HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

D-N

RECTIFIER INFORMATION

Manufacturer: Universal Rectifiers

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 66'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	07:30	AS IS	52.0	5.5	52.90	5.80	2800	-964		PT BURN - 1/2" TOP & BOTTOM
5/11/2004		STATIC					-114	-635		
5/18/2004		ON			52.40	5.80	3600	-1000		
3/7/2006	11:50	AS IS	54.0	5.6	53.60	5.64	1290	-770		PT BURN - 1/2" TOP & BOTTOM
3/16/2006	10:03	STATIC					91	-454	9.8	TAP 2-6
						2.14				TAP 1-5
3/22/2006	09:30	ON	20.0	2.0	21.20	2.12	1354	-578		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

D-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	07:37	AS IS								SYSTEM OFF
5/11/2004		STATIC					-360	-634		ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/7/2006	12:02	AS IS	48.0							ENERGIZED - MISS REENERGAZTION DATA
3/16/2006	10:10	STATIC					-152	-437	96.0	TAP 2-3
						1.00				TAP 3-6
3/22/2006	09:34	ON	86.0	1.0	90.80	1.00	960	-897		NEW ANODE - REPLACED BLOWN FUSE
								-912		ON

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

E-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 73'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	07:00	AS IS	42.0	4.2	42.70	4.60	2400	-920		PT BURN - 1/2" TOP & BOTTOM
5/11/2004		STATIC					-70	-490		
5/18/2004		ON			42.20	4.60	1800	-880		
3/7/2006	12:24	AS IS	42.0	4.4	43.60	4.50	1820	-1015		PT BURN - 2 7/8" TOP & 1/2" BOTTOM
3/16/2006	09:46	STATIC					122	-394	9.4	TAP 2-2
						2.20				TAP 1-5
3/22/2006	09:20	ON	20.0	2.0	20.54	2.10	1403	-593		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

E-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: _____ Anode Length: _____

Number of Anodes:

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	07:07	AS IS	40.0	4.0	38.80	4.20	1700	-832		4" PT BURN
5/11/2004		STATIC					50	-488		
5/18/2004		ON			38.42	4.00	1800	-880		
3/7/2006	12:25	AS IS	39.0	4.0	37.69	3.80	224	-3329		ANODE BROKE @ CONNECTION
3/16/2006	07:56	STATIC						-397		WHILE LOWERING IT
3/22/2006	09:23	ON						-1043		SYSTEM OFF
										4" PT BURN

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

F-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 80'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	01:41	AS IS	42.0	4.1	41.60	4.40	1880	-720		PT BURN - 1/2" TOP & 4" BOTTOM
5/11/2004		STATIC					926	-700		
5/18/2004		ON			40.90	4.40	1800	-960		
3/7/2006	12:38	AS IS	41.5	3.2	40.17	4.08	1830	-985		PT BURN - 2 3/4" TOP & 4" BOTTOM
3/16/2006	09:27	STATIC					70	-533	9.6	TAP 2-3
						2.16				TAP 1-5 NEG CABLE STRANDS BROKEN -
3/22/2006	09:08	ON	22.0	1.9	20.77	2.02	1681	-700		PERFORMED MAINTENANCE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

F-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 75'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	01:47	AS IS	38.0	3.7	36.80	3.80	1880	-724		PT BURN - 3" TOP & 1/8" BOTTOM
5/11/2004		STATIC					166	-696		
5/18/2004		ON			36.17	3.80	1800	-920		
3/7/2006	12:41	AS IS	38.0	3.8	36.25	3.58	274	-3375		PT BURN - 3" TOP & 1/8" BOTTOM
3/16/2006	09:37	STATIC					889	-496	9.5	TAP 2-3
						1.92				TAP 1-5
3/22/2006	09:12	ON	20.0	1.1	18.65	1.72	1282	-1394		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

G-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 78'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	01:14	AS IS	24.0	2.3	23.70	2.40	1400	-1052		PT BURN - 4" BOTTOM
5/11/2004		STATIC					-64	-745		
5/18/2004		ON			23.50	2.40	1560	-1040		
3/7/2006	12:56	AS IS	24.0	2.3	22.97	2.28	1322	-730		PT BURN - 1 7/8" TOP & 4" BOTTOM
3/16/2006	09:17	STATIC					91	-515	96.0	TAP 1-6 NOT ADJUSTED
3/22/2006	08:58	ON	24.0	1.8	23.13	2.32	1250	-802		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

