

# WUH-700-110499-3

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## Eddy Current Inspection

**Technician: Blake Long**

**August ,27 2015**

# **INAES**

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**TGR** INDUSTRIAL  
SERVICES

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**TGR Industrial, Inc.**  
**1127 South Lewis Avenue**  
**Tulsa, Ok 74104**  
**Office: 918-585-3228**

**August, 27, 2015**

**Naes Corporation**  
**Gainesville Renewable Energy Center**  
11201 NW 13<sup>th</sup> St  
Gainesville, FL 32653

Dear Mr. Gardner

This report will detail the EDDY Current inspection performed on WUH/700-110499-3 Feed water heater at the NAES facility in Gainesville, FL. The inspection covered 454 tubes (5/8" x 0.065" 304SS tubes).

Results of the inspection found wall loss present in 13 of 454 tubes tested. All wall loss was OD initiated all 13 tubes with wall loss were plugged on inlet and outlet tube sheet. Please see the attached map, pictures and data for a more detailed overview of the inspection.

Thank you for the opportunity to work with you at the NAES facility. We look forward to working with you again in the future. If you have any questions regarding the inspection please call (479) 422-9439 or email [blong@tulsagammaray.com](mailto:blong@tulsagammaray.com) anytime.

Sincerely,  
Blake Long  
ET IIA and IRIS Inspector



FWH-1121-  
8DBAA ←

USE TO LIFT  
VESSEL

17

YUBA  
 DESIGN PRESSURE PSI SHELL 875 TUBES 435  
 DESIGN TEMP MIN DEG F SHELL 60 TUBES 60  
 DESIGN ITEM BFW+X-1002  
 SERIAL NO WJH/700,110499/3  
 ORDER 520789  
 HP FEEDWATER HEATER ITEM NO. HP-2  
 METAL TEMP-TUBESHEET 520 DEG F  
 STRAIGHT 484 DEG F U-BENDS  
 SKIRT 760 DEG F

8711



W  
 HT  
 RT-4

Yuba

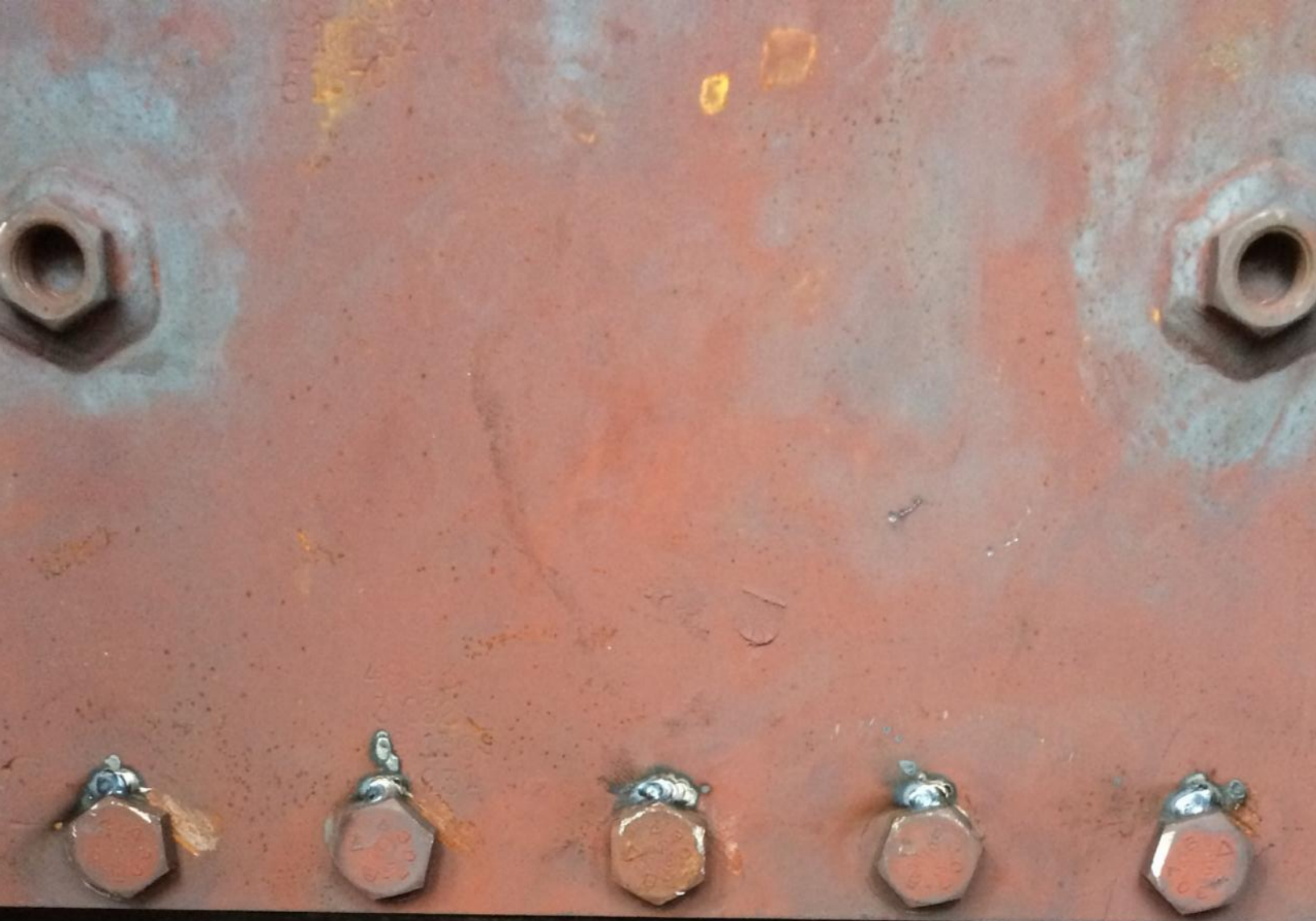
CERTIFIED BY:

SPX HEAT TRANSFER INC. | TULSA, OKLAHOMA

	SHELL				TUBES			
MAWP	575	PSI @	##530°F	3200	PSI @	520	°F	
MAEWP	15	PSI @	530 °F	N/A	PSI @	N/A	°F	
MDMT	60	°F @	575	PSI	60	°F @	3200	PSI
MFGR. SERIAL NO.				YEAR	2012			

