.19	1068	8.14	109.16	-0.02
1068	8.16	109.21	1069	8.18	109.18	-0.02
1069	8.15	109.22	1070	8.17	109.19	-0.02
1070	5.17	109.24	1071	8.17	109.21	-3
1071	11.69	109.25	1072	8.1	109.22	3.59
1072	8.39	109.26	1073	8.42	109.24	-0.03
1073	8.26	109.28	1074	8.3	109.25	-0.04
1074	8.18	109.29	1075	8.2	109.27	-0.02
1075	8.26	109.31	1076	8.28	109.28	-0.02
1076	8.2	109.32	1077	8.23	109.3	-0.03
1077	8.29	109.33	1078	8.31	109.31	-0.02
1078	8.39	109.35	1079	8.41	109.33	-0.02
1079	8.31	109.36	1080	8.33	109.34	-0.02
1080	8.31	109.38	1081	8.33	109.36	-0.02
1081	8.41	109.39	1082	8.44	109.37	-0.03
1082	8.24	109.40	1083	8.26	109.39	-0.02
1083	8.21	109.42	1084	8.23	109.4	-0.02
1084	8.42	109.43	1085	8.44	109.42	-0.02
1085	8.18	109.44	1086	8.21	109.43	-0.03
1086	Exclude	109.46	1087	8.4	109.45	Exclude
1088	8.4	109.49	1088	8.43	109.46	-0.03
1089	8.49	109.50	1089	8.53	109.48	-0.04
1090	8.4	109.51	1090	8.43	109.49	-0.03
1091	8.36	109.53	1091	8.37	109.51	-0.01
1092	8.32	109.54	1092	8.35	109.52	-0.03
1093	8.37	109.56	1093	8.38	109.54	-0.01
1094	8.38	109.57	1094	8.41	109.55	-0.03
1095	8.47	109.58	1095	8.49	109.57	-0.02
1096	8.42	109.60	1096	8.45	109.58	-0.03
1097	8.34	109.61	1097	8.36	109.6	-0.02
1098	8.36	109.63	1098	8.38	109.61	-0.02
1099	8.35	109.64	1099	8.38	109.63	-0.03

1100	8.42	109.65	1100	8.44	109.64	-0.02
1101	8.35	109.67	1101	8.37	109.66	-0.02
1102	8.55	109.68	1102	8.57	109.67	-0.02
1103	8.39	109.69	1103	8.42	109.69	-0.03
1104	8.33	109.71	1104	8.36	109.7	-0.03
1105	8.63	109.72	1105	8.66	109.72	-0.03
1106	8.51	109.74	1106	8.53	109.73	-0.02
1107	8.33	109.75	1107	8.36	109.75	-0.03
1108	8.40	109.76	1108	8.43	109.76	-0.03
1109	8.01	109.78	1109	8.04	109.78	-0.03
1110	8.31	109.79	1110	8.34	109.79	-0.03
1111	8.32	109.81	1111	8.34	109.81	-0.02
1112	8.38	109.82	1112	8.41	109.82	-0.03
1113	8.47	109.83	1113	8.5	109.84	-0.03
1114	8.43	109.85	1114	8.45	109.85	-0.02
1115	8.47	109.86	1115	8.49	109.87	-0.02
1116	8.5	109.88	1116	8.53	109.88	-0.03
1117	8.26	109.89	1117	8.29	109.9	-0.03
1118	8.45	109.90	1118	8.48	109.91	-0.03
1119	8.38	109.92	1119	8.41	109.93	-0.03
1120	8.32	109.93	1120	8.35	109.94	-0.03
1121	5.93	109.94	1121	8.55	109.96	-2.62
1122	11.37	109.96	1122	8.38	109.97	2.99
1123	Exclude	109.97	1123	8.32	109.99	Exclude
1124	Exclude	109.99	1124	8.27	110	Exclude

Average 8.34

8.34

Case Method & iCAP® Results

417-149 BOGGY CREEK - END BENT 5 PILE 6

APE D36-32

OP: GRL-BM

Date: 26-September-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 118.00 ft

EM: 7,044 ksi

WS: 14,750.0 f/s

JC: 0.50

CSX: Compression Stress Maximum

STK: Hammer Stroke

CSI: Compression Stress Maximum - Individual Sensor

EMX: Maximum Energy

CSB: Compression Stress at Bottom of Pile

BTA: Integrity Factor (1)

TSX: Tension Stress Maximum - Full Record Search

RX5: Maximum Case Method Capacity (JC=0.5)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips
62	91.00	62	AV62	1.98	2.25	1.23	0.18	6.69	16.5	98	353
108	92.00	46	AV46	2.43	2.79	1.25	0.24	7.32	21.3	100	320
154	93.00	46	AV46	2.45	2.80	1.21	0.29	7.39	21.2	100	318
194	94.00	40	AV40	2.45	2.80	1.18	0.30	7.44	21.1	100	318
241	95.00	47	AV47	2.42	2.74	1.17	0.27	7.44	20.8	100	320
282	96.00	41	AV41	2.42	2.69	1.17	0.27	7.48	20.8	100	317
326	97.00	44	AV44	2.42	2.65	1.17	0.27	7.45	20.6	100	322
372	98.00	46	AV46	2.44	2.73	1.19	0.28	7.43	20.3	100	323
419	99.00	47	AV47	2.49	2.68	1.36	0.24	7.47	20.7	100	380
496	100.00	77	AV77	2.60	2.84	1.79	0.27	7.62	22.0	100	512
578	101.00	82	AV82	2.75	3.03	2.09	0.33	7.76	23.6	100	558
656	102.00	78	AV78	2.87	3.12	2.16	0.34	7.92	24.7	100	544
725	103.00	69	AV69	2.92	3.11	2.17	0.34	7.93	25.0	100	519
795	104.00	70	AV70	2.95	3.16	2.13	0.32	7.90	25.2	100	472
854	105.00	59	AV59	2.99	3.17	2.04	0.26	7.96	25.5	100	445
897	106.00	43	AV43	2.97	3.35	1.99	0.21	7.98	25.5	100	457
946	107.00	49	AV49	3.00	3.56	2.09	0.26	8.09	26.1	100	516
1004	108.00	58	AV58	3.01	3.62	2.21	0.34	8.12	26.4	100	560
1057	109.00	53	AV53	3.02	3.63	2.28	0.35	8.21	27.0	100	569
1124	110.00	67	AV67	3.06	3.59	2.38	0.40	8.34	27.8	100	612

Sensors

Blows: 1-1124

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	S679	142.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 0 second 3:41 PM - 3:41 PM (9/26/2022) BN 1 - 1

Stop 11 minutes 31 seconds 3:41 PM - 3:52 PM

Drive 29 minutes 47 seconds 3:52 PM - 4:22 PM BN 2 - 1124

Total time [00:41:18] = (Driving [00:29:47] + Stop [00:11:31])

Structure No.: 750451 Depth Table Extended (ft): _____ Bent/Pier No.: 5 Pile No.: 6

Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes
Input														
Start LP↓														
90.00	1	59	6.763		122.00 - 123.00					-				
91.00 - 92.00		45	7.262		123.00 - 124.00					-				
92.00 - 93.00		46	7.386		124.00 - 125.00					-				
93.00 - 94.00		40	7.367		-					-				
94.00 - 95.00		47	7.408		-					-				
95.00 - 96.00		41	7.57		-					-				
96.00 - 97.00		44	7.387		-					-				
97.00 - 98.00		46	7.432		-					-				
98.00 - 99.00		47	7.444		-					-				
99.00 - 100.00		77	7.588		-					-				
100.00 - 101.00		82	7.729		-					-				
101.00 - 102.00		78	7.886		-					-				
102.00 - 103.00		69	7.847		-					-				
103.00 - 104.00		70	7.942		-					-				
104.00 - 105.00		59	7.93		-					-				
105.00 - 106.00		43	7.966		-					-				
106.00 - 107.00		49	8.05		-					-				
107.00 - 108.00		58	7.995		-					-				
108.00 - 109.00		53	8.184		-					-				
109.00 - 110.00		72	8.04		-					-				
110.00 - 110.01					-					-				
110.01 - 111.00					-					-				
111.00 - 112.00					-					-				
112.00 - 113.00					-					-				
113.00 - 114.00					-					-				
114.00 - 115.00					-					-				
115.00 - 116.00					-					-				
116.00 - 117.00					-					-				
117.00 - 118.00					-					-				
118.00 - 119.00					-					-				
119.00 - 120.00					-					-				
120.00 - 121.00					-					-				
121.00 - 122.00					-					-				

Example 6

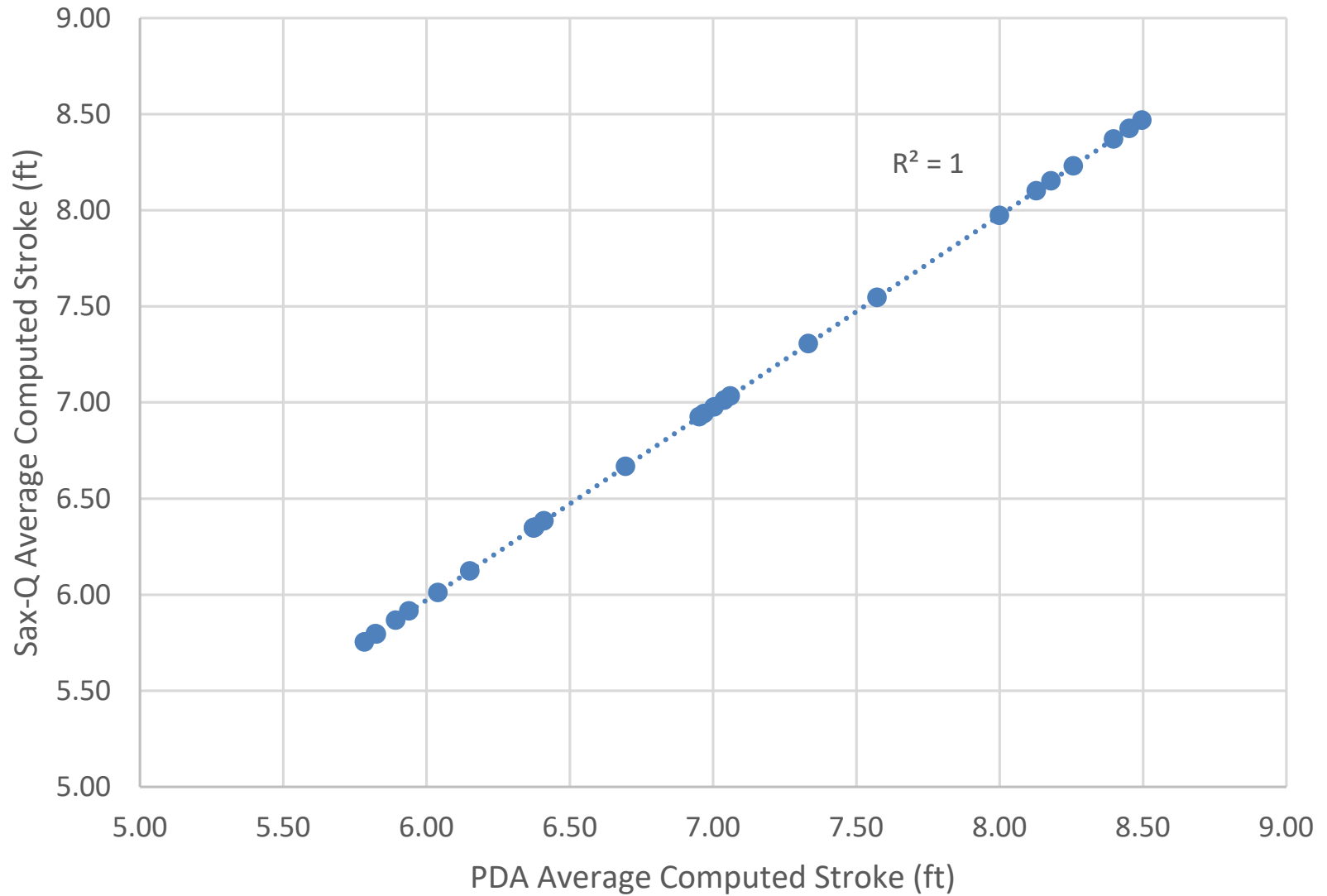
Project: 750960

**Pile Name: - End Bent 2
Pile 23**

Pile Type: 24" SQ. PCP

Test Type: Initial Drive

Project 750960 - END BENT 2 PILE 23
Sax Q vs PDA Avg per Foot Comparison



Pen	Sax-Q Stroke, ft	PDA Stroke, ft	Sax-Q-PDA	% difference
72	6.01	6.04	-0.03	0.47%
73	5.87	5.89	-0.03	0.44%
74	5.79	5.83	-0.03	0.54%
75	5.80	5.82	-0.03	0.44%
76	5.75	5.78	-0.03	0.52%
77	5.92	5.94	-0.02	0.40%
78	6.12	6.15	-0.03	0.46%
79	6.35	6.38	-0.03	0.44%
80	6.35	6.37	-0.03	0.42%
81	6.35	6.37	-0.03	0.42%
82	6.38	6.41	-0.03	0.41%
83	6.35	6.38	-0.03	0.42%
84	6.67	6.69	-0.03	0.41%
85	7.55	7.57	-0.03	0.35%
86	7.97	8.00	-0.03	0.34%
87	8.23	8.26	-0.03	0.32%
88	8.37	8.40	-0.03	0.32%
89	8.43	8.45	-0.03	0.32%
90	8.47	8.50	-0.03	0.33%
91	8.15	8.18	-0.03	0.33%
92	6.98	7.00	-0.03	0.39%
93	6.93	6.95	-0.03	0.38%
94	6.94	6.97	-0.03	0.38%
95	7.03	7.06	-0.03	0.38%
96	7.01	7.04	-0.03	0.39%
97	7.31	7.33	-0.03	0.36%
98	8.10	8.13	-0.03	0.33%
		Average	-0.03	0.40%

Project 750960 - END BENT 2PILE 3 - Sax Q vs PDA - Avg. Per Foot Comparison

Blow No.	Pen	Sax-Q Stroke, ft	PDA Pen	PDA Stroke, ft	Sax-Q-PDA	% difference
188	71.22	14.7	70.13	0		
189	71.33	6.51	70.25	6.55	-0.04	0.61%
190	71.44	6.33	70.38	6.34	-0.01	0.16%
191	71.56	5.87	70.5	5.92	-0.05	0.84%
192	71.67	5.79	70.63	5.79	0.00	0.00%
193	71.78	5.85	70.75	5.9	-0.05	0.85%
194	71.89	5.86	70.88	5.87	-0.01	0.17%
195	72.00	5.87	71	5.91	-0.04	0.68%
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	72.00	6.01		6.04		
196	72.22	5.91	71.11	5.93	-0.02	0.34%
197	72.33	5.9	71.22	5.93	-0.03	0.51%
198	72.44	5.85	71.33	5.88	-0.03	0.51%
199	72.56	6.02	71.44	6.03	-0.01	0.17%
200	72.67	5.9	71.56	5.94	-0.04	0.67%
201	72.78	5.76	71.67	5.79	-0.03	0.52%
202	72.89	5.88	71.78	5.88	0.00	0.00%
203	73.00	5.83	71.89	5.88	-0.05	0.85%
204	73.11	5.8	72	5.8	0.00	0.00%
205	72.13	5.86	72.13	5.89	-0.03	0.51%
206	72.25	5.93	72.25	5.95	-0.02	0.34%
207	72.38	5.88	72.38	5.91	-0.03	0.51%
208	72.50	5.86	72.5	5.89	-0.03	0.51%
209	72.63	6.02	72.63	6.05	-0.03	0.50%
210	72.75	5.92	72.75	5.97	-0.05	0.84%
211	72.88	5.76	72.88	5.77	-0.01	0.17%
212	73.00	5.66	73	5.69	-0.03	0.53%
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	73.00	5.87		5.89		
213	73.14	5.91	73.13	5.96	-0.05	0.84%
214	73.29	5.75	73.25	5.75	0.00	0.00%
215	73.43	5.66	73.38	5.7	-0.04	0.70%
216	73.57	5.85	73.5	5.88	-0.03	0.51%
217	73.71	5.84	73.63	5.89	-0.05	0.85%
218	73.86	5.69	73.75	5.72	-0.03	0.52%
219	74.00	5.86	73.88	5.88	-0.02	0.34%
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	74.00	5.79		5.83		
220	74.11	5.92	74	5.95	-0.03	0.50%
221	74.22	5.72	74.14	5.75	-0.03	0.52%
222	74.33	5.86	74.29	5.88	-0.02	0.34%
223	74.44	5.99	74.43	6.01	-0.02	0.33%
224	74.56	5.84	74.57	5.87	-0.03	0.51%
225	74.67	5.63	74.71	5.64	-0.01	0.18%
226	74.78	5.6	74.86	5.63	-0.03	0.53%

227	74.89	5.69	75	5.74	-0.05	0.87%
228	75.00	5.92	75.17	5.93	-0.01	0.17%
	75.00	5.80		5.82		
229	75.20	6.03	75.33	6.05	-0.02	0.33%
230	75.40	5.78	75.5	5.81	-0.03	0.52%
231	75.60	5.54	75.67	5.59	-0.05	0.89%
232	75.80	5.56	75.83	5.58	-0.02	0.36%
233	76.00	5.86	76	5.89	-0.03	0.51%
	76.00	5.75		5.78		
234	76.13	5.82	76.17	5.84	-0.02	0.34%
235	76.25	5.94	76.33	5.96	-0.02	0.34%
236	76.38	5.91	76.5	5.94	-0.03	0.51%
237	76.50	5.88	76.67	5.91	-0.03	0.51%
238	76.63	5.76	76.83	5.79	-0.03	0.52%
239	76.75	5.87	77	5.87	0.00	0.00%
240	76.88	6.14	77.07	6.19	-0.05	0.81%
241	77.00	6	77.14	6.01	-0.01	0.17%
	77.00	5.92		5.94		
242	77.07	6.1	77.21	6.15	-0.05	0.81%
243	77.13	6.05	77.29	6.07	-0.02	0.33%
244	77.20	6.27	77.36	6.29	-0.02	0.32%
245	77.27	5.94	77.43	5.95	-0.01	0.17%
246	77.33	6.06	77.5	6.12	-0.06	0.98%
247	77.40	6.02	77.57	6.02	0.00	0.00%
248	77.47	6.27	77.64	6.32	-0.05	0.79%
249	77.53	6.24	77.71	6.26	-0.02	0.32%
250	77.60	6.19	77.79	6.22	-0.03	0.48%
251	77.67	5.9	77.86	5.93	-0.03	0.51%
252	77.73	6.01	77.93	6.03	-0.02	0.33%
253	77.80	6.34	78	6.37	-0.03	0.47%
254	77.87	6.18	78.06	6.21	-0.03	0.48%
255	77.93	6.18	78.11	6.2	-0.02	0.32%
256	78.00	6.1	78.17	6.13	-0.03	0.49%
	78.00	6.12		6.15		
257	78.05	6.33	78.22	6.36	-0.03	0.47%
258	78.10	6.44	78.28	6.47	-0.03	0.46%
259	78.15	6.23	78.33	6.26	-0.03	0.48%
260	78.20	6.16	78.39	6.19	-0.03	0.48%
261	78.25	6.29	78.44	6.31	-0.02	0.32%
262	78.30	6.2	78.5	6.23	-0.03	0.48%
263	78.35	6.15	78.56	6.17	-0.02	0.32%
264	78.40	6.32	78.61	6.35	-0.03	0.47%
265	78.45	6.28	78.67	6.31	-0.03	0.48%
266	78.50	6.29	78.72	6.32	-0.03	0.47%
267	78.55	6.47	78.78	6.5	-0.03	0.46%

268	78.60	6.3	78.83	6.33	-0.03	0.47%
269	78.65	6.45	78.89	6.48	-0.03	0.46%
270	78.70	6.24	78.94	6.26	-0.02	0.32%
271	78.75	6.42	79	6.44	-0.02	0.31%
272	78.80	6.49	79.03	6.52	-0.03	0.46%
273	78.85	6.67	79.06	6.7	-0.03	0.45%
274	78.90	6.47	79.1	6.49	-0.02	0.31%
275	78.95	6.33	79.13	6.37	-0.04	0.63%
276	79.00	6.48	79.16	6.51	-0.03	0.46%

	79.00	6.35		6.38		
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277	79.03	6.19	79.19	6.21	-0.02	0.32%
278	79.07	6.16	79.23	6.19	-0.03	0.48%
279	79.10	6.29	79.26	6.32	-0.03	0.47%
280	79.13	6.41	79.29	6.43	-0.02	0.31%
281	79.17	6.56	79.32	6.59	-0.03	0.46%
282	79.20	6.27	79.35	6.29	-0.02	0.32%
283	79.23	6.19	79.39	6.23	-0.04	0.64%
284	79.27	6.33	79.42	6.36	-0.03	0.47%
285	79.30	6.38	79.45	6.41	-0.03	0.47%
286	79.33	6.27	79.48	6.29	-0.02	0.32%
287	79.37	6.39	79.52	6.41	-0.02	0.31%
288	79.40	6.2	79.55	6.23	-0.03	0.48%
289	79.43	6.43	79.58	6.46	-0.03	0.46%
290	79.47	6.45	79.61	6.48	-0.03	0.46%
291	79.50	6.4	79.65	6.42	-0.02	0.31%
292	79.53	6.4	79.68	6.43	-0.03	0.47%
293	79.57	6.51	79.71	6.53	-0.02	0.31%
294	79.60	6.3	79.74	6.33	-0.03	0.47%
295	79.63	6.38	79.77	6.41	-0.03	0.47%
296	79.67	6.39	79.81	6.41	-0.02	0.31%
297	79.70	6.32	79.84	6.35	-0.03	0.47%
298	79.73	6.25	79.87	6.28	-0.03	0.48%
299	79.77	6.4	79.9	6.43	-0.03	0.47%
300	79.80	6.37	79.94	6.4	-0.03	0.47%
301	79.83	6.28	79.97	6.3	-0.02	0.32%
302	79.87	6.44	80	6.47	-0.03	0.46%
303	79.90	6.35	80.03	6.38	-0.03	0.47%
304	79.93	6.35	80.07	6.38	-0.03	0.47%
305	79.97	6.32	80.1	6.35	-0.03	0.47%
306	80.00	6.42	80.13	6.44	-0.02	0.31%

	80.00	6.35		6.37		
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307	80.03	6.29	80.17	6.32	-0.03	0.47%
308	80.07	6.39	80.2	6.42	-0.03	0.47%
309	80.10	6.32	80.23	6.34	-0.02	0.32%
310	80.13	6.32	80.27	6.35	-0.03	0.47%

311	80.17	6.54	80.3	6.57	-0.03	0.46%
312	80.20	6.45	80.33	6.48	-0.03	0.46%
313	80.23	6.29	80.37	6.32	-0.03	0.47%
314	80.27	6.25	80.4	6.27	-0.02	0.32%
315	80.30	6.28	80.43	6.31	-0.03	0.48%
316	80.33	6.52	80.47	6.54	-0.02	0.31%
317	80.37	6.54	80.5	6.57	-0.03	0.46%
318	80.40	6.33	80.53	6.35	-0.02	0.31%
319	80.43	6.34	80.57	6.37	-0.03	0.47%
320	80.47	6.51	80.6	6.53	-0.02	0.31%
321	80.50	6.42	80.63	6.45	-0.03	0.47%
322	80.53	6.42	80.67	6.44	-0.02	0.31%
323	80.57	6.28	80.7	6.31	-0.03	0.48%
324	80.60	6.22	80.73	6.25	-0.03	0.48%
325	80.63	6.21	80.77	6.23	-0.02	0.32%
326	80.67	6.45	80.8	6.48	-0.03	0.46%
327	80.70	6.58	80.83	6.6	-0.02	0.30%
328	80.73	6.34	80.87	6.37	-0.03	0.47%
329	80.77	6.28	80.9	6.31	-0.03	0.48%
330	80.80	6.35	80.93	6.38	-0.03	0.47%
331	80.83	6.51	80.97	6.53	-0.02	0.31%
332	80.87	6.38	81	6.41	-0.03	0.47%
333	80.90	6.43	81.04	6.46	-0.03	0.46%
334	80.93	6.34	81.07	6.36	-0.02	0.31%
335	80.97	6.46	81.11	6.49	-0.03	0.46%
336	81.00	6.46	81.15	6.48	-0.02	0.31%
	81.00	6.38		6.41		
337	81.04	6.57	81.19	6.6	-0.03	0.45%
338	81.08	6.54	81.22	6.57	-0.03	0.46%
339	81.12	6.31	81.26	6.33	-0.02	0.32%
340	81.15	6.36	81.3	6.39	-0.03	0.47%
341	81.19	6.27	81.33	6.29	-0.02	0.32%
342	81.23	6.45	81.37	6.48	-0.03	0.46%
343	81.27	6.41	81.41	6.44	-0.03	0.47%
344	81.31	6.42	81.44	6.46	-0.04	0.62%
345	81.35	6.39	81.48	6.41	-0.02	0.31%
346	81.38	6.22	81.52	6.25	-0.03	0.48%
347	81.42	6.41	81.56	6.44	-0.03	0.47%
348	81.46	6.46	81.59	6.48	-0.02	0.31%
349	81.50	6.23	81.63	6.26	-0.03	0.48%
350	81.54	6.37	81.67	6.39	-0.02	0.31%
351	81.58	6.46	81.7	6.49	-0.03	0.46%
352	81.62	6.44	81.74	6.47	-0.03	0.46%
353	81.65	6.34	81.78	6.36	-0.02	0.31%
354	81.69	6.14	81.81	6.17	-0.03	0.49%

355	81.73	6.09	81.85	6.12	-0.03	0.49%
356	81.77	6.17	81.89	6.19	-0.02	0.32%
357	81.81	6.39	81.93	6.42	-0.03	0.47%
358	81.85	6.24	81.96	6.27	-0.03	0.48%
359	81.88	6.17	82	6.2	-0.03	0.48%
360	81.92	6.35	82.04	6.37	-0.02	0.31%
361	81.96	6.13	82.07	6.15	-0.02	0.33%
362	82.00	6.21	82.11	6.24	-0.03	0.48%
	82.00	6.33		6.36		
363	82.03	6.44	82.14	6.46	-0.02	0.31%
364	82.07	6.33	82.18	6.36	-0.03	0.47%
365	82.10	6.19	82.21	6.22	-0.03	0.48%
366	82.14	6.21	82.25	6.23	-0.02	0.32%
367	82.17	6.19	82.29	6.22	-0.03	0.48%
368	82.21	6.53	82.32	6.55	-0.02	0.31%
369	82.24	6.35	82.36	6.37	-0.02	0.31%
370	82.28	6.21	82.39	6.24	-0.03	0.48%
371	82.31	6.36	82.43	6.39	-0.03	0.47%
372	82.34	6.31	82.46	6.33	-0.02	0.32%
373	82.38	6.24	82.5	6.27	-0.03	0.48%
374	82.41	6.36	82.54	6.39	-0.03	0.47%
375	82.45	6.28	82.57	6.3	-0.02	0.32%
376	82.48	6.38	82.61	6.41	-0.03	0.47%
377	82.52	6.37	82.64	6.4	-0.03	0.47%
378	82.55	6.17	82.68	6.2	-0.03	0.48%
379	82.59	6.21	82.71	6.24	-0.03	0.48%
380	82.62	6.27	82.75	6.29	-0.02	0.32%
381	82.66	6.64	82.79	6.67	-0.03	0.45%
382	82.69	6.45	82.82	6.48	-0.03	0.46%
383	82.72	6.51	82.86	6.54	-0.03	0.46%
384	82.76	6.4	82.89	6.43	-0.03	0.47%
385	82.79	6.07	82.93	6.1	-0.03	0.49%
386	82.83	6.65	82.96	6.68	-0.03	0.45%
387	82.86	6.46	83	6.49	-0.03	0.46%
388	82.90		83.01		exclude	exclude
389	82.93		83.02		exclude	exclude
390	82.97		83.03		exclude	exclude
391	83.00	6.51	83.04	6.53	-0.02	0.31%
	83.00	6.35		6.38		
392	83.01	6.6	83.05	6.62	-0.02	0.30%
393	83.02	6.48	83.06	6.5	-0.02	0.31%
394	83.03	6.27	83.07	6.3	-0.03	0.48%
395	83.04	6.58	83.08	6.61	-0.03	0.45%
396	83.05	6.61	83.09	6.63	-0.02	0.30%
397	83.06	6.34	83.1	6.37	-0.03	0.47%

398	83.07	6.47	83.11	6.5	-0.03	0.46%
399	83.08	6.55	83.12	6.57	-0.02	0.30%
400	83.09	6.39	83.13	6.42	-0.03	0.47%
401	83.10	6.28	83.14	6.3	-0.02	0.32%
402	83.11	6.46	83.15	6.49	-0.03	0.46%
403	83.12	6.45	83.16	6.47	-0.02	0.31%
404	83.13	6.21	83.17	6.24	-0.03	0.48%
405	83.14	6.42	83.18	6.45	-0.03	0.47%
406	83.15	6.34	83.19	6.37	-0.03	0.47%
407	83.16	6.46	83.2	6.49	-0.03	0.46%
408	83.17	6.35	83.21	6.38	-0.03	0.47%
409	83.18	6.42	83.22	6.45	-0.03	0.47%
410	83.19	6.38	83.23	6.41	-0.03	0.47%
411	83.20	6.48	83.24	6.5	-0.02	0.31%
412	83.21	6.47	83.25	6.5	-0.03	0.46%
413	83.22	6.28	83.26	6.31	-0.03	0.48%
414	83.23	6.2	83.27	6.23	-0.03	0.48%
415	83.24	6.4	83.28	6.42	-0.02	0.31%
416	83.25	6.43	83.29	6.46	-0.03	0.46%
417	83.26	6.55	83.3	6.58	-0.03	0.46%
418	83.27	6.44	83.31	6.47	-0.03	0.46%
419	83.28	6.2	83.32	6.23	-0.03	0.48%
420	83.29	6.39	83.33	6.42	-0.03	0.47%
421	83.30	6.54	83.34	6.56	-0.02	0.30%
422	83.31	6.43	83.35	6.46	-0.03	0.46%
423	83.32	6.43	83.36	6.46	-0.03	0.46%
424	83.33	6.45	83.37	6.48	-0.03	0.46%
425	83.34	6.39	83.38	6.42	-0.03	0.47%
426	83.35	6.36	83.39	6.39	-0.03	0.47%
427	83.36	6.5	83.4	6.53	-0.03	0.46%
428	83.37	6.44	83.41	6.47	-0.03	0.46%
429	83.38	6.49	83.42	6.52	-0.03	0.46%
430	83.39	6.27	83.43	6.3	-0.03	0.48%
431	83.40	6.28	83.44	6.3	-0.02	0.32%
432	83.41	6.5	83.45	6.52	-0.02	0.31%
433	83.42	6.44	83.46	6.47	-0.03	0.46%
434	83.43	6.49	83.47	6.51	-0.02	0.31%
435	83.44	6.44	83.48	6.47	-0.03	0.46%
436	83.45	6.5	83.49	6.52	-0.02	0.31%
437	83.46	6.39	83.51	6.42	-0.03	0.47%
438	83.47	6.44	83.52	6.47	-0.03	0.46%
439	83.48	6.66	83.53	6.68	-0.02	0.30%
440	83.49	6.58	83.54	6.61	-0.03	0.45%
441	83.50	6.34	83.55	6.36	-0.02	0.31%
442	83.50	6.33	83.56	6.36	-0.03	0.47%

443	83.51	6.56	83.57	6.59	-0.03	0.46%
444	83.52	6.63	83.58	6.65	-0.02	0.30%
445	83.53	6.49	83.59	6.52	-0.03	0.46%
446	83.54	6.42	83.6	6.45	-0.03	0.47%
447	83.55	6.52	83.61	6.54	-0.02	0.31%
448	83.56	6.5	83.62	6.53	-0.03	0.46%
449	83.57	6.49	83.63	6.52	-0.03	0.46%
450	83.58	6.46	83.64	6.49	-0.03	0.46%
451	83.59	6.45	83.65	6.48	-0.03	0.46%
452	83.60	6.57	83.66	6.59	-0.02	0.30%
453	83.61	6.59	83.67	6.62	-0.03	0.45%
454	83.62	6.42	83.68	6.45	-0.03	0.47%
455	83.63	6.23	83.69	6.25	-0.02	0.32%
456	83.64	6.47	83.7	6.5	-0.03	0.46%
457	83.65	6.65	83.71	6.68	-0.03	0.45%
458	83.66	6.53	83.72	6.56	-0.03	0.46%
459	83.67	6.37	83.73	6.4	-0.03	0.47%
460	83.68	6.51	83.74	6.54	-0.03	0.46%
461	83.69	6.48	83.75	6.51	-0.03	0.46%
462	83.70	6.46	83.76	6.49	-0.03	0.46%
463	83.71	6.54	83.77	6.56	-0.02	0.30%
464	83.72	6.51	83.78	6.54	-0.03	0.46%
465	83.73	6.46	83.79	6.49	-0.03	0.46%
466	83.74	6.49	83.8	6.52	-0.03	0.46%
467	83.75	6.49	83.81	6.51	-0.02	0.31%
468	83.76	6.59	83.82	6.62	-0.03	0.45%
469	83.77	6.58	83.83	6.61	-0.03	0.45%
470	83.78	6.58	83.84	6.61	-0.03	0.45%
471	83.79	6.49	83.85	6.52	-0.03	0.46%
472	83.80	6.39	83.86	6.41	-0.02	0.31%
473	83.81	6.48	83.87	6.51	-0.03	0.46%
474	83.82	6.68	83.88	6.7	-0.02	0.30%
475	83.83	7.46	83.89	7.49	-0.03	0.40%
476	83.84	8.12	83.9	8.16	-0.04	0.49%
477	83.85	7.79	83.91	7.82	-0.03	0.38%
478	83.86	7.29	83.92	7.31	-0.02	0.27%
479	83.87	7.79	83.93	7.82	-0.03	0.38%
480	83.88	7.68	83.94	7.7	-0.02	0.26%
481	83.89	7.49	83.95	7.52	-0.03	0.40%
482	83.90	7.54	83.96	7.57	-0.03	0.40%
483	83.91	7.73	83.97	7.75	-0.02	0.26%
484	83.92	7.75	83.98	7.78	-0.03	0.39%
485	83.93	7.62	83.99	7.64	-0.02	0.26%
486	83.94	7.56	84	7.59	-0.03	0.40%
487	83.95	7.74	84.01	7.77	-0.03	0.39%