G-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	01:22	AS IS	38.0	4.2	41.80	4.40	3600	-1228		PT BURN - 4" TOP & 1/2" BOTTOM
5/11/2004		STATIC					-112	-817		
5/18/2004		ON			41.40	4.40	1720	-1200		
3/7/2006	01:00	AS IS	48.0	0.2	49.10	0.80	0	-1918		CHECK ANODE - ANODE BROKEN @ ~ 12"
3/16/2006	09:21	STATIC						-750		
3/22/2006	09:02	ON						-1607		SYSTEM OFF
6/13/2006										INSTALLED NEW ANODE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

H-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 73'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	1

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	12:43	AS IS	24.0	2.4	25.10	2.40	1840	-748		PT BURN - 2" BOTTOM
5/11/2004		STATIC					60	-570		
5/18/2004		ON			24.27	2.60	1640	-1040		
3/7/2006	01:15	AS IS	24.0	2.5	24.40	2.34	1356	-759		PT BURN - 2" BOTTOM
3/16/2006	09:00	STATIC					149	-482		TAP 2-1 NOT ADJUSTED - FIXED NEG CABLE
3/22/2006	08:42	ON	20.0	2.5	24.40	2.36	1350	-781		SOME STRANDS WERE BROKEN

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

H-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	12:49	AS IS	39.0	3.0	39.80	4.20	2040	-556		ANODE FAILED DURING INSPECTION
5/11/2004		STATIC					-513	-526		ANODE REMOVED
5/18/2004		ON								SYSTEM OFF
3/7/2006	01:20	AS IS	45.0	0.0	45.40	0.46	-215	-1754		NO MOVEMENT IN CABLE POT
3/16/2006	09:06	STATIC					-121	-360	96.0	TAP 2-3
						1.00				TAP 3-6
3/22/2006	08:46	ON	92.0	~1	93.50	0.98	476	-1352		SWITCH FOR METER BAD
								-1365		NEW ANODE - SOME CU CORROSION

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

I-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	12:15	AS IS	34.0	3.4	33.30	2.40	1760	-940		PT BURN - 1/2" TOP & 4" BOTTOM
5/11/2004		STATIC					-30	-696		
5/18/2004		ON			32.45	3.40	1800	-1080		
3/7/2006	01:30	AS IS	44.0	0.0	44.90	0.00		-763		NO ANODE
3/16/2006	08:53	STATIC						-807		
3/22/2006	08:23	ON						-846		SYSTEM OFF
6/13/2006										INSTALLED NEW ANODE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

I-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	2

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	12:22	AS IS	34.0	3.4	33.60	3.60	1760	-844		PT BURN - 3" TOP & 1/8" BOTTOM
5/11/2004		STATIC					-38	-669		
5/18/2004		ON			32.70	3.60	-80	-952		
3/7/2006	01:35	AS IS	33.0	3.3	32.48	3.38	1482	-600		3 1/2" PT
3/16/2006	08:47	STATIC					193	-448	9.6	TAP 2-2 DID NOT ADJUST AS
3/22/2006	08:32	ON	33.0	3.3	32.40	3.40	1508	-502		ANODE IS MISSING

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

J-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 73'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	08:45	AS IS	40.0	4.0	41.50	4.00	1920	-668		PT BURN - 2 1/2" TOP & 1/2" BOTTOM
5/11/2004		STATIC					125	-403		ENDCAP DAMAGE - WATER ENTERING
5/18/2004		ON			41.00	4.00	1760	-920		ENCAPSULATION
3/7/2006	02:26	AS IS		3.6	41.60	3.98	2952	-1600		PT BURN - 2 3/4" TOP & 1/2" BOTTOM
3/16/2006	08:01	STATIC					167	-329	9.6	TAP 2-4
						2.95				TAP 2-3
3/22/2006	07:49	ON	34.0	3.4	36.58	3.46	3341	-1296		METER SWITCH MALFUNCTION