WJH/700,110499/3

##760 DEG F SKIRT DESIGN TEMPERATURE



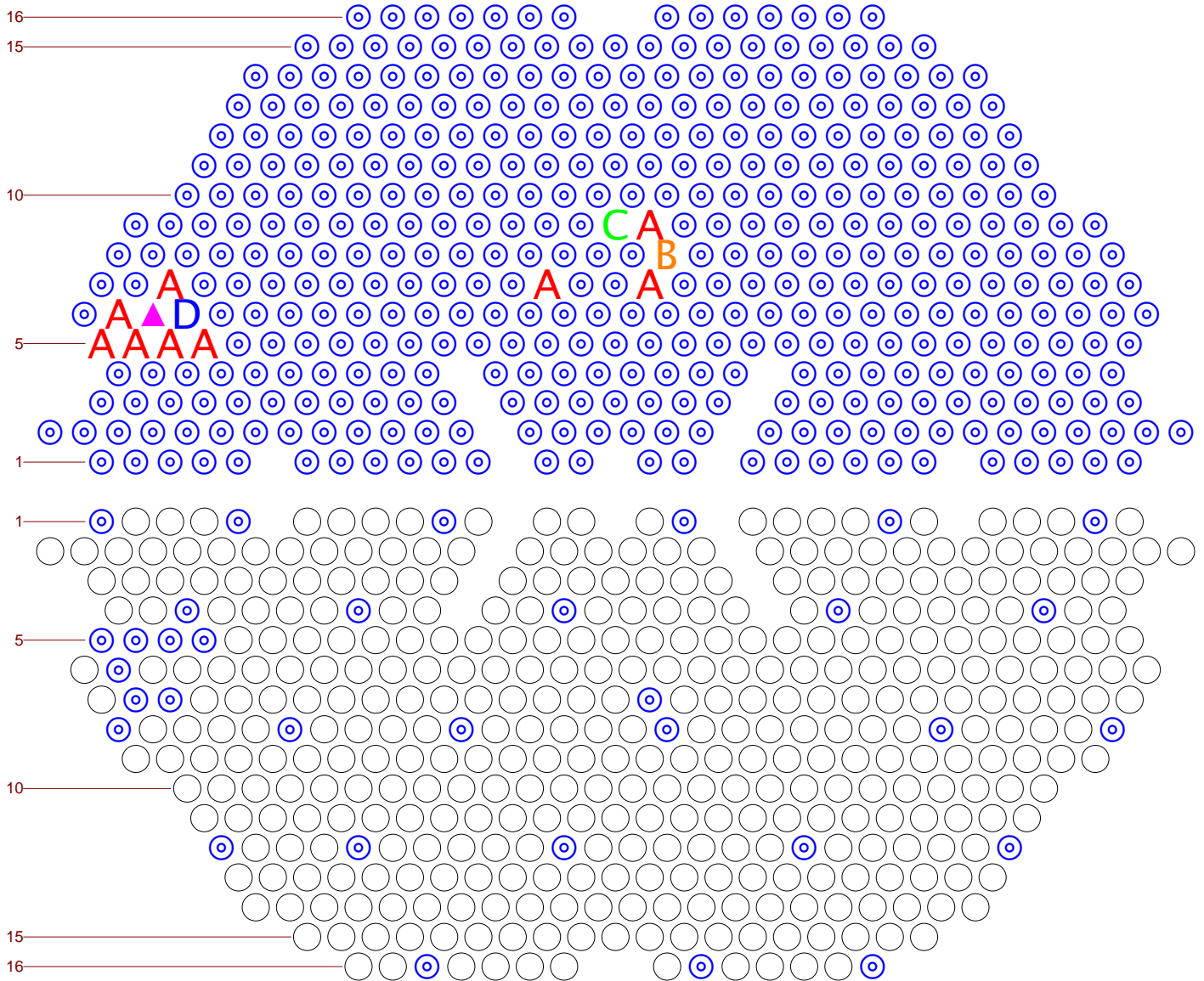
# Gainesville Renewable Energy Center

WUH-700-110499-3

5/8" x 0.065" 304SS

Eddy Current Inspection

August 2015



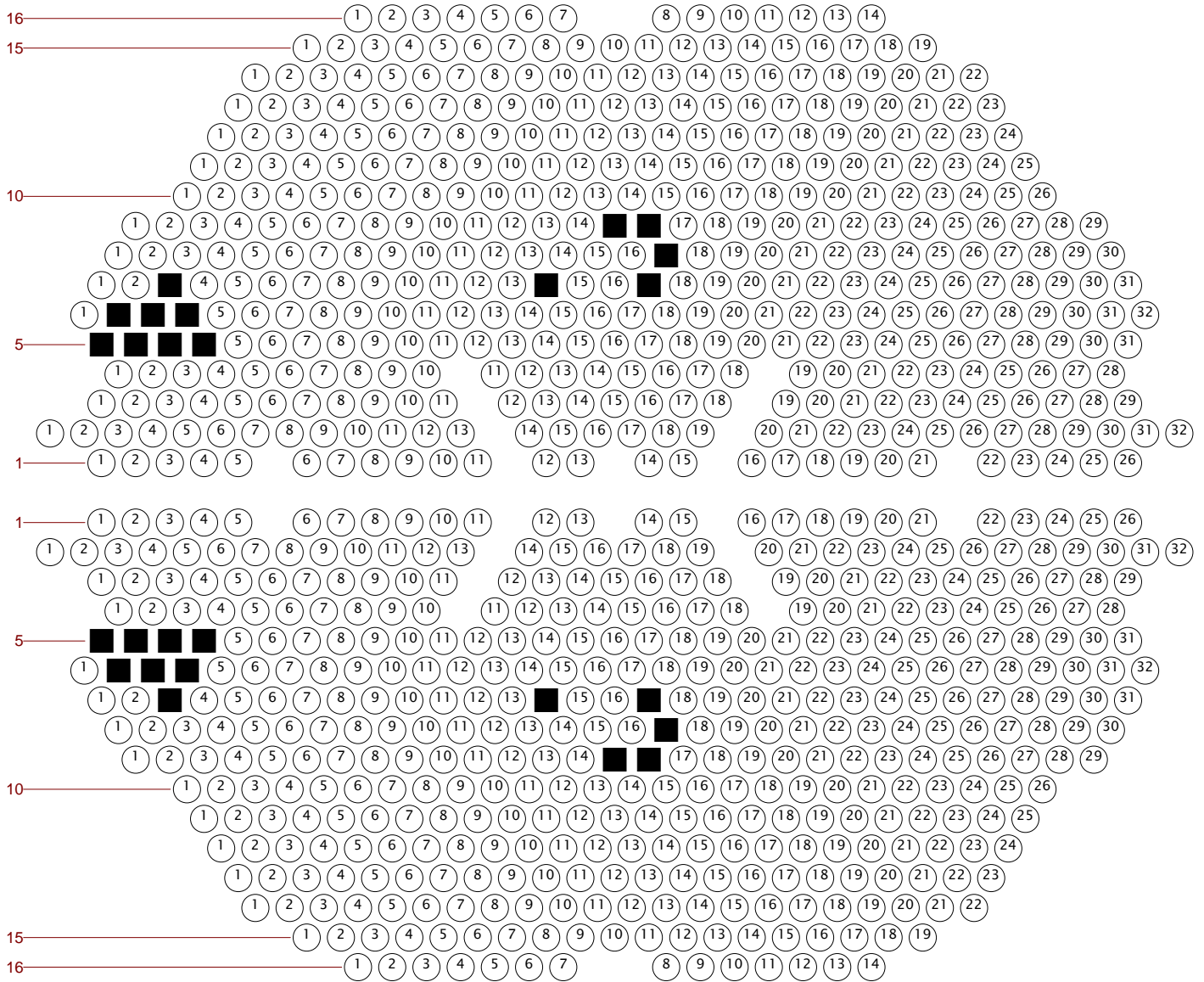
SYM	HITS	TUBES	VIS	TYPE	DESCRIPTION
A	9	9	9	QUERY	60%-100% Indications.qry
B	1	1	1	QUERY	40%-49% Indications.qry
C	1	1	1	QUERY	30%-39% Indications.qry
D	1	1	1	QUERY	1%-19% Indications.qry
⊙	441	441	441	QUERY	NDD(No Degredation Detected).qry
▲	1	1	1	QUERY	Obstructed Tube.qry
	454	454	454		