488	83.96	7.67	84.03	7.69	-0.02	0.26%
489	83.97	7.6	84.04	7.63	-0.03	0.39%
490	83.98	7.62	84.05	7.64	-0.02	0.26%
491	83.99	7.63	84.06	7.66	-0.03	0.39%
492	84.00	7.63	84.08	7.66	-0.03	0.39%
	84.00	6.67		6.69		
493	84.01	7.56	84.09	7.59	-0.03	0.40%
494	84.03	7.84	84.1	7.86	-0.02	0.25%
495	84.04	8.1	84.12	8.13	-0.03	0.37%
496	84.05	7.46	84.13	7.49	-0.03	0.40%
497	84.07	7.67	84.14	7.69	-0.02	0.26%
498	84.08	7.84	84.15	7.87	-0.03	0.38%
499	84.09	7.38	84.17	7.41	-0.03	0.40%
500	84.11	7.73	84.18	7.75	-0.02	0.26%
501	84.12	7.55	84.19	7.57	-0.02	0.26%
502	84.13	7.6	84.21	7.62	-0.02	0.26%
503	84.15		84.22		exclude	exclude
504	84.16		84.23		exclude	exclude
505	84.17	7.53	84.24	7.56	-0.03	0.40%
506	84.19	7.53	84.26	7.55	-0.02	0.26%
507	84.20	7.61	84.27	7.63	-0.02	0.26%
508	84.21	7.58	84.28	7.61	-0.03	0.39%
509	84.23	7.29	84.29	7.31	-0.02	0.27%
510	84.24	7.58	84.31	7.61	-0.03	0.39%
511	84.25	7.76	84.32	7.79	-0.03	0.39%
512	84.27	7.53	84.33	7.55	-0.02	0.26%
513	84.28	7.62	84.35	7.65	-0.03	0.39%
514	84.29	7.49	84.36	7.51	-0.02	0.27%
515	84.31	7.54	84.37	7.57	-0.03	0.40%
516	84.32	7.64	84.38	7.67	-0.03	0.39%
517	84.33	7.77	84.4	7.8	-0.03	0.38%
518	84.35	7.8	84.41	7.83	-0.03	0.38%
519	84.36	7.32	84.42	7.34	-0.02	0.27%
520	84.37	7.51	84.44	7.54	-0.03	0.40%
521	84.39	7.72	84.45	7.75	-0.03	0.39%
522	84.40	7.57	84.46	7.6	-0.03	0.39%
523	84.41	7.48	84.47	7.5	-0.02	0.27%
524	84.43	7.58	84.49	7.61	-0.03	0.39%
525	84.44	7.39	84.5	7.41	-0.02	0.27%
526	84.45	7.49	84.51	7.51	-0.02	0.27%
527	84.47	7.64	84.53	7.67	-0.03	0.39%
528	84.48	7.66	84.54	7.68	-0.02	0.26%
529	84.49	7.59	84.55	7.62	-0.03	0.39%
530	84.51	7.48	84.56	7.51	-0.03	0.40%
531	84.52	7.46	84.58	7.49	-0.03	0.40%

532	84.53	7.47	84.59	7.49	-0.02	0.27%
533	84.55	7.59	84.6	7.62	-0.03	0.39%
534	84.56	7.68	84.62	7.71	-0.03	0.39%
535	84.57	7.69	84.63	7.72	-0.03	0.39%
536	84.59	7.28	84.64	7.31	-0.03	0.41%
537	84.60	7.3	84.65	7.33	-0.03	0.41%
538	84.61	7.56	84.67	7.59	-0.03	0.40%
539	84.63	7.53	84.68	7.56	-0.03	0.40%
540	84.64	7.38	84.69	7.41	-0.03	0.40%
541	84.65	7.42	84.71	7.45	-0.03	0.40%
542	84.67	7.31	84.72	7.34	-0.03	0.41%
543	84.68	7.47	84.73	7.5	-0.03	0.40%
544	84.69	7.59	84.74	7.62	-0.03	0.39%
545	84.71	7.53	84.76	7.56	-0.03	0.40%
546	84.72	7.6	84.77	7.62	-0.02	0.26%
547	84.73	7.36	84.78	7.38	-0.02	0.27%
548	84.75	7.49	84.79	7.52	-0.03	0.40%
549	84.76	7.83	84.81	7.86	-0.03	0.38%
550	84.77	7.69	84.82	7.71	-0.02	0.26%
551	84.79	7.35	84.83	7.38	-0.03	0.41%
552	84.80	7.17	84.85	7.19	-0.02	0.28%
553	84.81	7.5	84.86	7.53	-0.03	0.40%
554	84.83	7.57	84.87	7.6	-0.03	0.39%
555	84.84	7.77	84.88	7.79	-0.02	0.26%
556	84.85	7.54	84.9	7.57	-0.03	0.40%
557	84.87	7.59	84.91	7.62	-0.03	0.39%
558	84.88	7.57	84.92	7.59	-0.02	0.26%
559	84.89	7.15	84.94	7.17	-0.02	0.28%
560	84.91	7.54	84.95	7.57	-0.03	0.40%
561	84.92	7.71	84.96	7.74	-0.03	0.39%
562	84.93	7.6	84.97	7.62	-0.02	0.26%
563	84.95	7.7	84.99	7.73	-0.03	0.39%
564	84.96	7.4	85	7.42	-0.02	0.27%
565	84.97	7.38	85.02	7.4	-0.02	0.27%
566	84.99	7.35	85.05	7.38	-0.03	0.41%
567	85.00	7.32	85.07	7.35	-0.03	0.41%
	85.00	7.55		7.57		
568	85.02	7.74	85.1	7.76	-0.02	0.26%
569	85.05	7.76	85.12	7.8	-0.04	0.51%
570	85.07	7.46	85.14	7.48	-0.02	0.27%
571	85.09	7.45	85.17	7.48	-0.03	0.40%
572	85.11	7.46	85.19	7.49	-0.03	0.40%
573	85.14	7.48	85.21	7.51	-0.03	0.40%
574	85.16	7.38	85.24	7.41	-0.03	0.40%
575	85.18	7.37	85.26	7.4	-0.03	0.41%

576	85.20	7.39	85.29	7.41	-0.02	0.27%
577	85.23	7.42	85.31	7.44	-0.02	0.27%
578	85.25	7.49	85.33	7.52	-0.03	0.40%
579	85.27	7.41	85.36	7.44	-0.03	0.40%
580	85.30	7.74	85.38	7.76	-0.02	0.26%
581	85.32	7.89	85.4	7.92	-0.03	0.38%
582	85.34	8.37	85.43	8.4	-0.03	0.36%
583	85.36	8.33	85.45	8.36	-0.03	0.36%
584	85.39	8.17	85.48	8.19	-0.02	0.24%
585	85.41	8.01	85.5	8.05	-0.04	0.50%
586	85.43	7.91	85.52	7.94	-0.03	0.38%
587	85.45	8.08	85.55	8.1	-0.02	0.25%
588	85.48	8.37	85.57	8.4	-0.03	0.36%
589	85.50	8.15	85.6	8.17	-0.02	0.24%
590	85.52	8.21	85.62	8.23	-0.02	0.24%
591	85.55	8.11	85.64	8.14	-0.03	0.37%
592	85.57	8.13	85.67	8.16	-0.03	0.37%
593	85.59	8.2	85.69	8.23	-0.03	0.36%
594	85.61	8.22	85.71	8.25	-0.03	0.36%
595	85.64	8.23	85.74	8.26	-0.03	0.36%
596	85.66	8.19	85.76	8.21	-0.02	0.24%
597	85.68	8.09	85.79	8.13	-0.04	0.49%
598	85.70	8.19	85.81	8.22	-0.03	0.36%
599	85.73	8.27	85.83	8.3	-0.03	0.36%
600	85.75	8.15	85.86	8.17	-0.02	0.24%
601	85.77	8.04	85.88	8.06	-0.02	0.25%
602	85.80	8	85.9	8.03	-0.03	0.37%
603	85.82	8.31	85.93	8.34	-0.03	0.36%
604	85.84	8.15	85.95	8.17	-0.02	0.24%
605	85.86	8.33	85.98	8.36	-0.03	0.36%
606	85.89	8.21	86	8.24	-0.03	0.36%
607	85.91	8.3	86.02	8.31	-0.01	0.12%
608	85.93	8.21	86.05	8.24	-0.03	0.36%
609	85.95	8.1	86.07	8.13	-0.03	0.37%
610	85.98	8.13	86.1	8.16	-0.03	0.37%
611	86.00	8.18	86.12	8.21	-0.03	0.37%
	86.00	7.97		8.00		
612	86.03	8.22	86.14	8.25	-0.03	0.36%
613	86.05	8.18	86.17	8.21	-0.03	0.37%
614	86.08	8.24	86.19	8.27	-0.03	0.36%
615	86.10	8.03	86.21	8.06	-0.03	0.37%
616	86.13	7.86	86.24	7.88	-0.02	0.25%
617	86.15	7.96	86.26	7.98	-0.02	0.25%
618	86.18	8.23	86.29	8.26	-0.03	0.36%
619	86.20	8.29	86.31	8.33	-0.04	0.48%

620	86.23	8.06	86.33	8.09	-0.03	0.37%
621	86.25	8.14	86.36	8.17	-0.03	0.37%
622	86.28	8.3	86.38	8.32	-0.02	0.24%
623	86.30	8.31	86.4	8.34	-0.03	0.36%
624	86.33	8.26	86.43	8.29	-0.03	0.36%
625	86.35	8.39	86.45	8.41	-0.02	0.24%
626	86.38	8.24	86.48	8.26	-0.02	0.24%
627	86.40	8.09	86.5	8.12	-0.03	0.37%
628	86.43	8.17	86.52	8.2	-0.03	0.37%
629	86.45	8.19	86.55	8.21	-0.02	0.24%
630	86.48	8.3	86.57	8.33	-0.03	0.36%
631	86.50	8.02	86.6	8.05	-0.03	0.37%
632	86.53	8.22	86.62	8.25	-0.03	0.36%
633	86.55	8.28	86.64	8.3	-0.02	0.24%
634	86.58	8.51	86.67	8.53	-0.02	0.23%
635	86.60	8.36	86.69	8.38	-0.02	0.24%
636	86.63	8.24	86.71	8.27	-0.03	0.36%
637	86.65	8.28	86.74	8.31	-0.03	0.36%
638	86.68	8.45	86.76	8.48	-0.03	0.35%
639	86.70	8.32	86.79	8.35	-0.03	0.36%
640	86.73	8.4	86.81	8.42	-0.02	0.24%
641	86.75	8.11	86.83	8.13	-0.02	0.25%
642	86.78	7.95	86.86	7.97	-0.02	0.25%
643	86.80	7.97	86.88	8	-0.03	0.38%
644	86.83	8.17	86.9	8.2	-0.03	0.37%
645	86.85	8.3	86.93	8.33	-0.03	0.36%
646	86.88	8.56	86.95	8.59	-0.03	0.35%
647	86.90	8.3	86.98	8.33	-0.03	0.36%
648	86.93	8.23	87	8.26	-0.03	0.36%
649	86.95	8.31	87.01	8.34	-0.03	0.36%
650	86.98	8.39	87.03	8.41	-0.02	0.24%
651	87.00	8.39	87.04	8.41	-0.02	0.24%
	87.00	8.23		8.26		
652	87.01	8.48	87.06	8.51	-0.03	0.35%
653	87.03	8.35	87.07	8.37	-0.02	0.24%
654	87.04	8.35	87.09	8.37	-0.02	0.24%
655	87.06	8.08	87.1	8.11	-0.03	0.37%
656	87.07	8.21	87.12	8.24	-0.03	0.36%
657	87.08	8.29	87.13	8.32	-0.03	0.36%
658	87.10	8.53	87.15	8.56	-0.03	0.35%
659	87.11	8.55	87.16	8.57	-0.02	0.23%
660	87.13	8.07	87.18	8.1	-0.03	0.37%
661	87.14	8.23	87.19	8.26	-0.03	0.36%
662	87.15	8.15	87.21	8.18	-0.03	0.37%
663	87.17	8.28	87.22	8.31	-0.03	0.36%

664	87.18	8.39	87.24	8.42	-0.03	0.36%
665	87.20	8.09	87.25	8.11	-0.02	0.25%
666	87.21	8.19	87.26	8.22	-0.03	0.36%
667	87.23	8.54	87.28	8.57	-0.03	0.35%
668	87.24	8.4	87.29	8.43	-0.03	0.36%
669	87.25	8.23	87.31	8.26	-0.03	0.36%
670	87.27	8.29	87.32	8.31	-0.02	0.24%
671	87.28	8.34	87.34	8.37	-0.03	0.36%
672	87.30	8.3	87.35	8.33	-0.03	0.36%
673	87.31	8.24	87.37	8.27	-0.03	0.36%
674	87.32	8.38	87.38	8.4	-0.02	0.24%
675	87.34	8.36	87.4	8.38	-0.02	0.24%
676	87.35	8.2	87.41	8.23	-0.03	0.36%
677	87.37	8.23	87.43	8.26	-0.03	0.36%
678	87.38	8.4	87.44	8.42	-0.02	0.24%
679	87.39	8.47	87.46	8.5	-0.03	0.35%
680	87.41	8.43	87.47	8.46	-0.03	0.35%
681	87.42	8.28	87.49	8.31	-0.03	0.36%
682	87.44	8.28	87.5	8.3	-0.02	0.24%
683	87.45	8.29	87.51	8.32	-0.03	0.36%
684	87.46	8.49	87.53	8.52	-0.03	0.35%
685	87.48	8.36	87.54	8.39	-0.03	0.36%
686	87.49	8.3	87.56	8.33	-0.03	0.36%
687	87.51	8.19	87.57	8.21	-0.02	0.24%
688	87.52	8.34	87.59	8.37	-0.03	0.36%
689	87.54	8.48	87.6	8.51	-0.03	0.35%
690	87.55	8.48	87.62	8.52	-0.04	0.47%
691	87.56	8.14	87.63	8.17	-0.03	0.37%
692	87.58	8.41	87.65	8.43	-0.02	0.24%
693	87.59	8.25	87.66	8.27	-0.02	0.24%
694	87.61	8.54	87.68	8.56	-0.02	0.23%
695	87.62	8.62	87.69	8.65	-0.03	0.35%
696	87.63	8.38	87.71	8.4	-0.02	0.24%
697	87.65	8.63	87.72	8.65	-0.02	0.23%
698	87.66	8.56	87.74	8.59	-0.03	0.35%
699	87.68	8.33	87.75	8.36	-0.03	0.36%
700	87.69	8.39	87.76	8.41	-0.02	0.24%
701	87.70	8.16	87.78	8.18	-0.02	0.24%
702	87.72	8.35	87.79	8.38	-0.03	0.36%
703	87.73	8.25	87.81	8.28	-0.03	0.36%
704	87.75	8.37	87.82	8.39	-0.02	0.24%
705	87.76	8.46	87.84	8.49	-0.03	0.35%
706	87.77	8.32	87.85	8.35	-0.03	0.36%
707	87.79	8.47	87.87	8.5	-0.03	0.35%
708	87.80	8.31	87.88	8.33	-0.02	0.24%

709	87.82	8.42	87.9	8.45	-0.03	0.36%
710	87.83	8.5	87.91	8.53	-0.03	0.35%
711	87.85	8.22	87.93	8.24	-0.02	0.24%
712	87.86	8.44	87.94	8.46	-0.02	0.24%
713	87.87	8.33	87.96	8.36	-0.03	0.36%
714	87.89	8.66	87.97	8.68	-0.02	0.23%
715	87.90	8.61	87.99	8.63	-0.02	0.23%
716	87.92	8.26	88	8.29	-0.03	0.36%
717	87.93	8.36	88.02	8.39	-0.03	0.36%
718	87.94	8.63	88.03	8.65	-0.02	0.23%
719	87.96	8.51	88.05	8.54	-0.03	0.35%
720	87.97	8.66	88.06	8.69	-0.03	0.35%
721	87.99	8.55	88.08	8.58	-0.03	0.35%
722	88.00	8.67	88.1	8.69	-0.02	0.23%

	88.00	8.37		8.40		
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723	88.02	8.35	88.11	8.38	-0.03	0.36%
724	88.03	8.52	88.13	8.55	-0.03	0.35%
725	88.05	8.51	88.14	8.54	-0.03	0.35%
726	88.06	8.56	88.16	8.58	-0.02	0.23%
727	88.08	8.46	88.17	8.49	-0.03	0.35%
728	88.09	8.52	88.19	8.55	-0.03	0.35%
729	88.11	8.57	88.21	8.6	-0.03	0.35%
730	88.12	8.35	88.22	8.38	-0.03	0.36%
731	88.14	8.5	88.24	8.53	-0.03	0.35%
732	88.15	8.58	88.25	8.61	-0.03	0.35%
733	88.17	8.32	88.27	8.34	-0.02	0.24%
734	88.18	8.43	88.29	8.46	-0.03	0.35%
735	88.20	8.63	88.3	8.66	-0.03	0.35%
736	88.22	8.71	88.32	8.72	-0.01	0.11%
737	88.23	8.72	88.33	8.75	-0.03	0.34%
738	88.25	8.37	88.35	8.4	-0.03	0.36%
739	88.26	8.46	88.37	8.49	-0.03	0.35%
740	88.28	8.56	88.38	8.59	-0.03	0.35%
741	88.29	8.62	88.4	8.65	-0.03	0.35%
742	88.31	8.39	88.41	8.41	-0.02	0.24%
743	88.32	8.16	88.43	8.19	-0.03	0.37%
744	88.34	8.41	88.44	8.44	-0.03	0.36%
745	88.35	8.64	88.46	8.66	-0.02	0.23%
746	88.37	8.51	88.48	8.54	-0.03	0.35%
747	88.38	8.46	88.49	8.49	-0.03	0.35%
748	88.40	8.35	88.51	8.37	-0.02	0.24%
749	88.42	8.37	88.52	8.4	-0.03	0.36%
750	88.43	8.55	88.54	8.57	-0.02	0.23%
751	88.45	8.54	88.56	8.57	-0.03	0.35%
752	88.46	8.49	88.57	8.52	-0.03	0.35%

753	88.48	8.36	88.59	8.39	-0.03	0.36%
754	88.49	8.38	88.6	8.4	-0.02	0.24%
755	88.51	8.45	88.62	8.47	-0.02	0.24%
756	88.52	8.47	88.63	8.5	-0.03	0.35%
757	88.54	8.11	88.65	8.14	-0.03	0.37%
758	88.55	8.54	88.67	8.57	-0.03	0.35%
759	88.57	8.64	88.68	8.66	-0.02	0.23%
760	88.58	8.55	88.7	8.58	-0.03	0.35%
761	88.60	8.36	88.71	8.38	-0.02	0.24%
762	88.62	8.05	88.73	8.07	-0.02	0.25%
763	88.63	8.37	88.75	8.4	-0.03	0.36%
764	88.65	8.36	88.76	8.39	-0.03	0.36%
765	88.66	8.55	88.78	8.58	-0.03	0.35%
766	88.68	8.27	88.79	8.3	-0.03	0.36%
767	88.69	8.34	88.81	8.37	-0.03	0.36%
768	88.71	8.53	88.83	8.56	-0.03	0.35%
769	88.72	8.53	88.84	8.56	-0.03	0.35%
770	88.74	8.22	88.86	8.24	-0.02	0.24%
771	88.75	8.16	88.87	8.18	-0.02	0.24%
772	88.77	8.63	88.89	8.66	-0.03	0.35%
773	88.78	8.34	88.9	8.37	-0.03	0.36%
774	88.80	8.34	88.92	8.36	-0.02	0.24%
775	88.82	8.15	88.94	8.17	-0.02	0.24%
776	88.83	8.33	88.95	8.36	-0.03	0.36%
777	88.85	8.35	88.97	8.38	-0.03	0.36%
778	88.86	8.5	88.98	8.52	-0.02	0.23%
779	88.88	8.6	89	8.63	-0.03	0.35%
780	88.89	8.13	89.01	8.16	-0.03	0.37%
781	88.91	8.21	89.03	8.23	-0.02	0.24%
782	88.92	8.3	89.04	8.33	-0.03	0.36%
783	88.94	8.55	89.06	8.58	-0.03	0.35%
784	88.95	8.28	89.07	8.31	-0.03	0.36%
785	88.97	8.23	89.08	8.26	-0.03	0.36%
786	88.98	2.73			exclude	exclude
787	89.00	4.49	89.1	8.42	exclude	exclude
	89.00	8.43		8.45		
788	89.01	3.46	89.11	8.32	exclude	exclude
789	89.03	8.2	89.13	8.23	-0.03	0.36%
790	89.04	8.26	89.14	8.28	-0.02	0.24%
791	89.06	8.49	89.15	8.52	-0.03	0.35%
792	89.07	8.15	89.17	8.18	-0.03	0.37%
793	89.08	8.3	89.18	8.33	-0.03	0.36%
794	89.10	8.51	89.2	8.54	-0.03	0.35%
795	89.11	8.48	89.21	8.5	-0.02	0.24%
796	89.13	8.54	89.23	8.57	-0.03	0.35%

797	89.14	8.29	89.24	8.32	-0.03	0.36%
798	89.15	8.7	89.25	8.72	-0.02	0.23%
799	89.17	8.11	89.27	8.14	-0.03	0.37%
800	89.18	8.26	89.28	8.28	-0.02	0.24%
801	89.20	8.7	89.3	8.73	-0.03	0.34%
802	89.21	8.58	89.31	8.6	-0.02	0.23%
803	89.23	8.47	89.32	8.49	-0.02	0.24%
804	89.24	8.63	89.34	8.66	-0.03	0.35%
805	89.25	8.62	89.35	8.64	-0.02	0.23%
806	89.27	8.31	89.37	8.34	-0.03	0.36%
807	89.28	8.45	89.38	8.48	-0.03	0.35%
808	89.30	8.49	89.39	8.52	-0.03	0.35%
809	89.31	8.51	89.41	8.54	-0.03	0.35%
810	89.32	8.43	89.42	8.46	-0.03	0.35%
811	89.34	8.23	89.44	8.26	-0.03	0.36%
812	89.35	8.26	89.45	8.29	-0.03	0.36%
813	89.37	8.48	89.46	8.5	-0.02	0.24%
814	89.38	8.33	89.48	8.36	-0.03	0.36%
815	89.39	8.52	89.49	8.55	-0.03	0.35%
816	89.41	8.37	89.51	8.4	-0.03	0.36%
817	89.42	8.28	89.52	8.3	-0.02	0.24%
818	89.44	8.46	89.54	8.49	-0.03	0.35%
819	89.45	8.65	89.55	8.68	-0.03	0.35%
820	89.46	8.5	89.56	8.52	-0.02	0.23%
821	89.48	8.13	89.58	8.16	-0.03	0.37%
822	89.49	8.47	89.59	8.5	-0.03	0.35%
823	89.51	8.46	89.61	8.49	-0.03	0.35%
824	89.52	8.65	89.62	8.68	-0.03	0.35%
825	89.54	8.4	89.63	8.43	-0.03	0.36%
826	89.55	8.3	89.65	8.33	-0.03	0.36%
827	89.56	8.48	89.66	8.51	-0.03	0.35%
828	89.58	8.52	89.68	8.55	-0.03	0.35%
829	89.59	8.66	89.69	8.69	-0.03	0.35%
830	89.61	8.17	89.7	8.2	-0.03	0.37%
831	89.62	8.44	89.72	8.47	-0.03	0.35%
832	89.63	8.56	89.73	8.59	-0.03	0.35%
833	89.65	8.31	89.75	8.34	-0.03	0.36%
834	89.66	8.4	89.76	8.42	-0.02	0.24%
835	89.68	8.6	89.77	8.63	-0.03	0.35%
836	89.69	8.72	89.79	8.75	-0.03	0.34%
837	89.70	8.38	89.8	8.41	-0.03	0.36%
838	89.72	8.6	89.82	8.62	-0.02	0.23%
839	89.73	8.79	89.83	8.82	-0.03	0.34%
840	89.75	8.41	89.85	8.43	-0.02	0.24%
841	89.76	8.61	89.86	8.63	-0.02	0.23%

842	89.77	8.23	89.87	8.26	-0.03	0.36%
843	89.79	8.67	89.89	8.69	-0.02	0.23%
844	89.80	8.58	89.9	8.61	-0.03	0.35%
845	89.82	8.53	89.92	8.56	-0.03	0.35%
846	89.83	8.41	89.93	8.44	-0.03	0.36%
847	89.85	8.67	89.94	8.69	-0.02	0.23%
848	89.86	8.54	89.96	8.58	-0.04	0.47%
849	89.87	8.58	89.97	8.6	-0.02	0.23%
850	89.89	8.49	89.99	8.52	-0.03	0.35%
851	89.90	8.43	90	8.46	-0.03	0.35%
852	89.92	8.57	90.01	8.6	-0.03	0.35%
853	89.93	8.41	90.02	8.44	-0.03	0.36%
854	89.94	8.7	90.03	8.72	-0.02	0.23%
855	89.96	8.82	90.04	8.85	-0.03	0.34%
856	89.97	8.71	90.06	8.74	-0.03	0.34%
857	89.99	8.48	90.07	8.52	-0.04	0.47%
858	90.00	8.38	90.08	8.41	-0.03	0.36%

90.00 8.47 8.50

859	90.00	8.59	90.09	8.62	-0.03	0.35%
860	90.01	8.71	90.1	8.74	-0.03	0.34%
861	90.01	8.61	90.11	8.64	-0.03	0.35%
862	90.02				exclude	exclude
863	90.02		90.12		exclude	exclude
864	90.02	8.71	90.13	8.74	-0.03	0.34%
865	90.03	8.65	90.14	8.68	-0.03	0.35%
866	90.03	8.89	90.16	8.91	-0.02	0.22%
867	90.03	8.82	90.17	8.85	-0.03	0.34%
868	90.04	8.86	90.18	8.88	-0.02	0.23%
869	90.04	8.97	90.19	9	-0.03	0.33%
870	90.05	8.74	90.2	8.76	-0.02	0.23%
871	90.05	8.81	90.21	8.84	-0.03	0.34%
872	90.05	8.74	90.22	8.75	-0.01	0.11%
873	90.06	8.81	90.23	8.83	-0.02	0.23%
874	90.06	8.64	90.24	8.66	-0.02	0.23%
875	90.06	8.81	90.26	8.84	-0.03	0.34%
876	90.07	8.72	90.27	8.75	-0.03	0.34%
877	90.07	8.68	90.28	8.71	-0.03	0.34%
878	90.08	8.88	90.29	8.9	-0.02	0.22%
879	90.08	8.94	90.3	8.97	-0.03	0.33%
880	90.08	8.66	90.31	8.68	-0.02	0.23%
881	90.09	8.66	90.32	8.69	-0.03	0.35%
882	90.09	8.61	90.33	8.63	-0.02	0.23%
883	90.10	8.96	90.34	8.99	-0.03	0.33%
884	90.10	8.77	90.36	8.8	-0.03	0.34%
885	90.10	8.62	90.37	8.65	-0.03	0.35%

886	90.11	8.62	90.38	8.65	-0.03	0.35%
887	90.11	7.41	90.39	7.44	-0.03	0.40%
888	90.11	7.28	90.4	7.3	-0.02	0.27%
889	90.12	7.74	90.41	7.76	-0.02	0.26%
890	90.12	7.85	90.42	7.88	-0.03	0.38%
891	90.13	7.87	90.43	7.9	-0.03	0.38%
892	90.13	7.9	90.44	7.92	-0.02	0.25%
893	90.13	8.07	90.46	8.09	-0.02	0.25%
894	90.14	7.97	90.47	8	-0.03	0.38%
895	90.14	7.93	90.48	7.95	-0.02	0.25%
896	90.15	7.73	90.49	7.76	-0.03	0.39%
897	90.15	7.82	90.5	7.86	-0.04	0.51%
898	90.15	7.89	90.51	7.92	-0.03	0.38%
899	90.16	7.78	90.52	7.81	-0.03	0.38%
900	90.16	7.59	90.53	7.62	-0.03	0.39%
901	90.16	7.67	90.54	7.7	-0.03	0.39%
902	90.17	8.02	90.56	8.04	-0.02	0.25%
903	90.17	7.81	90.57	7.84	-0.03	0.38%
904	90.18	7.59	90.58	7.62	-0.03	0.39%
905	90.18	7.87	90.59	7.9	-0.03	0.38%
906	90.18	8.29	90.6	8.32	-0.03	0.36%
907	90.19	7.86	90.61	7.9	-0.04	0.51%
908	90.19	7.57	90.62	7.59	-0.02	0.26%
909	90.19	7.6	90.63	7.62	-0.02	0.26%
910	90.20	7.9	90.64	7.93	-0.03	0.38%
911	90.20	7.87	90.66	7.9	-0.03	0.38%
912	90.21	7.86	90.67	7.9	-0.04	0.51%
913	90.21	7.86	90.68	7.88	-0.02	0.25%
914	90.21	7.99	90.69	8.01	-0.02	0.25%
915	90.22	8.37	90.7	8.39	-0.02	0.24%
916	90.22	7.82	90.71	7.85	-0.03	0.38%
917	90.23	7.73	90.72	7.76	-0.03	0.39%
918	90.23	7.8	90.73	7.83	-0.03	0.38%
919	90.23	7.6	90.74	7.62	-0.02	0.26%
920	90.24	8.18	90.76	8.21	-0.03	0.37%
921	90.24	8.41	90.77	8.44	-0.03	0.36%
922	90.24	7.84	90.78	7.86	-0.02	0.25%
923	90.25	7.66	90.79	7.68	-0.02	0.26%
924	90.25	7.7	90.8	7.72	-0.02	0.26%
925	90.26	7.75	90.81	7.78	-0.03	0.39%
926	90.26	8.18	90.82	8.21	-0.03	0.37%
927	90.26	8.12	90.83	8.14	-0.02	0.25%
928	90.27	7.99	90.84	8.01	-0.02	0.25%
929	90.27	7.91	90.86	7.94	-0.03	0.38%
930	90.27	7.87	90.87	7.9	-0.03	0.38%

931	90.28	8.19	90.88	8.22	-0.03	0.36%
932	90.28	8.08	90.89	8.1	-0.02	0.25%
933	90.29	7.92	90.9	7.94	-0.02	0.25%
934	90.29	7.95	90.91	7.98	-0.03	0.38%
935	90.29	8.07	90.92	8.1	-0.03	0.37%
936	90.30	7.69	90.93	7.72	-0.03	0.39%
937	90.30	7.83	90.94	7.86	-0.03	0.38%
938	90.31	8.27	90.96	8.3	-0.03	0.36%
939	90.31	8.3	90.97	8.33	-0.03	0.36%
940	90.31	7.66	90.98	7.69	-0.03	0.39%
941	90.32	7.63	90.99	7.66	-0.03	0.39%
942	90.32	7.92	91	7.95	-0.03	0.38%

	91.00	8.15		8.18		
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943	90.32	8.2	91.01	8.24	-0.04	0.49%
944	90.33	7.84	91.01	7.87	-0.03	0.38%
945	90.33	7.86	91.02	7.88	-0.02	0.25%
946	90.34	8.07	91.02	8.09	-0.02	0.25%
947	90.34	7.92	91.03	7.95	-0.03	0.38%
948	90.34	8.23	91.04	8.25	-0.02	0.24%
949	90.35	7.6	91.04	7.63	-0.03	0.39%
950	90.35	7.6	91.05	7.62	-0.02	0.26%
951	90.35	7.83	91.05	7.86	-0.03	0.38%
952	90.36	7.95	91.06	7.97	-0.02	0.25%
953	90.36	6.56	91.07	6.59	-0.03	0.46%
954	90.37	6.59	91.07	6.61	-0.02	0.30%
955	90.37	6.88	91.08	6.92	-0.04	0.58%
956	90.37	6.97	91.08	7	-0.03	0.43%
957	90.38	6.99	91.09	7.02	-0.03	0.43%
958	90.38	6.67	91.1	6.7	-0.03	0.45%
959	90.39	7.05	91.1	7.08	-0.03	0.42%
960	90.39	6.91	91.11	6.94	-0.03	0.43%
961	90.39	6.78	91.11	6.81	-0.03	0.44%
962	90.40	6.99	91.12	7.02	-0.03	0.43%
963	90.40	6.87	91.13	6.9	-0.03	0.43%
964	90.40	7.02	91.13	7.05	-0.03	0.43%
965	90.41	7.19	91.14	7.22	-0.03	0.42%
966	90.41	6.88	91.14	6.91	-0.03	0.43%
967	90.42	6.98	91.15	7	-0.02	0.29%
968	90.42	6.83	91.15	6.86	-0.03	0.44%
969	90.42	6.94	91.16	6.97	-0.03	0.43%
970	90.43	6.84	91.17	6.87	-0.03	0.44%
971	90.43	7.02	91.17	7.05	-0.03	0.43%
972	90.44	6.99	91.18	7.02	-0.03	0.43%
973	90.44	6.75	91.18	6.78	-0.03	0.44%
974	90.44	7.04	91.19	7.06	-0.02	0.28%

975	90.45	7.14	91.2	7.17	-0.03	0.42%
976	90.45	7.13	91.2	7.15	-0.02	0.28%
977	90.45	6.99	91.21	7.02	-0.03	0.43%
978	90.46	7.08	91.21	7.11	-0.03	0.42%
979	90.46	6.98	91.22	7	-0.02	0.29%
980	90.47	7.11	91.23	7.13	-0.02	0.28%
981	90.47	7.01	91.23	7.04	-0.03	0.43%
982	90.47	7.16	91.24	7.19	-0.03	0.42%
983	90.48	7.05	91.24	7.07	-0.02	0.28%
984	90.48	7.13	91.25	7.16	-0.03	0.42%
985	90.48	6.86	91.26	6.88	-0.02	0.29%
986	90.49	6.97	91.26	7	-0.03	0.43%
987	90.49	7.01	91.27	7.04	-0.03	0.43%
988	90.50	7.03	91.27	7.06	-0.03	0.42%
989	90.50	6.97	91.28	7	-0.03	0.43%
990	90.50	6.99	91.29	7.01	-0.02	0.29%
991	90.51	6.97	91.29	7	-0.03	0.43%
992	90.51	6.87	91.3	6.89	-0.02	0.29%
993	90.52	6.8	91.3	6.82	-0.02	0.29%
994	90.52	7.01	91.31	7.04	-0.03	0.43%
995	90.52	7.07	91.32	7.09	-0.02	0.28%
996	90.53	7.1	91.32	7.12	-0.02	0.28%
997	90.53	7.07	91.33	7.11	-0.04	0.56%
998	90.53	7.06	91.33	7.09	-0.03	0.42%
999	90.54	7.1	91.34	7.13	-0.03	0.42%
1000	90.54	7.03	91.35	7.07	-0.04	0.57%
1001	90.55	6.92	91.35	6.94	-0.02	0.29%
1002	90.55	6.86	91.36	6.89	-0.03	0.44%
1003	90.55	6.95	91.36	6.98	-0.03	0.43%
1004	90.56	6.79	91.37	6.82	-0.03	0.44%
1005	90.56	6.92	91.38	6.94	-0.02	0.29%
1006	90.56	6.89	91.38	6.92	-0.03	0.43%
1007	90.57	6.79	91.39	6.81	-0.02	0.29%
1008	90.57	6.76	91.39	6.79	-0.03	0.44%
1009	90.58	6.99	91.4	7.01	-0.02	0.29%
1010	90.58	7.04	91.4	7.07	-0.03	0.42%
1011	90.58	6.93	91.41	6.95	-0.02	0.29%
1012	90.59	7.04	91.42	7.06	-0.02	0.28%
1013	90.59	6.9	91.42	6.93	-0.03	0.43%
1014	90.60	6.8	91.43	6.83	-0.03	0.44%
1015	90.60	6.92	91.43	6.95	-0.03	0.43%
1016	90.60	6.86	91.44	6.89	-0.03	0.44%
1017	90.61	6.76	91.45	6.79	-0.03	0.44%
1018	90.61	6.93	91.45	6.96	-0.03	0.43%
1019	90.61	7.04	91.46	7.07	-0.03	0.42%