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

J-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 79'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	2

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	08:53	AS IS	32.0	3.0	30.00	2.80	1840	-624		PT BURN - 4" TOP & 1/2" BOTTOM
5/11/2004		STATIC					135	-412		CRIMP DEGRADATION - WIRE KINKED
5/18/2004		ON			29.43	2.80	1640	-920		AT SEVERAL LOCATIONS
3/7/2006	02:23	AS IS	31.5	3.0	29.76	2.76	1130	-3076		PT BURN - 4" TOP & 1/2" BOTTOM
3/16/2006	08:36	STATIC					223	-330	9.7	TAP 2-2
3/22/2006	07:40	ON	30.0	3.0	29.66	2.80	1870	-2136		
								-2234		ON

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL1-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: _____ Anode Length: _____

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:16	AS IS	44.0	3.8	46.20	4.80	2800	-360		PT BURN - 1/2" TOP & BOTTOM
5/11/2004		STATIC					165	-431		
5/18/2004		ON			46.30	4.60	2040	-520		
3/6/2006	09:15	AS IS	50.0	4.0	52.20	5.22	820	-3960		ANODE BROKE DURING RETRIEVAL
3/16/2006	08:07	STATIC						-339		
3/22/2006	07:57	ON						-2068		SYSTEM OFF

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL1-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: _____ Anode Length: _____

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:26	AS IS	40.0	2.6	39.70	4.20	2080	-572		PT BURN - 4 1/2" TOP & 1/2" BOTTOM
5/11/2004		STATIC					172	-400		
5/18/2004		ON			38.68	4.00	1880	-840		
3/8/2006	09:24	AS IS	50.0	0.0	50.40	0.00	-3587	-4300		CHECK ANODE - NO CHANGE
3/16/2006	08:23	STATIC					-330			ANODE MISSING - BROKEN @ CONNECTION
3/22/2006	07:57	ON						-2182		SYSTEM OFF

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL2-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 69'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	2

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:12	AS IS	40.0	3.9	40.10	3.40	2080	-628		1/2" TOP - PT
5/11/2004		STATIC					167	-426		ENDCAP DAMAGED. ANODE WAS RESTING
5/18/2004		ON			39.81	3.60	1840	-880		ON JL3N CABLE
3/8/2006	09:19	AS IS	38.0	3.5	38.88	3.40	3026	-4200		2 5/8" TOP - PT
3/16/2006	08:12	STATIC					202	-410	9.7	TAP 2-3
						2.50				TAP 2-2
3/22/2006	07:52	ON	34.0	3.2	34.26	3.18	2377	-2235		
								-720		FLUKE SCOPE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL2-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:22	AS IS	52.0	0.0	51.20	0.00	14000	-600		ANODE MISSING
5/11/2004		STATIC					385	-401		
5/18/2004		ON						-880		SYSTEM OFF
3/8/2006	09:29	AS IS	44.0	0.5	41.90	0.44	-2412	-4300	NO IR	NEW ANODE (TI) - LOWERD ANODE BY 3FT
3/16/2006	08:18	STATIC					-55	-359	95.0	TAP 2-3
						0.88				TAP 3-6
3/22/2006	07:59	ON	92.0	1.0	89.00	0.94	-287	-2195		
								-2213	ON	
								-720	IO	W/ FLUKE SCOPE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL3-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 67'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:02	AS IS	23.0	0.8	24.70	2.00	1720	-912		PT BURN - 2"
5/11/2004		STATIC					167	-655		
5/18/2004		ON			24.80	2.00	1600	-1160		
3/8/2006	09:41	AS IS	23.0	1.4	24.85	1.74	2809	-4100		PT BURN - 2"
3/16/2006	08:26	STATIC					184	-685	9.9	TAP 2-1
						3.24				TAP 2-3
3/22/2006	08:13	ON	30.0	2.6	32.92	2.76	3381	-2455		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL3-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: _____ Anode Length: _____