Model default (842 tubes)  
388 open tubes

# Gainesville Renewable Energy Center

WUH-700-110499-3

## PLUG MAP



SYM	HITS	TUBES	VIS	TYPE	DESCRIPTION	Model default (842 tubes) 816 open tubes
A	9	9	0	QUERY	60%-100% Indications.qry	
B	1	1	0	QUERY	40%-49% Indications.qry	
C	1	1	0	QUERY	30%-39% Indications.qry	
D	1	1	0	QUERY	1%-19% Indications.qry	
▲	1	1	0	QUERY	Obstructed Tube.qry	
■	26	26	26	PATTERN	Tubes To Be Plugged	
	39	39	26			

**SITE**

OWNER: Gainsville, FL

SITE CODE: NAES UNIT: 1

COMP: 110499-3 MODEL: default

OUTAGE: Summer 2015 DATE: 08/26/2015

**CAL**

CAL NUM: 1 DISK: LEG: INLET

MATERIAL: 304SS ID: 0.750 OD: 0.800

**OPERATORS**

OPERATOR ID: BLAKE LONG LEVEL: IIA

OPERATOR ID: LEVEL:

**STANDARDS**

TYPE: 5/8" x .065 SN: 304SS

TYPE: SN:

TYPE: SN:

**PROBE**

MODEL: 450 LF VENDOR: Corestar

EXT TYPE: VENDOR:

HEAD SIZE: 0 HEAD SN:

SHAFT LENGTH: 0 SHAFT SN:

EXT LENGTH: 0 REF HEAD SN:

SLIP SN: REF SHAFT SN:

**TESTER CONFIG**

IDX	TYPE	CHAN	FREQ	SPAN	YFAC	ROT	COIL	CTX
1	DATA32	1	170 KHz	40		0°	1 DIF	1
2	DATA32	2	170 KHz	40		0°	2 ABS	1
3	DATA32	3	75 KHz	40		0°	1 DIF	2
4	DATA32	4	75 KHz	40		0°	2 ABS	2
5	DATA32	5	35 KHz	40		0°	1 DIF	3
6	DATA32	6	35 KHz	40		0°	2 ABS	3
7	DATA32	7	15 KHz	40		0°	1 DIF	4
8	DATA32	8	15 KHz	40		0°	2 ABS	4

**CONFIG**

CONFIG: 304SS

RATE: 1962 #CH: 8 OFF: 1.386

SPEED: 24.00 RPM: DIR: PULL

**FILE**

SOURCE: CoreStar SAMPLES: 17,040

PROCEDURE: TGR ET REV 4

SOFTWARE: CoreStar EddyVISION 6.4

**EQUIPMENT**

TESTER: OMNI-200 SN: 0122-1207

PUSHER: SN:

FIXTURE: SN:

Empty data entry area.



TEST LINK TESTER ON EXPLAIN BALANCE REF NULL HW NULL

ABORT POWER DOWN IP Address 192.1.6.46

Config Options Scope Waveform Freq Sweep Status

Sample Rate 1.96 Num Chan 8 Trigger Internal

Config Options		Probe Options		AUX Chans	
Continuous Mode	<input type="checkbox"/>	Ghent On	<input type="checkbox"/>	Time	<input type="checkbox"/>
32-bit Mode	<input checked="" type="checkbox"/>	High Speed RPC	<input type="checkbox"/>	Encoders	<input type="checkbox"/>
Dynamic Gain	<input checked="" type="checkbox"/>	Array Outputs On	<input type="checkbox"/>	RMS	<input type="checkbox"/>
Internal Reference	<input checked="" type="checkbox"/>	X-Probe Clock On	<input type="checkbox"/>	Gains	<input type="checkbox"/>
Time Slew	<input checked="" type="checkbox"/>	Smart Probe	<input type="checkbox"/>	Sample Index	<input type="checkbox"/>
Increment Caps	<input type="checkbox"/>			Status & IO	<input type="checkbox"/>
Auto Stop	<input type="checkbox"/>			Sample Flags	<input type="checkbox"/>
No Powerdown	<input checked="" type="checkbox"/>				
Synch Outputs On	<input type="checkbox"/>				

TIME SLOT	DRIVER				COIL							
	#	FREQUENCY	PHASE	DRIVE	1	2	3	4	5	6	7	8
1	1	170.000 KHz	0.000°	100.00%	1	2						
2	1	75.000 KHz	0.000°	100.00%	3	4						
3	1	35.000 KHz	0.000°	100.00%	5	6						
4	1	15.000 KHz	0.000°	100.00%	7	8						