1020	90.62	6.89	91.46	6.91	-0.02	0.29%
1021	90.62	7	91.47	7.03	-0.03	0.43%
1022	90.63	6.95	91.48	6.98	-0.03	0.43%
1023	90.63	7.11	91.48	7.13	-0.02	0.28%
1024	90.63	6.94	91.49	6.96	-0.02	0.29%
1025	90.64	7.06	91.49	7.09	-0.03	0.42%
1026	90.64	7.06	91.5	7.08	-0.02	0.28%
1027	90.65	6.97	91.51	6.99	-0.02	0.29%
1028	90.65	6.88	91.51	6.91	-0.03	0.43%
1029	90.65	6.88	91.52	6.91	-0.03	0.43%
1030	90.66	7.04	91.52	7.07	-0.03	0.42%
1031	90.66	6.99	91.53	7.01	-0.02	0.29%
1032	90.66	6.9	91.54	6.93	-0.03	0.43%
1033	90.67	7.01	91.54	7.03	-0.02	0.28%
1034	90.67	6.91	91.55	6.94	-0.03	0.43%
1035	90.68	6.91	91.55	6.94	-0.03	0.43%
1036	90.68	7.04	91.56	7.07	-0.03	0.42%
1037	90.68	6.91	91.57	6.94	-0.03	0.43%
1038	90.69	6.81	91.57	6.83	-0.02	0.29%
1039	90.69	6.97	91.58	7	-0.03	0.43%
1040	90.69	6.9	91.58	6.93	-0.03	0.43%
1041	90.70	6.94	91.59	6.96	-0.02	0.29%
1042	90.70	6.95	91.6	6.98	-0.03	0.43%
1043	90.71	6.99	91.6	7.02	-0.03	0.43%
1044	90.71	6.57	91.61	6.6	-0.03	0.45%
1045	90.71	6.8	91.61	6.83	-0.03	0.44%
1046	90.72	7	91.62	7.02	-0.02	0.28%
1047	90.72	6.89	91.63	6.92	-0.03	0.43%
1048	90.73	6.77	91.63	6.79	-0.02	0.29%
1049	90.73	6.88	91.64	6.92	-0.04	0.58%
1050	90.73	6.96	91.64	6.99	-0.03	0.43%
1051	90.74	6.74	91.65	6.77	-0.03	0.44%
1052	90.74	6.88	91.65	6.91	-0.03	0.43%
1053	90.74	6.78	91.66	6.8	-0.02	0.29%
1054	90.75	6.74	91.67	6.77	-0.03	0.44%
1055	90.75	6.74	91.67	6.77	-0.03	0.44%
1056	90.76	6.95	91.68	6.98	-0.03	0.43%
1057	90.76	6.85	91.68	6.87	-0.02	0.29%
1058	90.76	6.99	91.69	7.02	-0.03	0.43%
1059	90.77	7.03	91.7	7.05	-0.02	0.28%
1060	90.77	6.86	91.7	6.89	-0.03	0.44%
1061	90.77	6.92	91.71	6.95	-0.03	0.43%
1062	90.78	6.89	91.71	6.92	-0.03	0.43%
1063	90.78	7.04	91.72	7.06	-0.02	0.28%
1064	90.79	6.88	91.73	6.9	-0.02	0.29%

1065	90.79	7.06	91.73	7.08	-0.02	0.28%
1066	90.79	6.84	91.74	6.87	-0.03	0.44%
1067	90.80	6.9	91.74	6.92	-0.02	0.29%
1068	90.80	7.23	91.75	7.25	-0.02	0.28%
1069	90.81	7.24	91.76	7.27	-0.03	0.41%
1070	90.81	6.74	91.76	6.77	-0.03	0.44%
1071	90.81	6.87	91.77	6.9	-0.03	0.43%
1072	90.82	6.86	91.77	6.89	-0.03	0.44%
1073	90.82	6.93	91.78	6.95	-0.02	0.29%
1074	90.82	6.85	91.79	6.88	-0.03	0.44%
1075	90.83	6.76	91.79	6.79	-0.03	0.44%
1076	90.83	6.78	91.8	6.8	-0.02	0.29%
1077	90.84	6.95	91.8	6.97	-0.02	0.29%
1078	90.84	6.79	91.81	6.82	-0.03	0.44%
1079	90.84	6.72	91.82	6.75	-0.03	0.44%
1080	90.85	6.83	91.82	6.85	-0.02	0.29%
1081	90.85	6.88	91.83	6.91	-0.03	0.43%
1082	90.85	6.83	91.83	6.86	-0.03	0.44%
1083	90.86	6.84	91.84	6.86	-0.02	0.29%
1084	90.86	6.82	91.85	6.84	-0.02	0.29%
1085	90.87	6.84	91.85	6.87	-0.03	0.44%
1086	90.87	6.87	91.86	6.91	-0.04	0.58%
1087	90.87	6.78	91.86	6.81	-0.03	0.44%
1088	90.88	6.87	91.87	6.91	-0.04	0.58%
1089	90.88	6.9	91.88	6.93	-0.03	0.43%
1090	90.89	6.91	91.88	6.94	-0.03	0.43%
1091	90.89	6.81	91.89	6.84	-0.03	0.44%
1092	90.89	6.8	91.89	6.82	-0.02	0.29%
1093	90.90	6.87	91.9	6.89	-0.02	0.29%
1094	90.90	6.76	91.9	6.79	-0.03	0.44%
1095	90.90	6.8	91.91	6.83	-0.03	0.44%
1096	90.91	6.91	91.92	6.94	-0.03	0.43%
1097	90.91	7.05	91.92	7.07	-0.02	0.28%
1098	90.92	6.91	91.93	6.93	-0.02	0.29%
1099	90.92	6.71	91.93	6.73	-0.02	0.30%
1100	90.92	6.56	91.94	6.59	-0.03	0.46%
1101	90.93	6.85	91.95	6.88	-0.03	0.44%
1102	90.93	6.93	91.95	6.95	-0.02	0.29%
1103	90.94	7.06	91.96	7.08	-0.02	0.28%
1104	90.94	6.77	91.96	6.8	-0.03	0.44%
1105	90.94	6.86	91.97	6.88	-0.02	0.29%
1106	90.95	6.94	91.98	6.96	-0.02	0.29%
1107	90.95	6.94	91.98	6.97	-0.03	0.43%
1108	90.95	6.98	91.99	7	-0.02	0.29%
1109	90.96	6.95	91.99	6.99	-0.04	0.57%

1110	90.96	6.95	92	6.98	-0.03	0.43%
	92.00	6.98		7.00		
1111	90.97	7.1	92.01	7.12	-0.02	0.28%
1112	90.97	6.89	92.01	6.92	-0.03	0.43%
1113	90.97	6.74	92.02	6.77	-0.03	0.44%
1114	90.98	6.77	92.02	6.79	-0.02	0.29%
1115	90.98	6.85	92.03	6.88	-0.03	0.44%
1116	90.98	7.02	92.04	7.04	-0.02	0.28%
1117	90.99	6.94	92.04	6.97	-0.03	0.43%
1118	90.99	6.77	92.05	6.8	-0.03	0.44%
1119	91.00	6.78	92.05	6.81	-0.03	0.44%
1120	91.00	6.65	92.06	6.68	-0.03	0.45%
1121	91.07	6.84	92.06	6.86	-0.02	0.29%
1122	91.13	7.11	92.07	7.13	-0.02	0.28%
1123	91.20	6.93	92.08	6.96	-0.03	0.43%
1124	91.27	6.91	92.08	6.94	-0.03	0.43%
1125	91.33	6.86	92.09	6.88	-0.02	0.29%
1126	91.40	6.7	92.09	6.73	-0.03	0.45%
1127	91.47	6.91	92.1	6.94	-0.03	0.43%
1128	91.53	7.1	92.11	7.12	-0.02	0.28%
1129	91.60	6.95	92.11	6.98	-0.03	0.43%
1130	91.67	6.81	92.12	6.84	-0.03	0.44%
1131	91.73	6.82	92.12	6.85	-0.03	0.44%
1132	91.80	6.85	92.13	6.88	-0.03	0.44%
1133	91.87	6.98	92.14	7.01	-0.03	0.43%
1134	91.93	6.76	92.14	6.78	-0.02	0.29%
1135	92.00	6.88	92.15	6.91	-0.03	0.43%
1136	92.01	6.88	92.15	6.91	-0.03	0.43%
1137	92.01	7.15	92.16	7.18	-0.03	0.42%
1138	92.02	6.95	92.16	6.98	-0.03	0.43%
1139	92.03	6.86	92.17	6.88	-0.02	0.29%
1140	92.03	6.97	92.18	7	-0.03	0.43%
1141	92.04	7.13	92.18	7.16	-0.03	0.42%
1142	92.05	7.12	92.19	7.14	-0.02	0.28%
1143	92.05	6.83	92.19	6.86	-0.03	0.44%
1144	92.06	7.04	92.2	7.06	-0.02	0.28%
1145	92.06	6.89	92.21	6.91	-0.02	0.29%
1146	92.07	6.86	92.21	6.88	-0.02	0.29%
1147	92.08	7.01	92.22	7.04	-0.03	0.43%
1148	92.08	7.2	92.22	7.23	-0.03	0.41%
1149	92.09	7.06	92.23	7.08	-0.02	0.28%
1150	92.10	6.88	92.24	6.91	-0.03	0.43%
1151	92.10	6.88	92.24	6.91	-0.03	0.43%
1152	92.11	6.8	92.25	6.82	-0.02	0.29%
1153	92.12	6.98	92.25	7	-0.02	0.29%

1154	92.12	6.86	92.26	6.88	-0.02	0.29%
1155	92.13	6.95	92.26	6.98	-0.03	0.43%
1156	92.14	6.64	92.27	6.67	-0.03	0.45%
1157	92.14	6.7	92.28	6.73	-0.03	0.45%
1158	92.15	6.76	92.28	6.78	-0.02	0.29%
1159	92.16	7.22	92.29	7.25	-0.03	0.41%
1160	92.16	7.12	92.29	7.15	-0.03	0.42%
1161	92.17	6.84	92.3	6.87	-0.03	0.44%
1162	92.18	6.85	92.31	6.87	-0.02	0.29%
1163	92.18	6.91	92.31	6.94	-0.03	0.43%
1164	92.19	6.89	92.32	6.92	-0.03	0.43%
1165	92.19	6.92	92.32	6.94	-0.02	0.29%
1166	92.20	7.05	92.33	7.08	-0.03	0.42%
1167	92.21	7.11	92.34	7.13	-0.02	0.28%
1168	92.21	6.71	92.34	6.74	-0.03	0.45%
1169	92.22	6.85	92.35	6.87	-0.02	0.29%
1170	92.23	7.08	92.35	7.11	-0.03	0.42%
1171	92.23	6.97	92.36	7	-0.03	0.43%
1172	92.24	7.09	92.36	7.12	-0.03	0.42%
1173	92.25	6.96	92.37	6.98	-0.02	0.29%
1174	92.25	6.86	92.38	6.89	-0.03	0.44%
1175	92.26	6.72	92.38	6.74	-0.02	0.30%
1176	92.27	7.02	92.39	7.05	-0.03	0.43%
1177	92.27	7.18	92.39	7.2	-0.02	0.28%
1178	92.28	6.92	92.4	6.95	-0.03	0.43%
1179	92.29	6.73	92.41	6.76	-0.03	0.44%
1180	92.29	6.8	92.41	6.82	-0.02	0.29%
1181	92.30	6.89	92.42	6.92	-0.03	0.43%
1182	92.31	7	92.42	7.02	-0.02	0.28%
1183	92.31	6.79	92.43	6.81	-0.02	0.29%
1184	92.32	6.72	92.44	6.74	-0.02	0.30%
1185	92.32	6.57	92.44	6.6	-0.03	0.45%
1186	92.33	6.72	92.45	6.75	-0.03	0.44%
1187	92.34	6.85	92.45	6.88	-0.03	0.44%
1188	92.34	6.76	92.46	6.79	-0.03	0.44%
1189	92.35	6.81	92.46	6.84	-0.03	0.44%
1190	92.36	6.77	92.47	6.79	-0.02	0.29%
1191	92.36	6.67	92.48	6.7	-0.03	0.45%
1192	92.37	6.97	92.48	7	-0.03	0.43%
1193	92.38	6.89	92.49	6.91	-0.02	0.29%
1194	92.38	6.88	92.49	6.91	-0.03	0.43%
1195	92.39	6.8	92.5	6.82	-0.02	0.29%
1196	92.40	6.78	92.51	6.81	-0.03	0.44%
1197	92.40	6.75	92.51	6.77	-0.02	0.30%
1198	92.41	6.83	92.52	6.86	-0.03	0.44%

1199	92.42	6.91	92.52	6.94	-0.03	0.43%
1200	92.42	7.08	92.53	7.11	-0.03	0.42%
1201	92.43	6.74	92.54	6.77	-0.03	0.44%
1202	92.44	6.92	92.54	6.95	-0.03	0.43%
1203	92.44	7.07	92.55	7.09	-0.02	0.28%
1204	92.45	7.02	92.55	7.05	-0.03	0.43%
1205	92.45	6.84	92.56	6.87	-0.03	0.44%
1206	92.46	6.87	92.56	6.9	-0.03	0.43%
1207	92.47	6.94	92.57	6.97	-0.03	0.43%
1208	92.47	6.81	92.58	6.84	-0.03	0.44%
1209	92.48	7.13	92.58	7.16	-0.03	0.42%
1210	92.49	6.96	92.59	6.99	-0.03	0.43%
1211	92.49	6.8	92.59	6.82	-0.02	0.29%
1212	92.50	6.9	92.6	6.93	-0.03	0.43%
1213	92.51	6.98	92.61	7	-0.02	0.29%
1214	92.51	6.65	92.61	6.68	-0.03	0.45%
1215	92.52	6.81	92.62	6.84	-0.03	0.44%
1216	92.53	6.91	92.62	6.94	-0.03	0.43%
1217	92.53	7.23	92.63	7.25	-0.02	0.28%
1218	92.54	6.93	92.64	6.95	-0.02	0.29%
1219	92.55	6.69	92.64	6.72	-0.03	0.45%
1220	92.55	6.79	92.65	6.82	-0.03	0.44%
1221	92.56	6.94	92.65	6.96	-0.02	0.29%
1222	92.56	7.03	92.66	7.05	-0.02	0.28%
1223	92.57	6.93	92.66	6.95	-0.02	0.29%
1224	92.58	7.11	92.67	7.13	-0.02	0.28%
1225	92.58	6.95	92.68	6.98	-0.03	0.43%
1226	92.59	6.7	92.68	6.72	-0.02	0.30%
1227	92.60	6.73	92.69	6.76	-0.03	0.44%
1228	92.60	6.89	92.69	6.93	-0.04	0.58%
1229	92.61	6.9	92.7	6.92	-0.02	0.29%
1230	92.62	6.87	92.71	6.9	-0.03	0.43%
1231	92.62	6.8	92.71	6.82	-0.02	0.29%
1232	92.63	6.81	92.72	6.84	-0.03	0.44%
1233	92.64	6.84	92.72	6.87	-0.03	0.44%
1234	92.64	6.87	92.73	6.89	-0.02	0.29%
1235	92.65	6.99	92.74	7.02	-0.03	0.43%
1236	92.66	7.06	92.74	7.09	-0.03	0.42%
1237	92.66	6.99	92.75	7.02	-0.03	0.43%
1238	92.67	6.88	92.75	6.91	-0.03	0.43%
1239	92.68	6.89	92.76	6.92	-0.03	0.43%
1240	92.68	6.96	92.76	6.99	-0.03	0.43%
1241	92.69	7.07	92.77	7.1	-0.03	0.42%
1242	92.69	6.84	92.78	6.87	-0.03	0.44%
1243	92.70	6.91	92.78	6.94	-0.03	0.43%

1244	92.71	6.97	92.79	7	-0.03	0.43%
1245	92.71	7.14	92.79	7.17	-0.03	0.42%
1246	92.72	6.85	92.8	6.88	-0.03	0.44%
1247	92.73	6.87	92.81	6.89	-0.02	0.29%
1248	92.73	7.02	92.81	7.05	-0.03	0.43%
1249	92.74	7.12	92.82	7.15	-0.03	0.42%
1250	92.75	6.71	92.82	6.73	-0.02	0.30%
1251	92.75	6.81	92.83	6.83	-0.02	0.29%
1252	92.76	6.73	92.84	6.76	-0.03	0.44%
1253	92.77	7.02	92.84	7.05	-0.03	0.43%
1254	92.77	7.16	92.85	7.18	-0.02	0.28%
1255	92.78	7.05	92.85	7.08	-0.03	0.42%
1256	92.79	7.01	92.86	7.04	-0.03	0.43%
1257	92.79	6.92	92.86	6.95	-0.03	0.43%
1258	92.80	6.95	92.87	6.98	-0.03	0.43%
1259	92.81	7.16	92.88	7.18	-0.02	0.28%
1260	92.81	7.07	92.88	7.09	-0.02	0.28%
1261	92.82	7.08	92.89	7.11	-0.03	0.42%
1262	92.82	7.07	92.89	7.11	-0.04	0.56%
1263	92.83	7.19	92.9	7.22	-0.03	0.42%
1264	92.84	7.13	92.91	7.16	-0.03	0.42%
1265	92.84	6.94	92.91	6.96	-0.02	0.29%
1266	92.85	6.93	92.92	6.95	-0.02	0.29%
1267	92.86	7.06	92.92	7.09	-0.03	0.42%
1268	92.86	6.9	92.93	6.93	-0.03	0.43%
1269	92.87	6.97	92.94	6.99	-0.02	0.29%
1270	92.88	7.1	92.94	7.12	-0.02	0.28%
1271	92.88	7.1	92.95	7.12	-0.02	0.28%
1272	92.89	7.22	92.95	7.25	-0.03	0.41%
1273	92.90	7.17	92.96	7.2	-0.03	0.42%
1274	92.90	7.04	92.96	7.07	-0.03	0.42%
1275	92.91	7.27	92.97	7.29	-0.02	0.27%
1276	92.92	7.06	92.98	7.08	-0.02	0.28%
1277	92.92	7.05	92.98	7.08	-0.03	0.42%
1278	92.93	6.86	92.99	6.89	-0.03	0.44%
1279	92.94	7.09	92.99	7.11	-0.02	0.28%
1280	92.94	6.99	93	7.01	-0.02	0.29%
	93.00	6.93		6.95		
1281	92.95	6.84	93.01	6.87	-0.03	0.44%
1282	92.95	6.75	93.01	6.78	-0.03	0.44%
1283	92.96	6.87	93.02	6.91	-0.04	0.58%
1284	92.97	6.81	93.02	6.83	-0.02	0.29%
1285	92.97	6.96	93.03	6.99	-0.03	0.43%
1286	92.98	7.17	93.03	7.2	-0.03	0.42%
1287	92.99	6.96	93.04	6.99	-0.03	0.43%

1288	92.99	6.87	93.04	6.89	-0.02	0.29%
1289	93.00	7.01	93.05	7.04	-0.03	0.43%
1290	93.01	7.1	93.06	7.12	-0.02	0.28%
1291	93.01	6.97	93.06	7	-0.03	0.43%
1292	93.02	6.96	93.07	6.99	-0.03	0.43%
1293	93.02	6.91	93.07	6.93	-0.02	0.29%
1294	93.03	6.86	93.08	6.89	-0.03	0.44%
1295	93.03	6.78	93.08	6.81	-0.03	0.44%
1296	93.04	7	93.09	7.03	-0.03	0.43%
1297	93.05	7.05	93.09	7.07	-0.02	0.28%
1298	93.05	6.93	93.1	6.95	-0.02	0.29%
1299	93.06	6.81	93.1	6.85	-0.04	0.58%
1300	93.06	6.83	93.11	6.86	-0.03	0.44%
1301	93.07	6.87	93.12	6.89	-0.02	0.29%
1302	93.07	6.78	93.12	6.8	-0.02	0.29%
1303	93.08	6.88	93.13	6.91	-0.03	0.43%
1304	93.08	6.9	93.13	6.93	-0.03	0.43%
1305	93.09	7.02	93.14	7.04	-0.02	0.28%
1306	93.10	6.92	93.14	6.95	-0.03	0.43%
1307	93.10	6.9	93.15	6.93	-0.03	0.43%
1308	93.11	6.87	93.15	6.89	-0.02	0.29%
1309	93.11	6.91	93.16	6.94	-0.03	0.43%
1310	93.12	6.91	93.17	6.93	-0.02	0.29%
1311	93.12	6.85	93.17	6.88	-0.03	0.44%
1312	93.13	6.98	93.18	7.01	-0.03	0.43%
1313	93.14	6.97	93.18	7	-0.03	0.43%
1314	93.14	6.8	93.19	6.84	-0.04	0.58%
1315	93.15	6.9	93.19	6.93	-0.03	0.43%
1316	93.15	6.89	93.2	6.91	-0.02	0.29%
1317	93.16	6.94	93.2	6.97	-0.03	0.43%
1318	93.16	6.84	93.21	6.86	-0.02	0.29%
1319	93.17	6.94	93.22	6.97	-0.03	0.43%
1320	93.18	6.86	93.22	6.89	-0.03	0.44%
1321	93.18	6.77	93.23	6.79	-0.02	0.29%
1322	93.19	6.81	93.23	6.84	-0.03	0.44%
1323	93.19	6.98	93.24	7	-0.02	0.29%
1324	93.20	6.94	93.24	6.96	-0.02	0.29%
1325	93.20	6.82	93.25	6.85	-0.03	0.44%
1326	93.21	6.88	93.25	6.9	-0.02	0.29%
1327	93.21	6.82	93.26	6.85	-0.03	0.44%
1328	93.22	6.85	93.27	6.88	-0.03	0.44%
1329	93.23	7	93.27	7.03	-0.03	0.43%
1330	93.23	6.98	93.28	7	-0.02	0.29%
1331	93.24	6.94	93.28	6.97	-0.03	0.43%
1332	93.24	6.91	93.29	6.94	-0.03	0.43%

1333	93.25	6.73	93.29	6.76	-0.03	0.44%
1334	93.25	6.88	93.3	6.91	-0.03	0.43%
1335	93.26	6.85	93.3	6.87	-0.02	0.29%
1336	93.27	6.87	93.31	6.9	-0.03	0.43%
1337	93.27	6.77	93.31	6.79	-0.02	0.29%
1338	93.28	6.89	93.32	6.92	-0.03	0.43%
1339	93.28	6.9	93.33	6.93	-0.03	0.43%
1340	93.29	7.03	93.33	7.06	-0.03	0.42%
1341	93.29	6.75	93.34	6.77	-0.02	0.30%
1342	93.30	7	93.34	7.03	-0.03	0.43%
1343	93.31	6.92	93.35	6.95	-0.03	0.43%
1344	93.31	7.05	93.35	7.08	-0.03	0.42%
1345	93.32	7.06	93.36	7.08	-0.02	0.28%
1346	93.32	6.96	93.36	7	-0.04	0.57%
1347	93.33	6.71	93.37	6.74	-0.03	0.45%
1348	93.33	6.62	93.38	6.64	-0.02	0.30%
1349	93.34	6.84	93.38	6.87	-0.03	0.44%
1350	93.34	6.82	93.39	6.84	-0.02	0.29%
1351	93.35	7.07	93.39	7.09	-0.02	0.28%
1352	93.36	6.86	93.4	6.88	-0.02	0.29%
1353	93.36	6.94	93.4	6.96	-0.02	0.29%
1354	93.37	6.84	93.41	6.87	-0.03	0.44%
1355	93.37	6.75	93.41	6.77	-0.02	0.30%
1356	93.38	6.87	93.42	6.89	-0.02	0.29%
1357	93.38	6.89	93.43	6.92	-0.03	0.43%
1358	93.39	6.88	93.43	6.9	-0.02	0.29%
1359	93.40	6.99	93.44	7.02	-0.03	0.43%
1360	93.40	6.83	93.44	6.86	-0.03	0.44%
1361	93.41	6.94	93.45	6.97	-0.03	0.43%
1362	93.41	6.82	93.45	6.85	-0.03	0.44%
1363	93.42	6.93	93.46	6.96	-0.03	0.43%
1364	93.42	7.25	93.46	7.27	-0.02	0.28%
1365	93.43	6.94	93.47	6.97	-0.03	0.43%
1366	93.44	6.85	93.48	6.88	-0.03	0.44%
1367	93.44	7.06	93.48	7.08	-0.02	0.28%
1368	93.45	7.08	93.49	7.1	-0.02	0.28%
1369	93.45	7.02	93.49	7.05	-0.03	0.43%
1370	93.46	6.84	93.5	6.87	-0.03	0.44%
1371	93.46	6.71	93.5	6.73	-0.02	0.30%
1372	93.47	6.83	93.51	6.85	-0.02	0.29%
1373	93.47	6.81	93.51	6.84	-0.03	0.44%
1374	93.48	7.12	93.52	7.14	-0.02	0.28%
1375	93.49	7.64	93.52	7.67	-0.03	0.39%
1376	93.49	7.09	93.53	7.12	-0.03	0.42%
1377	93.50	7.06	93.54	7.08	-0.02	0.28%

1378	93.50	6.93	93.54	6.95	-0.02	0.29%
1379	93.51	7.02	93.55	7.04	-0.02	0.28%
1380	93.51	7.06	93.55	7.09	-0.03	0.42%
1381	93.52	7.04	93.56	7.07	-0.03	0.42%
1382	93.53	6.95	93.56	6.97	-0.02	0.29%
1383	93.53	7.03	93.57	7.05	-0.02	0.28%
1384	93.54	6.97	93.57	7	-0.03	0.43%
1385	93.54	7	93.58	7.03	-0.03	0.43%
1386	93.55	6.97	93.59	7	-0.03	0.43%
1387	93.55	6.86	93.59	6.89	-0.03	0.44%
1388	93.56	6.78	93.6	6.8	-0.02	0.29%
1389	93.56	6.96	93.6	6.99	-0.03	0.43%
1390	93.57	7.14	93.61	7.17	-0.03	0.42%
1391	93.58	7.04	93.61	7.07	-0.03	0.42%
1392	93.58	6.75	93.62	6.78	-0.03	0.44%
1393	93.59	6.82	93.62	6.85	-0.03	0.44%
1394	93.59	7.01	93.63	7.05	-0.04	0.57%
1395	93.60	7.07	93.64	7.1	-0.03	0.42%
1396	93.60	6.94	93.64	6.97	-0.03	0.43%
1397	93.61	7.03	93.65	7.06	-0.03	0.42%
1398	93.62	6.84	93.65	6.87	-0.03	0.44%
1399	93.62	6.86	93.66	6.88	-0.02	0.29%
1400	93.63	6.8	93.66	6.82	-0.02	0.29%
1401	93.63	6.93	93.67	6.95	-0.02	0.29%
1402	93.64	7.04	93.67	7.07	-0.03	0.42%
1403	93.64	7.06	93.68	7.09	-0.03	0.42%
1404	93.65	6.91	93.69	6.93	-0.02	0.29%
1405	93.66	7.11	93.69	7.14	-0.03	0.42%
1406	93.66	7.13	93.7	7.16	-0.03	0.42%
1407	93.67	7.18	93.7	7.21	-0.03	0.42%
1408	93.67	7.21	93.71	7.24	-0.03	0.41%
1409	93.68	7.03	93.71	7.06	-0.03	0.42%
1410	93.68	6.65	93.72	6.67	-0.02	0.30%
1411	93.69	6.79	93.72	6.81	-0.02	0.29%
1412	93.69	7.07	93.73	7.09	-0.02	0.28%
1413	93.70	6.95	93.73	6.99	-0.04	0.57%
1414	93.71	6.91	93.74	6.93	-0.02	0.29%
1415	93.71	7.04	93.75	7.06	-0.02	0.28%
1416	93.72	6.85	93.75	6.88	-0.03	0.44%
1417	93.72	7.15	93.76	7.18	-0.03	0.42%
1418	93.73	7	93.76	7.02	-0.02	0.28%
1419	93.73	7.05	93.77	7.08	-0.03	0.42%
1420	93.74	6.95	93.77	6.98	-0.03	0.43%
1421	93.75	6.82	93.78	6.85	-0.03	0.44%
1422	93.75	6.98	93.78	7.01	-0.03	0.43%

1423	93.76	6.79	93.79	6.81	-0.02	0.29%
1424	93.76	7.08	93.8	7.11	-0.03	0.42%
1425	93.77	6.77	93.8	6.8	-0.03	0.44%
1426	93.77	6.97	93.81	7	-0.03	0.43%
1427	93.78	7.12	93.81	7.15	-0.03	0.42%
1428	93.79	6.98	93.82	7	-0.02	0.29%
1429	93.79	7.01	93.82	7.04	-0.03	0.43%
1430	93.80	6.91	93.83	6.93	-0.02	0.29%
1431	93.80	6.81	93.83	6.84	-0.03	0.44%
1432	93.81	7.08	93.84	7.11	-0.03	0.42%
1433	93.81	6.98	93.85	7	-0.02	0.29%
1434	93.82	6.97	93.85	7	-0.03	0.43%
1435	93.82	6.88	93.86	6.91	-0.03	0.43%
1436	93.83	6.84	93.86	6.86	-0.02	0.29%
1437	93.84	6.94	93.87	6.96	-0.02	0.29%
1438	93.84	7.13	93.87	7.16	-0.03	0.42%
1439	93.85	7.13	93.88	7.16	-0.03	0.42%
1440	93.85	6.7	93.88	6.72	-0.02	0.30%
1441	93.86	6.75	93.89	6.77	-0.02	0.30%
1442	93.86	7.05	93.9	7.08	-0.03	0.42%
1443	93.87	7.34	93.9	7.38	-0.04	0.54%
1444	93.88	6.94	93.91	6.96	-0.02	0.29%
1445	93.88	6.97	93.91	7	-0.03	0.43%
1446	93.89	7.29	93.92	7.32	-0.03	0.41%
1447	93.89	7.6	93.92	7.62	-0.02	0.26%
1448	93.90	7.07	93.93	7.09	-0.02	0.28%
1449	93.90	7.03	93.93	7.06	-0.03	0.42%
1450	93.91	6.95	93.94	6.97	-0.02	0.29%
1451	93.92	6.87	93.94	6.89	-0.02	0.29%
1452	93.92	6.74	93.95	6.77	-0.03	0.44%
1453	93.93	6.89	93.96	6.91	-0.02	0.29%
1454	93.93	6.88	93.96	6.91	-0.03	0.43%
1455	93.94	6.8	93.97	6.82	-0.02	0.29%
1456	93.94	6.99	93.97	7.01	-0.02	0.29%
1457	93.95	6.92	93.98	6.94	-0.02	0.29%
1458	93.95	6.94	93.98	6.96	-0.02	0.29%
1459	93.96	6.97	93.99	7	-0.03	0.43%
1460	93.97	6.96	93.99	6.99	-0.03	0.43%
1461	93.97	7.05	94	7.08	-0.03	0.42%
1462	93.98	7.1	94.01	7.13	-0.03	0.42%
1463	93.98	6.94	94.02	6.96	-0.02	0.29%
1464	93.99	6.88	94.02	6.91	-0.03	0.43%
1465	93.99	6.98	94.03	7.01	-0.03	0.43%
1466	94.00	6.95	94.04	6.97	-0.02	0.29%
	94.00	6.94		6.97		

1467	94.01	6.97	94.05	7	-0.03	0.43%
1468	94.02	6.84	94.06	6.87	-0.03	0.44%
1469	94.02	6.87	94.07	6.9	-0.03	0.43%
1470	94.03	7.08	94.07	7.11	-0.03	0.42%
1471	94.04	7.23	94.08	7.26	-0.03	0.41%
1472	94.05	7.04	94.09	7.07	-0.03	0.42%
1473	94.05	7.07	94.1	7.09	-0.02	0.28%
1474	94.06	6.85	94.11	6.88	-0.03	0.44%
1475	94.07	6.85	94.12	6.88	-0.03	0.44%
1476	94.08	7.12	94.12	7.14	-0.02	0.28%
1477	94.09	6.94	94.13	6.97	-0.03	0.43%
1478	94.09	7.05	94.14	7.07	-0.02	0.28%
1479	94.10	6.84	94.15	6.87	-0.03	0.44%
1480	94.11	6.97	94.16	7	-0.03	0.43%
1481	94.12	7	94.17	7.03	-0.03	0.43%
1482	94.12	7.07	94.17	7.09	-0.02	0.28%
1483	94.13	6.96	94.18	6.99	-0.03	0.43%
1484	94.14	7.16	94.19	7.2	-0.04	0.56%
1485	94.15	6.96	94.2	6.98	-0.02	0.29%
1486	94.16	6.89	94.21	6.92	-0.03	0.43%
1487	94.16	6.96	94.21	6.99	-0.03	0.43%
1488	94.17	7.1	94.22	7.13	-0.03	0.42%
1489	94.18	7.06	94.23	7.08	-0.02	0.28%
1490	94.19	6.98	94.24	7.01	-0.03	0.43%
1491	94.19	7.24	94.25	7.27	-0.03	0.41%
1492	94.20	7.02	94.26	7.05	-0.03	0.43%
1493	94.21	7.19	94.26	7.21	-0.02	0.28%
1494	94.22	7.13	94.27	7.16	-0.03	0.42%
1495	94.22	7.12	94.28	7.14	-0.02	0.28%
1496	94.23	7.12	94.29	7.15	-0.03	0.42%
1497	94.24	6.93	94.3	6.96	-0.03	0.43%
1498	94.25	7	94.31	7.03	-0.03	0.43%
1499	94.26	6.91	94.31	6.94	-0.03	0.43%
1500	94.26	6.96	94.32	6.98	-0.02	0.29%
1501	94.27	7.18	94.33	7.22	-0.04	0.55%
1502	94.28	7.17	94.34	7.19	-0.02	0.28%
1503	94.29	6.98	94.35	7	-0.02	0.29%
1504	94.29	6.97	94.36	7	-0.03	0.43%
1505	94.30	7.25	94.36	7.28	-0.03	0.41%
1506	94.31	7.33	94.37	7.36	-0.03	0.41%
1507	94.32	7.25	94.38	7.28	-0.03	0.41%
1508	94.33	7.11	94.39	7.14	-0.03	0.42%
1509	94.33	7.05	94.4	7.07	-0.02	0.28%
1510	94.34	6.81	94.4	6.84	-0.03	0.44%
1511	94.35	7.32	94.41	7.34	-0.02	0.27%