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:33	AS IS	40.0	3.2	39.30	4.20	2040	-584		PT BURN - 3 1/2" TOP & 1/2" BOTTOM
5/11/2004		STATIC					133	-399		
5/18/2004		ON			38.53	4.00	1880	-840		
3/8/2006	09:36	AS IS	49.0	0.0	48.50	0.00	-2638	-4280		ANODE MISSING
3/16/2006	08:34	STATIC						-328		
3/22/2006	08:10	ON						-2191		SYSTEM OFF

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL4-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 71'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	10:15	AS IS	30.0	3.0	31.00	3.00	1840	-972		2" - PT
5/11/2004		STATIC					136	-750		
5/18/2004		ON			30.65	2.60	1440	-1640		
3/7/2006	02:12	AS IS	30.0	2.5	30.29	2.46	2648	-3820		2" - PT
3/16/2006	07:43	STATIC					192	-694	10.0	TAP 2-2
						2.90				TAP 2-4 SET HIGHER TO COMPENSATE
3/22/2006	07:25	ON	38.0	3.4	39.21	3.40	400	-2659		FOR NEW ANODES

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL4-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 77'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:45	AS IS	38.0	3.8	37.10	NA	2000	-264		CRIMP DEGRADED
5/11/2004		STATIC					165	-499		PT BURN - 3 1/2" TOP & 1/2" BOTTOM
5/18/2004		ON			36.41	3.80	880	-1720		
3/7/2006	02:17	AS IS	38.5	3.8	37.41	3.58	581	-3220		PT BURN - 3 1/2" TOP & 1/2" BOTTOM
3/7/2006		STATIC					246	-399	9.6	TAP 2-4
						2.90				TAP 2-3
3/22/2006	07:33	ON	34.0	3.2	32.82	3.10	1975	-2080		
								-2422		ON

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL5-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 68'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	10:06	AS IS	35.0	3.1	33.40	2.40	1880	-972		2" PT BURN
5/11/2004		STATIC					135	-795		
5/18/2004		ON			32.77	3.40	1600	-1440		
3/7/2006	02:05	AS IS	34.0	2.3	32.11	2.82	1645	-397		2" PT BURN
3/16/2006	07:35	STATIC					214	-750	10.0	TAP 2-2
						2.84				TAP 2-3 SET HIGHER THAN 2 TO
3/22/2006	07:08	ON	38.0	3.3	36.34	3.26	3419	-2878		COMPENSATE FOR NEW ANODE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL5-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	10:00	AS IS								SYSTEM OFF
5/11/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/7/2006	01:57	AS IS	46.0	0.5	44.10	0.48	-1435	-3450		NEW ANODE (TI)
3/16/2006	07:26	STATIC					81	-332	9.3	TAP 2-3
						1.02				TAP 3-6
3/22/2006	07:18	ON	93.0	1.1	91.00	1.02	74	-2217		NOT MUCH OF A DROP WHEN
										INTERRUPTED. ON - 2234

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL6-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:55	AS IS								SYSTEM OFF
5/11/2004		STATIC								ANODE FAILED @ 19'
5/18/2004		ON								SYSTEM OFF
3/7/2006	01:51	AS IS	37.0	0.4	36.79	0.42	-1534	-3756		NEW ANODE - CU CORRODING
3/16/2006	07:08	STATIC					214	-357	84.0	TAP 2-2
						1.16				TAP 3-6
3/22/2006	06:56	ON	86.0	1.0	86.70	1.08	-48	-2392		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

JL6-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:55	AS IS								SYSTEM OFF
5/11/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/7/2006	02:00	AS IS	48.0	0.6	49.70	0.54	-1600	-3459		NEW ANODE
3/16/2006	07:19	STATIC					110	-332	94.0	TAP 2-4
						1.04				TAP 3-6
3/22/2006	07:15	ON	90.0	1.1	91.50	1.02	-58	-2204		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

K-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	11:01	AS IS								SYSTEM OFF
5/11/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/8/2006	08:49	AS IS	44.0	0.5	44.30	0.46	968	-543		NEW ANODE - SURFACE SCRATCHES
3/16/2006	01:18	STATIC					-176	-479	96.0	TAP 2-3
						1.00				TAP 3-6
3/21/2006	01:25	ON	93.0	1.0	91.90	1.00	1052	-632		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