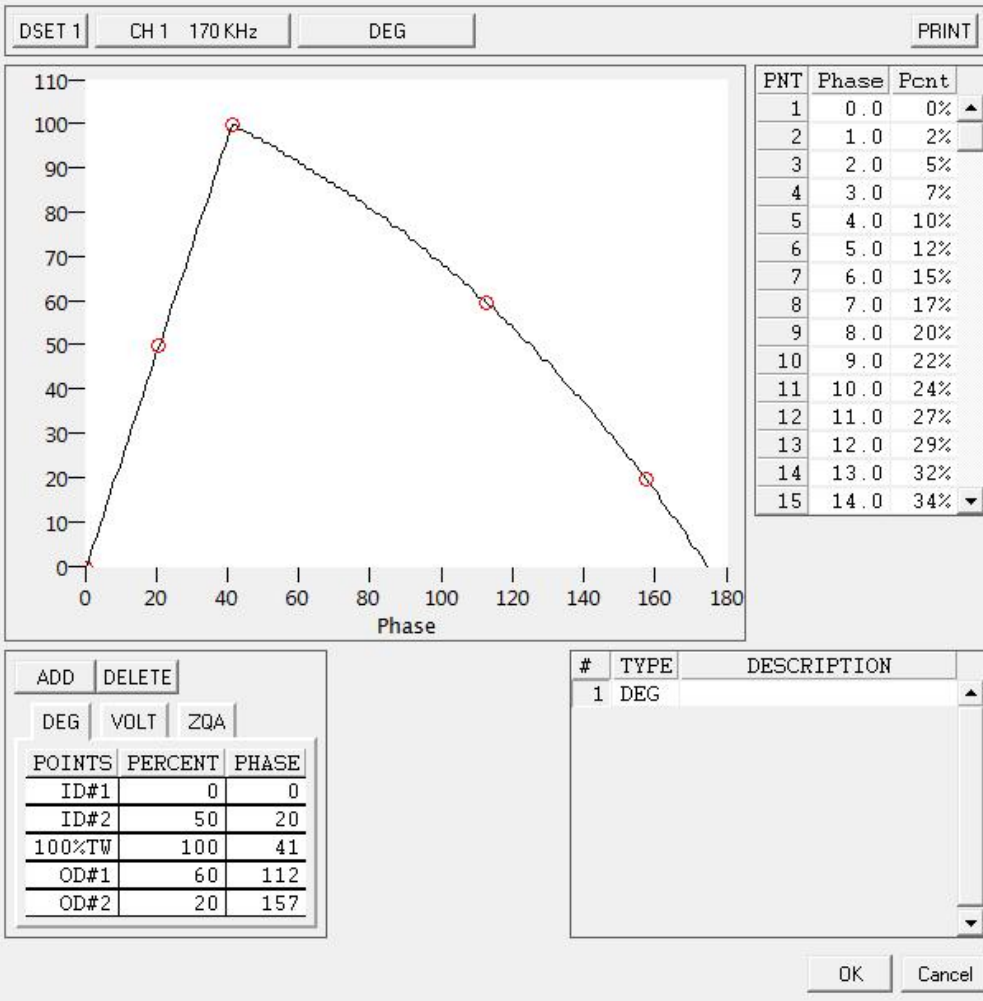
SLOT	DELAY (uS)	INTEG (wave)	TIME (uS)	ENCODER				
				1	2	3	4	5
1	50	12	121					
2	50	6	131					
3	50	3	136					
4	50	1	117					

SLOT	COIL INPUT GAIN (dB)							
	1	2	3	4	5	6	7	8
1	14	14						
2	14	14						
3	14	14						
4	14	14						

COIL	TYP	BC	HN	RFT	CAP	NAME
1	DIF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		A 56	
2	ABS	<input type="checkbox"/>	<input checked="" type="checkbox"/>		A 0	
3						
4						
5						
6						
7						
8						