1512	94.36	7.13	94.42	7.15	-0.02	0.28%
1513	94.36	7.13	94.43	7.16	-0.03	0.42%
1514	94.37	7.11	94.44	7.14	-0.03	0.42%
1515	94.38	7.03	94.45	7.06	-0.03	0.42%
1516	94.39	7	94.45	7.03	-0.03	0.43%
1517	94.40	7.1	94.46	7.13	-0.03	0.42%
1518	94.40	7.42	94.47	7.44	-0.02	0.27%
1519	94.41	7.37	94.48	7.39	-0.02	0.27%
1520	94.42	7.22	94.49	7.25	-0.03	0.41%
1521	94.43	6.82	94.5	6.85	-0.03	0.44%
1522	94.43	6.78	94.5	6.8	-0.02	0.29%
1523	94.44	6.96	94.51	6.99	-0.03	0.43%
1524	94.45	7.03	94.52	7.06	-0.03	0.42%
1525	94.46	7.11	94.53	7.14	-0.03	0.42%
1526	94.47	7.09	94.54	7.12	-0.03	0.42%
1527	94.47	7.24	94.55	7.26	-0.02	0.28%
1528	94.48	7.05	94.55	7.07	-0.02	0.28%
1529	94.49	7.16	94.56	7.18	-0.02	0.28%
1530	94.50	6.95	94.57	6.98	-0.03	0.43%
1531	94.50	7.2	94.58	7.23	-0.03	0.41%
1532	94.51	7.16	94.59	7.19	-0.03	0.42%
1533	94.52	7.02	94.6	7.06	-0.04	0.57%
1534	94.53	7.26	94.6	7.29	-0.03	0.41%
1535	94.53	7.21	94.61	7.23	-0.02	0.28%
1536	94.54	7.29	94.62	7.32	-0.03	0.41%
1537	94.55	7.07	94.63	7.1	-0.03	0.42%
1538	94.56	6.94	94.64	6.97	-0.03	0.43%
1539	94.57	6.98	94.64	7.01	-0.03	0.43%
1540	94.57	7.1	94.65	7.12	-0.02	0.28%
1541	94.58	7.09	94.66	7.12	-0.03	0.42%
1542	94.59	6.93	94.67	6.95	-0.02	0.29%
1543	94.60	7.02	94.68	7.05	-0.03	0.43%
1544	94.60	6.99	94.69	7.01	-0.02	0.29%
1545	94.61	6.83	94.69	6.86	-0.03	0.44%
1546	94.62	6.95	94.7	6.98	-0.03	0.43%
1547	94.63	6.92	94.71	6.94	-0.02	0.29%
1548	94.64	6.98	94.72	7.01	-0.03	0.43%
1549	94.64	6.93	94.73	6.95	-0.02	0.29%
1550	94.65	7.07	94.74	7.09	-0.02	0.28%
1551	94.66	7.37	94.74	7.41	-0.04	0.54%
1552	94.67	7.2	94.75	7.22	-0.02	0.28%
1553	94.67	6.87	94.76	6.89	-0.02	0.29%
1554	94.68	6.79	94.77	6.82	-0.03	0.44%
1555	94.69	6.72	94.78	6.75	-0.03	0.44%
1556	94.70	6.79	94.79	6.82	-0.03	0.44%

1557	94.71	7.15	94.79	7.17	-0.02	0.28%
1558	94.71	7.35	94.8	7.38	-0.03	0.41%
1559	94.72	7.05	94.81	7.07	-0.02	0.28%
1560	94.73	6.93	94.82	6.96	-0.03	0.43%
1561	94.74	7.07	94.83	7.1	-0.03	0.42%
1562	94.74	6.99	94.83	7.01	-0.02	0.29%
1563	94.75	6.79	94.84	6.81	-0.02	0.29%
1564	94.76	6.82	94.85	6.85	-0.03	0.44%
1565	94.77	7.19	94.86	7.21	-0.02	0.28%
1566	94.78	7.05	94.87	7.07	-0.02	0.28%
1567	94.78	6.92	94.88	6.94	-0.02	0.29%
1568	94.79	7.07	94.88	7.1	-0.03	0.42%
1569	94.80	6.87	94.89	6.89	-0.02	0.29%
1570	94.81	7.16	94.9	7.19	-0.03	0.42%
1571	94.81	7.07	94.91	7.09	-0.02	0.28%
1572	94.82	7.02	94.92	7.05	-0.03	0.43%
1573	94.83	7.15	94.93	7.17	-0.02	0.28%
1574	94.84	6.76	94.93	6.79	-0.03	0.44%
1575	94.84	6.8	94.94	6.82	-0.02	0.29%
1576	94.85	7.05	94.95	7.07	-0.02	0.28%
1577	94.86	7.04	94.96	7.07	-0.03	0.42%
1578	94.87	7.26	94.97	7.29	-0.03	0.41%
1579	94.88	7.06	94.98	7.08	-0.02	0.28%
1580	94.88	7.02	94.98	7.04	-0.02	0.28%
1581	94.89	6.94	94.99	6.97	-0.03	0.43%
1582	94.90	6.85	95	6.87	-0.02	0.29%
1583	94.91	6.98	95.01	7.01	-0.03	0.43%
1584	94.91	7.1	95.02	7.13	-0.03	0.42%
1585	94.92	6.89	95.02	6.92	-0.03	0.43%
1586	94.93	6.85	95.03	6.88	-0.03	0.44%
1587	94.94	6.96	95.04	6.99	-0.03	0.43%
1588	94.95	7.21	95.05	7.24	-0.03	0.41%
1589	94.95	6.99	95.06	7.02	-0.03	0.43%
1590	94.96	6.79	95.06	6.82	-0.03	0.44%
1591	94.97	6.83	95.07	6.85	-0.02	0.29%
1592	94.98	7.13	95.08	7.16	-0.03	0.42%
1593	94.98	6.92	95.09	6.95	-0.03	0.43%
1594	94.99	6.97	95.1	7	-0.03	0.43%
1595	95.00	6.95	95.1	6.98	-0.03	0.43%
	95.00	7.03		7.06		
1596	95.01	6.96	95.11	6.99	-0.03	0.43%
1597	95.02	7.15	95.12	7.17	-0.02	0.28%
1598	95.03	7.05	95.13	7.07	-0.02	0.28%
1599	95.03	6.97	95.14	7	-0.03	0.43%
1600	95.04	6.93	95.15	6.96	-0.03	0.43%

1601	95.05	6.83	95.15	6.85	-0.02	0.29%
1602	95.06	6.86	95.16	6.89	-0.03	0.44%
1603	95.07	7.06	95.17	7.09	-0.03	0.42%
1604	95.08	6.91	95.18	6.93	-0.02	0.29%
1605	95.08	6.84	95.19	6.86	-0.02	0.29%
1606	95.09	6.89	95.19	6.92	-0.03	0.43%
1607	95.10	7.12	95.2	7.16	-0.04	0.56%
1608	95.11	7.24	95.21	7.26	-0.02	0.28%
1609	95.12	6.91	95.22	6.94	-0.03	0.43%
1610	95.13	6.95	95.23	6.98	-0.03	0.43%
1611	95.13	6.87	95.23	6.9	-0.03	0.43%
1612	95.14	7.01	95.24	7.04	-0.03	0.43%
1613	95.15	7	95.25	7.02	-0.02	0.28%
1614	95.16	6.92	95.26	6.94	-0.02	0.29%
1615	95.17	6.99	95.27	7.02	-0.03	0.43%
1616	95.18	7.1	95.27	7.13	-0.03	0.42%
1617	95.18	6.98	95.28	7	-0.02	0.29%
1618	95.19	6.84	95.29	6.87	-0.03	0.44%
1619	95.20	6.87	95.3	6.89	-0.02	0.29%
1620	95.21	6.97	95.31	7	-0.03	0.43%
1621	95.22	7.06	95.31	7.08	-0.02	0.28%
1622	95.23	6.97	95.32	7	-0.03	0.43%
1623	95.23	6.88	95.33	6.9	-0.02	0.29%
1624	95.24	6.94	95.34	6.96	-0.02	0.29%
1625	95.25	7.02	95.35	7.05	-0.03	0.43%
1626	95.26	7	95.35	7.03	-0.03	0.43%
1627	95.27	7	95.36	7.02	-0.02	0.28%
1628	95.28	6.87	95.37	6.91	-0.04	0.58%
1629	95.28	6.95	95.38	6.97	-0.02	0.29%
1630	95.29	7.19	95.39	7.22	-0.03	0.42%
1631	95.30	7.04	95.4	7.06	-0.02	0.28%
1632	95.31	6.99	95.4	7.01	-0.02	0.29%
1633	95.32	6.85	95.41	6.88	-0.03	0.44%
1634	95.33	6.97	95.42	7	-0.03	0.43%
1635	95.33	6.96	95.43	6.99	-0.03	0.43%
1636	95.34	6.94	95.44	6.96	-0.02	0.29%
1637	95.35	7	95.44	7.04	-0.04	0.57%
1638	95.36	7.13	95.45	7.16	-0.03	0.42%
1639	95.37	7.14	95.46	7.16	-0.02	0.28%
1640	95.38	7.12	95.47	7.15	-0.03	0.42%
1641	95.38	6.87	95.48	6.91	-0.04	0.58%
1642	95.39	6.9	95.48	6.93	-0.03	0.43%
1643	95.40	7.2	95.49	7.23	-0.03	0.41%
1644	95.41	7.21	95.5	7.24	-0.03	0.41%
1645	95.42	7.14	95.51	7.16	-0.02	0.28%

1646	95.43	7.06	95.52	7.09	-0.03	0.42%
1647	95.43	7.32	95.52	7.35	-0.03	0.41%
1648	95.44	7.16	95.53	7.18	-0.02	0.28%
1649	95.45	6.94	95.54	6.97	-0.03	0.43%
1650	95.46	7.09	95.55	7.12	-0.03	0.42%
1651	95.47	7.36	95.56	7.39	-0.03	0.41%
1652	95.48	7.09	95.56	7.11	-0.02	0.28%
1653	95.48	6.81	95.57	6.83	-0.02	0.29%
1654	95.49	7.03	95.58	7.06	-0.03	0.42%
1655	95.50	6.93	95.59	6.96	-0.03	0.43%
1656	95.51	6.82	95.6	6.85	-0.03	0.44%
1657	95.52	6.98	95.6	7.01	-0.03	0.43%
1658	95.53	7.08	95.61	7.11	-0.03	0.42%
1659	95.53	7.01	95.62	7.04	-0.03	0.43%
1660	95.54	6.96	95.63	6.98	-0.02	0.29%
1661	95.55	6.89	95.64	6.92	-0.03	0.43%
1662	95.56	6.99	95.65	7.01	-0.02	0.29%
1663	95.57	7.11	95.65	7.13	-0.02	0.28%
1664	95.58	7.07	95.66	7.11	-0.04	0.56%
1665	95.58	6.95	95.67	6.98	-0.03	0.43%
1666	95.59	6.94	95.68	6.97	-0.03	0.43%
1667	95.60	6.96	95.69	6.99	-0.03	0.43%
1668	95.61	7.08	95.69	7.11	-0.03	0.42%
1669	95.62	7.02	95.7	7.05	-0.03	0.43%
1670	95.63	6.91	95.71	6.94	-0.03	0.43%
1671	95.63	6.86	95.72	6.88	-0.02	0.29%
1672	95.64	7.24	95.73	7.28	-0.04	0.55%
1673	95.65	7.38	95.73	7.41	-0.03	0.40%
1674	95.66	7.16	95.74	7.19	-0.03	0.42%
1675	95.67	6.88	95.75	6.92	-0.04	0.58%
1676	95.68	6.91	95.76	6.93	-0.02	0.29%
1677	95.68	6.95	95.77	6.98	-0.03	0.43%
1678	95.69	7.05	95.77	7.08	-0.03	0.42%
1679	95.70	6.93	95.78	6.95	-0.02	0.29%
1680	95.71	6.99	95.79	7.02	-0.03	0.43%
1681	95.72	6.81	95.8	6.84	-0.03	0.44%
1682	95.73	6.98	95.81	7.01	-0.03	0.43%
1683	95.73	6.96	95.81	6.99	-0.03	0.43%
1684	95.74	7.15	95.82	7.18	-0.03	0.42%
1685	95.75	7.18	95.83	7.2	-0.02	0.28%
1686	95.76	7.05	95.84	7.08	-0.03	0.42%
1687	95.77	6.93	95.85	6.96	-0.03	0.43%
1688	95.78	6.88	95.85	6.91	-0.03	0.43%
1689	95.78	6.97	95.86	7	-0.03	0.43%
1690	95.79	7.05	95.87	7.08	-0.03	0.42%

1691	95.80	6.98	95.88	7	-0.02	0.29%
1692	95.81	7.05	95.89	7.08	-0.03	0.42%
1693	95.82	7.03	95.9	7.06	-0.03	0.42%
1694	95.83	7.07	95.9	7.09	-0.02	0.28%
1695	95.83	6.86	95.91	6.88	-0.02	0.29%
1696	95.84	7.05	95.92	7.07	-0.02	0.28%
1697	95.85	7.02	95.93	7.05	-0.03	0.43%
1698	95.86	7	95.94	7.03	-0.03	0.43%
1699	95.87	6.97	95.94	7	-0.03	0.43%
1700	95.88	7.04	95.95	7.06	-0.02	0.28%
1701	95.88	7.1	95.96	7.13	-0.03	0.42%
1702	95.89	6.97	95.97	6.99	-0.02	0.29%
1703	95.90	7.06	95.98	7.09	-0.03	0.42%
1704	95.91	7.16	95.98	7.19	-0.03	0.42%
1705	95.92	6.96	95.99	6.99	-0.03	0.43%
1706	95.93	7.02	96	7.05	-0.03	0.43%
1707	95.93	7.16	96	7.19	-0.03	0.42%
1708	95.94	6.9	96.01	6.93	-0.03	0.43%
1709	95.95	7.05	96.01	7.08	-0.03	0.42%
1710	95.96	7.07	96.02	7.1	-0.03	0.42%
1711	95.97	7.02	96.02	7.06	-0.04	0.57%
1712	95.98	6.86	96.03	6.89	-0.03	0.44%
1713	95.98	7.34	96.03	7.37	-0.03	0.41%
1714	95.99	7.16	96.04	7.18	-0.02	0.28%
1715	96.00	7.04	96.04	7.07	-0.03	0.42%
	96.00	7.01		7.04		
1716	96.00	7.11	96.05	7.13	-0.02	0.28%
1717	96.01	6.98	96.05	7	-0.02	0.29%
1718	96.01	7.21	96.06	7.24	-0.03	0.41%
1719	96.02	6.98	96.06	7	-0.02	0.29%
1720	96.02	7.13	96.07	7.17	-0.04	0.56%
1721	96.03	7.08	96.07	7.1	-0.02	0.28%
1722	96.03	7.09	96.07	7.12	-0.03	0.42%
1723	96.04	7.1	96.08	7.13	-0.03	0.42%
1724	96.04	6.96	96.08	6.99	-0.03	0.43%
1725	96.04	6.95	96.09	6.97	-0.02	0.29%
1726	96.05	7.12	96.09	7.14	-0.02	0.28%
1727	96.05	7.11	96.1	7.13	-0.02	0.28%
1728	96.06	7.19	96.1	7.21	-0.02	0.28%
1729	96.06	6.92	96.11	6.94	-0.02	0.29%
1730	96.07	7.03	96.11	7.06	-0.03	0.42%
1731	96.07	7.09	96.12	7.11	-0.02	0.28%
1732	96.08	6.88	96.12	6.92	-0.04	0.58%
1733	96.08	7.18	96.13	7.2	-0.02	0.28%
1734	96.08	6.99	96.13	7.02	-0.03	0.43%

1735	96.09	7.23	96.13	7.26	-0.03	0.41%
1736	96.09	6.91	96.14	6.94	-0.03	0.43%
1737	96.10	7.08	96.14	7.1	-0.02	0.28%
1738	96.10	7.11	96.15	7.14	-0.03	0.42%
1739	96.11	7.1	96.15	7.13	-0.03	0.42%
1740	96.11	6.98	96.16	7.01	-0.03	0.43%
1741	96.12	7.03	96.16	7.06	-0.03	0.42%
1742	96.12	7.09	96.17	7.12	-0.03	0.42%
1743	96.13	7.12	96.17	7.14	-0.02	0.28%
1744	96.13	7.05	96.18	7.08	-0.03	0.42%
1745	96.13	6.96	96.18	6.99	-0.03	0.43%
1746	96.14	7.04	96.19	7.07	-0.03	0.42%
1747	96.14	7.05	96.19	7.08	-0.03	0.42%
1748	96.15	7.01	96.2	7.04	-0.03	0.43%
1749	96.15	6.95	96.2	6.98	-0.03	0.43%
1750	96.16	7.18	96.2	7.21	-0.03	0.42%
1751	96.16	7.33	96.21	7.35	-0.02	0.27%
1752	96.17	7.07	96.21	7.09	-0.02	0.28%
1753	96.17	6.95	96.22	6.98	-0.03	0.43%
1754	96.17	7.01	96.22	7.04	-0.03	0.43%
1755	96.18	7.09	96.23	7.12	-0.03	0.42%
1756	96.18	7.08	96.23	7.11	-0.03	0.42%
1757	96.19	7.24	96.24	7.27	-0.03	0.41%
1758	96.19	7.32	96.24	7.35	-0.03	0.41%
1759	96.20	7.09	96.25	7.12	-0.03	0.42%
1760	96.20	7.17	96.25	7.19	-0.02	0.28%
1761	96.21	7.06	96.26	7.08	-0.02	0.28%
1762	96.21	7.14	96.26	7.16	-0.02	0.28%
1763	96.21	6.89	96.27	6.92	-0.03	0.43%
1764	96.22	6.96	96.27	6.99	-0.03	0.43%
1765	96.22	7.15	96.27	7.18	-0.03	0.42%
1766	96.23	6.93	96.28	6.96	-0.03	0.43%
1767	96.23	6.83	96.28	6.86	-0.03	0.44%
1768	96.24	7.08	96.29	7.11	-0.03	0.42%
1769	96.24	7.23	96.29	7.25	-0.02	0.28%
1770	96.25	7.14	96.3	7.17	-0.03	0.42%
1771	96.25	6.95	96.3	6.98	-0.03	0.43%
1772	96.25	7	96.31	7.02	-0.02	0.28%
1773	96.26	7.11	96.31	7.14	-0.03	0.42%
1774	96.26	7	96.32	7.02	-0.02	0.28%
1775	96.27	6.87	96.32	6.89	-0.02	0.29%
1776	96.27	7.08	96.33	7.11	-0.03	0.42%
1777	96.28	6.96	96.33	6.99	-0.03	0.43%
1778	96.28	6.96	96.33	6.99	-0.03	0.43%
1779	96.29	7.11	96.34	7.13	-0.02	0.28%

1780	96.29	7.02	96.34	7.06	-0.04	0.57%
1781	96.29	6.95	96.35	6.98	-0.03	0.43%
1782	96.30	6.97	96.35	6.99	-0.02	0.29%
1783	96.30	7.13	96.36	7.16	-0.03	0.42%
1784	96.31	7.11	96.36	7.13	-0.02	0.28%
1785	96.31	7.03	96.37	7.06	-0.03	0.42%
1786	96.32	7.04	96.37	7.07	-0.03	0.42%
1787	96.32	6.95	96.38	6.98	-0.03	0.43%
1788	96.33	7.01	96.38	7.04	-0.03	0.43%
1789	96.33	7.14	96.39	7.17	-0.03	0.42%
1790	96.33	7.16	96.39	7.18	-0.02	0.28%
1791	96.34	6.99	96.4	7.01	-0.02	0.29%
1792	96.34	6.98	96.4	7.01	-0.03	0.43%
1793	96.35	6.93	96.4	6.96	-0.03	0.43%
1794	96.35	6.95	96.41	6.98	-0.03	0.43%
1795	96.36	6.97	96.41	7	-0.03	0.43%
1796	96.36	7.1	96.42	7.13	-0.03	0.42%
1797	96.37	7.1	96.42	7.13	-0.03	0.42%
1798	96.37	7.03	96.43	7.06	-0.03	0.42%
1799	96.38	7.12	96.43	7.15	-0.03	0.42%
1800	96.38	6.92	96.44	6.94	-0.02	0.29%
1801	96.38	7.06	96.44	7.09	-0.03	0.42%
1802	96.39	7.09	96.45	7.11	-0.02	0.28%
1803	96.39	7.11	96.45	7.13	-0.02	0.28%
1804	96.40	7.07	96.46	7.09	-0.02	0.28%
1805	96.40	6.97	96.46	7	-0.03	0.43%
1806	96.41	6.99	96.47	7.01	-0.02	0.29%
1807	96.41	7.21	96.47	7.24	-0.03	0.41%
1808	96.42	7.08	96.47	7.11	-0.03	0.42%
1809	96.42	7.15	96.48	7.18	-0.03	0.42%
1810	96.42	7.02	96.48	7.05	-0.03	0.43%
1811	96.43	7.15	96.49	7.17	-0.02	0.28%
1812	96.43	7.14	96.49	7.17	-0.03	0.42%
1813	96.44	7.09	96.5	7.12	-0.03	0.42%
1814	96.44	7.04	96.5	7.07	-0.03	0.42%
1815	96.45	6.99	96.51	7.02	-0.03	0.43%
1816	96.45	7.01	96.51	7.04	-0.03	0.43%
1817	96.46	7.02	96.52	7.04	-0.02	0.28%
1818	96.46	7.11	96.52	7.14	-0.03	0.42%
1819	96.46	7.17	96.53	7.2	-0.03	0.42%
1820	96.47	7.12	96.53	7.14	-0.02	0.28%
1821	96.47	6.99	96.53	7.01	-0.02	0.29%
1822	96.48	6.93	96.54	6.96	-0.03	0.43%
1823	96.48	7.01	96.54	7.04	-0.03	0.43%
1824	96.49	6.88	96.55	6.91	-0.03	0.43%

1825	96.49	7.07	96.55	7.1	-0.03	0.42%
1826	96.50	7.4	96.56	7.43	-0.03	0.40%
1827	96.50	7.17	96.56	7.2	-0.03	0.42%
1828	96.50	6.91	96.57	6.93	-0.02	0.29%
1829	96.51	6.91	96.57	6.94	-0.03	0.43%
1830	96.51	7.03	96.58	7.06	-0.03	0.42%
1831	96.52	7.13	96.58	7.17	-0.04	0.56%
1832	96.52	7.16	96.59	7.19	-0.03	0.42%
1833	96.53	7.17	96.59	7.19	-0.02	0.28%
1834	96.53	7.21	96.6	7.23	-0.02	0.28%
1835	96.54	7.15	96.6	7.17	-0.02	0.28%
1836	96.54	6.93	96.6	6.96	-0.03	0.43%
1837	96.54	6.95	96.61	6.98	-0.03	0.43%
1838	96.55	6.96	96.61	6.98	-0.02	0.29%
1839	96.55	6.97	96.62	7	-0.03	0.43%
1840	96.56	6.93	96.62	6.96	-0.03	0.43%
1841	96.56	7.07	96.63	7.1	-0.03	0.42%
1842	96.57	7.04	96.63	7.07	-0.03	0.42%
1843	96.57				exclude	exclude
1844	96.58				exclude	exclude
1845	96.58		96.64		exclude	exclude
1846	96.58	6.95	96.64	7	-0.05	0.71%
1847	96.59	6.87	96.65	6.98	-0.11	1.58%
1848	96.59	7.08	96.65	6.89	0.19	-2.76%
1849	96.60		96.66		exclude	exclude
1850	96.60		96.66		exclude	exclude
1851	96.61		96.67		exclude	exclude
1852	96.61	7.16	96.67	7.19	-0.03	0.42%
1853	96.62	6.88	96.67	6.91	-0.03	0.43%
1854	96.62	7.05	96.68	7.08	-0.03	0.42%
1855	96.63	7.09	96.68	7.12	-0.03	0.42%
1856	96.63	6.84	96.69	6.87	-0.03	0.44%
1857	96.63	6.88	96.69	6.91	-0.03	0.43%
1858	96.64	7.19	96.7	7.22	-0.03	0.42%
1859	96.64	7.18	96.7	7.2	-0.02	0.28%
1860	96.65	7.02	96.71	7.05	-0.03	0.43%
1861	96.65	6.91	96.71	6.94	-0.03	0.43%
1862	96.66	6.95	96.72	6.98	-0.03	0.43%
1863	96.66	6.89	96.72	6.92	-0.03	0.43%
1864	96.67	6.96	96.73	6.99	-0.03	0.43%
1865	96.67	6.93	96.73	6.95	-0.02	0.29%
1866	96.67	6.88	96.73	6.91	-0.03	0.43%
1867	96.68	7.03	96.74	7.05	-0.02	0.28%
1868	96.68	7.02	96.74	7.05	-0.03	0.43%
1869	96.69	7.24	96.75	7.27	-0.03	0.41%

1870	96.69	7.21	96.75	7.24	-0.03	0.41%
1871	96.70	6.84	96.76	6.86	-0.02	0.29%
1872	96.70	6.95	96.76	6.97	-0.02	0.29%
1873	96.71	6.97	96.77	6.99	-0.02	0.29%
1874	96.71	6.9	96.77	6.93	-0.03	0.43%
1875	96.71	6.99	96.78	7.01	-0.02	0.29%
1876	96.72	7.08	96.78	7.11	-0.03	0.42%
1877	96.72	6.98	96.79	7	-0.02	0.29%
1878	96.73	7.02	96.79	7.05	-0.03	0.43%
1879	96.73	6.92	96.8	6.94	-0.02	0.29%
1880	96.74	6.83	96.8	6.86	-0.03	0.44%
1881	96.74	6.98	96.8	7.01	-0.03	0.43%
1882	96.75	7.06	96.81	7.08	-0.02	0.28%
1883	96.75	6.97	96.81	7	-0.03	0.43%
1884	96.75	6.93	96.82	6.96	-0.03	0.43%
1885	96.76	7.04	96.82	7.07	-0.03	0.42%
1886	96.76	7.37	96.83	7.39	-0.02	0.27%
1887	96.77	8.88	96.83	8.9	-0.02	0.22%
1888	96.77	9.18	96.84	9.21	-0.03	0.33%
1889	96.78	8.22	96.84	8.24	-0.02	0.24%
1890	96.78	7.85	96.85	7.87	-0.02	0.25%
1891	96.79	7.9	96.85	7.94	-0.04	0.50%
1892	96.79	8.04	96.86	8.06	-0.02	0.25%
1893	96.79	8.32	96.86	8.36	-0.04	0.48%
1894	96.80	8.07	96.87	8.1	-0.03	0.37%
1895	96.80	8.04	96.87	8.07	-0.03	0.37%
1896	96.81	8.2	96.87	8.23	-0.03	0.36%
1897	96.81	8	96.88	8.03	-0.03	0.37%
1898	96.82	8.01	96.88	8.04	-0.03	0.37%
1899	96.82	8.16	96.89	8.18	-0.02	0.24%
1900	96.83	8.19	96.89	8.21	-0.02	0.24%
1901	96.83	7.98	96.9	8.01	-0.03	0.37%
1902	96.83	8.25	96.9	8.27	-0.02	0.24%
1903	96.84	8.16	96.91	8.19	-0.03	0.37%
1904	96.84	8.14	96.91	8.17	-0.03	0.37%
1905	96.85	8.15	96.92	8.17	-0.02	0.24%
1906	96.85	8.12	96.92	8.15	-0.03	0.37%
1907	96.86	8.13	96.93	8.16	-0.03	0.37%
1908	96.86	7.92	96.93	7.96	-0.04	0.50%
1909	96.87	8.14	96.93	8.16	-0.02	0.25%
1910	96.87	8.05	96.94	8.07	-0.02	0.25%
1911	96.88	8.04	96.94	8.06	-0.02	0.25%
1912	96.88	8.26	96.95	8.28	-0.02	0.24%
1913	96.88	8.1	96.95	8.13	-0.03	0.37%
1914	96.89	8.24	96.96	8.27	-0.03	0.36%

1915	96.89	8.15	96.96	8.17	-0.02	0.24%
1916	96.90	8	96.97	8.03	-0.03	0.37%
1917	96.90	8.03	96.97	8.06	-0.03	0.37%
1918	96.91	8.04	96.98	8.07	-0.03	0.37%
1919	96.91	8.07	96.98	8.1	-0.03	0.37%
1920	96.92	8.36	96.99	8.39	-0.03	0.36%
1921	96.92	8.34	96.99	8.37	-0.03	0.36%
1922	96.92	7.95	97	7.98	-0.03	0.38%
1923	96.93	8.09	97	8.11	-0.02	0.25%
1924	96.93	7.95	97	7.97	-0.02	0.25%
1925	96.94	8.07	97.01	8.1	-0.03	0.37%
1926	96.94	8.26	97.01	8.28	-0.02	0.24%
1927	96.95	8.17	97.02	8.2	-0.03	0.37%
1928	96.95	7.75	97.02	7.78	-0.03	0.39%
1929	96.96	8.01	97.02	8.04	-0.03	0.37%
1930	96.96	8.34	97.03	8.37	-0.03	0.36%
1931	96.96	8.11	97.03	8.13	-0.02	0.25%
1932	96.97	8.14	97.04	8.17	-0.03	0.37%
1933	96.97	8.3	97.04	8.33	-0.03	0.36%
1934	96.98	8.21	97.05	8.23	-0.02	0.24%
1935	96.98	8.13	97.05	8.16	-0.03	0.37%
1936	96.99	8.04	97.05	8.06	-0.02	0.25%
1937	96.99	8.01	97.06	8.03	-0.02	0.25%
1938	97.00	8.21	97.06	8.24	-0.03	0.36%
	97.00	7.31		7.33		
1939	97.00	8.19	97.07	8.22	-0.03	0.36%
1940	97.00	8.22	97.07	8.25	-0.03	0.36%
1941	97.01	8.16	97.07	8.19	-0.03	0.37%
1942	97.01	8.13	97.08	8.16	-0.03	0.37%
1943	97.02	8.01	97.08	8.04	-0.03	0.37%
1944	97.02	8.07	97.09	8.09	-0.02	0.25%
1945	97.03	8.16	97.09	8.18	-0.02	0.24%
1946	97.03	7.97	97.09	7.99	-0.02	0.25%
1947	97.03	7.98	97.1	8.01	-0.03	0.37%
1948	97.04	8.15	97.1	8.17	-0.02	0.24%
1949	97.04	8.19	97.11	8.22	-0.03	0.36%
1950	97.05	8.19	97.11	8.21	-0.02	0.24%
1951	97.05	8.17	97.12	8.2	-0.03	0.37%
1952	97.06	8.06	97.12	8.09	-0.03	0.37%
1953	97.06	7.98	97.12	8	-0.02	0.25%
1954	97.06	8.2	97.13	8.24	-0.04	0.49%
1955	97.07	8.05	97.13	8.07	-0.02	0.25%
1956	97.07	8.3	97.14	8.33	-0.03	0.36%
1957	97.08	8.1	97.14	8.13	-0.03	0.37%
1958	97.08	8.12	97.14	8.14	-0.02	0.25%

1959	97.09	8.13	97.15	8.16	-0.03	0.37%
1960	97.09	8.12	97.15	8.15	-0.03	0.37%
1961	97.09	8.05	97.16	8.08	-0.03	0.37%
1962	97.10	8.21	97.16	8.24	-0.03	0.36%
1963	97.10	8.31	97.16	8.34	-0.03	0.36%
1964	97.11	8.13	97.17	8.16	-0.03	0.37%
1965	97.11	8.11	97.17	8.14	-0.03	0.37%
1966	97.12	8.03	97.18	8.05	-0.02	0.25%
1967	97.12	8.2	97.18	8.23	-0.03	0.36%
1968	97.13	8.23	97.19	8.26	-0.03	0.36%
1969	97.13	8.24	97.19	8.27	-0.03	0.36%
1970	97.13	8.11	97.19	8.13	-0.02	0.25%
1971	97.14	7.99	97.2	8.02	-0.03	0.37%
1972	97.14	8.05	97.2	8.07	-0.02	0.25%
1973	97.15	7.94	97.21	7.96	-0.02	0.25%
1974	97.15	8.06	97.21	8.09	-0.03	0.37%
1975	97.16	8.03	97.21	8.05	-0.02	0.25%
1976	97.16	8.04	97.22	8.07	-0.03	0.37%
1977	97.16	8.1	97.22	8.13	-0.03	0.37%
1978	97.17	8.24	97.23	8.27	-0.03	0.36%
1979	97.17	8.16	97.23	8.18	-0.02	0.24%
1980	97.18	8.22	97.23	8.25	-0.03	0.36%
1981	97.18	8.2	97.24	8.23	-0.03	0.36%
1982	97.19	8.34	97.24	8.37	-0.03	0.36%
1983	97.19	8.25	97.25	8.28	-0.03	0.36%
1984	97.19	7.99	97.25	8.01	-0.02	0.25%
1985	97.20	8.18	97.26	8.21	-0.03	0.37%
1986	97.20	8.09	97.26	8.12	-0.03	0.37%
1987	97.21	8.11	97.26	8.14	-0.03	0.37%
1988	97.21	8.21	97.27	8.24	-0.03	0.36%
1989	97.22	8.05	97.27	8.07	-0.02	0.25%
1990	97.22	8.12	97.28	8.15	-0.03	0.37%
1991	97.22	8.01	97.28	8.04	-0.03	0.37%
1992	97.23	8.12	97.28	8.15	-0.03	0.37%
1993	97.23	8.02	97.29	8.06	-0.04	0.50%
1994	97.24	7.87	97.29	7.9	-0.03	0.38%
1995	97.24	8.06	97.3	8.09	-0.03	0.37%
1996	97.25	8.03	97.3	8.05	-0.02	0.25%
1997	97.25	8.35	97.3	8.37	-0.02	0.24%
1998	97.25	8.01	97.31	8.04	-0.03	0.37%
1999	97.26	8.01	97.31	8.04	-0.03	0.37%
2000	97.26	8	97.32	8.02	-0.02	0.25%
2001	97.27	7.89	97.32	7.92	-0.03	0.38%
2002	97.27	8.02	97.33	8.05	-0.03	0.37%
2003	97.28	8.09	97.33	8.12	-0.03	0.37%

2004	97.28	7.99	97.33	8.02	-0.03	0.37%
2005	97.28	7.86	97.34	7.88	-0.02	0.25%
2006	97.29	8.23	97.34	8.26	-0.03	0.36%
2007	97.29	8.15	97.35	8.18	-0.03	0.37%
2008	97.30	8.12	97.35	8.15	-0.03	0.37%
2009	97.30	8.16	97.35	8.18	-0.02	0.24%
2010	97.31	7.99	97.36	8.02	-0.03	0.37%
2011	97.31	8.09	97.36	8.11	-0.02	0.25%
2012	97.31	8.13	97.37	8.15	-0.02	0.25%
2013	97.32	8.09	97.37	8.11	-0.02	0.25%
2014	97.32	8.04	97.37	8.06	-0.02	0.25%
2015	97.33	8.03	97.38	8.06	-0.03	0.37%
2016	97.33	7.92	97.38	7.95	-0.03	0.38%
2017	97.34	8.19	97.39	8.21	-0.02	0.24%
2018	97.34	8	97.39	8.02	-0.02	0.25%
2019	97.34	8.16	97.4	8.18	-0.02	0.24%
2020	97.35	7.92	97.4	7.95	-0.03	0.38%
2021	97.35	8.06	97.4	8.1	-0.04	0.49%
2022	97.36	7.88	97.41	7.9	-0.02	0.25%
2023	97.36	7.86	97.41	7.89	-0.03	0.38%
2024	97.37	7.76	97.42	7.79	-0.03	0.39%
2025	97.37	8.31	97.42	8.33	-0.02	0.24%
2026	97.38	8.18	97.42	8.21	-0.03	0.37%
2027	97.38	8.2	97.43	8.23	-0.03	0.36%
2028	97.38	8.07	97.43	8.09	-0.02	0.25%
2029	97.39	8.1	97.44	8.13	-0.03	0.37%
2030	97.39	8.17	97.44	8.19	-0.02	0.24%
2031	97.40	8.29	97.44	8.32	-0.03	0.36%
2032	97.40	8.35	97.45	8.38	-0.03	0.36%
2033	97.41	8.25	97.45	8.27	-0.02	0.24%
2034	97.41	8.19	97.46	8.22	-0.03	0.36%
2035	97.41	8.05	97.46	8.08	-0.03	0.37%
2036	97.42	8.15	97.47	8.17	-0.02	0.24%
2037	97.42	8.07	97.47	8.1	-0.03	0.37%
2038	97.43	8.11	97.47	8.13	-0.02	0.25%
2039	97.43	8.02	97.48	8.05	-0.03	0.37%
2040	97.44	8.11	97.48	8.14	-0.03	0.37%
2041	97.44	7.86	97.49	7.89	-0.03	0.38%
2042	97.44	8.07	97.49	8.09	-0.02	0.25%
2043	97.45	8.14	97.49	8.17	-0.03	0.37%
2044	97.45	8.08	97.5	8.1	-0.02	0.25%
2045	97.46	7.9	97.5	7.92	-0.02	0.25%
2046	97.46	8.19	97.51	8.21	-0.02	0.24%
2047	97.47	8.21	97.51	8.24	-0.03	0.36%
2048	97.47	8.14	97.51	8.17	-0.03	0.37%