K-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	11:08	AS IS								SYSTEM OFF
5/11/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/8/2006	08:56	AS IS								TURNED ON
3/9/2006	07:05	AS IS	43.0	0.4	44.60	0.48	580	-828		NEW ANODE
3/16/2006	01:28	STATIC					255	-481	97.0	TAP 2-3
						1.00				TAP 3-6
3/21/2006	01:32	ON	96.0	1.0	92.50	1.00	-552	-2136		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

L-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 76'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	07:15	AS IS	19.0	1.9	17.80	4.50	1096	-568		1" PT
5/10/2004		STATIC					-53	-491		
5/18/2004		ON			17.50	1.69	1560	-684		
3/8/2006	08:30	AS IS	16.0	1.6	16.88	1.36	1715	-816		1" PT
3/16/2006	01:02	STATIC					22	-517	9.5	TAP 1-5
						2.30				TAP 1-6
3/21/2006	01:42	ON	21.0	2.1	21.24	2.08	1568	-664		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

L-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 77'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	07:23	AS IS	38.0	3.9	35.70	4.00	1412	-876		3 1/2" PT
5/10/2004		STATIC					-21	-486		
5/18/2004		ON			35.27	4.10	1840	-672		
3/8/2006	08:37	AS IS	35.0	3.8	34.59	3.54	680	-1603		3 1/2" PT
3/16/2006	01:10	STATIC					39	-575	9.5	TAP 2-2
						2.10				TAP 1-5
3/21/2006	01:47	ON	20.0	2.1	20.13	2.00	825	-1458		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

M-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	06:43	AS IS	41.0	2.9	42.00	3.80	1140	-708		PT BURN - 2 1/2" TOP & 1/2" BOTTOM
5/10/2004		STATIC					-16	-603		
5/18/2004		ON			41.60	4.00	1720	-1000		
3/8/2006	08:08	AS IS	54.5	0.3	55.90	0.48	830	-783		NEW ANODE
3/16/2006	12:48	STATIC					-170	-580	99.0	TAP 2-1
						0.88				TAP 3-6
3/21/2006	01:02	ON	93.0	1.0	92.40	0.96	917	-903		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

M-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/10 (2*mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004		AS IS								SYSTEM OFF
5/10/2004		STATIC					-53	-508		ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/8/2006	08:15	AS IS	43.0	0.2	43.40	0.44	328	-1160		SMALL IR DROP -NEW ANODE -SCRATCHES
3/16/2006	12:54	STATIC					-125	-366	97.0	TAP 2-3
						1.00				TAP 3-6
3/21/2006	01:05	ON	91.0	0.8	91.90	0.98	1962	-3750		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

N-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004		AS IS								SYSTEM OFF
5/10/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/8/2006	07:57	AS IS	30.0	0.3	28.76	0.29	810	-694		NEW ANODE
3/16/2006	12:31	STATIC					-204	-463	96.0	TAP 2-1
						0.88				TAP 3-6
3/21/2006	12:47	ON	84.0	1.0	82.50	0.90	954	-678		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

N-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004		AS IS								SYSTEM OFF
5/10/2004		STATIC								ANODE MISSING
5/18/2004		ON								SYSTEM OFF
3/8/2006	07:59	AS IS	33.0	0.4	32.75	0.34	630	-790		NEW ANODE - GOOD CONDITION
3/16/2006	12:38	STATIC					240	-470	96.0	TAP 2-1
						0.95				TAP 3-6
3/21/2006	12:32	ON	86.0	0.9	88.80	0.98	-260	-1974		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

O-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 36'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	08:30	AS IS	30.0	1.5	28.00	1.50	1800	-1048		PT BURN - 1" TOP & 1/4" BOTTOM
5/10/2004		STATIC					-14	-590		
5/18/2004		ON			27.90	1.50	1680	-1320		
3/8/2006	07:27	AS IS	28.0	1.8	27.24	1.27	1380	-967		PT BURN - 1 3/4" TOP & 1/4" BOTTOM
3/16/2006	12:18	STATIC					75	-527	20.0	TAP 2-1
						2.07				TAP 2-4
3/21/2006	12:35	ON	42.0	2.1	40.90	2.01	1382	-1054		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