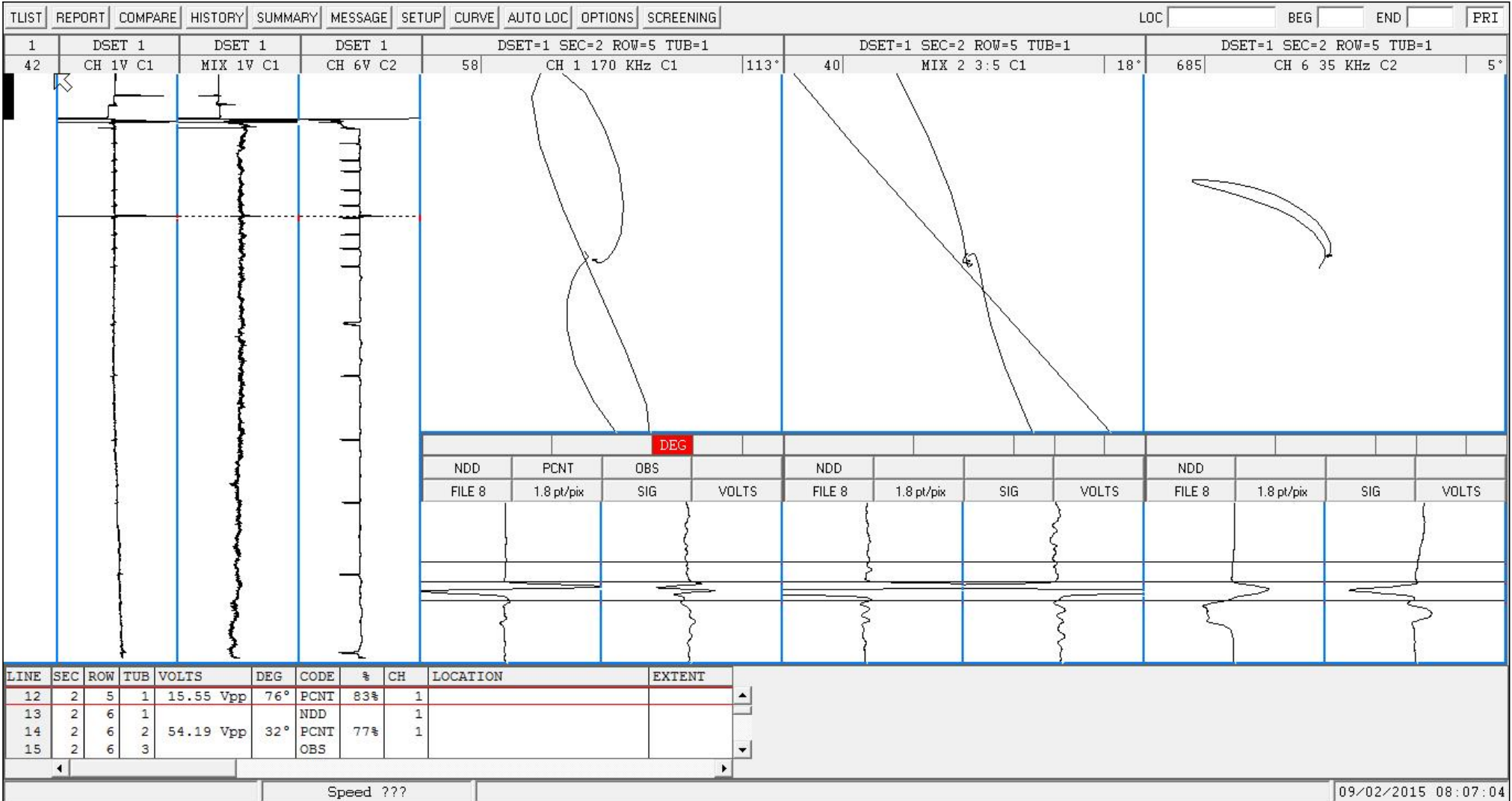
508 of 509 uS

OK Cancel



Phase	Pcnt	Phase	Pcnt	Phase	Pcnt	Phase	Pcnt
0.0	0	57.0	93	114.0	59	171.0	4
1.0	2	58.0	92	115.0	58	172.0	3
2.0	5	59.0	92	116.0	57	173.0	2
3.0	7	60.0	91	117.0	56	174.0	0
4.0	10	61.0	91	118.0	55	175.0	0
5.0	12	62.0	90	119.0	55	176.0	0
6.0	15	63.0	90	120.0	54	177.0	0
7.0	17	64.0	89	121.0	53	178.0	0
8.0	20	65.0	89	122.0	52	179.0	0
9.0	22	66.0	88	123.0	51		
10.0	24	67.0	88	124.0	51		
11.0	27	68.0	87	125.0	50		
12.0	29	69.0	87	126.0	49		
13.0	32	70.0	86	127.0	48		
14.0	34	71.0	86	128.0	47		
15.0	37	72.0	85	129.0	47		
16.0	39	73.0	85	130.0	46		
17.0	42	74.0	84	131.0	45		
18.0	44	75.0	84	132.0	44		
19.0	46	76.0	83	133.0	43		
20.0	49	77.0	83	134.0	42		
21.0	51	78.0	82	135.0	41		
22.0	54	79.0	81	136.0	40		
23.0	56	80.0	81	137.0	39		
24.0	59	81.0	80	138.0	39		
25.0	61	82.0	80	139.0	38		
26.0	63	83.0	79	140.0	37		
27.0	66	84.0	79	141.0	36		
28.0	68	85.0	78	142.0	35		
29.0	71	86.0	77	143.0	34		
30.0	73	87.0	77	144.0	33		
31.0	76	88.0	76	145.0	32		
32.0	78	89.0	76	146.0	31		
33.0	81	90.0	75	147.0	30		
34.0	83	91.0	74	148.0	29		
35.0	85	92.0	74	149.0	28		
36.0	88	93.0	73	150.0	27		
37.0	90	94.0	72	151.0	26		
38.0	93	95.0	72	152.0	25		
39.0	95	96.0	71	153.0	24		
40.0	98	97.0	70	154.0	23		
41.0	100	98.0	70	155.0	22		
42.0	100	99.0	69	156.0	21		
43.0	99	100.0	68	157.0	20		
44.0	99	101.0	68	158.0	19		
45.0	98	102.0	67	159.0	18		
46.0	98	103.0	66	160.0	17		
47.0	97	104.0	66	161.0	15		
48.0	97	105.0	65	162.0	14		
49.0	97	106.0	64	163.0	13		
50.0	96	107.0	64	164.0	12		
51.0	96	108.0	63	165.0	11		
52.0	95	109.0	62	166.0	10		
53.0	95	110.0	61	167.0	9		
54.0	94	111.0	61	168.0	8		
55.0	94	112.0	60	169.0	6		
56.0	93	113.0	59	170.0	5		

<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>TLIST</td><td>REPORT</td><td>COMPARE</td><td>HISTORY</td><td>SUMMARY</td><td>MESSAGE</td><td>SETUP</td><td>CURVE</td><td>AUTO LOC</td><td>OPTIONS</td><td>SCREENING</td><td>LOC</td> </tr> </table>												TLIST	REPORT	COMPARE	HISTORY	SUMMARY	MESSAGE	SETUP	CURVE	AUTO LOC	OPTIONS	SCREENING	LOC	BEG	END	PRI																																																												
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1	DSET 1	DSET 1	DSET 1	DSET=1 SEC=0 ROW=999 TUB=999				DSET=1 SEC=0 ROW=999 TUB=999				DSET=1 SEC=0 ROW=999 TUB=999				TEST	TESTER	PLAN																																																																				
13	CH 3V C1	MIX 2V C1	CH 6V C2	39	CH 1 170 KHz C1	112°	40	MIX 2 3:5 C1	18°	135	CH 6 35 KHz C2	5°	CAL	SEC	ROW	TUB	TIME																																																																					
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				3.00 Vpp 41°				6.06 Vpp 39°				6.30 Vpp 180°				ACQUIRED 25 of 25																																																																						
				NDD				NDD				NDD				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ENTRY</th><th>D</th><th>SEC</th><th>ROW</th><th>TUB</th><th>CNT</th></tr> </thead> <tbody> <tr><td>16</td><td>✓</td><td>1</td><td>8</td><td>25</td><td>1</td></tr> <tr><td>17</td><td>✓</td><td>1</td><td>8</td><td>30</td><td>1</td></tr> <tr><td>18</td><td>✓</td><td>1</td><td>12</td><td>1</td><td>1</td></tr> <tr><td>19</td><td>✓</td><td>1</td><td>12</td><td>5</td><td>1</td></tr> <tr><td>20</td><td>✓</td><td>1</td><td>12</td><td>11</td><td>1</td></tr> <tr><td>21</td><td>✓</td><td>1</td><td>12</td><td>18</td><td>1</td></tr> <tr><td>22</td><td>✓</td><td>1</td><td>12</td><td>24</td><td>1</td></tr> <tr><td>23</td><td>✓</td><td>1</td><td>16</td><td>3</td><td>1</td></tr> <tr><td>24</td><td>✓</td><td>1</td><td>16</td><td>9</td><td>1</td></tr> <tr style="border: 2px solid red;"><td>25</td><td>✓</td><td>1</td><td>16</td><td>14</td><td>1</td></tr> </tbody> </table>					ENTRY	D	SEC	ROW	TUB	CNT	16	✓	1	8	25	1	17	✓	1	8	30	1	18	✓	1	12	1	1	19	✓	1	12	5	1	20	✓	1	12	11	1	21	✓	1	12	18	1	22	✓	1	12	24	1	23	✓	1	16	3	1	24	✓	1	16	9	1	25	✓	1	16	14	1
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16	✓	1	8	25	1																																																																																	
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20	✓	1	12	11	1																																																																																	
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23	✓	1	16	3	1																																																																																	
24	✓	1	16	9	1																																																																																	
25	✓	1	16	14	1																																																																																	
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1					CAL	1			NAES	PRI																																																																												
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Speed ???										09/02/2015 08:04:30																																																																												



LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
1						CAL	1		NAES	PRI
2						COMP	110499-3			
3						PROBE				
4						ANALYST	BLAKE LONG		IIA	08/26/15
5						OPERATOR				
6						ACQ START	0729			08/26/15
7										
8	2	5	2	170.38 Vpp	40°	PCNT	98%	1		
9	2	5	3	103.62 Vpp	39°	PCNT	96%	1		
10	2	5	4	49.54 Vpp	32°	PCNT	77%	1		
11	2	5	5			NDD		1		
12	2	5	1	15.55 Vpp	76°	PCNT	83%	1		
13	2	6	1			NDD		1		
14	2	6	2	54.19 Vpp	32°	PCNT	77%	1		
15	2	6	3			OBS				
16	2	6	4	1.05 Vpp	159°	PCNT	18%	1		
17	2	6	5			NDD		1		
18	2	7	2			NDD		1		
19	2	7	3	5.11 Vpp	90°	PCNT	75%	1		
20	2	7	4			NDD		1		
21	2	7	5			NDD		1		
22	2	8	2			NDD		1		
23	2	8	3			NDD		1		
24	2	4	1			NDD		1		
25	2	4	2			NDD		1		
26	2	4	3			NDD		1		
27	2	4	4			NDD		1		
28	2	3	2			NDD		1		
29	2	3	3			NDD		1		
30	2	6	17			NDD		1		
31	2	6	18			NDD		1		
32	2	7	16			NDD		1		
33	2	7	17	16.91 Vpp	39°	PCNT	95%	1		
34	2	7	18			NDD		1		
35	2	8	16			NDD		1		
36	2	8	17	1.35 Vpp	132°	PCNT	44%	1		
37	2	8	18			NDD		1		
38	2	9	16	2.46 Vpp	105°	PCNT	65%	1		
39	2	9	17			NDD		1		
40	2	9	15	1.24 Vpp	143°	PCNT	34%	1		
41	2	9	14			NDD		1		
42	2	10	13			NDD		1		
43	2	10	14			NDD		1		
44	2	10	15			NDD		1		
45	2	10	16			NDD		1		
46	1	5	1			NDD		1		
47	1	5	2			NDD		1		
48	1	5	3			NDD		1		
49	1	5	4			NDD		1		
50	1	6	2			NDD		1		
51	1	7	2			NDD		1		
52	1	7	3			NDD		1		
53	1	7	17			NDD		1		
54	2	1	1			NDD		1		
55	2	1	2			NDD		1		
56	2	1	3			NDD		1		
57	2	1	4			NDD		1		
58	2	1	5			NDD		1		
59	2	1	6			NDD		1		
60	2	1	7			NDD		1		
61	2	1	8			NDD		1		
62	2	1	9			NDD		1		
63	2	1	10			NDD		1		
64	2	1	11			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
65	2	1	12			NDD		1		
66	2	1	13			NDD		1		
67	2	1	14			NDD		1		
68	2	1	15			NDD		1		
69	2	1	16			NDD		1		
70	2	1	17			NDD		1		
71	2	1	18			NDD		1		
72	2	1	19			NDD		1		
73	2	1	20			NDD		1		
74	2	1	21			NDD		1		
75	2	1	22			NDD		1		
76	2	1	23			NDD		1		
77	2	1	24			NDD		1		
78	2	1	25			NDD		1		
79	2	1	26			NDD		1		
80	2	2	1			NDD		1		
81	2	2	2			NDD		1		
82	2	2	3			NDD		1		
83	2	2	4			NDD		1		
84	2	2	5			NDD		1		
85	2	2	6			NDD		1		
86	2	2	7			NDD		1		
87	2	2	8			NDD		1		
88	2	2	9			NDD		1		
89	2	2	10			NDD		1		
90	2	2	11			NDD		1		
91	2	2	12			NDD		1		
92	2	2	13			NDD		1		
93	2	2	14			NDD		1		
94	2	2	15			NDD		1		
95	2	2	16			NDD		1		
96	2	2	17			NDD		1		
97	2	2	18			NDD		1		
98	2	2	19			NDD		1		
99	2	2	20			NDD		1		
100	2	2	21			NDD		1		
101	2	2	22			NDD		1		
102	2	2	23			NDD		1		
103	2	2	24			NDD		1		
104	2	2	25			NDD		1		
105	2	2	26			NDD		1		
106	2	2	27			NDD		1		
107	2	2	28			NDD		1		
108	2	2	29			NDD		1		
109	2	2	30			NDD		1		
110	2	2	31			NDD		1		
111	2	2	32			NDD		1		
112	2	3	1			NDD		1		
113	2	3	4			NDD		1		
114	2	3	5			NDD		1		
115	2	3	6			NDD		1		
116	2	3	7			NDD		1		
117	2	3	8			NDD		1		
118	2	3	9			NDD		1		
119	2	3	10			NDD		1		
120	2	3	12			NDD		1		
121	2	3	11			NDD		1		
122	2	3	13			NDD		1		
123	2	3	14			NDD		1		
124	2	3	15			NDD		1		
125	2	3	16			NDD		1		
126	2	3	17			NDD		1		
127	2	3	18			NDD		1		
128	2	3	19			NDD		1		
129	2	3	20			NDD		1		
130	2	3	21			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
131	2	3	22			NDD		1		
132	2	3	23			NDD		1		
133	2	3	24			NDD		1		
134	2	3	25			NDD		1		
135	2	3	26			NDD		1		
136	2	3	27			NDD		1		
137	2	3	28			NDD		1		
138	2	3	29			NDD		1		
139	2	4	5			NDD		1		
140	2	4	6			NDD		1		
141	2	4	7			NDD		1		
142	2	4	8			NDD		1		
143	2	4	9			NDD		1		
144	2	4	10			NDD		1		
145	2	4	11			NDD		1		
146	2	4	12			NDD		1		
147	2	4	13			NDD		1		
148	2	4	14			NDD		1		
149	2	4	15			NDD		1		
150	2	4	16			NDD		1		
151	2	4	17			NDD		1		
152	2	4	18			NDD		1		
153	2	4	19			NDD		1		
154	2	4	20			NDD		1		
155	2	4	21			NDD		1		
156	2	4	22			NDD		1		
157	2	4	23			NDD		1		
158	2	4	24			NDD		1		
159	2	4	25			NDD		1		
160	2	4	26			NDD		1		
161	2	4	27			NDD		1		
162	2	4	28			NDD		1		
163	2	5	6			NDD		1		
164	2	5	7			NDD		1		
165	2	5	8			NDD		1		
166	2	5	9			NDD		1		
167	2	5	10			NDD		1		
168	2	5	11			NDD		1		
169	2	5	12			NDD		1		
170	2	5	13			NDD		1		
171	2	5	14			NDD		1		
172	2	5	15			NDD		1		
173	2	5	16			NDD		1		
174	2	5	17			NDD		1		
175	2	5	18			NDD		1		
176	2	5	19			NDD		1		
177	2	5	20			NDD		1		
178	2	5	21			NDD		1		
179	2	5	22			NDD		1		
180	2	5	23			NDD		1		
181	2	5	24			NDD		1		
182	2	5	25			NDD		1		
183	2	5	26			NDD		1		
184	2	5	27			NDD		1		
185	2	5	28			NDD		1		
186	2	5	29			NDD		1		
187	2	5	30			NDD		1		
188	2	5	31			NDD		1		
189	2	6	6			NDD		1		
190	2	6	7			NDD		1		
191	2	6	8			NDD		1		
192	2	6	9			NDD		1		
193	2	6	10			NDD		1		
194	2	6	11			NDD		1		
195	2	6	12			NDD		1		
196	2	6	13			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
197	2	6	14			NDD		1		
198	2	6	15			NDD		1		
199	2	6	16			NDD		1		
200	2	6	19			NDD		1		
201	2	6	20			NDD		1		
202	2	6	21			NDD		1		
203	2	6	22			NDD		1		
204	2	6	23			NDD		1		
205	2	6	24			NDD		1		
206	2	6	25			NDD		1		
207	2	6	26			NDD		1		
208	2	6	27			NDD		1		
209	2	6	28			NDD		1		
210	2	6	29			NDD		1		
211	2	6	30			NDD		1		
212	2	6	31			NDD		1		
213	2	6	32			NDD		1		
214	2	7	1			NDD		1		
215	2	7	6			NDD		1		
216	2	7	7			NDD		1		
217	2	7	8			NDD		1		
218	2	7	9			NDD		1		
219	2	7	10			NDD		1		
220	2	7	11			NDD		1		
221	2	7	12			NDD		1		
222	2	7	13			NDD		1		
223	2	7	14	5.10 Vpp	83°	PCNT	79%	1		
224	2	7	15			NDD		1		
225	2	7	19			NDD		1		
226	2	7	20			NDD		1		
227	2	7	21			NDD		1		
228	2	7	22			NDD		1		
229	2	7	23			NDD		1		
230	2	7	24			NDD		1		
231	2	7	25			NDD		1		
232	2	7	26			NDD		1		
233	2	7	27			NDD		1		
234	2	7	28			NDD		1		
235	2	7	29			NDD		1		
236	2	7	30			NDD		1		
237	2	7	31			NDD		1		
238	2	8	1			NDD		1		
239	2	8	4			NDD		1		
240	2	8	5			NDD		1		
241	2	8	6			NDD		1		
242	2	8	7			NDD		1		
243	2	8	8			NDD		1		
244	2	8	9			NDD		1		
245	2	8	10			NDD		1		
246	2	8	11			NDD		1		
247	2	8	12			NDD		1		
248	2	8	14			NDD		1		
249	2	8	13			NDD		1		
250	2	8	15			NDD		1		
251	2	8	19			NDD		1		
252	2	8	20			NDD		1		
253	2	8	21			NDD		1		
254	2	8	22			NDD		1		
255	2	8	23			NDD		1		
256	2	8	24			NDD		1		
257	2	8	25			NDD		1		
258	2	8	26			NDD		1		
259	2	8	27			NDD		1		
260	2	8	28			NDD		1		
261	2	8	29			NDD		1		
262	2	8	30			NDD		1		



LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
263	2	9	1			NDD		1		
264	2	9	2			NDD		1		
265	2	9	3			NDD		1		
266	2	9	4			NDD		1		
267	2	9	5			NDD		1		
268	2	9	6			NDD		1		
269	2	9	7			NDD		1		
270	2	9	8			NDD		1		
271	2	9	9			NDD		1		
272	2	9	10			NDD		1		
273	2	9	11			NDD		1		
274	2	9	12			NDD		1		
275	2	9	13			NDD		1		
276	2	9	18			NDD		1		
277	2	9	19			NDD		1		
278	2	9	20			NDD		1		
279	2	9	21			NDD		1		
280	2	9	22			NDD		3		
281	2	9	23			NDD		1		
282	2	9	24			NDD		1		
283	2	9	25			NDD		1		
284	2	9	26			NDD		1		
285	2	9	27			NDD		1		
286	2	9	28			NDD		1		
287	2	9	29			NDD		1		
288	2	10	1			NDD		1		
289	2	10	2			NDD		1		
290	2	10	3			NDD		1		
291	2	10	4			NDD		1		
292	2	10	5			NDD		1		
293	2	10	6			NDD		1		
294	2	10	7			NDD		1		
295	2	10	8			NDD		1		
296	2	10	9			NDD		1		
297	2	10	10			NDD		1		
298	2	10	11			NDD		1		
299	2	10	12			NDD		1		
300	2	10	17			NDD		1		
301	2	10	18			NDD		1		
302	2	10	19			NDD		1		
303	2	10	20			NDD		1		
304	2	10	21			NDD		1		
305	2	10	22			NDD		1		
306	2	10	23			NDD		1		
307	2	10	24			NDD		1		
308	2	10	25			NDD		1		
309	2	10	26			NDD		1		
310	2	11	1			NDD		1		
311	2	11	2			NDD		1		
312	2	11	3			NDD		1		
313	2	11	4			NDD		1		
314	2	11	5			NDD		1		
315	2	11	6			NDD		1		
316	2	11	7			NDD		1		
317	2	11	8			NDD		1		
318	2	11	9			NDD		1		
319	2	11	10			NDD		1		
320	2	11	11			NDD		1		
321	2	11	12			NDD		1		
322	2	11	13			NDD		1		
323	2	11	14			NDD		1		
324	2	11	15			NDD		1		
325	2	11	16			NDD		1		
326	2	11	17			NDD		1		
327	2	11	18			NDD		1		
328	2	11	19			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
329	2	11	20			NDD		1		
330	2	11	21			NDD		1		
331	2	11	22			NDD		1		
332	2	11	23			NDD		1		
333	2	11	24			NDD		1		
334	2	11	25			NDD		1		
335	2	12	1			NDD		1		
336	2	12	2			NDD		1		
337	2	12	3			NDD		1		
338	2	12	4			NDD		1		
339	2	12	5			NDD		1		
340	2	12	6			NDD		1		
341	2	12	7			NDD		1		
342	2	12	8			NDD		1		
343	2	12	9			NDD		1		
344	2	12	10			NDD		1		
345	2	12	11			NDD		1		
346	2	12	12			NDD		1		
347	2	12	13			NDD		1		
348	2	12	14			NDD		1		
349	2	12	15			NDD		1		
350	2	12	16			NDD		1		
351	2	12	17			NDD		1		
352	2	12	18			NDD		1		
353	2	12	19			NDD		1		
354	2	12	20			NDD		1		
355	2	12	21			NDD		1		
356	2	12	22			NDD		1		
357	2	12	23			NDD		1		
358	2	12	24			NDD		1		
359	2	13	1			NDD		1		
360	2	13	2			NDD		1		
361	2	13	3			NDD		1		
362	2	13	4			NDD		1		
363	2	13	5			NDD		1		
364	2	13	6			NDD		1		
365	2	13	7			NDD		1		
366	2	13	8			NDD		1		
367	2	13	9			NDD		1		
368	2	13	10			NDD		1		
369	2	13	11			NDD		1		
370	2	13	12			NDD		1		
371	2	13	13			NDD		1		
372	2	13	14			NDD		1		
373	2	13	15			NDD		1		
374	2	13	16			NDD		1		
375	2	13	17			NDD		1		
376	2	13	18			NDD		1		
377	2	13	19			NDD		1		
378	2	13	20			NDD		1		
379	2	13	21			NDD		1		
380	2	13	22			NDD		1		
381	2	13	23			NDD		1		
382	2	14	1			NDD		1		
383	2	14	2			NDD		1		
384	2	14	3			NDD		1		
385	2	14	4			NDD		1		
386	2	14	5			NDD		1		
387	2	14	6			NDD		1		
388	2	14	7			NDD		1		
389	2	14	8			NDD		1		
390	2	14	9			NDD		1		
391	2	14	10			NDD		1		
392	2	14	11			NDD		1		
393	2	14	12			NDD		1		
394	2	14	13			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
395	2	14	14			NDD		1		
396	2	14	15			NDD		1		
397	2	14	16			NDD		1		
398	2	14	17			NDD		1		
399	2	14	18			NDD		1		
400	2	14	19			NDD		1		
401	2	14	20			NDD		1		
402	2	14	21			NDD		1		
403	2	14	22			NDD		1		
404	2	15	1			NDD		1		
405	2	15	2			NDD		1		
406	2	15	3			NDD		1		
407	2	15	4			NDD		1		
408	2	15	5			NDD		1		
409	2	15	6			NDD		1		
410	2	15	7			NDD		1		
411	2	15	8			NDD		1		
412	2	15	9			NDD		1		
413	2	15	10			NDD		1		
414	2	15	11			NDD		1		
415	2	15	12			NDD		1		
416	2	15	13			NDD		1		
417	2	15	14			NDD		1		
418	2	15	15			NDD		1		
419	2	15	16			NDD		1		
420	2	15	17			NDD		1		
421	2	15	18			NDD		1		
422	2	15	19			NDD		1		
423	2	16	1			NDD		1		
424	2	16	2			NDD		1		
425	2	16	3			NDD		1		
426	2	16	4			NDD		1		
427	2	16	5			NDD		1		
428	2	16	6			NDD		1		
429	2	16	7			NDD		1		
430	2	16	8			NDD		1		
431	2	16	9			NDD		1		
432	2	16	10			NDD		1		
433	2	16	11			NDD		1		
434	2	16	12			NDD		1		
435	2	16	13			NDD		1		
436	2	16	14			NDD		1		
437	1	1	1			NDD		1		
438	1	1	5			NDD		1		
439	1	1	10			NDD		1		
440	1	1	15			NDD		1		
441	1	1	20			NDD		1		
442	1	1	25			NDD		1		
443	1	4	3			NDD		1		
444	1	4	8			NDD		1		
445	1	4	13			NDD		1		
446	1	4	20			NDD		1		
447	1	4	26			NDD		1		
448	1	8	1			NDD		1		
449	1	8	6			NDD		1		
450	1	8	11			NDD		1		
451	1	8	17			NDD		1		
452	1	8	25			NDD		1		
453	1	8	30			NDD		1		
454	1	12	1			NDD		1		
455	1	12	5			NDD		1		
456	1	12	11			NDD		1		
457	1	12	18			NDD		1		
458	1	12	24			NDD		1		
459	1	16	3			NDD		1		
460	1	16	9			NDD		1		

LINE	SEC	ROW	TUB	VOLTS	DEG	CODE	%	CH	LOCATION	EXTENT
461	1	16	14			NDD		1		

Analyst \_\_\_\_\_