2049	97.47	8.2	97.52	8.22	-0.02	0.24%
2050	97.48	8.28	97.52	8.3	-0.02	0.24%
2051	97.48	8.24	97.53	8.26	-0.02	0.24%
2052	97.49	8.11	97.53	8.13	-0.02	0.25%
2053	97.49	8.15	97.53	8.18	-0.03	0.37%
2054	97.50	8.33	97.54	8.36	-0.03	0.36%
2055	97.50	8.18	97.54	8.21	-0.03	0.37%
2056	97.50	8.09	97.55	8.11	-0.02	0.25%
2057	97.51	8	97.55	8.03	-0.03	0.37%
2058	97.51	8.04	97.56	8.07	-0.03	0.37%
2059	97.52	8.23	97.56	8.25	-0.02	0.24%
2060	97.52	8.31	97.56	8.36	-0.05	0.60%
2061	97.53	8.48	97.57	8.48	0.00	0.00%
2062	97.53	8.23	97.57	8.26	-0.03	0.36%
2063	97.53	8.39	97.58	8.43	-0.04	0.47%
2064	97.54	8.11	97.58	8.14	-0.03	0.37%
2065	97.54	8.39	97.58	8.41	-0.02	0.24%
2066	97.55	8.05	97.59	8.07	-0.02	0.25%
2067	97.55	8.09	97.59	8.1	-0.01	0.12%
2068	97.56	8.29	97.6	8.32	-0.03	0.36%
2069	97.56				exclude	exclude
2070	97.56		97.6		exclude	exclude
2071	97.57	8.07	97.6	8.07	0.00	0.00%
2072	97.57	8.18	97.61	8.21	-0.03	0.37%
2073	97.58	8.1	97.61	8.12	-0.02	0.25%
2074	97.58	7.84	97.62	7.88	-0.04	0.51%
2075	97.59	7.96	97.62	7.97	-0.01	0.13%
2076	97.59	7.97	97.63	7.99	-0.02	0.25%
2077	97.59	8.08	97.63	8.1	-0.02	0.25%
2078	97.60	8.27	97.63	8.3	-0.03	0.36%
2079	97.60	8.14	97.64	8.19	-0.05	0.61%
2080	97.61	8.1	97.64	8.11	-0.01	0.12%
2081	97.61	8.28	97.65	8.3	-0.02	0.24%
2082	97.62	8.16	97.65	8.21	-0.05	0.61%
2083	97.62	7.87	97.65	7.88	-0.01	0.13%
2084	97.63	7.94	97.66	7.96	-0.02	0.25%
2085	97.63	8.02	97.66	8.05	-0.03	0.37%
2086	97.63	8.02	97.67	8.05	-0.03	0.37%
2087	97.64	8.14	97.67	8.17	-0.03	0.37%
2088	97.64	7.87	97.67	7.89	-0.02	0.25%
2089	97.65	7.8	97.68	7.8	0.00	0.00%
2090	97.65	8.04	97.68	8.09	-0.05	0.62%
2091	97.66	8	97.69	8.03	-0.03	0.37%
2092	97.66	8.11	97.69	8.11	0.00	0.00%
2093	97.66	8	97.7	8.03	-0.03	0.37%

2094	97.67	8.12	97.7	8.18	-0.06	0.73%
2095	97.67	8.19	97.7	8.22	-0.03	0.36%
2096	97.68	8.05	97.71	8.09	-0.04	0.49%
2097	97.68	8.07	97.71	8.08	-0.01	0.12%
2098	97.69	8.18	97.72	8.22	-0.04	0.49%
2099	97.69	8.25	97.72	8.27	-0.02	0.24%
2100	97.69	8.01	97.72	8.05	-0.04	0.50%
2101	97.70	8.14	97.73	8.16	-0.02	0.25%
2102	97.70	7.91	97.73	7.94	-0.03	0.38%
2103	97.71	8.16	97.74	8.17	-0.01	0.12%
2104	97.71	8.17	97.74	8.21	-0.04	0.49%
2105	97.72	8.13	97.74	8.14	-0.01	0.12%
2106	97.72	8.07	97.75	8.11	-0.04	0.49%
2107	97.72	8.19	97.75	8.21	-0.02	0.24%
2108	97.73	8.26	97.76	8.29	-0.03	0.36%
2109	97.73	8.34	97.76	8.36	-0.02	0.24%
2110	97.74	7.99	97.77	8.02	-0.03	0.37%
2111	97.74	8.33	97.77	8.35	-0.02	0.24%
2112	97.75	8.2	97.77	8.23	-0.03	0.36%
2113	97.75	8.37	97.78	8.39	-0.02	0.24%
2114	97.75	7.94	97.78	7.97	-0.03	0.38%
2115	97.76	7.68	97.79	7.72	-0.04	0.52%
2116	97.76	7.99	97.79	8.01	-0.02	0.25%
2117	97.77	8.01	97.79	8.04	-0.03	0.37%
2118	97.77	7.96	97.8	7.99	-0.03	0.38%
2119	97.78	8.3	97.8	8.33	-0.03	0.36%
2120	97.78	8.11	97.81	8.12	-0.01	0.12%
2121	97.78	7.84	97.81	7.87	-0.03	0.38%
2122	97.79	7.86	97.81	7.87	-0.01	0.13%
2123	97.79	8.01	97.82	8.05	-0.04	0.50%
2124	97.80	8.17	97.82	8.2	-0.03	0.37%
2125	97.80	8.23	97.83	8.26	-0.03	0.36%
2126	97.81	8.21	97.83	8.24	-0.03	0.36%
2127	97.81	8.01	97.84	8.04	-0.03	0.37%
2128	97.81	7.92	97.84	7.95	-0.03	0.38%
2129	97.82	8.11	97.84	8.14	-0.03	0.37%
2130	97.82	8.16	97.85	8.18	-0.02	0.24%
2131	97.83	8.27	97.85	8.34	-0.07	0.84%
2132	97.83	8	97.86	7.99	0.01	-0.13%
2133	97.84	7.88	97.86	7.9	-0.02	0.25%
2134	97.84	7.82	97.86	7.89	-0.07	0.89%
2135	97.84	7.98	97.87	7.99	-0.01	0.13%
2136	97.85	7.98	97.87	8.02	-0.04	0.50%
2137	97.85	8.06	97.88	8.07	-0.01	0.12%
2138	97.86	8.11	97.88	8.16	-0.05	0.61%

2139	97.86	8.1	97.88	8.11	-0.01	0.12%
2140	97.87	7.95	97.89	7.96	-0.01	0.13%
2141	97.87	8.1	97.89	8.13	-0.03	0.37%
2142	97.88	8.13	97.9	8.17	-0.04	0.49%
2143	97.88	8.15	97.9	8.18	-0.03	0.37%
2144	97.88	8.04	97.91	8.03	0.01	-0.12%
2145	97.89	8.02	97.91	8.07	-0.05	0.62%
2146	97.89	8.11	97.91	8.16	-0.05	0.61%
2147	97.90	8.17	97.92	8.16	0.01	-0.12%
2148	97.90	8.19	97.92	8.23	-0.04	0.49%
2149	97.91	8.04	97.93	8.07	-0.03	0.37%
2150	97.91	7.86	97.93	7.86	0.00	0.00%
2151	97.91	8	97.93	8.06	-0.06	0.74%
2152	97.92	8.16	97.94	8.15	0.01	-0.12%
2153	97.92	8.16	97.94	8.23	-0.07	0.85%
2154	97.93	8.08	97.95	8.1	-0.02	0.25%
2155	97.93	8.27	97.95	8.28	-0.01	0.12%
2156	97.94	8.28	97.95	8.31	-0.03	0.36%
2157	97.94	8.16	97.96	8.2	-0.04	0.49%
2158	97.94	7.99	97.96	8.02	-0.03	0.37%
2159	97.95	8.04	97.97	8.07	-0.03	0.37%
2160	97.95	8.28	97.97	8.31	-0.03	0.36%
2161	97.96	8.29	97.98	8.32	-0.03	0.36%
2162	97.96	8.02	97.98	8.04	-0.02	0.25%
2163	97.97	7.91	97.98	7.94	-0.03	0.38%
2164	97.97	8.11	97.99	8.14	-0.03	0.37%
2165	97.97	8.19	97.99	8.21	-0.02	0.24%
2166	97.98	8.31	98	8.33	-0.02	0.24%
2167	97.98	8.03	98	8.06	-0.03	0.37%

98.00 8.10

8.13

Overall Average **-0.03 0.37%**

Example 7a

Project: 750960

**Pile Name: - End Bent 1
Pile 4**

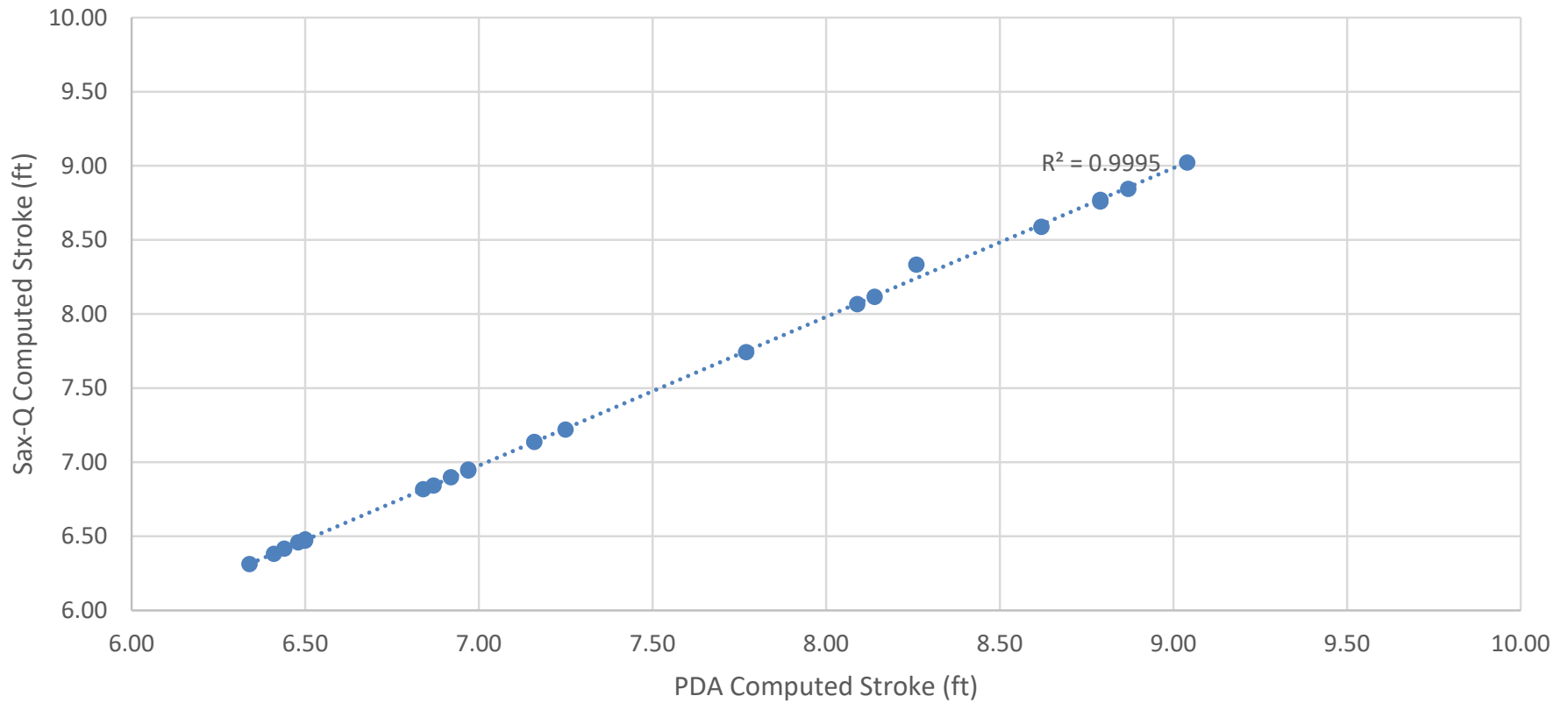
Pile Type: 24" SQ. PCP

Test Type: Initial Drive

Project 750960 - END BENT 1 PILE 4 - Sax Q vs PDA - Avg. Per Foot Comparison

Pen.	Sax BLC	Sax-Q Stroke, ft	PDA BLC	PDA Stroke, ft	Sax-Q-PDA	% difference
82	17	6.47	17	6.50	-0.03	0.47%
83	27	6.48	27	6.50	-0.02	0.35%
84	25	6.46	25	6.48	-0.02	0.35%
85	14	6.38	14	6.41	-0.03	0.46%
86	16	6.31	16	6.34	-0.03	0.44%
87	19	6.42	19	6.44	-0.02	0.37%
88	221	7.14	221	7.16	-0.02	0.34%
89	72	8.11	72	8.14	-0.03	0.31%
90	54	8.07	54	8.09	-0.02	0.30%
91	66	7.22	66	7.25	-0.03	0.42%
92	100	6.84	100	6.87	-0.03	0.42%
93	176	6.90	176	6.92	-0.02	0.33%
94	213	6.82	213	6.84	-0.02	0.35%
95	145	6.94	145	6.97	-0.03	0.39%
96	173	6.95	173	6.97	-0.02	0.31%
97	83	7.74	83	7.77	-0.03	0.37%
98	58	8.77	58	8.79	-0.02	0.23%
99	80	8.76	80	8.79	-0.03	0.36%
100	94	8.84	94	8.87	-0.03	0.31%
101	230	9.02	230	9.04	-0.02	0.22%
102	242	8.59	242	8.62	-0.03	0.38%
102.12	250	8.33	264	8.26	0.07	-0.87%
Overall Average					-0.02	0.30%

Project 750450 - END BENT 1 PILE 4
Sax Q vs PDA - Avg. Per Foot Comparison



750960 - D80

OP: GRL- Date:
 AR: SP
 LE: 136.00ft EM: 6,121ksi
 WS: 13,750.0f/s JC: 0.50
STK: O.E. Diesel Hammer Stroke CSB: Compression Stress at Bottom
TSX: Tension Stress Maximum ETR: Energy Transfer Ratio
EMX: Max Transferred Energy CSB: Max Measured Compr. Stress
BPM: Blows per Minute FMX: Maximum Force

BL#	Depth ft	BLC bl/ft	TYPE	STK ft	TSX ksi	EMX k-ft	BPM bpm	CSB ksi	ETR (%)
17	82.00	17	AV16	6.50	0.68	38.10	43.60	1.10	20.5
44	83.00	27	AV27	6.50	0.62	38.80	46.10	1.20	20.9
69	84.00	25	AV25	6.48	0.63	38.40	46.20	1.20	20.6
83	85	14	AV14	6.41	0.68	37.7	46.5	1.1	20.2
99	86	16	AV16	6.34	0.7	37.2	46.7	1.1	20
118	87	19	AV19	6.44	0.68	38.4	46.4	1.3	20.6
339	88	221	AV221	7.16	0.79	45.5	44.2	1.5	24.4
411	89	72	AV72	8.14	1.18	59.8	41.4	1.4	32.1
465	90	54	AV54	8.09	1.22	58.4	41.6	1.3	31.3
531	91	66	AV66	7.25	0.93	45.1	43.9	1.1	24.2
631	92	100	AV100	6.87	0.8	39.5	44.9	1.1	21.2
807	93	176	AV176	6.92	0.94	41.5	44.8	1.1	22.3
1020	94	213	AV213	6.84	1.1	42.1	45	1.1	22.6
1165	95	145	AV145	6.97	1.2	44.6	44.6	1.2	23.9
1338	96	173	AV173	6.97	1.23	44.9	44.6	1.2	24.1
1421	97	83	AV82	7.77	0.85	50.1	42.1	1.5	26.9
1479	98	58	AV58	8.79	1.02	64.9	39.9	1.5	34.9
1559	99	80	AV80	8.79	1.1	64.4	39.9	1.3	34.6
1653	100	94	AV94	8.87	1.04	64	39.7	1.5	34.4
1883	101	230	AV230	9.04	1.14	65.2	39.4	1.4	35
2125	102	242	AV242	8.62	1.15	59	40.4	1.3	31.7
2162	102.14	264	AV37	8.26	1.09	53.9	41.3	1.3	29

Sensors

Blows: 1-2162

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1
F3	Strain	V139	143.9	1
A1	PR Accel	K4993	316	1
A4	PR Accel	K6207	358	1

BL# Comments
 256 fs2

316 fs3
438 fs2
480 fs1
1366 cushion
1399 fs3
1950 fs2

GRL Engin Page 2

PDILOT2 Printed 21-December-2022

Case Method & iCAP® Results

750960 - £ D80

OP: GRL-B Date: 14-November-2022

Time Summary

Drive 30 minute 10:16 AM - 10:47 AM (11/14/2022) BN 1 - 1366

Stop 43 minute 10:47 AM - 11:30 AM

Drive 19 minute 11:30 AM - 11:50 AM BN 1367 - 2162

Total time [01:33:49] = (Driving [00:50:35] + Stop [00:43:13])

Depth Input	REF	Blows	Stroke	Eq. Stke. & Notes	Depth REF	Blows	Stroke	Eq. Stke. & Notes	Depth REF	Blows	Stroke	Eq. Stke. & Notes
81.00	1	82.00	17	6.47	Recording pause	113.00 - 114.00			-			
82.00 - 83.00		27	6.477			114.00 - 115.00			-			
83.00 - 84.00		25	6.458			115.00 - 116.00			-			
84.00 - 85.00		14	6.38			116.00 - 117.00			-			
85.00 - 86.00		16	6.312			117.00 - 118.00			-			
86.00 - 87.00		19	6.416			118.00 - 119.00			-			
87.00 - 88.00		221	7.135			119.00 - 120.00			-			
88.00 - 89.00		72	8.115			120.00 - 121.00			-			
89.00 - 90.00		54	8.066			121.00 - 122.00			-			
90.00 - 91.00		66	7.219			122.00 - 123.00			-			
91.00 - 92.00		100	6.841			123.00 - 124.00			-			
92.00 - 93.00		176	6.897			124.00 - 125.00			-			
93.00 - 94.00		213	6.816			125.00 - 126.00			-			
94.00 - 95.00		145	6.943			-			-			
95.00 - 96.00		173	6.949			-			-			
96.00 - 97.00		83	7.742	Recording pause		-			-			
97.00 - 98.00		58	8.77			-			-			
98.00 - 99.00		80	8.758			-			-			
99.00 - 100.00		94	8.843			-			-			
100.00 - 101.00		230	9.02			-			-			
101.00 - 102.00		242	8.587			-			-			
102.00 - 102.14		35	8.332	Calculated pen.		-			-			
102.14 - 103.00						-			-			
103.00 - 104.00						-			-		Log	
104.00 - 105.00						-			-			
105.00 - 106.00						-			-			
106.00 - 107.00						-			-			
107.00 - 108.00						-			-			
108.00 - 109.00						-			-			
109.00 - 110.00						-			-			
110.00 - 111.00						-			-			
111.00 - 112.00						-			-			
112.00 - 113.00						-			-			

Example 7b

Project: 750960

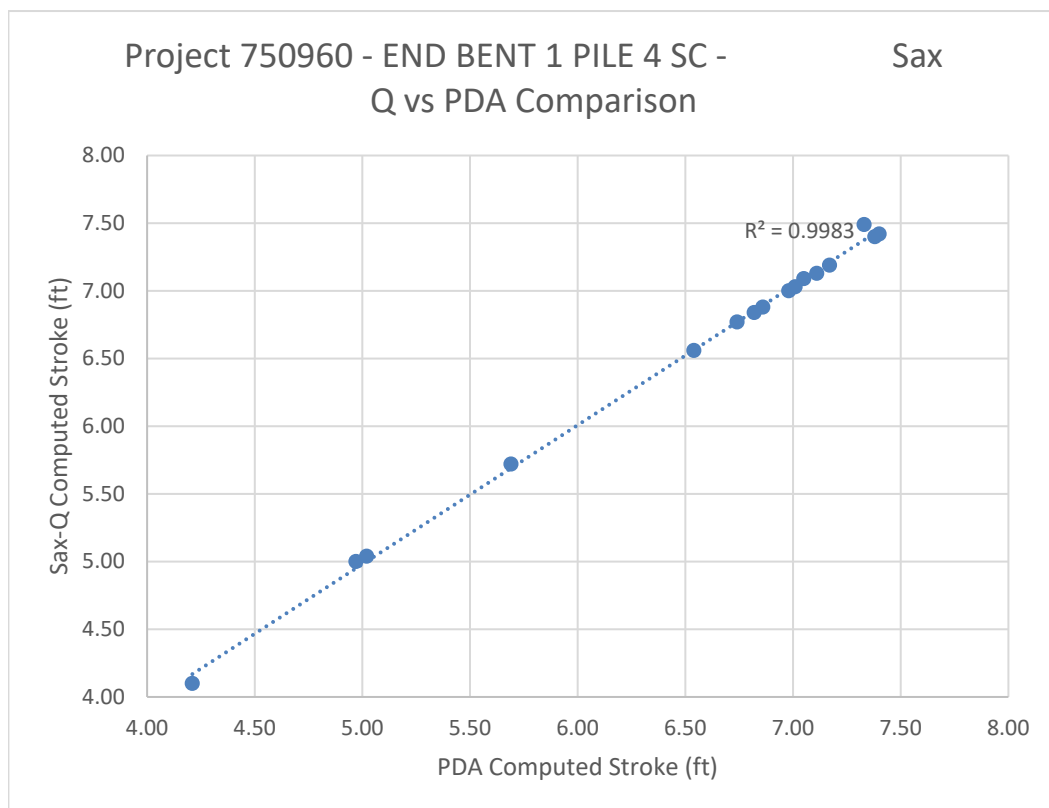
**Pile Name: - End Bent 1
Pile 4**

Pile Type: 24" SQ. PCP

Test Type: Set Check

Project 750960 - END BENT 1 PILE 4 SC - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke, ft		PDA Stroke, ft	% difference
1	0.00		0.00	
2	0.00		0.00	
3	5.69		5.72	0.52%
4	5.02		5.04	0.40%
5	4.97		5.00	0.60%
6	6.54		6.56	0.30%
7	7.33		7.49	2.14%
8	7.38		7.40	0.27%
9	6.98		7.00	0.29%
10	6.86		6.88	0.29%
11	7.17		7.19	0.28%
12	7.11		7.13	0.28%
13	7.01		7.03	0.28%
14	7.40		7.42	0.27%
15	6.74		6.77	0.44%
16	6.82		6.84	0.29%
17	7.05		7.09	0.56%
18	4.21		4.1	-2.68%



Case Method & iCAP® Results

750960 - END BENT 1 PILE 4 SC
 OP: GRL-BM

D80
 Date: 15-November-2022

AR: 576.00 in² SP: 0.150 k/ft³
 LE: 100.00 ft EM: 6,121 ksi
 WS: 13,750.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	BLC bl/ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	101.70	217	AV1	0.01	0.01	0.00	0.01	**	0.0	0	0	0
2	101.71	217	AV1	2.06	2.11	1.91	0.60	**	21.4	100	1,420	1,373
3	101.71	217	AV1	2.16	2.21	2.00	0.71	5.72	23.5	100	1,532	1,482
4	101.72	217	AV1	1.84	1.88	1.84	0.65	5.04	16.3	100	1,398	1,366
5	101.72	217	AV1	1.90	1.93	2.01	0.72	5.00	19.1	100	1,438	1,402
6	101.73	217	AV1	2.84	2.86	2.81	0.88	6.56	41.1	100	1,745	1,658
7	101.73	217	AV1	3.29	3.30	3.29	0.80	7.49	52.7	100	1,825	1,750
8	101.74	217	AV1	3.27	3.28	3.34	0.73	7.40	51.6	100	1,830	1,755
9	101.74	217	AV1	3.11	3.12	3.22	0.69	7.00	46.9	100	1,783	1,713
10	101.75	217	AV1	3.11	3.13	3.18	0.71	6.88	45.8	100	1,776	1,712
11	101.75	217	AV1	3.25	3.28	3.26	0.70	7.19	48.7	100	1,796	1,730
12	101.76	217	AV1	3.20	3.23	3.22	0.66	7.13	48.1	100	1,766	1,699
13	101.76	217	AV1	3.21	3.23	3.20	0.69	7.03	48.7	100	1,766	1,702
14	101.76	217	AV1	3.32	3.34	3.26	0.64	7.42	50.7	100	1,770	1,702
15	101.77	217	AV1	3.03	3.05	2.98	0.62	6.77	43.1	100	1,691	1,632
16	101.77	217	AV1	3.11	3.14	3.05	0.63	6.84	46.2	100	1,695	1,634
17	101.78	217	AV1	3.00	3.02	2.96	0.51	7.09	41.4	100	1,624	1,552
18	101.78	217	AV1	1.01	1.02	0.79	0.30	4.10	4.1	100	628	616

BL# Sensors

1-18 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

18 5/8

Time Summary

Drive 2 minutes 27 seconds 7:12 AM - 7:14 AM BN 1 - 18



Pile: 4
Start Pen.: 101.70 ft

Length: 140.00 ft
Start of Collection: 15-November-2022 7:05:51

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
7:12:14	1	0.0	0.00	216.0	101.70	
7:14:16	2	0.0	0.00	216.0	101.71	
7:14:17	3	49.0	5.69	216.0	101.71	
7:14:18	4	52.0	5.02	216.0	101.72	
7:14:19	5	52.3	4.97	216.0	101.72	
7:14:20	6	45.9	6.54	216.0	101.73	
7:14:22	7	43.5	7.33	216.0	101.73	
7:14:23	8	43.4	7.38	216.0	101.74	
7:14:24	9	44.5	6.98	216.0	101.74	
7:14:26	10	44.9	6.86	216.0	101.75	
7:14:27	11	43.9	7.17	216.0	101.75	
7:14:28	12	44.1	7.11	216.0	101.76	
7:14:30	13	44.4	7.01	216.0	101.76	
7:14:31	14	43.3	7.40	216.0	101.76	
7:14:32	15	45.3	6.74	216.0	101.77	
7:14:34	16	45.0	6.82	216.0	101.77	
7:14:35	17	44.3	7.05	216.0	101.78	
7:14:36	18	56.5	4.21	216.0	101.78	
7:17:04	Average	46.4	6.52	216.0	101.78	

Time Summary

Drive 2 minutes 22 seconds 7:12:14 - 7:14:36 BN 1 - 18

PILE DRIVING LOG

Structure No.: _____ Depth Table Extended (ft): _____ Bent/Pier No.: _____ Pile No.: 4

Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes
101.70	1	101.78	18	6.517	Recording pause	133.00 - 134.00				-				
101.78		102.00				134.00 - 135.00				-				
102.00		103.00				135.00 - 136.00				-				
103.00		104.00				136.00 - 137.00				-				
104.00		105.00				137.00 - 138.00				-				
105.00		106.00				138.00 - 139.00				-				
106.00		107.00				139.00 - 140.00				-				
107.00		108.00				-				-				
108.00		109.00				-				-				
109.00		110.00				-				-				
110.00		111.00				-				-				
111.00		112.00				-				-				
112.00		113.00				-				-				
113.00		114.00				-				-				
114.00		115.00				-				-				
115.00		116.00				-				-				
116.00		117.00				-				-				
117.00		118.00				-				-				
118.00		119.00				-				-				
119.00		120.00				-				-				
120.00		121.00				-				-				
121.00		122.00				-				-				
122.00		123.00				-				-				
123.00		124.00				-				-				
124.00		125.00				-				-				
125.00		126.00				-				-				
126.00		127.00				-				-				
127.00		128.00				-				-				
128.00		129.00				-				-				
129.00		130.00				-				-				
130.00		131.00				-				-				
131.00		132.00				-				-				
132.00		133.00				-				-				

Example 8

Project: 750961

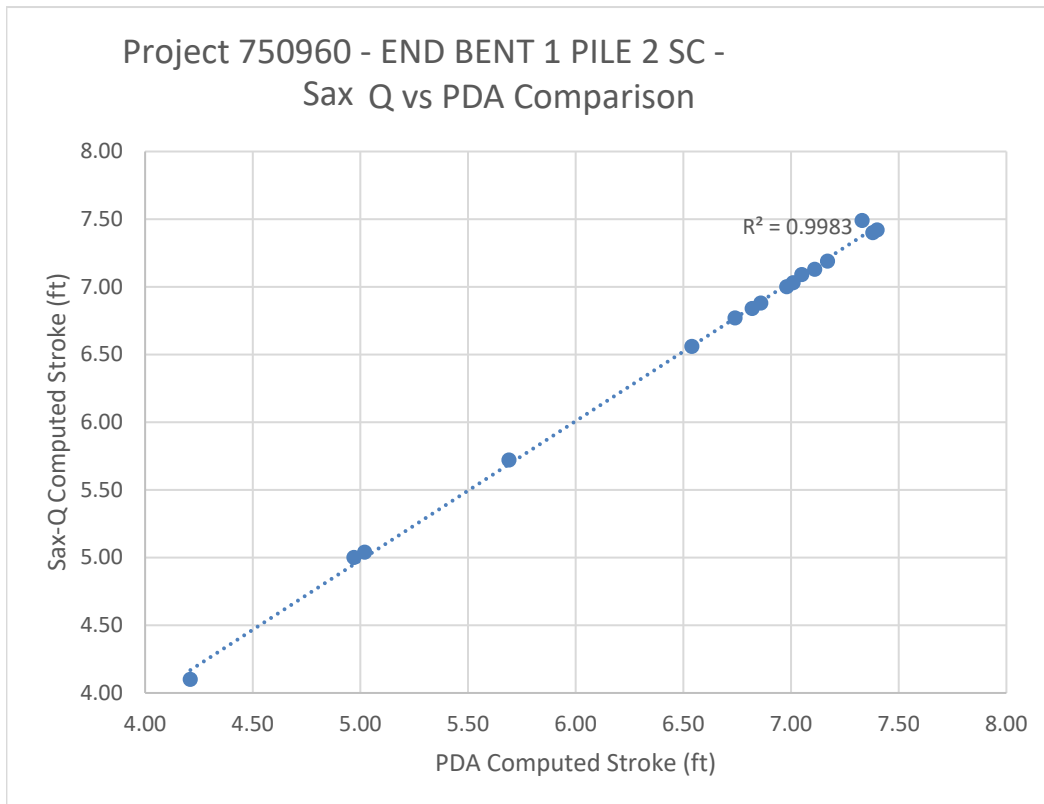
**Pile Name: - End Bent 1
Pile 2**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Project 750961 - END BENT 1 PILE 2 SC - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke, ft		PDA Stroke, ft	% difference
1	0.00		0.00	
2	0.00		0.00	
3	5.69		5.72	0.52%
4	5.02		5.04	0.40%
5	4.97		5.00	0.60%
6	6.54		6.56	0.30%
7	7.33		7.49	2.14%
8	7.38		7.40	0.27%
9	6.98		7.00	0.29%
10	6.86		6.88	0.29%
11	7.17		7.19	0.28%
12	7.11		7.13	0.28%
13	7.01		7.03	0.28%
14	7.40		7.42	0.27%
15	6.74		6.77	0.44%
16	6.82		6.84	0.29%
17	7.05		7.09	0.56%
18	4.21		4.1	-2.68%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 2 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 82.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	80.50	AV1	1.83	2.56	1.36	0.56	**	6.4	79	578	575
2	80.50	AV1	2.93	4.03	1.75	1.05	7.90	20.3	100	983	965
3	80.50	AV1	3.41	4.35	2.15	1.27	9.64	31.3	100	1,199	1,164
4	80.50	AV1	3.52	4.44	2.20	1.20	10.31	33.5	100	1,199	1,155
5	80.50	AV1	3.38	4.23	2.17	1.17	9.86	31.3	100	1,191	1,148
6	80.50	AV1	3.29	4.14	2.24	1.13	9.84	31.8	100	1,190	1,143
7	80.50	AV1	3.15	4.00	2.22	1.07	9.46	30.7	100	1,137	1,090
8	80.50	AV1	3.11	3.94	2.18	1.04	8.87	28.2	100	1,103	1,062
9	80.50	AV1	2.97	3.73	2.38	1.00	8.36	26.0	100	1,058	1,018
10	80.50	AV1	3.04	3.84	2.27	0.99	8.34	27.6	100	1,100	1,056
11	80.50	AV1	3.22	4.04	2.36	1.05	9.38	31.0	100	1,168	1,120
12	80.50	AV1	2.60	3.47	1.93	1.01	8.53	18.4	100	902	860
Average			3.04	3.90	2.10	1.04	9.14	26.4	98	1,067	1,030

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 NO SET

Time Summary

Drive 16 seconds 11:21 AM - 11:22 AM BN 1 - 12



Pile: 2
Start Pen.: 85.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:20:57

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:21:42	1	0.0	0.00	12.0	85.08	
11:21:44	2	41.9	7.93	12.0	85.17	
11:21:46	3	38.2	9.60	12.0	85.25	
11:21:47	4	36.9	10.29	12.0	85.33	
11:21:49	5	37.8	9.83	12.0	85.42	
11:21:50	6	37.8	9.82	12.0	85.50	
11:21:52	7	38.5	9.43	12.0	85.58	
11:21:53	8	39.7	8.87	12.0	85.67	
11:21:55	9	40.8	8.36	12.0	85.75	
11:21:56	10	40.9	8.31	12.0	85.83	
11:21:58	11	38.8	9.31	12.0	85.92	
11:21:59	12	40.5	8.51	12.0	86.00	
11:22:11	Average	39.2	9.11	12.0	86.00	