O-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5		

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/5/2004	08:35	AS IS	24.0	1.4	24.00	1.20	1700	-1144		PT BURN - 3"
5/10/2004		STATIC					-12	-801		
5/18/2004		ON			23.88	1.20	1520	-1440		
3/8/2006	07:35	AS IS	30.0	0.0	30.32	0.00	-578	-2180		CHECK ANODE - NO IR DROP
3/16/2006	12:25	STATIC						-704		ANODE MISSING
3/21/2006	12:40	ON						-1730		SYSTEM OFF
6/13/2006										INSTALLED NEW ANODE

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

P-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 38'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	10:51	AS IS	42.0	2.2	41.80	2.50	1920	-1212		PT BURN - 2" TOP & 1/2" BOTTOM
5/10/2004		STATIC					23	-648		
5/18/2004		ON			41.90	2.60	1880	-1440		
3/8/2006	07:10	AS IS	42.0	2.0	41.70	2.26	1450	-1297		PT BURN - 2 1/4" TOP & 1/2" BOTTOM
3/16/2006	12:03	STATIC					84	-653	17.0	TAP 2-4
										NOT ADJUSTED
3/21/2006	12:22	ON	42.0	2.0	41.60	2.27	1504	-1340		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

P-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 40'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	10:56	AS IS	32.0	1.9	31.10	1.90	1840	-748		PT BURN - 1/2" TOP & 1/2" BOTTOM
5/10/2004		STATIC					-23	-648		
5/18/2004		ON			31.50	1.99	1760	-880		
3/8/2006	07:16	AS IS	32.0	1.6	30.54	1.75	285	-1875		PT BURN - 2" TOP & 1/2" BOTTOM
3/16/2006	12:09	STATIC					145	-392	16.0	TAP 2-2
						2.18				TAP 2-3
3/21/2006	12:26	ON	36.0	2.2	35.09	2.04	903	-1297		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

Q-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: Ti Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	3	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	10:21	AS IS								SYSTEM OFF
5/10/2004		STATIC								ANODE MISSING
5/18/2004		ON								
3/8/2006	06:49	AS IS	57.0	0.7	57.70	6.58	936	-710		NEW ANODE
3/16/2006	11:53	STATIC					9	-397	95.0	TAP 2-6
						1.00				TAP 3-6
3/21/2006	12:08	ON	86.0	1.0	88.50	0.93	1002	-784		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

Q-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 39'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	10:25	AS IS	44.0	2.9	43.00	2.88	2800	-752		PT BURN - 2 1/2" TOP & 1/2" BOTTOM
5/10/2004		STATIC					-480	-480		
5/18/2004		ON								SYSTEM OFF
3/8/2006	06:55	AS IS	43.5	2.5	42.50	2.54	824	-1217		PT BURN - 2 1/2" TOP & 1/2" BOTTOM
3/16/2006	11:55	STATIC					81	-396	16.0	TAP 2-4
										NOT ADJUSTED
3/21/2006	12:13	ON	43.0	2.6	42.40	2.60	45	-2008		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

R1-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 42'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	06:30	AS IS	40.0	2.4	37.60	2.30		-1021		PT BURN - 1" TOP & 1/2" BOTTOM
5/10/2004		STATIC					-5	-697		
5/18/2004		ON			37.60	2.40	1480	-1200		
3/7/2006	10:05	AS IS	38.0	2.3	36.50	2.12	1957	-848		PT BURN - 1" TOP & 1/2" BOTTOM
3/15/2006	02:21	STATIC					70	-504	17.0	TAP 2-3
3/20/2006	07:40	ON	37.0	2.3	36.15	2.14	2157	-548		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

R1-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 42'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	06:54	AS IS	56.0	1.6	52.50	33.00	4000	-992		ENDCAP BOTTOM BROKEN
5/10/2004		STATIC					-43	-785		COATING DAMAGE
5/18/2004		ON			51.60	3.34	4000	-1116		
3/7/2006	10:21	AS IS	54.0	0.1	50.90	2.97	915	-1965		PT BURN - 2 1/4" TOP & 1" BOTTOM
3/15/2006	01:50	STATIC					204	-464	17.0	TAP 2-6
						2.44				TAP 2-4
3/20/2006	07:34	ON	44.0	1.7	41.20	2.42	2380	-512		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

R2-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 41'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	06:32	AS IS	42.0	2.4	41.20	28.80		-1940		PT BURN - 1" TOP & 1/2" BOTTOM
5/10/2004		STATIC					-2	-1032		
5/18/2004		ON			40.90	2.40	1440	-2084		
3/7/2006	10:10	AS IS	40.0	2.3	39.90	2.14	1935	-1358		PT BURN - 1 3/8" TOP & 1/2" BOTTOM
3/15/2006	01:57	STATIC					148	-852	18.0	TAP 2-3
3/20/2006	07:45	ON	40.0	2.3	39.40	2.13	2100	-1158		

NOTES:

HOMER HADLEY BRIDGE (I-90)

CATHODIC PROTECTION DATA

R2-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 42'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
2.5	2	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	07:00	AS IS								SYSTEM OFF
5/10/2004		STATIC								SYSTEM OFF
5/18/2004		ON								SYSTEM OFF
										COATING DAMAGE ON ENDCAP
										Cu CORROSION VISIBLE
3/7/2006	10:15	AS IS	44.0	2.5	43.30	2.37	1978	-1120		1 3/4" TOP & 1" BOTTOM BURN
3/15/2006	01:40	STATIC					93	-463	17.0	TAP 2-4
3/20/2006	07:29	ON	44.0	2.5	42.90	2.36	2720	-499		CABLE IO LOW
										ANODE WEIGHT MISSING

NOTES:

APPENDIX D

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

A1-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 36'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.00	1	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	01:46	AS IS	16.0	0.6	15.92	0.75	1840	-660		KINKED DURING EVALUATION
5/11/2004		STATIC					-104	-818		
5/17/2004		ON			16.13	0.71	1520	-1016		
3/6/2006	12:11	AS IS	16.0	?	15.96	0.62	2499	-770		PT - GOOD CONDITION
3/14/2006	08:29	STATIC					260	-473	20.0	TAP 1-4 (EXISTING)
						0.93				NEW TAP 1-5
						1.15				NEW TAP 1-6
										METER NOT ACCURATE
3/20/2006	09:13	ON	24.0	?	20.39	1.08	2900	-785		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

A1-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: E30' W30'

Number of Anodes: 2

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.50	1	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	01:30	AS IS	6.0	0.4	6.92	0.40	1480	-928		
5/11/2004		STATIC					-4	-766		
5/17/2004		ON			6.94	0.36	1400	-968		
3/6/2006	12:05	AS IS	6.0	0.3	6.81	0.30	2345	-721		PT - GOOD CONDITION
3/14/2006	08:51	STATIC					721 / 733	-5	12.0	TAP 1-2 (EXISTING)
						1.48				NEW TAP 1-5
3/20/2006	09:02	ON	20.0	1.3	20.32	1.29	3520	-952		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

A2-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: E TI/W PT Anode Length: E W34'

Number of Anodes: 2

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.00	1	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	01:40	AS IS	16.0	1.0	16.27	0.98	1680	-724		WEST ANODE - 34' - NO BURN MARKS
5/11/2004		STATIC					-103	-818		EAST ANODE BROKEN @ 16' - REPLACE
5/17/2004		ON			16.76	0.75	1520	-1020		
3/6/2006	12:15	AS IS	17.0	0.9	16.33	0.79	2259	-759		PT/TI - GOOD CONDITION
3/14/2006	08:32	STATIC					200 / 244	-474	17.0	
										TAP 1-4 (EXISTING)
						1.13				NEW TAP 1-4
3/20/2006	09:18	ON	22.0	1.1	21.02	1.04	2841	-794		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

A2-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT/Ti Anode Length: E 20' W30'

Number of Anodes: 2

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.50	2	1

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/3/2004	01:35	AS IS								SYSTEM OFF
5/11/2004		STATIC					211	-767		E ANODE BROKEN @ 20' - REPLACE
5/17/2004		ON			11.61	0.50	1520	-964		
3/6/2006	12:07	AS IS	10.0	0.4	11.32	0.50	2057	-685		PT - GOOD CONDITION
										GOOD CONDITION - CU SECTION LOSS -
										CAN SEE THE CRIMP
3/14/2006		STATIC					712 / 716	-7	17.0	TAP 1-3 (EXISTING)
						1.64				TAP 2-1
3/20/2006	09:06	ON	28.0	1.0	30.13	1.53	3740	-894		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