Time Summary

Drive 16 seconds 11:21:42 - 11:21:59 BN 1 - 12

Example 9

Project: 750961

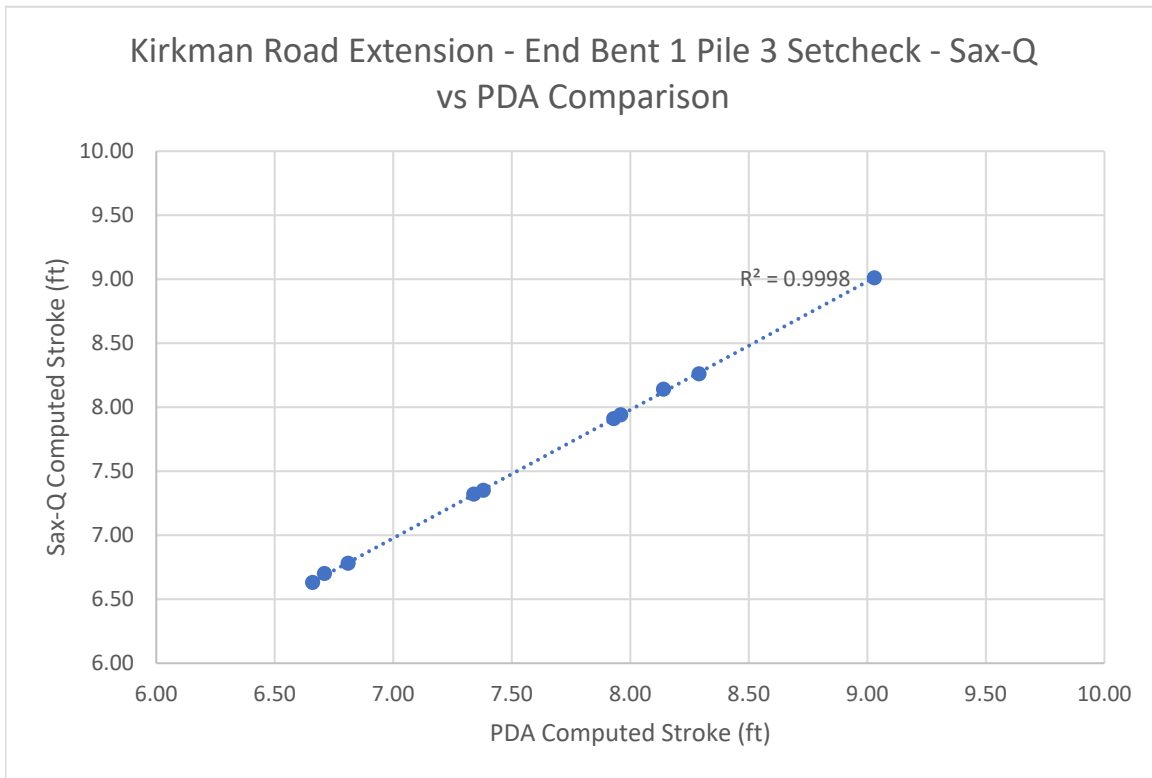
**Pile Name: - End Bent 1
Pile 3**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 3 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke, ft (ft)	PDA Stroke, ft (ft)	Sax-Q-PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.14	8.14	0.00	0.00%
3	9.01	9.03	-0.02	0.22%
4	7.32	7.34	-0.02	0.27%
5	6.70	6.71	-0.01	0.15%
6	6.63	6.66	-0.03	0.45%
7	6.78	6.81	-0.03	0.44%
8	7.35	7.38	-0.03	0.41%
9	7.91	7.93	-0.02	0.25%
10	8.26	8.29	-0.03	0.36%
11	8.12	1.18	excluded	-
12	7.94	7.96	-0.02	0.25%
		average	<u>-0.02</u>	<u>0.28%</u>



Case Method & iCAP® Results

750961 - END BENT 1 PILE 3 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 86.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	84.83	AV1	2.19	2.46	1.25	0.57	**	10.9	100	706	694
2	84.83	AV1	3.14	3.26	1.91	0.99	8.14	25.3	100	1,041	1,006
3	84.83	AV1	3.04	3.16	2.29	1.04	9.03	25.8	100	1,110	1,070
4	84.83	AV1	2.64	2.72	2.01	0.95	7.34	18.6	100	984	957
5	84.83	AV1	2.45	2.59	1.78	0.87	6.71	16.0	100	923	904
6	84.83	AV1	2.43	2.55	1.83	0.85	6.66	16.3	100	924	907
7	84.83	AV1	2.53	2.58	1.96	0.87	6.81	17.8	100	970	951
8	84.83	AV1	2.74	2.86	2.19	0.94	7.38	21.1	100	1,064	1,040
9	84.83	AV1	2.91	3.03	2.53	1.00	7.93	24.6	100	1,146	1,115
10	84.83	AV1	2.96	3.09	2.71	1.03	8.29	26.5	100	1,184	1,150
12	84.83	AV1	2.45	2.48	2.31	1.08	7.96	16.5	100	937	912
Average			2.68	2.80	2.07	0.93	7.63	20.0	100	999	973

Total number of blows analyzed: 11

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 NO SET

Time Summary

Drive 15 seconds 11:27 AM - 11:28 AM BN 1 - 12



Pile: 3
Start Pen.: 85.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:27:26

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:27:41	1	0.0	0.00	144.0	85.01	
11:27:43	2	41.4	8.14	144.0	85.01	
11:27:44	3	39.4	9.01	144.0	85.02	
11:27:46	4	43.5	7.32	144.0	85.03	
11:27:47	5	45.4	6.70	144.0	85.03	
11:27:48	6	45.6	6.63	144.0	85.04	
11:27:50	7	45.1	6.78	144.0	85.05	
11:27:51	8	43.4	7.35	144.0	85.06	
11:27:52	9	41.9	7.91	144.0	85.06	
11:27:54	10	41.1	8.26	144.0	85.07	
11:27:55	11	41.4	8.12	144.0	85.08	
11:27:57	12	41.9	7.94	144.0	85.08	
11:28:01	Average	42.7	7.65	144.0	85.08	

Time Summary

Drive 15 seconds 11:27:41 - 11:27:57 BN 1 - 12

Example 10

Project: 750961

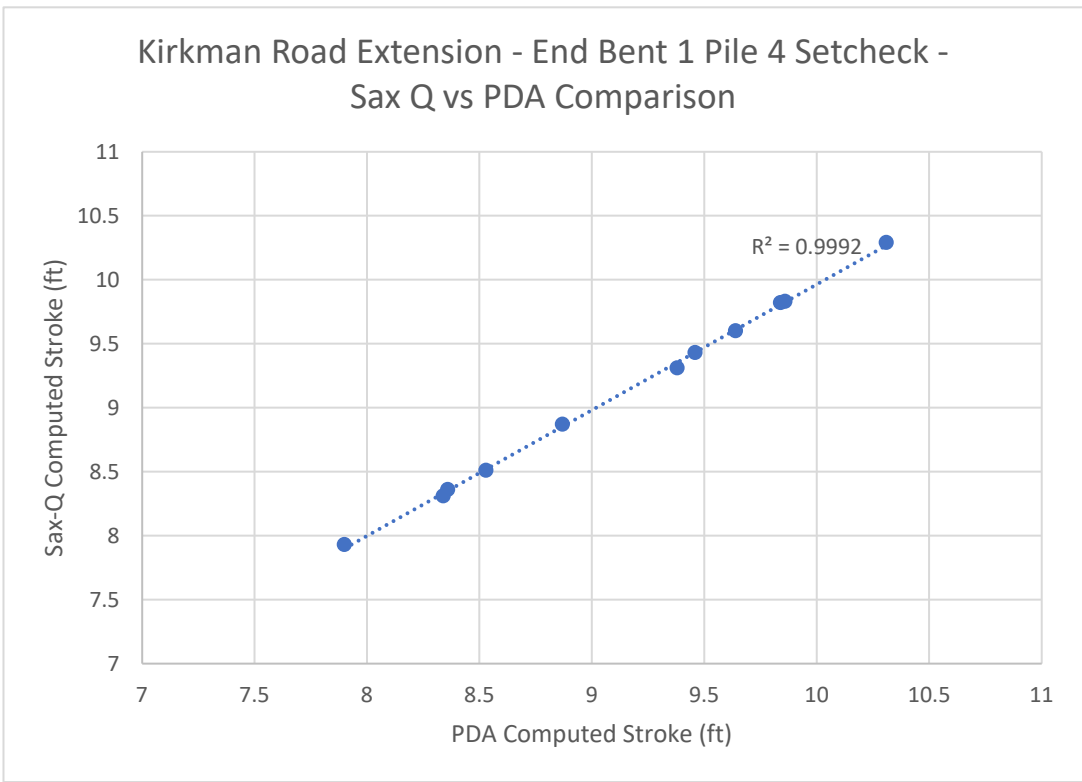
**Pile Name: - End Bent 1
Pile 4**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 4 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke, ft		PDA Stroke, ft	Sax-Q-PDA	% difference
	(ft)		(ft)	(ft)	
1	0.00		0.00		
2	10.38		10.38	0.00	0.00%
3	8.97		9.00	-0.03	0.33%
4	6.78		6.80	-0.02	0.29%
5	6.98		7.00	-0.02	0.29%
6	7.03		7.06	-0.03	0.42%
7	7.99		8.02	-0.03	0.37%
8	8.61		8.64	-0.03	0.35%
9	7.38		7.40	-0.02	0.27%
10	6.83		6.84	-0.01	0.15%
11	6.65		6.69	-0.04	0.60%
12	6.88		6.91	-0.03	0.43%
13	7.04		7.06	-0.02	0.28%
14	8.40		8.42	-0.02	0.24%
average				-0.02	0.31%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 4 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 85.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	84.33	AV1	2.91	3.31	1.61	0.78	**	17.7	100	900	871
2	84.33	AV1	3.68	4.05	2.59	1.06	10.38	37.6	100	1,258	1,202
3	84.33	AV1	3.12	3.39	2.49	0.98	9.00	28.2	100	1,144	1,102
4	84.33	AV1	2.65	2.84	2.11	0.82	6.80	19.6	100	952	927
5	84.33	AV1	2.68	2.79	2.38	0.87	7.00	21.0	100	1,011	982
6	84.33	AV1	2.75	2.87	2.38	0.85	7.06	22.4	100	1,033	1,005
7	84.33	AV1	3.14	3.38	2.89	0.91	8.02	28.8	100	1,168	1,132
8	84.33	AV1	3.17	3.38	3.08	0.97	8.64	30.8	100	1,184	1,139
9	84.33	AV1	2.78	2.95	2.70	0.85	7.40	23.0	100	1,079	1,047
10	84.33	AV1	2.54	2.71	2.49	0.77	6.84	19.7	100	981	956
11	84.33	AV1	2.54	2.61	2.45	0.80	6.69	19.7	100	996	971
12	84.33	AV1	2.70	2.78	2.55	0.85	6.91	21.2	100	1,041	1,016
13	84.33	AV1	2.95	3.05	2.87	0.92	7.06	25.4	100	1,100	1,071
14	84.33	AV1	2.76	2.84	2.80	0.98	8.42	21.5	100	998	962
Average			2.88	3.07	2.53	0.89	7.71	24.0	100	1,060	1,027

Total number of blows analyzed: 14

BL# Sensors

1-14 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

14 NO SET

Time Summary

Drive 18 seconds 11:35 AM - 11:35 AM BN 1 - 14



Pile: 4
Start Pen.: 85.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:34:56

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:35:31	1	0.0	0.00	168.0	85.01	
11:35:33	2	36.8	10.38	168.0	85.01	
11:35:34	3	39.5	8.97	168.0	85.02	
11:35:36	4	45.1	6.78	168.0	85.02	
11:35:37	5	44.5	6.98	168.0	85.03	
11:35:38	6	44.4	7.03	168.0	85.04	
11:35:40	7	41.7	7.99	168.0	85.04	
11:35:41	8	40.3	8.61	168.0	85.05	
11:35:43	9	43.3	7.38	168.0	85.05	
11:35:44	10	45.0	6.83	168.0	85.06	
11:35:45	11	45.6	6.65	168.0	85.07	
11:35:47	12	44.8	6.88	168.0	85.07	
11:35:48	13	44.3	7.04	168.0	85.08	
11:35:49	14	40.7	8.40	168.0	85.08	
11:36:04	Average	42.8	7.68	168.0	85.08	

Time Summary

Drive 18 seconds 11:35:31 - 11:35:49 BN 1 - 14

Example 11

Project: 750961

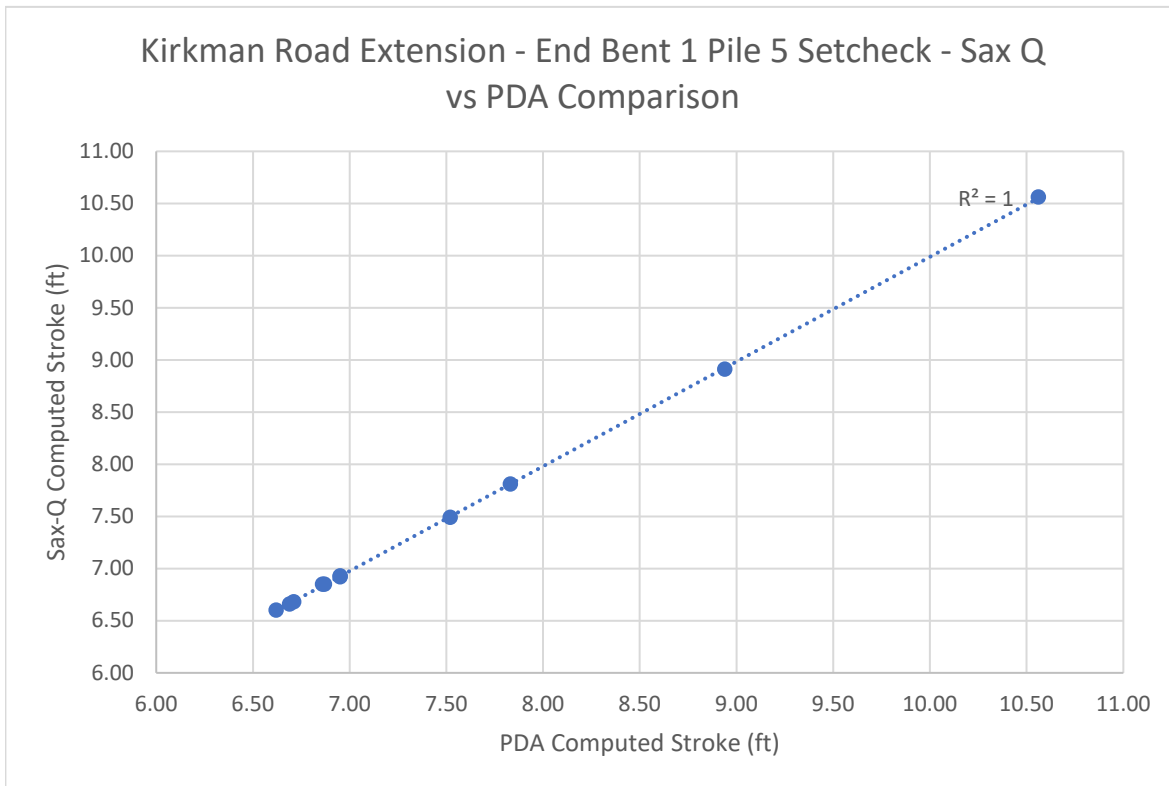
**Pile Name: - End Bent 1
Pile 5**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 5 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q-PDA (ft)	% difference (%)
1	0.00	0.00		
2	10.56	10.56	0.00	0.00%
3	8.91	8.94	-0.03	0.34%
4	6.68	6.71	-0.03	0.45%
5	6.66	6.69	-0.03	0.45%
6	6.60	6.62	-0.02	0.30%
7	6.85	6.87	-0.02	0.29%
8	7.81	7.83	-0.02	0.26%
9	7.49	7.52	-0.03	0.40%
10	6.93	6.95	-0.02	0.29%
11	6.92	6.95	-0.03	0.43%
12	6.85	6.86	-0.01	0.15%
average			-0.02	0.30%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 5 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 86.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	84.66	AV1	2.48	2.59	1.41	0.74	**	14.0	100	787	769
2	84.66	AV1	3.35	3.52	2.06	0.96	10.56	30.3	100	1,026	963
3	84.66	AV1	2.79	2.86	1.85	0.90	8.94	22.1	100	981	937
4	84.66	AV1	2.17	2.58	1.74	0.74	6.71	14.3	100	832	808
5	84.66	AV1	2.14	2.64	1.85	0.75	6.69	15.0	100	836	811
6	84.66	AV1	2.14	2.54	1.88	0.72	6.62	14.4	100	853	830
7	84.66	AV1	2.36	2.66	2.06	0.78	6.87	17.5	100	918	893
8	84.66	AV1	2.52	2.75	2.36	0.81	7.83	20.1	100	984	949
9	84.66	AV1	2.41	2.70	2.34	0.79	7.52	18.7	100	953	921
10	84.66	AV1	2.24	2.64	2.24	0.74	6.95	17.0	100	919	891
11	84.66	AV1	2.23	2.67	2.25	0.72	6.95	17.0	100	915	888
12	84.66	AV1	1.93	2.02	1.99	0.76	6.86	11.2	100	744	720
Average			2.40	2.68	2.00	0.78	7.50	17.6	100	896	865

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 0.125 IN

Time Summary

Drive 15 seconds 11:42 AM - 11:42 AM BN 1 - 12



Pile: 5
Start Pen.: 85.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:40:18

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:42:33	1	0.0	0.00	144.0	85.01	
11:42:35	2	36.5	10.56	144.0	85.01	
11:42:36	3	39.6	8.91	144.0	85.02	
11:42:38	4	45.4	6.68	144.0	85.03	
11:42:39	5	45.5	6.66	144.0	85.03	
11:42:40	6	45.7	6.60	144.0	85.04	
11:42:42	7	44.9	6.85	144.0	85.05	
11:42:43	8	42.2	7.81	144.0	85.06	
11:42:44	9	43.0	7.49	144.0	85.06	
11:42:46	10	44.7	6.93	144.0	85.07	
11:42:47	11	44.7	6.92	144.0	85.08	
11:42:48	12	44.9	6.85	144.0	85.08	
11:42:53	Average	43.4	7.48	144.0	85.08	

Time Summary

Drive 15 seconds 11:42:33 - 11:42:48 BN 1 - 12

PILE DRIVING LOG

Structure No.: Depth Table Extended (ft): Bent/Pier No.: Pile No.: 5

Table with columns: Depth Input, Blows, Stroke, Eq. Stke. & Notes, Depth REF, Blows, Stroke, Eq. Stke. & Notes, Depth REF, Blows, Stroke, Eq. Stke. & Notes. Row 1: 85.00, 1, 85.08, 12, 7.477, -, -, -, -, -, -, -. Subsequent rows show depth intervals from 85.08 to 100.00 with dashes in the other columns.

Example 12

Project: 750961

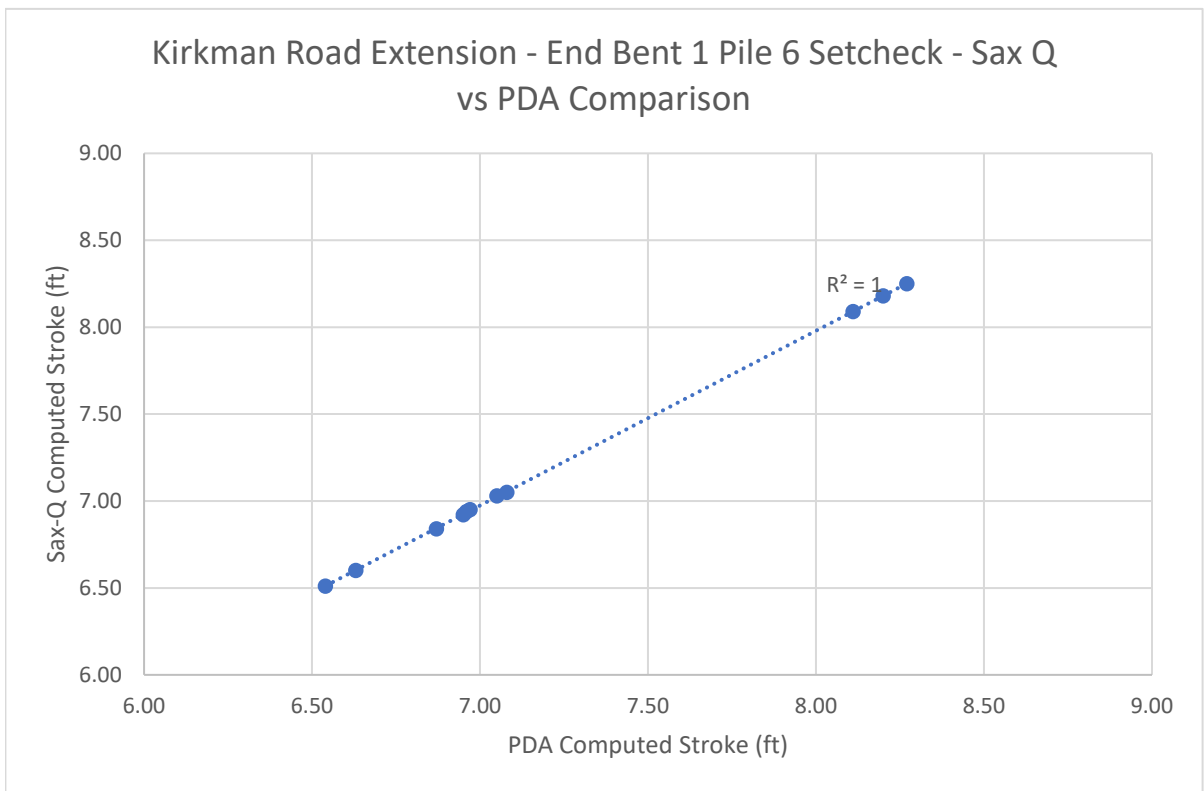
**Pile Name: - End Bent 1
Pile 6**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 6 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.18	8.20	-0.02	0.24%
3	8.25	8.27	-0.02	0.24%
4	8.09	8.11	-0.02	0.25%
5	6.60	6.63	-0.03	0.45%
6	6.51	6.54	-0.03	0.46%
7	6.95	6.97	-0.02	0.29%
8	7.03	7.05	-0.02	0.28%
9	7.05	7.08	-0.03	0.42%
10	6.94	6.96	-0.02	0.29%
11	6.92	6.95	-0.03	0.43%
12	6.84	6.87	-0.03	0.44%
average			-0.02	0.34%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 6 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 85.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	84.50	AV1	2.28	2.67	1.27	0.49	**	11.7	100	710	695
2	84.50	AV1	3.08	3.32	1.89	0.79	8.20	23.4	100	1,028	989
3	84.50	AV1	3.02	3.26	2.27	0.77	8.27	25.1	100	1,065	1,027
4	84.50	AV1	2.78	2.95	2.46	0.79	8.11	23.3	100	1,028	994
5	84.50	AV1	2.41	2.56	2.11	0.66	6.63	17.1	100	886	862
6	84.50	AV1	2.47	2.69	2.20	0.68	6.54	17.8	100	911	887
7	84.50	AV1	2.57	2.79	2.46	0.72	6.97	20.8	100	965	935
8	84.50	AV1	2.62	2.80	2.48	0.73	7.05	19.9	100	985	959
9	84.50	AV1	2.56	2.70	2.52	0.70	7.08	20.2	100	966	938
10	84.50	AV1	2.55	2.75	2.47	0.72	6.96	18.5	100	974	950
11	84.50	AV1	2.55	2.77	2.55	0.73	6.95	19.8	100	969	942
12	84.50	AV1	2.15	2.33	2.21	0.77	6.87	13.3	100	810	783
Average			2.59	2.80	2.24	0.71	7.24	19.2	100	941	913

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 0.125 IN

Time Summary

Drive 15 seconds 11:50 AM - 11:51 AM BN 1 - 12



Pile: 6
Start Pen.: 85.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:49:44

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:50:48	1	0.0	0.00	144.0	85.01	
11:50:50	2	41.3	8.18	144.0	85.01	
11:50:51	3	41.1	8.25	144.0	85.02	
11:50:53	4	41.5	8.09	144.0	85.03	
11:50:54	5	45.7	6.60	144.0	85.03	
11:50:55	6	46.0	6.51	144.0	85.04	
11:50:57	7	44.6	6.95	144.0	85.05	
11:50:58	8	44.4	7.03	144.0	85.06	
11:51:00	9	44.3	7.05	144.0	85.06	
11:51:01	10	44.6	6.94	144.0	85.07	
11:51:02	11	44.7	6.92	144.0	85.08	
11:51:04	12	44.9	6.84	144.0	85.08	
11:51:09	Average	43.9	7.21	144.0	85.08	

Time Summary

Drive 15 seconds 11:50:48 - 11:51:04 BN 1 - 12

Example 13

Project: 750961

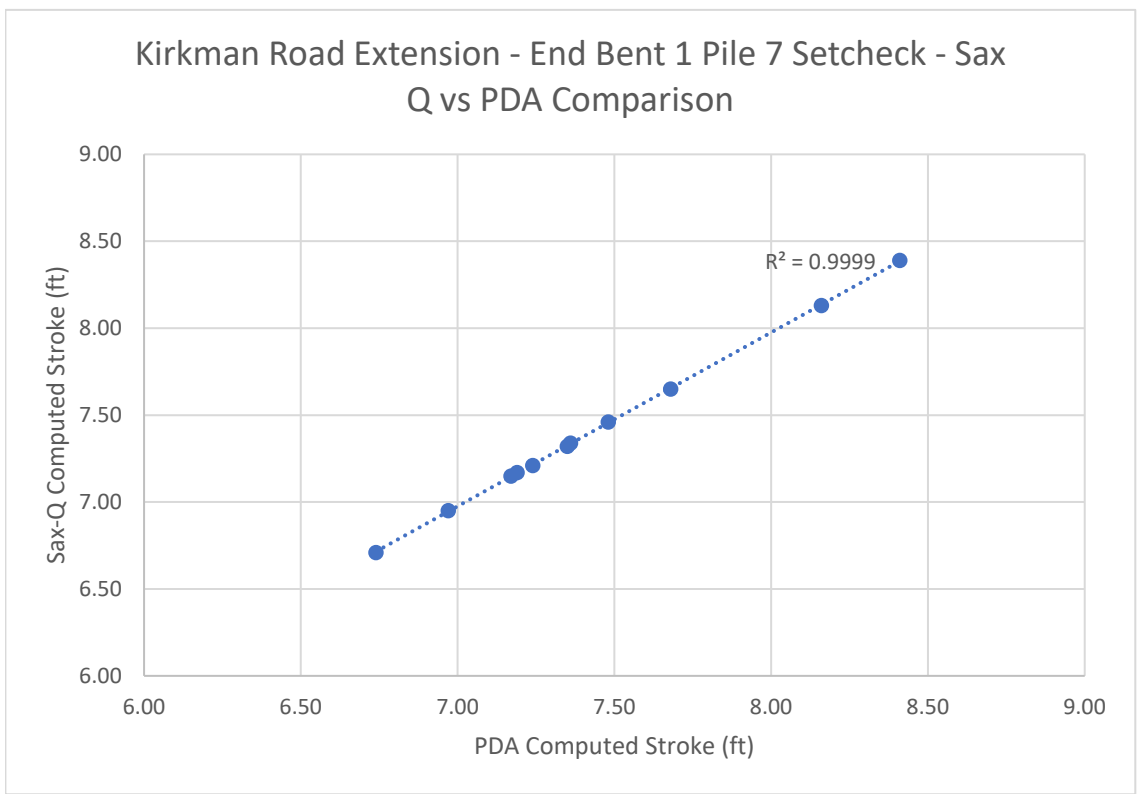
**Pile Name: - End Bent 1
Pile 7**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 7 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.39	8.41	-0.02	0.24%
3	8.13	8.16	-0.03	0.37%
4	7.32	7.35	-0.03	0.41%
5	7.21	7.24	-0.03	0.41%
6	7.46	7.48	-0.02	0.27%
7	7.65	7.68	-0.03	0.39%
8	7.34	7.36	-0.02	0.27%
9	7.17	7.19	-0.02	0.28%
10	7.15	7.17	-0.02	0.28%
11	6.95	6.97	-0.02	0.29%
12	6.71	6.74	-0.03	0.45%
average			-0.02	0.33%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 7 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 83.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	82.08	AV1	2.28	2.89	1.26	0.48	**	11.5	100	693	676
2	82.08	AV1	3.15	3.62	1.91	0.79	8.41	24.5	100	1,007	961
3	82.08	AV1	2.89	3.11	1.98	0.73	8.16	23.1	100	983	940
4	82.08	AV1	2.70	2.77	2.11	0.66	7.35	19.7	100	938	903
5	82.08	AV1	2.70	2.75	2.18	0.64	7.24	19.5	100	951	918
6	82.08	AV1	2.81	2.87	2.40	0.66	7.48	23.3	100	980	942
7	82.08	AV1	2.80	2.89	2.52	0.66	7.68	22.9	100	1,002	963
8	82.08	AV1	2.68	2.76	2.50	0.63	7.36	22.4	100	958	920
9	82.08	AV1	2.65	2.69	2.43	0.65	7.19	20.8	100	954	920
10	82.08	AV1	2.60	2.66	2.46	0.63	7.17	20.6	100	941	906
11	82.08	AV1	2.50	2.54	2.36	0.60	6.97	18.6	100	913	882
12	82.08	AV1	2.10	2.16	1.99	0.64	6.74	11.2	100	740	715
Average			2.66	2.81	2.17	0.65	7.43	19.8	100	922	887

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 NO MOVE

Time Summary

Drive 15 seconds 11:58 AM - 11:58 AM BN 1 - 12



Pile: 7
Start Pen.: 80.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 11:57:41

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
11:58:17	1	0.0	0.00	144.0	80.01	
11:58:19	2	40.8	8.39	144.0	80.01	
11:58:20	3	41.4	8.13	144.0	80.02	
11:58:21	4	43.5	7.32	144.0	80.03	
11:58:23	5	43.8	7.21	144.0	80.03	
11:58:24	6	43.1	7.46	144.0	80.04	
11:58:26	7	42.6	7.65	144.0	80.05	
11:58:27	8	43.5	7.34	144.0	80.06	
11:58:29	9	43.9	7.17	144.0	80.06	
11:58:30	10	44.0	7.15	144.0	80.07	
11:58:31	11	44.6	6.95	144.0	80.08	
11:58:33	12	45.3	6.71	144.0	80.08	
11:58:40	Average	43.3	7.41	144.0	80.08	

Time Summary

Drive 15 seconds 11:58:17 - 11:58:33 BN 1 - 12

Example 14

Project: 750961

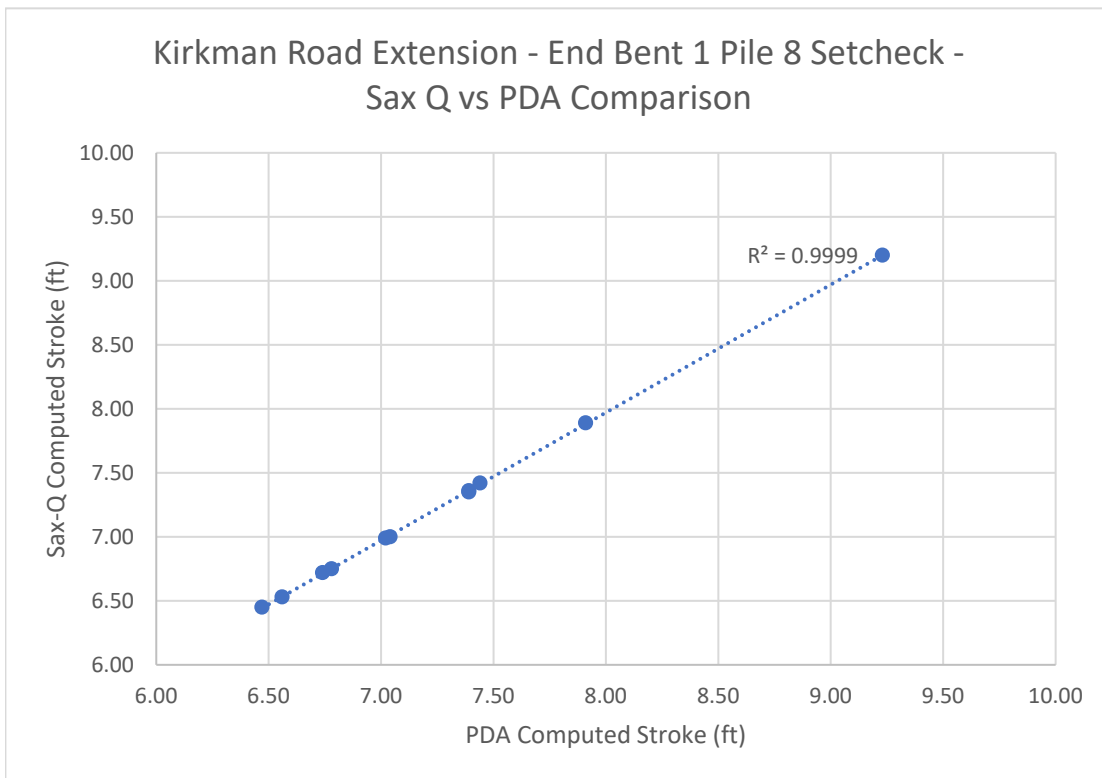
**Pile Name: - End Bent 1
Pile 8**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 8 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	9.20	9.23	-0.03	0.33%
3	7.89	7.91	-0.02	0.25%
4	6.45	6.47	-0.02	0.31%
5	6.53	6.56	-0.03	0.46%
6	6.72	6.74	-0.02	0.30%
7	7.35	7.39	-0.04	0.54%
8	6.99	7.02	-0.03	0.43%
9	6.75	6.78	-0.03	0.44%
10	7.00	7.04	-0.04	0.57%
11	7.42	7.44	-0.02	0.27%
12	7.36	7.39	-0.03	0.41%
average			-0.03	0.39%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 8 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 84.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	83.33	AV1	2.35	2.62	1.64	0.80	**	13.9	100	874	858
2	83.33	AV1	3.05	3.60	2.07	0.94	9.23	29.9	100	1,095	1,047
3	83.33	AV1	2.61	2.94	2.18	0.93	7.91	22.5	100	1,039	1,006
4	83.33	AV1	2.27	2.46	2.12	0.78	6.47	16.2	100	907	886
5	83.33	AV1	2.31	2.60	2.34	0.79	6.56	16.4	100	933	914
6	83.33	AV1	2.44	2.81	2.56	0.88	6.74	19.1	100	973	951
7	83.33	AV1	2.55	2.95	2.74	0.87	7.39	22.4	100	1,019	988
8	83.33	AV1	2.44	2.78	2.53	0.82	7.02	19.6	100	976	948
9	83.33	AV1	2.42	2.61	2.61	0.78	6.78	19.2	100	942	917
10	83.33	AV1	2.55	2.89	2.75	0.84	7.04	21.5	100	987	959
11	83.33	AV1	2.65	3.07	2.83	0.86	7.44	22.7	100	1,041	1,010
12	83.33	AV1	2.22	2.54	2.42	0.86	7.39	14.1	100	871	845
Average			2.49	2.82	2.40	0.85	7.27	19.8	100	972	944

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

12 NO SET

Time Summary

Drive 15 seconds 12:05 PM - 12:06 PM BN 1 - 12



Pile: 8
Start Pen.: 80.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 12:02:41

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
12:05:43	1	0.0	0.00	144.0	80.01	
12:05:44	2	39.0	9.20	144.0	80.01	
12:05:45	3	42.0	7.89	144.0	80.02	
12:05:47	4	46.2	6.45	144.0	80.03	
12:05:48	5	45.9	6.53	144.0	80.03	
12:05:49	6	45.3	6.72	144.0	80.04	
12:05:51	7	43.4	7.35	144.0	80.05	
12:05:52	8	44.5	6.99	144.0	80.06	
12:05:53	9	45.2	6.75	144.0	80.06	
12:05:55	10	44.4	7.00	144.0	80.07	
12:05:56	11	43.2	7.42	144.0	80.08	
12:05:58	12	43.4	7.36	144.0	80.08	
12:06:03	Average	43.9	7.24	144.0	80.08	

Time Summary

Drive 15 seconds 12:05:43 - 12:05:58 BN 1 - 12

Example 15

Project: 750961

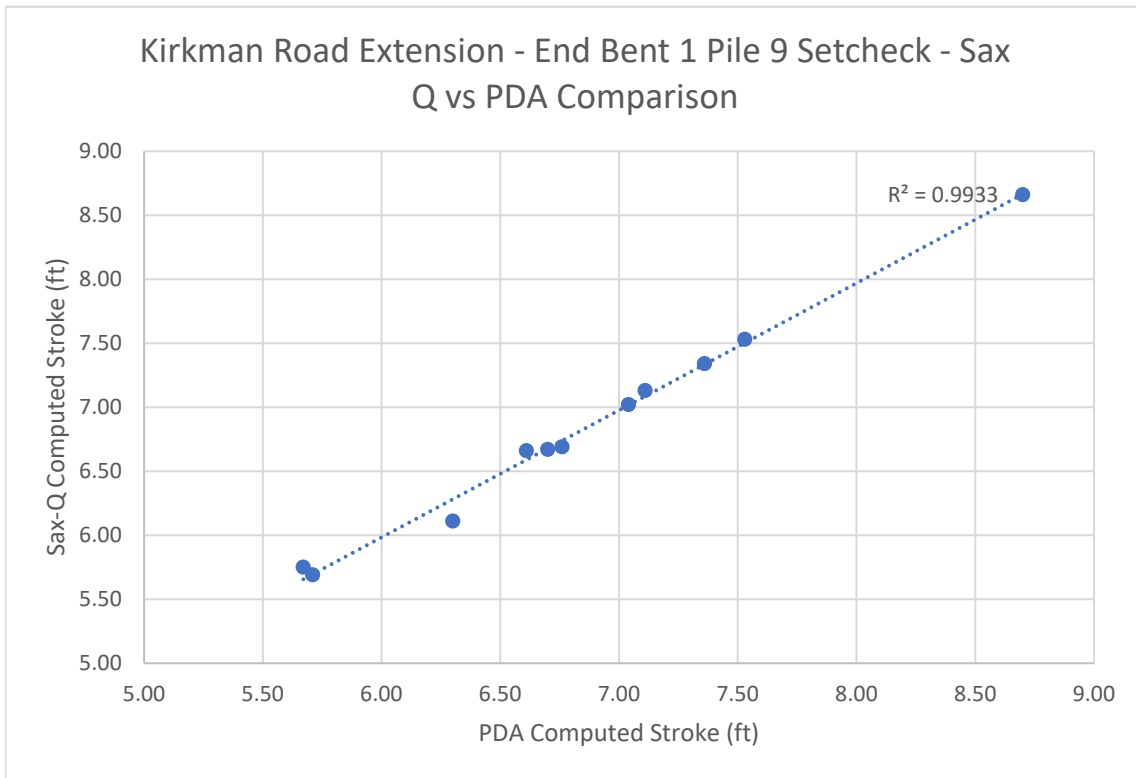
**Pile Name: - End Bent 1
Pile 9**

Pile Type: 18" SQ. PCP

Test Type: Set Check

Kirkman Road Extension - End Bent 1 Pile 9 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke, ft		PDA Stroke, ft	Sax-Q - PDA	% difference
	(ft)		(ft)	(ft)	(%)
1	0.00		0.00		
2	7.53		7.53	0.00	0.00%
3	8.66		8.70	-0.04	0.46%
4	7.34		7.36	-0.02	0.27%
5	5.75		5.67	0.08	-1.41%
6	5.69		5.71	-0.02	0.35%
7	6.11		6.30	-0.19	3.02%
8	6.66		6.61	0.05	-0.76%
9	7.13		7.11	0.02	-0.28%
10	7.02		7.04	-0.02	0.28%
11	6.67		6.70	-0.03	0.45%
12	6.69		6.76	-0.07	1.04%
average				-0.02	0.31%



Case Method & iCAP® Results

750961 - END BENT 1 PILE 9 SC
 OP: GRL-BM

D36
 Date: 01-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 85.00 ft EM: 6,807 ksi
 WS: 14,500.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX5: Maximum Case Method Capacity (JC=0.5)
 RX6: Maximum Case Method Capacity (JC=0.6)

BL#	Depth ft	TYPE	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX5 kips	RX6 kips
1	84.00	AV1	2.09	2.76	1.39	0.80	**	11.3	100	816	799
2	84.00	AV1	2.87	3.27	2.24	1.01	7.53	25.4	100	953	914
3	84.00	AV1	3.03	3.37	3.11	0.90	8.70	30.3	100	1,024	971
4	84.00	AV1	2.46	3.20	2.70	0.82	7.36	20.0	100	969	941
5	84.00	AV1	1.97	2.73	2.24	0.61	5.67	14.1	100	812	791
6	84.00	AV1	1.98	2.26	2.28	0.63	5.71	13.7	100	840	821
7	84.00	AV1	2.15	2.69	2.54	0.68	6.30	16.7	100	894	872
8	84.00	AV1	2.38	3.26	2.80	0.69	6.61	19.8	100	974	947
9	84.00	AV1	2.56	3.52	3.01	0.74	7.11	23.0	100	1,028	997
10	84.00	AV1	2.47	3.44	2.89	0.70	7.04	21.6	100	996	968
11	84.00	AV1	2.40	3.08	2.81	0.68	6.70	19.7	100	977	952
12	84.00	AV1	1.99	2.56	2.27	0.74	6.76	13.2	100	811	791
Average			2.36	3.01	2.52	0.75	6.86	19.1	100	924	897

Total number of blows analyzed: 12

BL# Sensors

1-12 F2: [R432] 148.4 (1.00); F3: [V139] 143.9 (1.00); A1: [K4993] 316.0 (1.00); A4: [K6207] 358.0 (1.00)

BL# Comments

9 0.25 IN

Time Summary

Drive 14 seconds 12:12 PM - 12:13 PM BN 1 - 12



Pile: 9
Start Pen.: 82.00 ft

Length: 100.00 ft
Start of Collection: 01-December-2022 12:09:25

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
12:12:40	1	0.0	0.00	144.0	82.01	
12:12:41	2	42.9	7.53	144.0	82.01	
12:12:43	3	40.1	8.66	144.0	82.02	
12:12:44	4	43.4	7.34	144.0	82.03	
12:12:46	5	48.8	5.75	144.0	82.03	
12:12:47	6	49.0	5.69	144.0	82.04	
12:12:48	7	47.4	6.11	144.0	82.05	
12:12:49	8	45.5	6.66	144.0	82.06	
12:12:51	9	44.1	7.13	144.0	82.06	
12:12:52	10	44.4	7.02	144.0	82.07	
12:12:53	11	45.5	6.67	144.0	82.08	
12:12:55	12	45.4	6.69	144.0	82.08	
12:13:00	Average	45.1	6.84	144.0	82.08	

Time Summary

Drive 14 seconds 12:12:40 - 12:12:55 BN 1 - 12

Example 16

Project: 750961

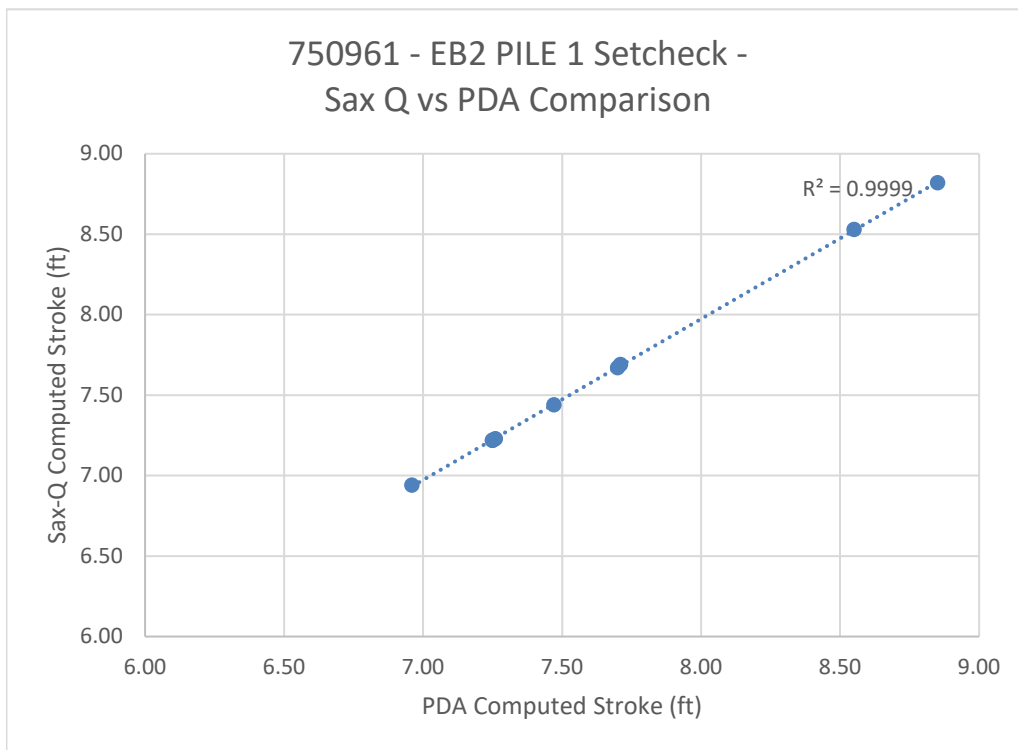
**Pile Name: - End Bent 2
Pile 1**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 1 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.82	8.85	-0.03	0.34%
3	8.53	8.55	-0.02	0.23%
4	7.22	7.25	-0.03	0.41%
5	6.94	6.96	-0.02	0.29%
6	7.44	7.47	-0.03	0.40%
7	7.69	7.71	-0.02	0.26%
8	7.23	7.26	-0.03	0.41%
9	7.22	7.25	-0.03	0.41%
10	7.67	7.70	-0.03	0.39%
average			-0.03	0.35%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 1 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 86.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.67	2.74	1.87	0.91	0.00	16.9	100	924	961
2	3.86	3.89	3.33	0.87	8.85	39.7	100	1,061	1,142
3	3.71	3.72	3.95	0.77	8.55	36.8	100	1,146	1,216
4	3.21	3.24	3.61	0.73	7.25	27.5	100	1,080	1,133
5	3.13	3.19	3.58	0.74	6.96	28.2	100	1,046	1,101
6	3.33	3.39	3.72	0.77	7.47	30.8	100	1,087	1,145
7	3.37	3.41	3.74	0.73	7.71	32.3	100	1,072	1,133
8	3.23	3.28	3.64	0.68	7.26	30.1	100	1,039	1,098
9	3.23	3.28	3.61	0.70	7.25	28.8	100	1,040	1,097
10	3.00	3.02	3.19	0.84	7.70	24.5	100	1,005	1,044
Average	3.27	3.32	3.42	0.77	7.67	29.6	100	1,050	1,107

Total number of blows analyzed: 10

Sensors

Blows: 1-10

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 12 seconds 9:57 AM - 9:57 AM BN 1 - 10



Pile: 1
Start Pen.: 83.00 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:46:49

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:56:51	1	0.0	0.00	10.0	83.10	
9:56:53	2	39.8	8.82	10.0	83.20	
9:56:54	3	40.4	8.53	10.0	83.30	
9:56:56	4	43.8	7.22	10.0	83.40	
9:56:57	5	44.6	6.94	10.0	83.50	
9:56:58	6	43.2	7.44	10.0	83.60	
9:57:00	7	42.5	7.69	10.0	83.70	
9:57:01	8	43.8	7.23	10.0	83.80	
9:57:02	9	43.8	7.22	10.0	83.90	
9:57:04	10	42.5	7.67	10.0	84.00	
9:57:22	Average	42.7	7.64	10.0	84.00	

Time Summary

Drive 12 seconds 9:56:51 - 9:57:04 BN 1 - 10

Example 17

Project: 750961

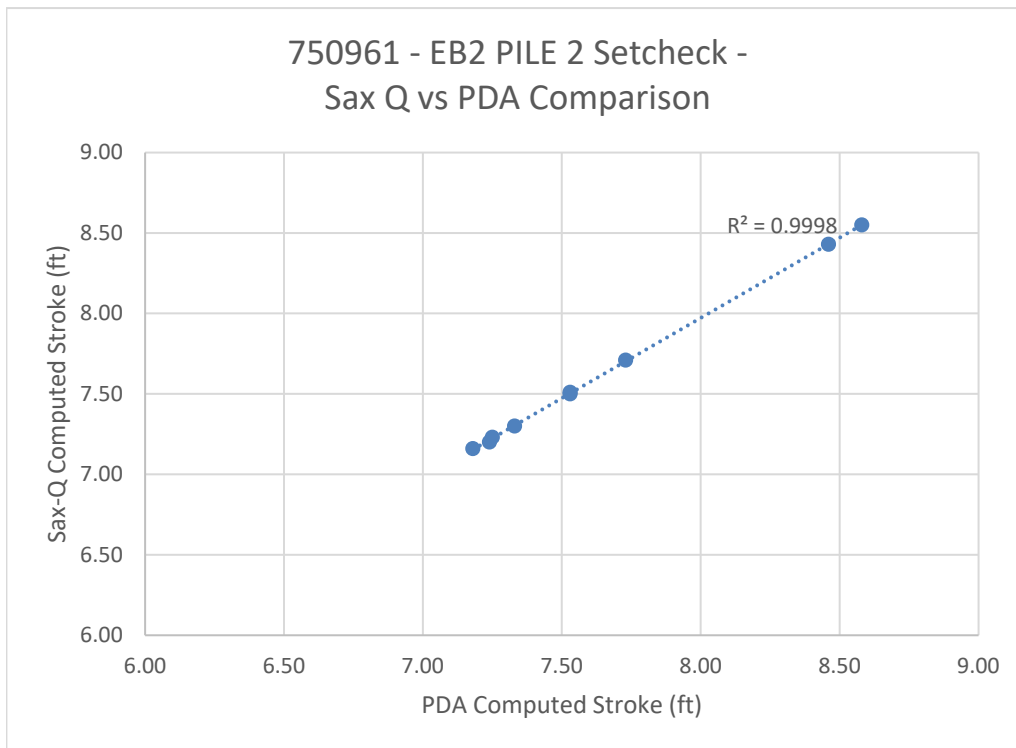
**Pile Name: - End Bent 2
Pile 2**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 2 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.55	8.58	-0.03	0.35%
3	8.43	8.46	-0.03	0.35%
4	7.71	7.73	-0.02	0.26%
5	7.23	7.25	-0.02	0.28%
6	7.16	7.18	-0.02	0.28%
7	7.20	7.24	-0.04	0.55%
8	7.51	7.53	-0.02	0.27%
9	7.30	7.33	-0.03	0.41%
10	7.50	7.53	-0.03	0.40%
average			-0.03	0.35%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 2 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 87.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.41	2.53	1.67	0.82	0.00	16.3	100	879	907
2	3.39	3.61	2.74	0.88	8.58	34.7	100	1,029	1,097
3	3.33	3.57	3.43	0.81	8.46	33.9	100	1,099	1,161
4	3.12	3.41	3.46	0.82	7.73	29.7	100	1,067	1,123
5	2.95	3.19	3.36	0.75	7.25	27.4	100	1,029	1,074
6	2.92	3.09	3.34	0.74	7.18	26.2	100	1,025	1,067
7	2.95	3.18	3.37	0.74	7.24	27.2	100	1,028	1,074
8	3.04	3.25	3.43	0.72	7.53	28.1	100	1,026	1,069
9	3.01	3.27	3.38	0.72	7.33	27.6	100	1,017	1,061
10	2.74	2.74	2.98	0.87	7.53	22.6	100	942	975
Average	2.99	3.19	3.12	0.79	7.65	27.4	100	1,014	1,061

Total number of blows analyzed: 10

Sensors

Blows: 1-10

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 12 seconds 9:44 AM - 9:44 AM BN 1 - 10



Pile: 2
Start Pen.: 84.00 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:43:39

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:44:02	1	0.0	0.00	10.0	84.10	
9:44:03	2	40.4	8.55	10.0	84.20	
9:44:04	3	40.7	8.43	10.0	84.30	
9:44:06	4	42.5	7.71	10.0	84.40	
9:44:07	5	43.8	7.23	10.0	84.50	
9:44:09	6	44.0	7.16	10.0	84.60	
9:44:10	7	43.9	7.20	10.0	84.70	
9:44:11	8	43.0	7.51	10.0	84.80	
9:44:13	9	43.6	7.30	10.0	84.90	
9:44:14	10	43.0	7.50	10.0	85.00	
9:44:20	Average	42.7	7.62	10.0	85.00	

Time Summary

Drive 12 seconds 9:44:02 - 9:44:14 BN 1 - 10

Example 18

Project: 750961

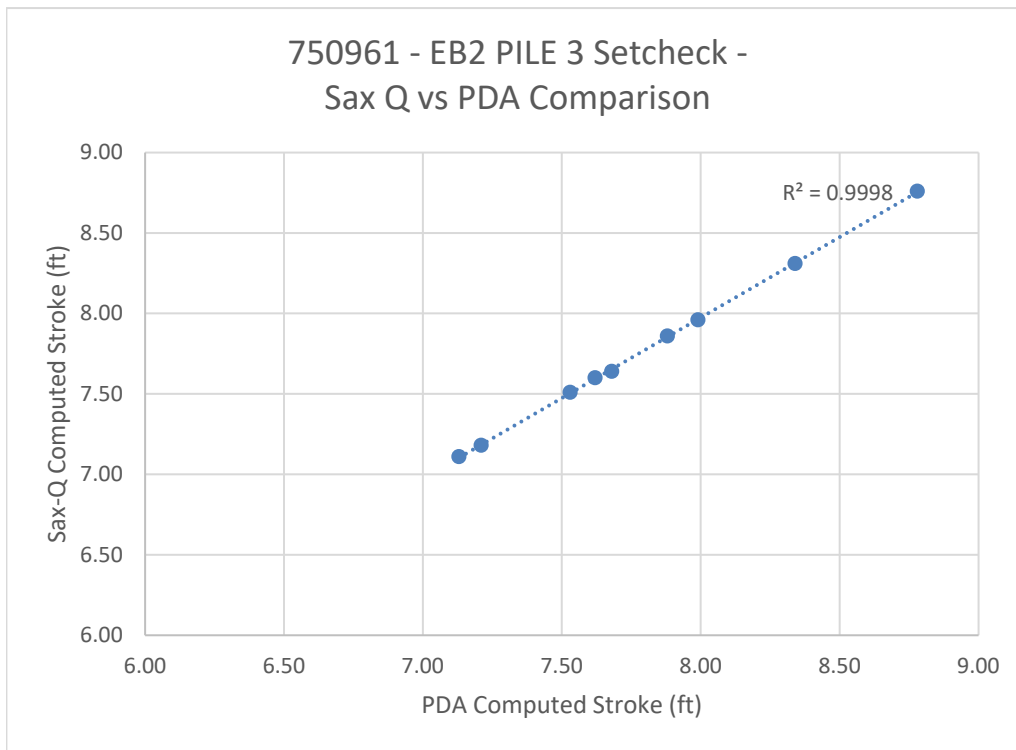
**Pile Name: - End Bent 2
Pile 3**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 3 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.31	8.34	-0.03	0.36%
3	8.76	8.78	-0.02	0.23%
4	7.96	7.99	-0.03	0.38%
5	7.51	7.53	-0.02	0.27%
6	7.64	7.68	-0.04	0.52%
7	7.11	7.13	-0.02	0.28%
8	7.86	7.88	-0.02	0.25%
9	7.60	7.62	-0.02	0.26%
10	7.18	7.21	-0.03	0.42%
average			-0.03	0.33%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 3 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 87.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.42	2.47	1.63	0.69	0.00	15.8	100	856	886
2	3.44	3.49	2.38	0.96	8.34	34.3	100	1,002	1,072
3	3.53	3.59	3.08	0.87	8.78	36.5	100	1,116	1,185
4	3.25	3.36	3.09	0.82	7.99	31.6	100	1,108	1,165
5	3.13	3.25	3.14	0.79	7.53	29.3	100	1,082	1,136
6	3.17	3.21	3.19	0.80	7.68	29.4	100	1,082	1,136
7	3.02	3.10	3.12	0.80	7.13	27.2	100	1,042	1,091
8	3.32	3.40	3.39	0.85	7.88	32.4	100	1,075	1,135
9	3.15	3.22	3.24	0.79	7.62	28.9	100	1,052	1,097
10	2.64	2.83	2.75	0.84	7.21	21.4	100	917	953
Average	3.11	3.19	2.90	0.82	7.80	28.7	100	1,033	1,086

Total number of blows analyzed: 10

Sensors

Blows: 1-10

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 12 seconds 9:37 AM - 9:37 AM BN 1 - 10



Pile: 3
Start Pen.: 83.90 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:36:39

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:36:53	1	0.0	0.00	10.0	84.00	
9:36:55	2	40.9	8.31	10.0	84.10	
9:36:56	3	39.9	8.76	10.0	84.20	
9:36:57	4	41.8	7.96	10.0	84.30	
9:36:59	5	43.0	7.51	10.0	84.40	
9:37:00	6	42.6	7.64	10.0	84.50	
9:37:02	7	44.1	7.11	10.0	84.60	
9:37:03	8	42.1	7.86	10.0	84.70	
9:37:05	9	42.7	7.60	10.0	84.80	
9:37:06	10	43.9	7.18	10.0	84.90	
9:37:11	Average	42.3	7.77	10.0	84.90	

Time Summary

Drive 12 seconds 9:36:53 - 9:37:06 BN 1 - 10

Example 19

Project: 750961

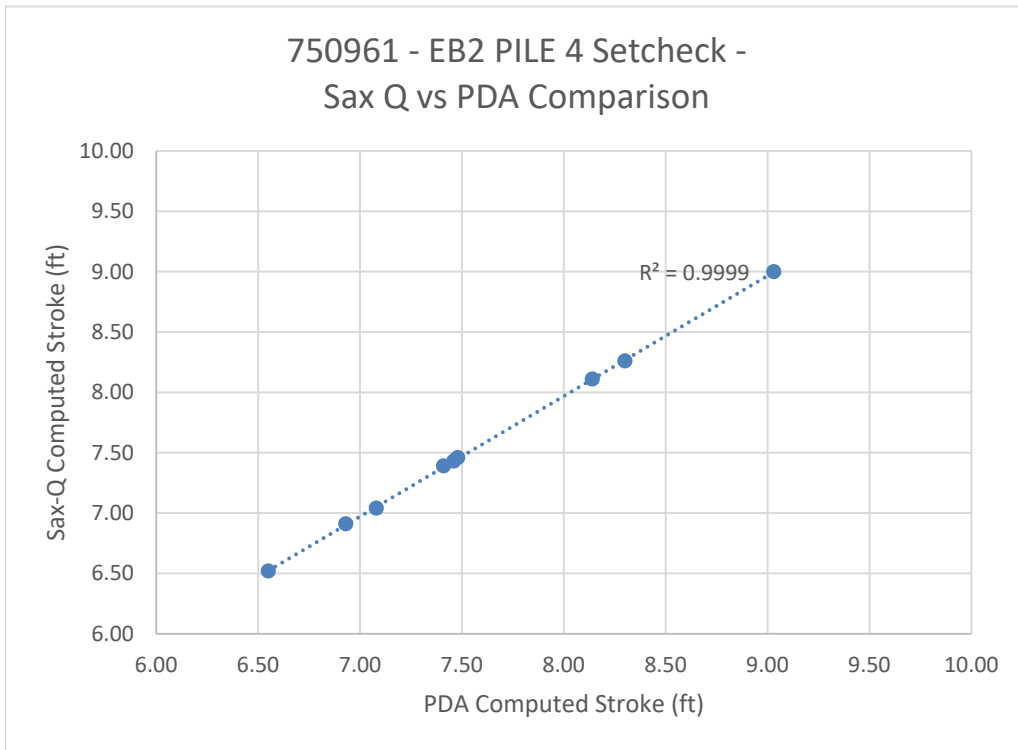
**Pile Name: - End Bent 2
Pile 4**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 4 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.11	8.14	-0.03	0.37%
3	9.00	9.03	-0.03	0.33%
4	8.26	8.30	-0.04	0.48%
5	6.52	6.55	-0.03	0.46%
6	6.91	6.93	-0.02	0.29%
7	7.04	7.08	-0.04	0.56%
8	7.43	7.46	-0.03	0.40%
9	7.46	7.48	-0.02	0.27%
10	7.39	7.41	-0.02	0.27%
average			-0.03	0.38%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 4 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 87.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.35	2.41	1.62	0.73	0.00	14.8	100	798	829
2	3.32	3.47	2.51	0.84	8.14	33.3	100	853	930
3	3.49	3.63	3.19	0.71	9.03	35.6	100	986	1,060
4	3.09	3.28	3.02	0.70	8.30	29.4	100	988	1,043
5	2.68	2.85	2.68	0.65	6.55	21.0	100	918	956
6	2.78	3.05	2.84	0.64	6.93	24.3	100	922	963
7	2.86	3.16	2.88	0.65	7.08	24.8	100	940	980
8	3.01	3.28	2.99	0.67	7.46	26.5	100	954	994
9	3.00	3.28	3.01	0.65	7.48	27.6	100	935	969
10	2.61	3.02	2.69	0.70	7.41	21.8	100	861	898
Average	2.92	3.14	2.74	0.69	7.60	25.9	100	915	962

Total number of blows analyzed: 10

Sensors

Blows: 1-10

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 12 seconds 9:31 AM - 9:31 AM BN 1 - 10



Pile: 4
Start Pen.: 84.00 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:31:07

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:31:18	1	0.0	0.00	10.0	84.10	
9:31:20	2	41.4	8.11	10.0	84.20	
9:31:21	3	39.4	9.00	10.0	84.30	
9:31:23	4	41.1	8.26	10.0	84.40	
9:31:24	5	46.0	6.52	10.0	84.50	
9:31:25	6	44.7	6.91	10.0	84.60	
9:31:27	7	44.3	7.04	10.0	84.70	
9:31:28	8	43.2	7.43	10.0	84.80	
9:31:29	9	43.1	7.46	10.0	84.90	
9:31:31	10	43.3	7.39	10.0	85.00	
9:31:47	Average	42.9	7.57	10.0	85.00	

Time Summary

Drive 12 seconds 9:31:18 - 9:31:31 BN 1 - 10

Example 20

Project: 750961

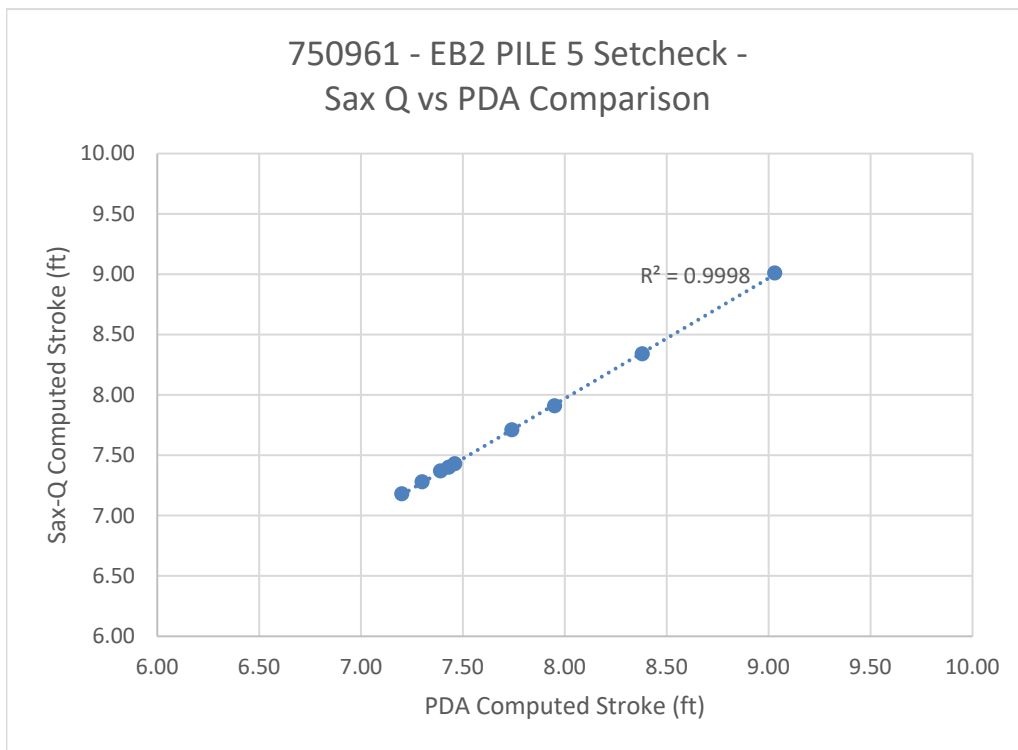
**Pile Name: - End Bent 2
Pile 5**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 5 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	7.91	7.95	-0.04	0.50%
3	9.01	9.03	-0.02	0.22%
4	8.34	8.38	-0.04	0.48%
5	7.18	7.20	-0.02	0.28%
6	7.37	7.39	-0.02	0.27%
7	7.43	7.46	-0.03	0.40%
8	7.71	7.74	-0.03	0.39%
9	7.40	7.43	-0.03	0.40%
10	7.28	7.30	-0.02	0.27%
average			<u>-0.03</u>	<u>0.36%</u>



Case Method & iCAP® Results

750961 - END BENT 2 PILE 5 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 87.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum EMX: Maximum Energy
 CSI: Compression Stress Maximum - Individual Sensor BTA: Integrity Factor (1)
 CSB: Compression Stress at Bottom of Pile RX6: Maximum Case Method Capacity (JC=0.6)
 TSX: Tension Stress Maximum - Full Record Search RX5: Maximum Case Method Capacity (JC=0.5)
 STK: Hammer Stroke

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.45	2.56	1.64	0.61	0.00	14.3	100	790	828
2	3.37	3.60	2.46	0.97	7.95	29.3	100	1,074	1,129
3	3.55	4.05	2.91	0.90	9.03	34.4	100	1,114	1,180
4	3.32	3.92	3.07	0.87	8.38	30.8	100	1,112	1,171
5	3.00	3.48	2.88	0.80	7.20	24.8	100	1,065	1,113
6	3.04	3.36	3.01	0.83	7.39	27.0	100	1,083	1,134
7	3.09	3.55	3.10	0.83	7.46	27.1	100	1,095	1,147
8	3.17	3.70	3.20	0.85	7.74	27.9	100	1,119	1,172
9	3.02	3.38	3.12	0.79	7.43	26.3	100	1,083	1,132
10	2.65	3.17	2.78	0.89	7.30	20.9	100	959	1,002
Average	3.07	3.48	2.82	0.83	7.76	26.3	100	1,049	1,101

Total number of blows analyzed: 10

Sensors

Blows: 1-10

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 12 seconds 9:23 AM - 9:23 AM BN 1 - 10



Pile: 5
Start Pen.: 84.00 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:23:16

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:23:34	1	0.0	0.00	10.0	84.10	
9:23:36	2	41.9	7.91	10.0	84.20	
9:23:38	3	39.4	9.01	10.0	84.30	
9:23:39	4	40.9	8.34	10.0	84.40	
9:23:40	5	43.9	7.18	10.0	84.50	
9:23:42	6	43.4	7.37	10.0	84.60	
9:23:43	7	43.2	7.43	10.0	84.70	
9:23:44	8	42.4	7.71	10.0	84.80	
9:23:46	9	43.3	7.40	10.0	84.90	
9:23:47	10	43.6	7.28	10.0	85.00	
9:23:55	Average	42.4	7.74	10.0	85.00	

Time Summary

Drive 12 seconds 9:23:34 - 9:23:47 BN 1 - 10

Example 21

Project: 750961

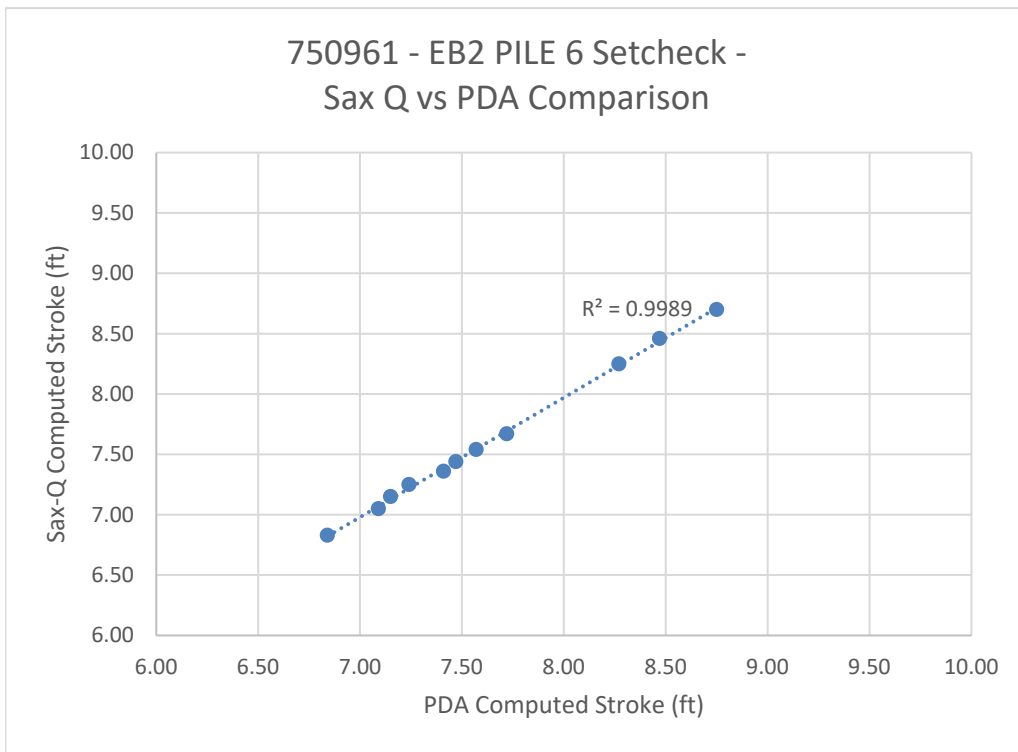
**Pile Name: - End Bent 2
Pile 6**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 6 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	8.25	8.27	-0.02	0.24%
3	8.70	8.75	-0.05	0.57%
4	8.46	8.47	-0.01	0.12%
5	6.83	6.84	-0.01	0.15%
6	7.05	7.09	-0.04	0.56%
7	7.25	7.24	0.01	-0.14%
8	7.67	7.72	-0.05	0.65%
9	7.44	7.47	-0.03	0.40%
10	7.15	7.15	0.00	0.00%
11	7.36	7.41	-0.05	0.67%
12	7.54	7.57	-0.03	0.40%
average			-0.03	0.33%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 6 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 84.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.41	2.45	1.64	0.78	0.00	15.1	100	834	870
2	3.34	3.45	2.37	1.08	8.27	31.0	100	1,039	1,086
3	3.44	3.60	3.06	0.94	8.75	33.4	100	1,094	1,158
4	3.27	3.40	3.16	0.92	8.47	30.7	100	1,104	1,163
5	2.84	2.92	2.87	0.81	6.84	22.9	100	1,020	1,066
6	2.92	3.03	3.06	0.81	7.09	23.8	100	1,041	1,089
7	3.03	3.15	3.17	0.84	7.24	26.4	100	1,059	1,111
8	3.11	3.22	3.28	0.83	7.72	27.8	100	1,079	1,133
9	3.05	3.17	3.22	0.82	7.47	26.4	100	1,040	1,093
10	2.97	3.06	3.15	0.82	7.15	25.8	100	1,017	1,063
11	3.07	3.16	3.27	0.82	7.41	27.8	100	1,028	1,076
12	2.70	2.79	2.96	0.82	7.57	22.4	100	943	990
Average	3.01	3.12	2.93	0.86	7.64	26.1	100	1,025	1,075

Total number of blows analyzed: 12

Sensors

Blows: 1-12

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 15 seconds 9:14 AM - 9:15 AM BN 1 - 12



Pile: 6
Start Pen.: 83.83 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:14:07

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:14:43	1	0.0	0.00	12.0	83.91	
9:14:44	2	41.1	8.25	12.0	84.00	
9:14:45	3	40.0	8.70	12.0	84.08	
9:14:47	4	40.6	8.46	12.0	84.16	
9:14:48	5	45.0	6.83	12.0	84.25	
9:14:50	6	44.3	7.05	12.0	84.33	
9:14:51	7	43.7	7.25	12.0	84.41	
9:14:53	8	42.5	7.67	12.0	84.50	
9:14:54	9	43.2	7.44	12.0	84.58	
9:14:55	10	44.0	7.15	12.0	84.66	
9:14:57	11	43.4	7.36	12.0	84.75	
9:14:58	12	42.9	7.54	12.0	84.83	
9:15:13	Average	42.8	7.61	12.0	84.83	

Time Summary

Drive 15 seconds 9:14:43 - 9:14:58 BN 1 - 12

Example 22

Project: 750961

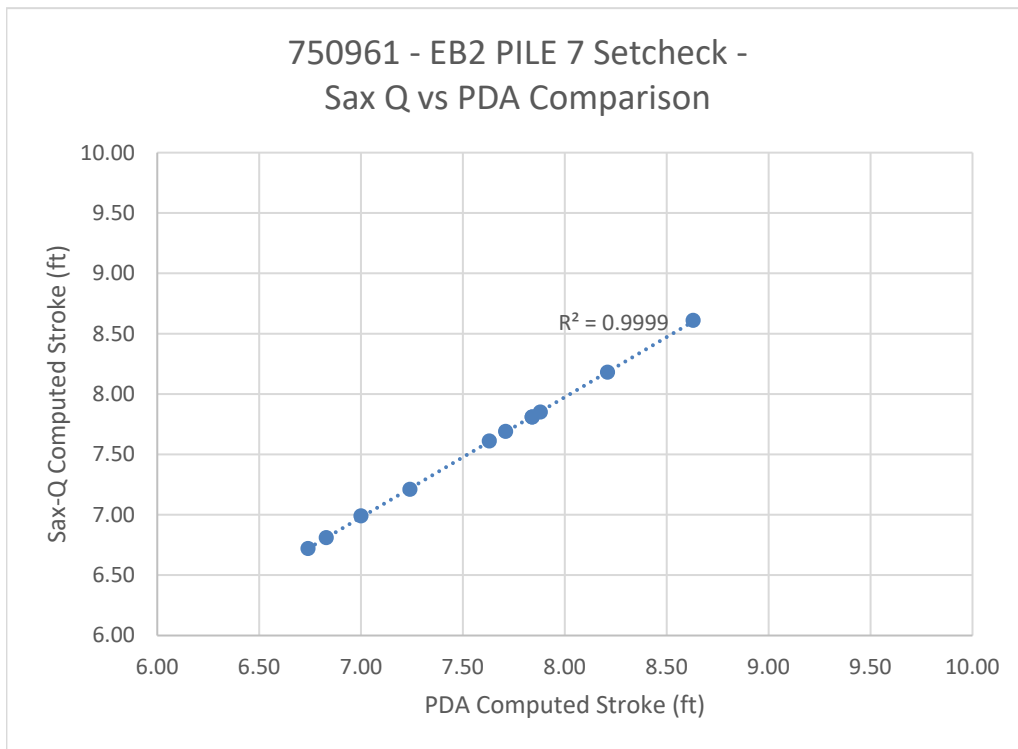
**Pile Name: - End Bent 2
Pile 7**

Pile Type: 18" SQ. PCP

Test Type: Set Check

750961 - EB2 PILE 7 Setcheck - Sax Q vs PDA Comparison

Blow No.	Sax-Q Stroke (ft)	PDA Stroke (ft)	Sax-Q - PDA (ft)	% difference (%)
1	0.00	0.00		
2	7.81	7.84	-0.03	0.38%
3	8.61	8.63	-0.02	0.23%
4	8.18	8.21	-0.03	0.37%
5	6.81	6.83	-0.02	0.29%
6	7.61	7.63	-0.02	0.26%
7	7.81	7.84	-0.03	0.38%
8	6.99	7.00	-0.01	0.14%
9	6.72	6.74	-0.02	0.30%
10	7.21	7.24	-0.03	0.41%
11	7.85	7.88	-0.03	0.38%
12	7.69	7.71	-0.02	0.26%
average			-0.02	0.31%



Case Method & iCAP® Results

750961 - END BENT 2 PILE 7 SC
 OP: GRL-BM

D36
 Date: 14-December-2022

AR: 324.00 in² SP: 0.150 k/ft³
 LE: 83.00 ft EM: 6,346 ksi
 WS: 14,000.0 f/s JC: 0.50

CSX: Compression Stress Maximum
 CSI: Compression Stress Maximum - Individual Sensor
 CSB: Compression Stress at Bottom of Pile
 TSX: Tension Stress Maximum - Full Record Search
 STK: Hammer Stroke
 EMX: Maximum Energy
 BTA: Integrity Factor (1)
 RX6: Maximum Case Method Capacity (JC=0.6)
 RX5: Maximum Case Method Capacity (JC=0.5)

BL#	CSX ksi	CSI ksi	CSB ksi	TSX ksi	STK ft	EMX k-ft	BTA (%)	RX6 kips	RX5 kips
1	2.34	2.65	1.75	0.65	0.00	13.1	100	737	766
2	3.15	3.50	2.32	1.01	7.84	26.6	100	1,039	1,089
3	3.35	3.78	2.69	0.96	8.63	31.0	100	1,059	1,116
4	3.07	3.52	2.74	0.82	8.21	26.5	100	1,038	1,091
5	2.74	3.02	2.69	0.79	6.83	21.8	100	1,002	1,045
6	3.03	3.32	3.01	0.81	7.63	27.0	100	1,063	1,116
7	3.02	3.35	3.01	0.79	7.84	26.5	100	1,055	1,107
8	2.74	3.04	2.86	0.73	7.00	21.4	100	1,004	1,047
9	2.69	2.97	2.81	0.75	6.74	20.8	100	998	1,041
10	2.86	3.17	2.95	0.78	7.24	23.6	100	1,051	1,096
11	3.07	3.38	3.22	0.81	7.88	28.6	100	1,067	1,122
12	2.62	2.87	2.69	0.85	7.71	21.3	100	954	994
Average	2.89	3.21	2.73	0.81	7.60	24.0	100	1,006	1,052

Total number of blows analyzed: 12

Sensors

Blows: 1-12

Sensor	Type	Serial Nr.	Calibration	Replay Factor
F2	Strain	R432	148.4	1.00
F3	Strain	V139	143.9	1.00
A1	PR Accel	K4993	316.0	1.00
A4	PR Accel	K6207	358.0	1.00

Time Summary

Drive 15 seconds 9:08 AM - 9:08 AM BN 1 - 12



Pile: 7
Start Pen.: 83.00 ft

Length: 108.00 ft
Start of Collection: 14-December-2022 9:07:35

DELMAG-D 80-23 Open End Diesel Hammer

Ram Weight: 17.62 kips
Max. Stroke: 12.06 ft

Max. Energy: 212.50 kip-ft
Max. BPM: 90.0

Time	BL #	BPM	Stroke ft	Bl. Count blows/ft	Pen. ft	Note
9:07:55	1	0.0	0.00	12.0	83.08	
9:07:57	2	42.2	7.81	12.0	83.17	
9:07:58	3	40.2	8.61	12.0	83.25	
9:08:00	4	41.2	8.18	12.0	83.33	
9:08:01	5	45.0	6.81	12.0	83.42	
9:08:02	6	42.7	7.61	12.0	83.50	
9:08:04	7	42.2	7.81	12.0	83.58	
9:08:05	8	44.5	6.99	12.0	83.67	
9:08:06	9	45.3	6.72	12.0	83.75	
9:08:08	10	43.8	7.21	12.0	83.83	
9:08:09	11	42.1	7.85	12.0	83.92	
9:08:11	12	42.5	7.69	12.0	84.00	
9:08:16	Average	42.9	7.57	12.0	84.00	

Time Summary

Drive 15 seconds 9:07:55 - 9:08:11 BN 1 - 12

Example 23

**Project: Bridge over C-1
Canal**

Pile Name: - Bent 1 Pile 7

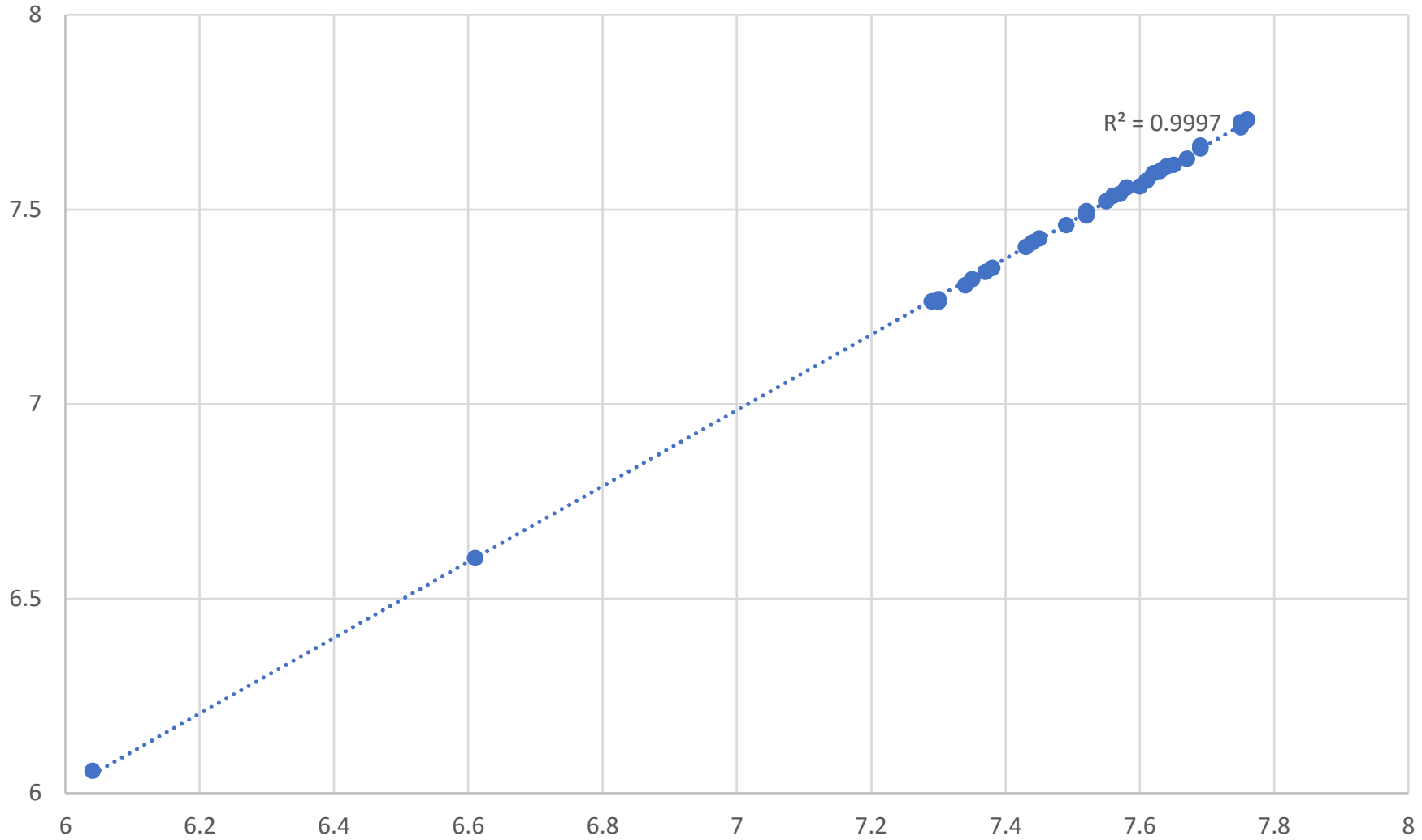
Pile Type: 18" SQ. PCP

Test Type: Initial Drive

PDA			SAX-Q			Diff	
Depth (ft)	BLC (bl/ft)	STK (ft)	Depth (ft)	BLC (bl/ft)	STK (ft)	(ft)	(%)
48	219	6.04	48	219	6.06	-0.02	-0.29
49	222	7.3	49	222	7.27	0.03	0.42
50	240	7.44	50	240	7.42	0.02	0.32
51	128	7.56	51	128	7.54	0.02	0.32
52	82	7.49	52	82	7.46	0.03	0.40
53	40	7.43	53	40	7.40	0.03	0.36
54	36	7.29	54	36	7.26	0.03	0.35
55	38	7.37	55	38	7.34	0.03	0.41
56	50	7.35	56	50	7.32	0.03	0.39
57	56	7.38	57	56	7.35	0.03	0.41
58	48	7.34	58	48	7.31	0.03	0.47
59	42	7.3	59	42	7.26	0.04	0.50
60	45	7.45	60	45	7.43	0.02	0.32
61	51	7.52	61	51	7.48	0.04	0.47
62	53	7.6	62	53	7.56	0.04	0.53
63	63	7.62	63	63	7.59	0.03	0.34
64	68	7.67	64	68	7.63	0.04	0.51
65	65	7.58	65	65	7.56	0.02	0.31
66	57	7.55	66	57	7.52	0.03	0.38
67	50	7.61	67	50	7.57	0.04	0.46
68	51	7.52	68	51	7.50	0.02	0.32
69	49	7.57	69	49	7.54	0.03	0.39
70	48	7.65	70	48	7.62	0.03	0.46
71	52	7.64	71	52	7.61	0.03	0.38
72	64	7.76	72	64	7.73	0.03	0.37
73	77	7.75	73	77	7.72	0.03	0.33
74	91	7.75	74	91	7.71	0.04	0.49
75	105	7.63	75	105	7.60	0.03	0.40
76	102	7.69	76	102	7.66	0.03	0.34
77	115	7.69	77	115	7.66	0.03	0.43
77.01	1	6.61	77.0086957	1	6.60	0.01	0.08

0.03

Example 23
Project: Bridge over C-1 Canal
Pile Name: - Bent 1 Pile 7



Case Method & iCAP® Results

12-15-22 C-1 CANAL - 12-15-22 BENT 1 PILE 7 ID

TEST PILE

OP: FGE-MPJW

Date: 15-December-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 117.00 ft

EM: 5,472 ksi

WS: 13,000.0 f/s

JC: 0.60

RX5: Maximum Case Method Capacity (JC=0.5)

CSB: Compression Stress at Bottom of Pile

RA2: Auto Capacity Friction Piles

STK: Hammer Stroke

RAU: Auto Capacity End Bearing Piles

EMX: Maximum Energy

CSX: Compression Stress Maximum

BTA: Integrity Factor (1)

TSX: Tension Stress Max-Full Rec Search

BL#	Depth ft	BLC bl/ft	TYPE	RX5 kips	RA2 kips	RAU kips	CSX ksi	TSX ksi	CSB ksi	STK ft	EMX k-ft	BTA (%)
219	48.00	219	AV219	576	589	571	2.1	0.5	1.9	6.04	17.9	100.0
441	49.00	222	AV222	670	676	652	2.5	0.5	2.3	7.30	23.7	100.0
681	50.00	240	AV240	654	641	599	2.5	0.5	2.3	7.44	23.9	100.0
809	51.00	128	AV128	567	537	490	2.7	0.5	2.1	7.56	25.9	100.0
891	52.00	82	AV82	443	443	408	2.8	0.5	1.9	7.49	26.5	100.0
931	53.00	40	AV40	413	396	376	2.8	0.6	1.7	7.43	26.6	100.0
967	54.00	36	AV36	399	377	361	2.7	0.7	1.6	7.29	25.8	100.0
1005	55.00	38	AV38	421	422	404	2.8	0.6	1.7	7.37	26.4	100.0
1055	56.00	50	AV50	489	490	458	2.8	0.5	1.9	7.35	26.2	100.0
1111	57.00	56	AV56	469	463	435	2.8	0.5	1.9	7.38	26.6	100.0
1159	58.00	48	AV48	427	438	411	2.8	0.5	1.7	7.34	26.4	100.0
1201	59.00	42	AV42	422	439	415	2.8	0.5	1.7	7.30	26.0	100.0
1246	60.00	45	AV45	453	462	433	2.9	0.5	1.9	7.45	27.3	100.0
1297	61.00	51	AV51	509	502	464	2.9	0.5	1.9	7.52	27.5	100.0
1350	62.00	53	AV53	523	509	469	2.9	0.5	2.0	7.60	28.0	100.0
1413	63.00	63	AV63	554	531	482	2.9	0.5	2.1	7.62	28.0	100.0
1481	64.00	68	AV68	599	551	492	3.0	0.5	2.3	7.67	28.2	100.0
1546	65.00	65	AV65	556	519	466	2.9	0.5	2.2	7.58	28.0	100.0
1603	66.00	57	AV57	497	479	428	2.9	0.4	2.0	7.55	28.1	100.0
1653	67.00	50	AV50	483	485	424	3.0	0.5	1.9	7.61	28.8	100.0
1704	68.00	51	AV51	490	510	439	3.0	0.4	1.9	7.52	28.1	100.0
1753	69.00	49	AV49	492	510	440	3.1	0.4	1.9	7.57	28.5	100.0
1801	70.00	48	AV48	504	523	449	3.1	0.4	1.9	7.65	28.9	100.0
1853	71.00	52	AV52	566	581	505	3.1	0.4	2.1	7.64	28.5	100.0
1917	72.00	64	AV64	665	681	606	3.1	0.5	2.3	7.76	28.8	100.0
1994	73.00	77	AV77	769	764	707	3.0	0.5	2.6	7.75	28.3	100.0
2085	74.00	91	AV91	823	828	778	3.0	0.5	2.8	7.75	27.8	100.0
2190	75.00	105	AV105	809	821	788	2.8	0.5	2.7	7.63	26.8	100.0
2292	76.00	102	AV102	769	779	752	2.7	0.5	2.5	7.69	25.7	100.0
2407	77.00	115	AV115	773	765	740	2.6	0.4	2.5	7.69	23.6	100.0
2408	77.01	100	AV1	653	661	645	2.1	0.5	2.2	6.61	15.7	100.0
Average				601	599	559	2.7	0.5	2.2	7.40	25.6	100.0

Total number of blows analyzed: 2408

BL# Sensors

1-2408 F7: [V070] 142.6 (1.00); F8: [V074] 145.1 (1.00); A5: [K12042] 340.0 (1.00);
 A6: [K10130] 410.0 (1.00)

BL# Comments

82 fs2
 97 fs3
 124 fs4

Case Method & iCAP® Results
12-15-22 C-1 CANAL - 12-15-22 BENT 1 PILE 7 ID
OP: FGE-MPJW

TEST PILE
Date: 15-December-2022

Time Summary

Drive 56 minutes 26 seconds 2:29 PM - 3:25 PM BN 1 - 2408

Structure No.: _____ Depth Table Extended (ft): _____ Bent/Pier No.: _____ Pile No.: 7

Depth Input	REF	Blows	Stroke	Eq. Stke. & Notes	Depth REF	Blows	Stroke	Eq. Stke. & Notes	Depth REF	Blows	Stroke	Eq. Stke. & Notes
47.00	1	48.00	219	6.058	Recording pause	79.00	-	80.00	112.00	-	113.00	
48.00	-	49.00	222	7.27		80.00	-	81.00	113.00	-	114.00	
49.00	-	50.00	240	7.416		81.00	-	82.00	114.00	-	115.00	
50.00	-	51.00	128	7.536		82.00	-	83.00	115.00	-	116.00	
51.00	-	52.00	82	7.46		83.00	-	84.00	116.00	-	117.00	
52.00	-	53.00	40	7.403		84.00	-	85.00	117.00	-	118.00	
53.00	-	54.00	36	7.264		85.00	-	86.00	118.00	-	119.00	
54.00	-	55.00	38	7.34		86.00	-	87.00	119.00	-	120.00	
55.00	-	56.00	50	7.321		87.00	-	88.00	-			
56.00	-	57.00	56	7.35		88.00	-	89.00	-			
57.00	-	58.00	48	7.305		89.00	-	90.00	-			
58.00	-	59.00	42	7.263		90.00	-	91.00	-			
59.00	-	60.00	45	7.426		91.00	-	92.00	-			
60.00	-	61.00	51	7.485		92.00	-	93.00	-			
61.00	-	62.00	53	7.56		93.00	-	94.00	-			
62.00	-	63.00	63	7.594		94.00	-	95.00	-			
63.00	-	64.00	68	7.631		95.00	-	96.00	-			
64.00	-	65.00	65	7.557		96.00	-	97.00	-			
65.00	-	66.00	57	7.521		97.00	-	98.00	-			
66.00	-	67.00	50	7.575		98.00	-	99.00	-			
67.00	-	68.00	51	7.496		99.00	-	100.00	-			
68.00	-	69.00	49	7.54		100.00	-	101.00	-			
69.00	-	70.00	48	7.615		101.00	-	102.00	-			
70.00	-	71.00	52	7.611		102.00	-	103.00	-			
71.00	-	72.00	64	7.731		103.00	-	104.00	-			
72.00	-	73.00	77	7.725		104.00	-	105.00	-			
73.00	-	74.00	91	7.712		105.00	-	106.00	-			
74.00	-	75.00	105	7.599		106.00	-	107.00	-			
75.00	-	76.00	102	7.664		107.00	-	108.00	-			
76.00	-	77.00	115	7.657		108.00	-	109.00	-			
77.00	-	77.01	1	6.605	Calculated pen.	109.00	-	110.00	-			
77.01	-	78.00				110.00	-	111.00	-			
78.00	-	79.00				111.00	-	112.00	-			

Example 24

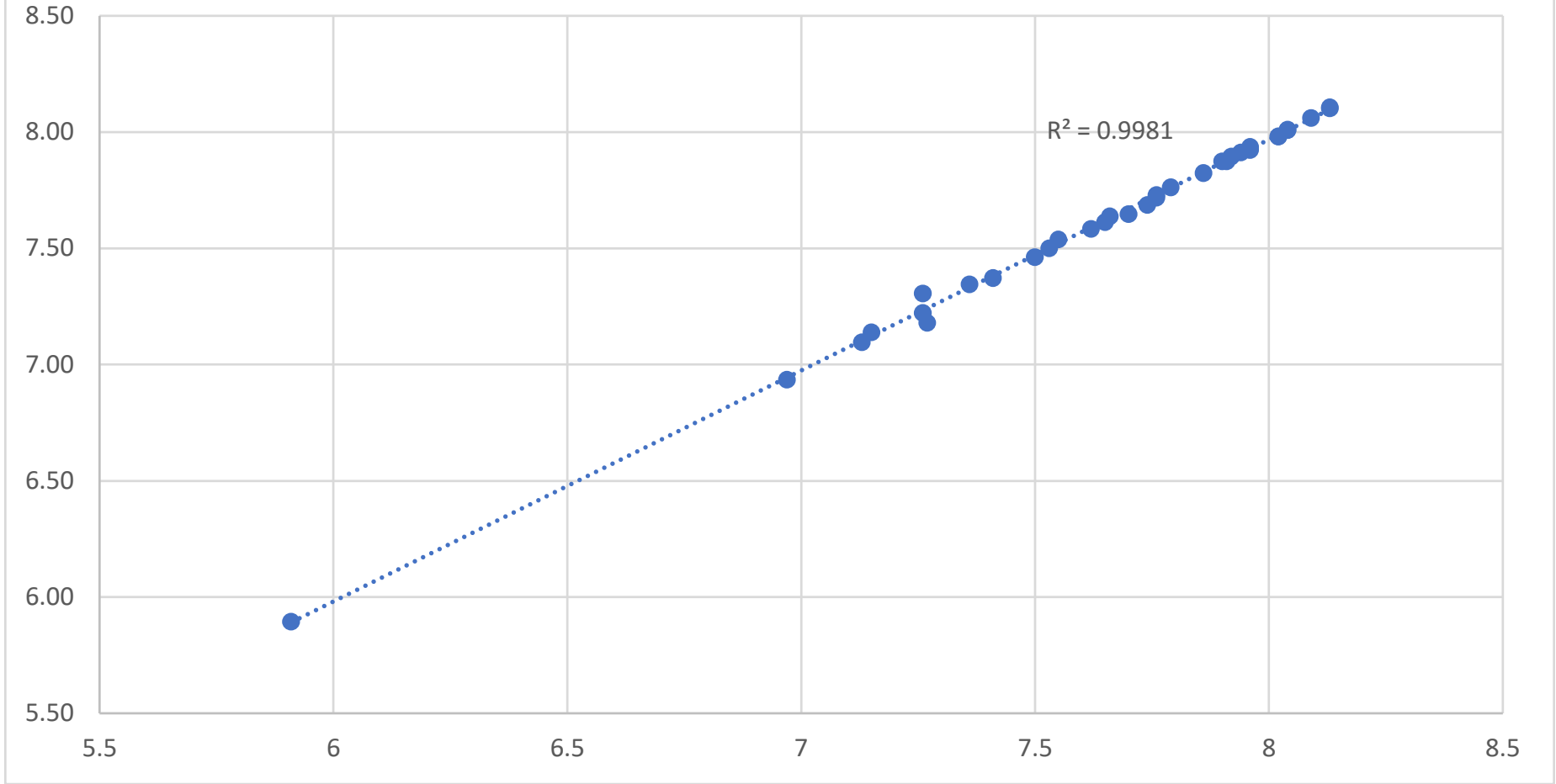
**Project: Bridge over C-1
Canal**

Pile Name: - Bent 1 Pile 8

Pile Type: 18" SQ. PCP

Test Type: Initial Drive

Example 24
Project: Bridge over C-1 Canal
Pile Name: - Bent 1 Pile 8



Case Method & iCAP® Results

12-15-22 C-1 CANAL - 12-15-22 BENT 2 PILE 8 ID

TEST PILE

OP: FGE-MPJW

Date: 15-December-2022

AR: 324.00 in²

SP: 0.150 k/ft³

LE: 117.00 ft

EM: 5,472 ksi

WS: 13,000.0 f/s

JC: 0.60

RX5: Maximum Case Method Capacity (JC=0.5)

CSB: Compression Stress at Bottom of Pile

RA2: Auto Capacity Friction Piles

STK: Hammer Stroke

RAU: Auto Capacity End Bearing Piles

EMX: Maximum Energy

CSX: Compression Stress Maximum

BTA: Integrity Factor (1)

TSX: Tension Stress Max-Full Rec Search

BL#	Depth ft	BLC bl/ft	TYPE	RX5 kips	RA2 kips	RAU kips	CSX ksi	TSX ksi	CSB ksi	STK ft	EMX k-ft	BTA (%)
350	48.00	350	AV350	581	553	505	2.2	0.8	2.0	5.91	17.2	98.0
489	49.00	139	AV139	496	481	447	2.4	0.5	2.0	6.97	21.7	100.0
546	50.00	57	AV57	399	413	379	2.4	0.4	1.7	7.15	22.7	100.0
586	51.00	40	AV40	385	391	366	2.4	0.5	1.5	7.13	22.6	100.0
624	52.00	38	AV38	393	408	380	2.4	0.5	1.5	7.26	23.0	100.0
663	53.00	39	AV39	400	423	388	2.5	0.5	1.5	7.27	23.0	100.0
699	54.00	36	AV36	391	395	370	2.5	0.5	1.4	7.26	23.1	100.0
733	55.00	34	AV34	396	381	363	2.5	0.6	1.4	7.36	23.7	100.0
771	56.00	38	AV38	432	451	413	2.5	0.5	1.5	7.41	23.8	100.0
826	57.00	55	AV55	521	520	467	2.6	0.5	1.8	7.55	24.7	100.0
875	58.00	49	AV49	485	491	444	2.7	0.5	1.7	7.50	25.2	100.0
922	59.00	47	AV47	491	501	454	2.8	0.5	1.8	7.66	26.1	100.0
983	60.00	61	AV61	670	587	527	2.9	0.5	2.2	8.04	27.9	100.0
1049	61.00	66	AV66	655	581	525	3.0	0.5	2.3	8.13	29.0	100.0
1102	62.00	53	AV53	569	528	479	3.0	0.5	2.1	8.02	29.4	100.0
1146	63.00	44	AV44	488	467	417	3.0	0.5	2.0	7.94	29.4	100.0
1186	64.00	40	AV40	425	416	364	3.0	0.7	1.8	7.76	28.8	100.0
1223	65.00	37	AV37	414	388	340	3.0	0.7	1.7	7.62	28.2	100.0
1255	66.00	32	AV32	418	388	340	3.0	0.7	1.7	7.74	28.9	100.0
1289	67.00	34	AV34	418	382	339	3.0	0.7	1.7	7.76	28.8	100.0
1323	68.00	34	AV34	413	380	339	3.0	0.7	1.7	7.79	28.9	100.0
1354	69.00	31	AV31	389	382	334	3.0	0.8	1.7	7.70	28.8	100.0
1392	70.00	38	AV38	513	507	454	3.1	0.6	2.1	7.90	29.5	100.0
1450	71.00	58	AV58	748	726	657	3.1	0.5	2.8	8.13	30.1	100.0
1511	72.00	61	AV61	723	734	662	3.1	0.5	2.7	8.09	29.6	100.0
1573	73.00	62	AV62	693	689	634	3.1	0.4	2.6	7.92	29.2	100.0
1635	74.00	62	AV62	690	691	630	3.1	0.4	2.6	7.96	29.4	100.0
1700	75.00	65	AV65	721	737	667	3.1	0.4	2.7	8.02	29.0	100.0
1764	76.00	64	AV64	715	744	680	3.1	0.4	2.6	8.04	28.6	100.0
1824	77.00	60	AV60	645	672	627	3.0	0.4	2.5	7.96	28.0	100.0
1876	78.00	52	AV52	565	587	562	3.0	0.4	2.3	7.91	27.9	100.0
1928	79.00	52	AV52	519	537	516	2.9	0.4	2.1	7.86	27.5	100.0
1977	80.00	49	AV49	495	513	493	2.8	0.4	2.0	7.65	26.3	100.0
2021	81.00	44	AV44	470	489	462	2.7	0.5	1.8	7.53	25.3	100.0
Average				548	539	493	2.7	0.6	2.1	7.39	25.1	99.7

Total number of blows analyzed: 2021

BL# Sensors

1-190 F3: [B986] 99.9 (1.00); F4: [R658] 101.0 (1.00); A1: [K11614] 375.0 (1.00);
 A2: [K12041] 425.0 (1.00)

191-2021 F7: [V070] 142.6 (1.00); F8: [V074] 145.1 (1.00); A5: [K12042] 340.0 (1.00);
 A6: [K10130] 410.0 (1.00)

Case Method & iCAP® Results

12-15-22 C-1 CANAL - 12-15-22 BENT 2 PILE 8 ID
OP: FGE-MPJW

TEST PILE
Date: 15-December-2022

BL# Comments

10 Stop to fix strain gage
105 fs2
190 Stop to switch gages
212 fs3
297 fs4

Time Summary

Drive 10 seconds 11:57 AM - 11:57 AM (12/15/2022) BN 1 - 10
Stop 14 minutes 13 seconds 11:57 AM - 12:11 PM
Drive 3 minutes 31 seconds 12:11 PM - 12:15 PM BN 11 - 190
Stop 32 minutes 13 seconds 12:15 PM - 12:47 PM
Drive 43 minutes 32 seconds 12:47 PM - 1:31 PM BN 191 - 2021

Total time [01:33:41] = (Driving [00:47:14] + Stop [00:46:27])

Structure No.: _____ Depth Table Extended (ft): _____ Bent/Pier No.: _____ Pile No.: 8

Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes	Depth	REF	Blows	Stroke	Eq. Stke. & Notes
47.00	1	48.00	352	5.894	Recording pause	80.00 - 81.00	44	7.5		113.00 - 114.00				
48.00 - 49.00		139	6.936		81.00 - 82.00					114.00 - 115.00				
49.00 - 50.00		57	7.14		82.00 - 83.00					115.00 - 116.00				
50.00 - 51.00		40	7.096		83.00 - 84.00					116.00 - 117.00				
51.00 - 52.00		38	7.223		84.00 - 85.00					117.00 - 118.00				
52.00 - 53.00		39	7.181		85.00 - 86.00					118.00 - 119.00				
53.00 - 54.00		36	7.306		86.00 - 87.00					119.00 - 120.00				
54.00 - 55.00		34	7.346		87.00 - 88.00					-				
55.00 - 56.00		38	7.373		88.00 - 89.00					-				
56.00 - 57.00		55	7.538		89.00 - 90.00					-				
57.00 - 58.00		49	7.463		90.00 - 91.00					-				
58.00 - 59.00		44	7.639		91.00 - 92.00					-				
59.00 - 60.00		61	8.009		92.00 - 93.00					-				
60.00 - 61.00		66	8.102		93.00 - 94.00					-				
61.00 - 62.00		53	7.982		94.00 - 95.00					-				
62.00 - 63.00		44	7.914		95.00 - 96.00					-				
63.00 - 64.00		40	7.731		96.00 - 97.00					-				
64.00 - 65.00		37	7.585		97.00 - 98.00					-				
65.00 - 66.00		32	7.688		98.00 - 99.00					-				
66.00 - 67.00		34	7.718		99.00 - 100.00					-				
67.00 - 68.00		34	7.764		100.00 - 101.00					-				
68.00 - 69.00		31	7.648		101.00 - 102.00					-				
69.00 - 70.00		38	7.875		102.00 - 103.00					-				
70.00 - 71.00		58	8.107		103.00 - 104.00					-				
71.00 - 72.00		61	8.062		104.00 - 105.00					-				
72.00 - 73.00		62	7.895		105.00 - 106.00					-				
73.00 - 74.00		62	7.924		106.00 - 107.00					-				
74.00 - 75.00		65	7.981		107.00 - 108.00					-				
75.00 - 76.00		64	8.011		108.00 - 109.00					-				
76.00 - 77.00		60	7.937		109.00 - 110.00					-				
77.00 - 78.00		52	7.876		110.00 - 111.00					-				
78.00 - 79.00		52	7.825		111.00 - 112.00					-				
79.00 - 80.00		49	7.613		112.00 - 113.00					-				