B-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 49'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.00	1	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:19	AS IS	12.0	0.6	11.80	0.70	1560	-964		
5/11/2004		STATIC					-8	-871		
5/17/2004		ON			12.06	0.60	1680	-1056		
3/6/2006	12:20	AS IS	12.0	0.0	12.01	0.51	3006	-680		PT - GOOD CONDITION
3/14/2006	09:11	STATIC					350	-480	17.0	TAP 1-3 (EXISTING)
						0.91				TAP 1-4
3/20/2006	09:23	ON	16.0	0.7	16.60	0.86	1883	-869		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

B-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 42'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.50	1	6

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/4/2004	09:12	AS IS	13.0	0.6	11.10	0.60	1560	-1004		
5/11/2004		STATIC					36	-871		
5/17/2004		ON			11.24	0.56	1600	-1044		
3/6/2006	12:22	AS IS	12.0	0.6	11.24	0.50	2355	-653		PT - GOOD CONDITION
3/14/2006	09:19	STATIC					368	-482	17.0	
										TAP 1-3
						1.43				TAP 1-6
3/20/2006	09:27	ON	31.0	1.3	25.15	1.41	1842	-775		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

C-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 75'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.00	1	3

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/6/2004	06:40	AS IS	6.0	0.5	6.88	0.54	1560	-696		
5/11/2004		STATIC					23	-678		
5/17/2004		ON			6.98	0.50	1560	-780		
3/6/2006	12:37	AS IS	7.5	0.5	6.87	0.45	1764	-818		PT - GOOD CONDITION
3/14/2006	09:50	STATIC					180	-520	9.4	TAP 1-2
						0.99				TAP 1-3
3/20/2006	09:40	ON	11.0	0.9	11.02	0.92	1526	-765		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

C-S

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: TI Anode Length:

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.50	3	5

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/6/2004		AS IS								SYSTEM OFF
5/11/2004		STATIC						-647		
5/17/2004		ON								
										PT - 1' CU LOSS @ BREAK
										BROKEN - REPLACE ANODE
3/6/2006	12:32	AS IS	12.0	0.2	12.75	0.12	624	-930		NEW ANODE
3/14/2006	09:42	STATIC					-87	-519	3100.0	TAP 1-3
						0.91				TAP 3-5
3/20/2006	09:45	ON	83.0	0.9	85.20	0.92	936	-993		

NOTES:

LACEY V. MURROW BRIDGE (I-90)

CATHODIC PROTECTION DATA

D-N

RECTIFIER INFORMATION

Manufacturer: UNIVERSAL RECTIFIERS

Rectifier Type: SILICON STACK

Input Voltage: 120 Filtered: NO

Volts (Rated): 80 Amps (Rated): 8

Shunt: 50/5 (mV/10=A)

ZONE INFORMATION

Anode Type: PT Anode Length: 84'

Number of Anodes: 1

TARGET CURRENT	TAP SETTING	
	COARSE	FINE
1.00	1	4

DATE	TIME	DATA TYPE	RECTIFIER		FLUKE 87		ANODE IO (mV)	CABLE IO (mV)	AC Ω	COMMENTS
			VOLTS	AMPS	VOLTS	AMPS				
5/6/2004	06:58	AS IS	12.0	1.0	12.84	1.20	1440	-1032		BREAKER NEEDS SERVICE
5/11/2004		STATIC					-76	-903		
5/17/2004		ON			12.89	1.14	1550	-1056		
3/6/2006	12:08	AS IS	12.0	1.0	12.65	1.02	1995	-1140		BAD BREAKER-BREAKER REPLACED 3/8/06
3/14/2006	10:08	STATIC					92	-712	9.5	TAP 2-1
						1.34				TAP 1-4
3/20/2006	10:04	ON	14.0	1.2	14.29	1.29	1554	-970		PT - GOOD CONDITION

NOTES: