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PRELIMINARY DATA REPORT

STRAIN GAGES EXPERIMENT NO. 23/W406
IRRADIATED AT PLUM BROOK REACTOR FACILITY,
PBRF CYCLE 20P.

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1.0 INTRODUCTION

Description of the preliminary results of irradiation experiment 23/W406 is presented in this report. In this experiment, sixteen (16) Microdot (weldable) strain gages, adapted to a test fixture, were dynamically tested during irradiation in the HT-1 facility of the Plum Brook Reactor on July 2-4, 1964. The purpose of this experiment was to obtain operational data on NRX-A candidate strain gages in a high dose rate radiation environment.

Design and hazards information for the W-2 loop is described in WANL-TNR-119⁽¹⁾, and for the experiment is presented in WANL-REP-487⁽²⁾. Final test specifications for this experiment are described in WANL-TME-753⁽³⁾.

2.0 TEST HISTORY

Irradiation of strain gage experiment 23/W406 was initiated at 2340 hours on July 1, 1964, in the Plum Brook Reactor and was completed at 0815 hours on July 4, 1964. A power level of approximately 50 MW was attained at about 0430 hours on July 2, 1964, and was maintained throughout the irradiation. A total exposure of approximately 2730 MW hours was accumulated during irradiation. Figure 1 illustrates the reactor power profile during this experiment as indicated by the PBRF water power computer.

Figure 1. Reactor Power Profile - Cycle 20 - Experiment 23/W406

During normal operating conditions, the sample fixture which contained the strain gages, experienced temperatures ranging from 130°F to 144°F and was exposed to an average water pressure of 129 psig. The irradiation of this experiment was terminated after the prescribed exposure had been successfully attained.

3.0 DESCRIPTION OF TEST

3.1 Description of Test Specimens

The strain gages irradiated in this experiment are listed in Table 1. These gages were mounted on each side of eight test beams made of Type 304 stainless steel. A known strain was applied to each gage by pneumatically deflecting the beams against fixed stops in the test fixture.

Table 1

Strain Gages Irradiated in Experiment 23/W406

<u>Quantity</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Instrumentation Data Book No.</u>
6	Microdot	SG-123/1	Sr-14
6	Microdot	SG-333/1	Sr-31
4	Microdot	SG-323/1	Sr-30

3.2 Description of Test Fixture

The test fixture utilized for experiment 23/W406 consisted of an aluminum cage onto which the strain gage beams were attached. (Figure 2.) The strain gages were silver soldered to the stainless steel deflection beams

Figure 2. Strain Gage Cage Showing the Bellows and Five of the Eight Deflection Beams Attached.

which in turn were plated with a 2 mil thickness of nickel at the soldered joints. This cage section was enclosed in an aluminum shroud (Figure 3) and the entire fixture attached to the unitrace holder as described in WANL-TNR-119. Actuation of this test fixture was accomplished by pneumatically moving a conical section of the test fixture against the stainless steel beams which in turn were deflected against fixed stops. A single bellows pressurized with helium and located in the center of the fixture provided the pneumatic force to move the conical actuating section.

Four copper-constantan thermocouples, located in the structural section to which the deflection beams were fixed, were positioned so that two of the thermocouples monitored fixture centerline coolant temperatures while the remaining two monitored the fixture temperature. Four dosimeter kits wired to the test fixture at positions 90° apart monitored the neutron flux to which the strain gages were exposed. Sixteen, twelve foot long stainless steel-sheathed, copper cables with MgO insulation connected the strain gages to the conax fittings at the back plate of the sample holder to provide read-out capabilities.

3.3 Test Procedure

In order to determine the effects of irradiation on the strain gages, a helium gas actuating system and strain read-out equipment were required. A diagram of the He gas supply and reference vent system for this experiment is shown in Figure 4. The instrumentation for the strain gage measuring system included a Baldwin-Lima-Hamilton switching and balancing unit, Type

Figure 3.

Strain Gage Test Fixture - Experiment 23/14C6

Figure 4. Helium Gas Supply System for Experiment 23/W406

525, and a Baldwin-Lima-Hamilton strain indicator, Type 120.

The required strain data was acquired by initially applying a standard helium pressure of 120 psig to the test fixture to compensate for the 129 psig coolant water pressure. The positive coolant water pressure of 9 psig was maintained to insure return of the test fixture to its standard position after release of an applied pressure. With the fixture in this position, the strain in each gage was measured and recorded.

Figure 5 illustrates the half-bridge circuitry for the strain gages on each test beam in the test fixture. The model SG-323/1 strain gages were wired with an active and a dummy element as a half-bridge in one integral unit. Figure 6 illustrates the circuitry utilized for data acquisition.

After completion of the standard position strain measurements, a helium gas pressure of 210 psig was applied to the test fixture to produce maximum deflection in the strain gage beams. With the fixture maintained in this position, the strain in each gage was measured and recorded. The applied helium gas pressure was then released until the standard 120 psig condition was obtained. The strain in each gage was again measured and recorded. These procedures outline one complete strain data acquisition cycle. After each data cycle, the electrical resistance across the three leads of each strain gage was measured along with the insulation resistance of the leads. Complete data cycles were taken just prior to irradiation, at each power level during reactor startup, during each hour of full power reactor operation, and immediately following reactor shutdown.

Figure 5. Half-Bridge Circuitry Utilized for the Strain Gages on Each Test Beam of the Test Fixture.

Figure 6. Instrumentation Read-Out Circuitry

3.4 Test Results

As previously mentioned, the prescribed 50-hour irradiation of this strain gage experiment was successfully accomplished without failure of any strain gages due to either effects of irradiation or mechanical malfunction of the test fixture. A pronounced "zero shift" was observed during the test when the gages were in an unstrained condition. This is postulated to be due to an increase in resistance of the sensing elements as a result of integrated flux.

3.5 Raw Data

Pre-irradiation, irradiation, and post-irradiation strain data are presented in Tables 2 through 14 along with reactor power and coolant water pressure. The strain gage resistances and insulation resistances are presented in Tables 15 through 27.

Table 2. Irradiation Data for Strain Gage No. 1. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-1-64	1330	0	129	37012	35770	36993	1233	119	128	530 meg	0
7-1-64	1750	0	129	37000	35750	36992	1242	127	129	900 meg	0
7-1-64	2346	100 kW	131	36994	35754	36990	1236	120	123	720 "	00.10
7-2-64	0033	1 mw	131	36995	35746	36990	1244	125	127	310 "	00.86
7-2-64	0102	10 mw	131	36806	35729	36974	1245	124	120	110 "	01.39
7-2-64	0133	30 mw	131	36962	35725	36963	1238	125	128	22 "	01.85
7-2-64	0210	38 mw	131	36914	35625	36906	1281	125	127	20 "	02.47
7-2-64	0330	38 mw	131	36840	35570	36830	1260	125	125	20 "	03.83
7-2-64	0440	50 mw	131	36800	35530	36800	1270	125	130	15 "	04.84
7-2-64	0540	50 mw	131	36743	35481	36741	1260	120	120	15 "	06.34
7-2-64	0636	50 mw	131	36700	35426	36693	1267	124	125	15 "	06.93
7-2-64	0730	50 mw	131	36670	35402	36668	1266	123	125	16 "	07.83
7-2-64	0830	50 mw	131	36603	35598	35326	1272	122	124	18 "	08.73
7-2-64	0930	50 mw	129	36558	35280	36550	1270	124	124	18 "	09.81
7-2-64	1030	50 mw	128	36497	35230	36495	1265	122	124	20 "	10.78
7-2-64	1130	50 mw	128	36445	35176	36445	1269	121	123	22 "	11.73
7-2-64	1230	50	128	36383	35115	36383	1269	121	122	23 "	12.86
7-2-64	1330	50	130	36333	35063	36335	1270	122	120	23 "	13.78

Table 2. Irradiation Data for Strain Gage No. 1. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C	Resistance (ohms) B to Gnd	
7-2-64	1430	50	130	36280	35006	36278	1272	122	124	24 MEG	14.80
7-2-64	1530	50	132	36225	34956	36220	1264	122	124	30 "	15.80
7-2-64	1630	50	131	36177	34912	36168	1256	126	128	26 "	16.80
7-2-64	1730	50	130	36128	34862	36126	1265	127	130	27 "	17.80
7-2-64	1830	50	129	36082	34808	36067	1259	126	126	28 "	18.80
7-2-64	1930	50	129	36019	34750	36018	1268	125	125	28 "	19.80
7-2-64	2030	49.4	129	35970	34699	35961	1262	123	126	30 "	20.80
7-2-64	2130	50	129	35921	34647	35912	1265	127	128	30 "	21.80
7-2-64	2230	50	129	35868	34600	35861	1261	124	126	32 "	22.80
7-2-64	2330	50	129	35829	34555	35822	1267	127	125	33 "	23.80
7-3-64	0030	50	129	35764	34490	35755	1267	125	125	35 "	24.95
7-3-64	0135	50	129	35714	34442	35704	1262	123	123	35 "	25.91
7-3-64	0225	50	129	35680	34410	35674	1254	125	124	35 "	26.88
7-3-64	0330	50	129	35614	34340	35609	1269	125	123	36 "	27.86
7-3-64	0430	50	129	35590	34314	35586	1272	125	124	35 "	28.63
7-3-64	0530	50	129	35525	34250	35519	1269	122	123	39 "	30.07
7-3-64	0640	50	129	35460	34186	35450	1264	123	124	40 "	30.97
7-3-64	0725	50	129	35430	34159	35424	1265	122	122	40 "	31.67

Table 2. Irradiation Data for Strain Gage No. 1 - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-3-64	0830	50	129	35370	34101	35370	1269	116	123	42 meg	32.80
7-3-64	0930	50	129	35383	34062	35328	1266	122	125	43 "	33.78
7-3-64	1030	50	129	35288	34020	35280	1260	120	122	44 "	34.76
7-3-64	1130	50	129	35245	33975	35237	1262	122	126	43 "	35.75
7-3-64	1230	50	129	35200	33930	35195	1265	121	122	43 "	36.73
7-3-64	1330	50	129	35155	33885	35150	1265	122	122	45 "	37.74
7-3-64	1430	50	130	35118	33848	35118	1270	122	123	44 "	38.74
7-3-64	1530	50	130	35077	33805	35075	1270	119	122	45 "	39.72
7-3-64	1630	50	130	35029	33758	35025	1267	119	119	46 "	40.80
7-3-64	1730	50	129	34989	33791	34979	1188	124	127	45 "	41.80
7-3-64	1830	50	129	34937	33664	34934	1270	123	123	48 "	42.80
7-3-64	1930	50	129	34897	33630	34895	1265	122	123	50 "	43.80
7-3-64	2030	50	129	34856	33580	34853	1273	121	122	48 "	44.80
7-3-64	2130	50	129	34814	33540	34810	1270	122	127	50 "	45.80
7-3-64	2230	50	129	34774	33496	34773	1277	122	122	50 "	46.80
7-3-64	2330	50	129	34740	33465	34736	1271	122	124	50 "	47.80
7-4-64	0031	50	129	34691	33410	34682	1272	120	122	54 "	48.80
7-4-64	0125	50	129	34660	33379	34650	1271	120	122	54 "	49.76

Table 2 . Irradiation Data for Strain Gage No. 1 . - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-4-64	0240	50	129	34606	33204	34596	1392	120	120	50 MEG	51.18
7-4-64	0328	50	129	34583	33308	33579	1271	120	120	51 "	51.76
7-4-64	0445	50	129	34529	33255	34430	1175	119	120	58 "	53.10
7-4-64	0530	50	129	34502	33222	34490	1278	120	120	55 "	53.82
7-4-64	0640	50	129	34458	33175	34452	1277	118	120	53 "	55.04
7-4-64	0739	50	129	34438	33154	34431	1277	117	119	56 "	55.97
7-4-64	0815	0	130	34329	33055	34325	1270	118	118	590 "	56.59
7-4-64	1010	0	7.5	34279	33145	34285	1140	117	118	730 "	—
7-4-64	1100	0	7.5	33972	33100	34315	1215	118	118	900 "	—

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Table 3 . Irradiation Data for Strain Gage No. 2. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	26984	27926	27000	926	119	126	760 MEG	0
7-1-64	1750	0	129	27000	27950	27009	941	127	127	1100 "	0
7-1-64	2346	100KW	131	26994	27936	26996	940	120	122	1100 "	00.10
7-2-64	0033	1 mw	131	27000	27937	26994	943	125	125	700 "	00.86
7-2-64	0102	10mw	131	27000	27939	26990	949	124	120	190 "	01.39
-16- 7-2-64	0133	30 mw	131	27004	27922	26980	942	125	125	43 "	01.85
7-2-64	0210	38 mw	131	26982	27911	26954	957	125	125	43 "	02.47
7-2-64	0330	38 mw	131	26917	27858	26910	948	125	123	45 "	03.83
7-2-64	0440	50 mw	131	26890	27833	26880	953	125	127	38 "	04.84
7-2-64	0540	50	131	26848	27790	26838	952	120	122	38 "	06.34
7-2-64	0636	50	131	26810	27757	26810	947	124	126	37 "	06.93
7-2-64	0730	50	131	26800	27721	26788	933	122	122	38 "	07.83
7-2-64	0830	50	131	26761	27704	26752	952	121	121	40 "	08.73
7-2-64	0930	50	129	26728	27675	26721	954	120	120	38 "	09.81
7-2-64	1030	50	128	26700	27648	26692	956	120	120	39 "	10.78
7-2-64	1130	50	128	26676	27626	26668	958	120	120	39 "	11.73
7-2-64	1230	50	128	26640	27587	26634	953	122	118	38 "	12.86
7-2-64	1330	50	130	26615	27567	26615	952	122	122	40 "	13.78

Table 3. Irradiation Data for Strain Gage No. 2. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-2-64	1430	50	130	26595	27543	26587	956	122	122	40 MEG	14.80
7-2-64	1530	50	132	26570	27520	26575	945	122	121	40 "	15.80
7-2-64	1630	50	131	26550	27497	26541	956	126	125	40 "	16.80
7-2-64	1730	50	130	26529	27481	26521	960	127	127	39 "	17.80
7-2-64	1830	50	129	26509	27453	26497	956	126	124	40 "	18.80
7-2-64	1930	50	129	26486	27438	26479	959	125	123	40 "	19.80
7-2-64	2030	49.4	129	26460	27413	26457	956	125	124	40 "	20.80
7-2-64	2130	50	129	26442	27393	26441	952	127	127	40 "	21.80
7-2-64	2230	50	129	26425	27370	26420	950	124	125	40 "	22.80
7-2-64	2330	50	129	26411	27356	26403	953	127	123	40 "	23.80
7-3-64	0030	50	129	26379	27335	26374	961	125	122	40 "	24.95
7-3-64	0135	50	129	26360	27315	26354	961	124	120	40 "	25.91
7-3-64	0225	50	129	26345	27300	26347	953	125	122	40 "	26.88
7-3-64	0330	50	129	26330	27280	26320	960	122	120	40 "	27.86
7-3-64	0430	50	129	26314	27270	26307	963	124	122	40 "	28.63
7-3-64	0530	50	129	26294	27248	26287	959	125	120	40 "	30.07
7-3-64	0640	50	129	26269	27224	26265	959	123	123	41 "	30.97
7-3-64	0725	50	129	26258	27209	26255	954	121	120	41 "	31.67

Table 3. Irradiation Data for Strain Gage No. 2. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-3-64	0830	50	129	26237	27194	26235	959	118	106	42 meg	32.80
7-3-64	0930	50	129	26221	27180	26222	958	116	122	42 "	33.78
7-3-64	1030	50	129	26209	27162	26207	955	122	123	42 "	34.76
7-3-64	1130	50	129	26195	27150	26190	960	120	120	42 "	35.75
7-3-64	1230	50	129	26180	27130	26180	950	122	123	41 "	36.13
7-3-64	1330	50	129	26165	27117	26166	957	120	120	42 "	37.74
7-3-64	1430	50	130	26150	27103	26148	955	122	120	42 "	38.74
7-3-64	1530	50	130	26135	27090	26128	962	122	121	41 "	39.72
7-3-64	1630	50	130	26128	27082	26116	966	119	120	41 "	40.80
7-3-64	1730	50	129	26110	27063	26104	959	119	121	41 "	41.80
7-3-64	1830	50	129	26091	27044	26092	952	124	125	40 "	42.80
7-3-64	1930	50	129	26081	27032	26075	957	123	121	42 "	43.80
7-3-64	2030	50	129	26066	27022	26061	961	122	121	42 "	44.80
7-3-64	2130	50	129	26053	27007	26048	959	121	120	42 "	45.80
7-3-64	2230	50	129	26042	27000	26037	963	122	124	42 "	46.80
7-3-64	2330	50	129	26034	26987	26026	961	121	120	43 "	47.80
7-4-64	0031	50	129	26011	26971	26005	966	122	121	43 "	48.86
7-4-64	0125	50	129	26000	26959	26000	959	120	120	43 "	49.76

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Table 3. Irradiation Data for Strain Gage No. 2. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H2O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H2O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-4-64	0240	50	129	25980	26938	25979	929	120	118	43 meg	51.18
7-4-64	0328	50	129	25974	26932	25974	958	120	118	43 "	51.76
7-4-64	0445	50	129	25963	26923	25959	964	118	117	43 "	53.10
7-4-64	0530	50	129	25946	26907	25945	962	120	119	42 "	53.82
7-4-64	0640	50	129	25934	26890	25927	963	112	118	43 "	55.04
7-4-64	0739	50	129	(Strain gage was accidentally burned out during data acquisition operations.)				112	117	43 "	55.97
7-4-64	0815	50	130					Shorted		550 "	56.59
7-4-64	1010	0						112	115	880 "	—
7-4-64	1100	0						-	116	860 "	—

Table 4. Irradiation Data for Strain Gage No. 3. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	42008	40948	42190	1242	119	127	710 MEG	0
7-1-64	1750	0	129	42000	40930	41992	1062	127	128	1050 "	0
7-1-64	2346	100 Kw	131	41994	40927	41993	1066	121	122	850 "	00.10
7-2-64	0033	1 mw	131	41990	40929	41990	1061	125	126	400 "	00.86
7-2-64	0102	10 mw	131	41976	40910	41970	1060	124	122	110 "	01.39
7-2-64	0133	30 mw	131	41950	40902	41960	1058	125	126	31 "	01.85
7-2-64	0210	38 mw	131	41900	40831	41901	1070	125	126	32 "	02.47
7-2-64	0330	38 mw	131	41836	40756	41830	1074	125	125	31 "	03.83
7-2-64	0440	50 mw	131	41792	40706	41790	1084	124	128	28 "	04.84
7-2-64	0540	50	131	41739	40660	41739	1079	120	128	28 "	06.34
7-2-64	0636	50	131	41700	40608	41696	1088	124	125	29 "	06.93
7-2-64	0730	50	131	41675	40586	41675	1089	122	124	28 "	07.83
7-2-64	0830	50	131	41614	40534	41618	1084	120	123	30 "	08.73
7-2-64	0930	50	129	41578	40487	41575	1088	122	124	30 "	09.81
7-2-64	1030	50	128	41526	40438	41527	1089	120	123	28 "	10.78
7-2-64	1130	50	128	41480	40393	41480	1087	120	122	29 "	11.73
7-2-64	1230	50	128	41437	40337	41435	1091	120	121	29 "	12.86
7-2-64	1330	50	130	41390	40303	41390	1087	122	119	30 "	13.78

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Table 4. Irradiation Data for Strain Gage No. 3. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-2-64	1430	50	130	41340	40252	41346	1094	122	124	30 MEG	14.80
7-2-64	1530	50	132	41300	40205	41300	1095	126	126	30 "	15.80
7-2-64	1630	50	131	41257	40164	41250	1086	127	127	30 "	16.80
7-2-64	1730	50	130	41223	40130	41213	1083	125	125	30 "	17.80
7-2-64	1830	50	129	41176	40080	41167	1080	125	123	30 "	18.80
7-2-64	1930	50	129	41124	40031	41121	1089	123	125	30 "	19.80
-21- 7-2-64	2030	49.4	129	41082	39993	41076	1083	127	127	30 "	20.80
7-2-64	2130	50	129	41041	39951	41038	1087	124	125	31 "	21.80
7-2-64	2230	50	129	41000	39911	40993	1082	127	123	35 "	22.80
7-2-64	2330	50	129	40966	39875	40964	1089	125	124	30 "	23.80
7-3-64	0030	50	129	40912	39819	40907	1088	123	122	32 "	24.95
7-3-64	0135	50	129	40873	39780	40870	1090	125	123	30 "	25.91
7-3-64	0225	50	129	40846	39751	40844	1093	122	122	32 "	26.88
7-3-64	0330	50	129	40794	39701	40792	1091	124	123	30 "	27.86
7-3-64	0430	50	129	40777	39680	40772	1092	120	121	33 "	28.63
7-3-64	0530	50	129	40720	39624	40714	1090	123	124	32 "	30.07
7-3-64	0640	50	129	40660	39574	40664	1090	121	122	32 "	30.97
7-3-64	0725	50	129	40640	39554	40643	1089	118	108	32 "	31.67

Table 4. Irradiation Data for Strain Gage No. 3 - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-3-64	0830	50	129	40598	39510	40600	1090	118	108	32 MEG	32.80
7-3-64	0930	50	129	40566	39470	40562	1092	116	120	32 "	33.78
7-3-64	1030	50	129	40527	39434	40527	1093	123	123	32 "	34.76
7-3-64	1130	50	129	40495	39402	40493	1091	120	121	32 "	35.75
7-3-64	1230	50	129	40457	39367	40455	1092	122	124	32 "	36.73
7-3-64	1330	50	129	40425	39330	40420	1090	120	122	32 "	37.74
7-3-64	1430	50	130	40388	39305	40397	1092	121	122	32 "	38.74
7-3-64	1530	50	130	40365	39270	40362	1092	122	123	32 "	39.72
7-3-64	1630	50	130	40329	39234	40324	1090	119	120	32 "	40.80
7-3-64	1730	50	129	40294	39195	40292	1097	119	122	32 "	41.80
7-3-64	1830	50	129	40260	39158	40250	1092	124	125	32 "	42.80
7-3-64	1930	50	129	40222	39124	40216	1092	123	122	32 "	43.80
7-3-64	2030	50	129	40188	39087	40185	1098	122	122	33 "	44.80
7-3-64	2130	50	129	40056	39057	40048	991	121	120	33 "	45.80
7-3-64	2230	50	129	40119	39024	40112	988	122	125	32 "	46.80
7-3-64	2330	50	129	40093	39000	40090	1090	121	121	33 "	47.80
7-4-64	0031	50	129	40050	38961	40050	1089	122	122	33 "	48.86
7-4-64	0125	50	129	40030	38936	40021	1085	120	121	34 "	49.76

Table 4. Irradiation Data for Strain Gage No. 3. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-4-64	0240	50	129	39980	38887	39983	1096	120	120	33 meg	51.18
7-4-64	0328	50	129	39973	38879	39971	1092	120	120	33 "	51.78
7-4-64	0445	50	129	39931	38840	39934	1094	118	119	35 "	53.10
7-4-64	0530	50	129	39905	38805	39900	1195	120	120	35 "	53.82
7-4-64	0640	50	129	39870	38771	39872	1101	118	120	33 "	55.04
7-4-64	0739	50	129	39855	38754	39851	1097	116	118	30 "	55.97
7-4-64	0815	0	130	39790	38683	39788	1105	118	120	380 "	56.59
7-4-64	1010	0	7.5	39751	38765	39757	992	116	117	930 "	—
7-4-64	1100	0	7.5	39783	38728	39780	1052	116	117	700 "	—

Table 5. Irradiation Data for Strain Gage No. 4. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-1-64	1330	0	129	16998	17922	17011	911	119	124	560 meg	0
7-1-64	1750	0	129	17000	17930	17007	923	127	126	760 "	0
7-1-64	2346	100KW	131	16994	17920	16997	923	120	120	760 "	00.10
7-2-64	0033	1 mw	131	17000	17920	16998	922	125	123	580 "	00.86
7-2-64	0102	10 mw	131	17000	17915	16993	922	123	123	200 "	01.39
7-2-64	0133	30	131	17010	17911	16994	917	125	124	55 "	01.85
7-2-64	0210	38	131	17004	17935	17000	935	125	124	56 "	02.47
7-2-64	0330	38	131	16997	17940	17000	940	124	123	62 "	03.83
7-2-64	0440	50	131	17013	17950	17015	935	125	129	56 "	04.84
7-2-64	0540	50	131	17026	17960	17026	934	120	126	59 "	06.34
7-2-64	0636	50	131	17033	17970	17032	938	124	124	62 "	06.93
7-2-64	0730	50	131	17042	17970	17036	934	121	120	63 "	07.83
7-2-64	0830	50	131	17047	17978	17045	883	120	119	80 "	08.73
7-2-64	0930	50	129	17053	17976	17050	926	122	121	70 "	09.81
7-2-64	1030	50	128	17055	17917	17050	867	120	120	70 "	10.78
7-2-64	1130	50	128	17054	17980	17050	930	120	119	73 "	11.73
7-2-64	1230	50	128	17050	17972	17047	925	120	119	74 "	12.86
7-2-64	1330	50	130	17050	17973	17044	923	122	114	75 "	13.78

Table 5. Irradiation Data for Strain Gage No. 4. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-2-64	1430	50	130	17048	17970	17040	930	121	125	77 mEG	14.80
7-2-64	1530	50	132	17047	17963	17043	920	121	120	80 "	15.80
7-2-64	1630	50	131	17044	17962	17042	920	125	123	79 "	16.80
7-2-64	1730	50	130	17042	17959	17039	920	127	126	79 "	17.80
7-2-64	1830	50	129	17038	17959	17038	921	125	122	80 "	18.80
7-2-64	1930	50	129	17036	17956	17036	920	125	121	81 "	19.80
-25- 7-2-64	2030	49.4	129	17034	17950	17033	917	123	123	82 "	20.80
7-2-64	2130	50	129	17034	17951	17036	915	126	124	83 "	21.80
7-2-64	2230	50	129	17033	17948	17021	927	124	123	85 "	22.80
7-2-64	2330	50	129	17034	17949	17025	924	126	122	85 "	23.80
7-3-64	0030	50	129	17030	17949	17030	919	125	121	86 "	24.95
7-3-64	0135	50	129	17030	17926	17024	902	123	120	87 "	25.91
7-3-64	0225	50	129	17031	17946	17030	916	125	120	88 "	26.88
7-3-64	0330	50	129	17031	17950	17025	925	121	119	88 "	27.86
7-3-64	0430	50	129	17032	17950	17030	920	124	120	89 "	28.63
7-3-64	0530	50	129	17035	17951	17030	921	120	120	90 "	30.07
7-3-64	0640	50	129	17034	17950	17033	917	123	120	85 "	30.97
7-3-64	0725	50	129	17036	17954	17036	918	121	119	90 "	31.67

Table 5. Irradiation Data for Strain Gage No. 4. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MV	H2O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H2O Pressure	Strain Gage		Insulation		Continucus Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd		
7-3-64	0830	50	129	17040	17952	17035	917	117	105	91	MEG	32.80
7-3-64	0930	50	129	17042	17957	17042	915	116	119	90	"	33.78
7-3-64	1030	50	129	17046	17963	17045	918	124	122	90	"	34.76
7-3-64	1130	50	129	17050	17970	17050	920	120	119	91	"	35.75
7-3-64	1230	50	129	17055	17975	17057	918	126	122	90	"	36.73
7-3-64	1330	50	129	17063	17978	17060	918	120	119	91	"	37.74
7-3-64	1430	50	130	17063	17970	17050	920	121	120	91	"	38.74
7-3-64	1530	50	130	17060	17980	17060	920	121	120	90	"	39.72
7-3-64	1630	50	130	17070	17988	17068	920	119	118	90	"	40.80
7-3-64	1730	50	129	17076	17993	17073	920	119	121	90	"	41.80
7-3-64	1830	50	129	17082	18000	17078	922	124	124	91	"	42.80
7-3-64	1930	50	129	17082	17998	17086	912	123	120	92	"	43.80
7-3-64	2030	50	129	17086	18006	17088	918	122	120	94	"	44.80
7-3-64	2130	50	129	17097	18014	17096	918	121	121	93	"	45.80
7-3-64	2230	50	129	17102	18023	17104	919	122	124	93	"	46.80
7-3-64	2330	50	129	17110	18021	17104	917	120	118	96	"	47.80
7-4-64	0031	50	129	17110	18031	17110	921	122	120	98	"	48.86
7-4-64	0125	50	129	17116	18031	17114	917	120	118	95	"	49.76

Table 5. Irradiation Data for Strain Gage No. 4. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-4-64	0240	50	129	17116	18037	17116	921	120	118	100 meg	51.18
7-4-64	0328	50	129	17123	18039	17121	918	120	118	100 "	51.76
7-4-64	0445	50	129	17128	18046	17129	917	117	117	98 "	53.10
7-4-64	0530	50	129	17133	18047	17132	915	119	120	100 "	53.82
7-4-64	0640	50	129	17135	18055	17136	919	118	118	90 "	55.04
7-4-64	0739	50	129	17139	18059	17139	920	116	115	100 "	55.97
7-4-64	0815	0	130	17050	17974	17053	921	117	122	750 "	56.59
7-4-64	1010	0	7.5	17003	17820	16992	928	115	114	950 "	
7-4-64	1100	0	7.5	17282	17907	17028	879	116	114	800 "	

Table 6. Irradiation Data for Strain Gage No. 5. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-1-64	1330	0	129	37006	35950	36992	1042	121	126	850 meg	0
7-1-64	1750	0	129	37000	35935	36994	1059	128	129	1150 "	0
7-1-64	2346	100KW	131	36994	35926	36990	1064	122	125	1200 "	00.10
7-2-64	0033	1	131	36994	35924	36990	1066	128	130	960 "	00.86
7-2-64	0102	10	131	36986	35918	36984	1066	126	126	500 "	01.39
7-2-64	0133	30	131	36966	35915	36972	1057	127	128	270 "	01.85
7-2-64	0210	38	131	36937	35869	36944	1075	126	128	150 "	02.47
7-2-64	0330	38	131	36910	35824	36910	1086	125	125	145 "	03.83
7-2-64	0440	50	131	36896	35813	36908	1095	127	132	124 "	04.84
7-2-64	0540	50	131	36883	35800	36900	1100	122	126	125 "	06.34
7-2-64	0636	50	131	36884	35799	36892	1093	126	126	130 "	06.93
7-2-64	0730	50	129	36887	35792	36898	1106	124	125	125 "	07.83
7-2-64	0830	50	131	36880	35785	36883	1098	125	124	35 "	08.73
7-2-64	0930	50	129	36876	35780	36878	1048	125	126	135 "	09.81
7-2-64	1030	50	128	36868	35778	36875	1097	125	125	135 "	10.78
7-2-64	1130	50	128	36869	35771	36869	1098	123	123	140 "	11.73
7-2-64	1230	50	128	36867	35772	36873	1101	123	123	140 "	12.86
7-2-64	1330	50	130	36863	35770	36866	1093	125	122	140 "	13.78

Table 6. Irradiation Data for Strain Gage No. 5. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	36857	35762	36863	1101	125	124	140 meg		14.80
7-2-64	1530	50	132	36857	35762	36857	1095	126	127	150 "		15.80
7-2-64	1630	50	131	36851	35757	36855	1098	127	127	149 "		16.80
7-2-64	1730	50	130	36847	35754	36854	1100	128	128	149 "		17.80
7-2-64	1830	50	129	36843	35748	36846	1098	126	126	148 "		18.80
7-2-64	1930	50	129	36837	35743	36842	1099	125	124	148 "		19.80
-29- 7-2-64	2030	49.4	129	36843	35737	36835	1098	124	126	150 "		20.80
7-2-64	2130	50	129	36827	35727	36831	1104	128	129	150 "		21.80
7-2-64	2230	50	129	36821	35726	36823	1097	125	125	150 "		22.80
7-2-64	2330	50	129	36816	35718	36819	1101	126	124	152 "		23.80
7-3-64	0030	50	129	36806	35710	36810	1100	125	125	160 "		24.95
7-3-64	0135	50	129	36803	35701	36805	1104	124	125	160 "		25.91
7-3-64	0225	50	129	36795	35700	36800	1100	125	125	160 "		26.88
7-3-64	0330	50	129	36793	35690	36794	1104	124	129	160 "		27.86
7-3-64	0430	50	129	36788	35690	36790	1100	124	125	160 "		28.63
7-3-64	0530	50	129	36776	35635	36780	1145	123	123	160 "		30.07
7-3-64	0640	50	129	36767	35670	36770	1100	125	125	160 "		30.97
7-3-64	0725	50	129	36765	35666	36770	1110	123	124	163 "		31.67

Table 6. Irradiation Data for Strain Gage No. 5. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C		
7-3-64	0830	50	129	36760	35660	36762	1102	122	110	165 meg	32.80
7-3-64	0930	50	129	36756	35655	36752	1097	120	123	165 "	33.78
7-3-64	1030	50	129	36746	35648	36750	1102	125	124	162 "	34.76
7-3-64	1130	50	129	36740	35640	36740	1100	124	124	160 "	35.75
7-3-64	1230	50	129	36735	35638	36736	1098	124	126	160 "	36.73
7-3-64	1330	50	129	36730	35635	36733	1078	125	125	160 "	37.74
7-3-64	1430	50	130	36725	35633	36733	1100	125	125	160 "	38.74
7-3-64	1530	50	130	36725	35648	36730	1082	125	126	160 "	39.72
7-3-64	1630	50	130	36720	35619	36725	1106	123	124	160 "	40.80
7-3-64	1730	50	129	36714	35615	36714	1099	124	123	160 "	41.80
7-3-64	1830	50	129	36706	35604	36708	1104	125	125	160 "	42.80
7-3-64	1930	50	129	36768	35600	36768	1168	124	125	160 "	43.80
7-3-64	2030	50	129	36692	35591	36694	1103	123	124	162 "	44.80
7-3-64	2130	50	129	36686	35583	36688	1105	122	124	165 "	45.80
7-3-64	2230	50	129	36679	35579	36680	1101	124	126	164 "	46.80
7-3-64	2330	50	129	36677	35573	36673	1101	125	125	170 "	47.80
7-4-64	0031	50	129	36662	35564	36666	1102	125	125	175 "	48.86
7-4-64	0125	50	129	36658	35564	36656	1100	124	125	175 "	49.76

Table 6. Irradiation Data for Strain Gage No. 5. - Microdot Model No. SG333/1 (Gage in Compression)

Date	Time	Power MV	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-4-64	0240	50	129	36676	35546	36647	1101	124	124	175 meg	51.18
7-4-64	0328	50	129	36676	35549	36679	1102	124	124	175	51.76
7-4-64	0445	50	129	36639	35535	36641	1106	123	123	170	53.10
7-4-64	0530	50	129	36631	35530	36633	1103	124	124	165	53.52
7-4-64	0640	50	129	36624	35525	36626	1101	123	124	175	53.04
7-4-64	0737	50	129	36624	35520	36626	1106	121	122	175	53.97
7-4-64	0815	0	130	36564	35457	36564	1101	122	124	800	56.59
7-4-64	1010	0	15	36505	35518	36512	994	120	121	850	—
7-4-64	1100	0	15	36252	35498	36578	1050	121	122	720	—

Table 7. Irradiation Data for Strain Gage No. 6. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	32214	33192	32222	970	120	125	700 meg	0
7-1-64	1750	0	129	32000	32982	32008	973	127	128	900 "	0
7-1-64	2346	100 Kw	131	32000	32979	32000	979	123	122	860 "	00.10
7-2-64	0033	1 mw	131	32004	32975	32000	975	125	125	760 "	00.86
7-2-64	0102	10	131	32004	32974	32000	974	124	125	400 "	01.39
7-2-64	0133	30	131	32034	32990	32030	960	126	128	130 "	01.85
7-2-64	0210	38	131	32058	33031	32050	981	126	126	125 "	02.47
7-2-64	0330	38	131	32064	33044	32061	983	125	125	122 "	03.83
7-2-64	0440	50	131	32066	33045	32060	985	127	128	105 "	04.84
7-2-64	0540	50	131	32061	33060	32055	1005	121	125	105 "	06.34
7-2-64	0636	50	131	32050	33026	32045	981	125	125	100 "	06.93
7-2-64	0730	50	131	32044	33026	32044	982	123	124	103 "	07.83
7-2-64	0830	50	131	32033	33010	32030	980	122	123	95 "	08.73
7-2-64	0930	50	129	32024	33000	32022	978	124	124	96 "	09.81
7-2-64	1030	50	128	32017	32988	32008	980	122	123	95 "	10.78
7-2-64	1130	50	128	32007	32982	32005	977	121	122	95 "	11.73
7-2-64	1230	50	128	31990	32966	31987	979	121	122	98 "	12.86
7-2-64	1330	50	131	31984	32960	31980	976	123	120	98 "	13.78

Table 7. Irradiation Data for Strain Gage No. 6. - Microdot Model No.SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	31978	32950	31970	980	122	127	98	MEG	14.80
7-2-64	1530	50	132	31969	32938	31961	977	123	124	100	"	15.80
7-2-64	1630	50	131	31958	32930	31954	997	126	126	102	"	16.80
7-2-64	1730	50	130	31950	32924	31944	980	127	127	102	"	17.80
7-2-64	1830	50	129	31940	32912	31934	978	125	125	102	"	18.80
-33- 7-2-64	1930	50	129	31931	32908	31929	979	125	124	110	"	19.80
7-2-64	2030	49.4	129	31919	32894	31917	977	123	125	108	"	20.80
7-2-64	2130	50	129	31914	32888	31909	979	127	128	115	"	21.80
7-2-64	2230	50	129	31904	32878	31900	978	125	125	115	"	22.80
7-2-64	2330	50	129	31897	32872	31894	978	126	124	110	"	23.80
7-3-64	0030	50	129	31886	32860	31884	976	125	125	110	"	24.95
7-3-64	0135	50	129	31880	32851	31874	977	124	123	115	"	25.91
7-3-64	0225	50	129	31872	32850	31870	980	124	124	110	"	26.88
7-3-64	0330	50	129	31866	32840	31861	979	123	123	115	"	27.86
7-3-64	0430	50	129	31860	32825	31857	978	124	126	115	"	28.63
7-3-64	0530	50	129	31854	32826	31849	977	123	123	116	"	30.07
7-3-64	0640	50	129	31845	32816	31840	976	124	125	120	"	30.97
7-3-64	0725	50	129	31840	32814	31835	979	123	124	118	"	31.61

Table 7. Irradiation Data for Strain Gage No. 6. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C	Resistance (ohms) B to Gnd	
7-3-64	0830	50	129	31830	32805	31828	979	120	109	120 MEG	32.80
7-3-64	0930	50	129	31825	32800	31825	975	120	122	118 "	33.78
7-3-64	1030	50	129	31821	32790	31820	970	123	124	120 "	34.76
7-3-64	1130	50	129	31815	32790	31815	975	122	122	118 "	35.75
7-3-64	1230	50	129	31810	32787	31808	979	128	125	118 "	36.73
7-3-64	1330	50	129	31808	32780	31802	978	122	123	118 "	37.74
7-3-64	1430	50	130	31802	32780	31802	978	123	124	120 "	38.74
7-3-64	1530	50	130	31800	32775	31800	975	124	122	118 "	39.72
7-3-64	1630	50	130	31798	32772	31796	976	121	123	120 "	40.80
7-3-64	1730	50	129	31790	32764	31789	975	122	123	118 "	41.80
7-3-64	1830	50	129	31786	32756	31784	972	125	125	118 "	42.80
7-3-64	1930	50	129	31779	32754	31776	978	123	124	118 "	43.80
7-3-64	2030	50	129	31776	32748	31771	977	122	123	118 "	44.80
7-3-64	2130	50	129	31770	32743	31768	975	122	123	118 "	45.80
7-3-64	2230	50	129	31767	32739	31764	975	123	125	120 "	46.80
7-3-64	2330	50	129	31763	32733	31759	974	123	123	120 "	47.80
7-4-64	0031	50	129	31755	32727	31753	974	124	124	130 "	48.86
7-4-64	0125	50	129	31749	32723	31746	977	123	123	128 "	49.76

Table 7. Irradiation Data for Strain Gage No. 6. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) E-C		
7-4-64	0240	50	129	31743	32716	31738	978				51.18
7-4-64	0328	50	129	31739	32719	31737	982				51.76
7-4-64	0445	50	129	31736	32714	31731	983				53.10
7-4-64	0530	50	129	31730	32706	31726	980				53.82
7-4-64	0640	50	129	31725	32702	31723	979				55.04
7-4-64	0739	50	129	31721	32769	31720	1049				55.91
7-4-64	0815	0	130	31668	32650	31668	982				56.54
7-4-64	1010	0	75	31648	32520	31640	980				
7-4-64	1100	0	75	31915	32585	31650	930				

Table 8. Irradiation Data for Strain Gage No. 7. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-1-64	1330	0	129	26998	28826	26995	1831	122	127	400 meg	0
7-1-64	1750	0	129	27000	28847	27007	1844	128	130	520 "	0
7-1-64	2346	100KW	131	27000	28845	27000	1845	125	125	450 "	00.10
7-2-64	0033	1 mw	131	27000	28845	27000	1845	130	130	300 "	00.86
7-2-64	0102	10	131	26996	28824	26984	1840	128	130	160 "	01.39
7-2-64	0133	30	131	26991	28794	26988	1806	128	130	40 "	01.85
7-2-64	0210	38	131	26966	28804	26964	1840	127	130	40 "	02.47
7-2-64	0330	38	131	26964	28805	26974	1931	126	126	40 "	03.83
7-2-64	0440	50	131	26964	28800	26963	1837	128	133	35 "	04.84
7-2-64	0540	50	131	26949	28790	26942	1838	124	127	34 "	06.34
7-2-64	0636	50	131	26930	28770	26925	1845	127	127	35 "	06.93
7-2-64	0730	50	131	26921	28762	26922	1840	126	124	34 "	07.83
7-2-64	0830	50	131	26904	28642	26903	1839	125	126	35 "	08.73
7-2-64	0930	50	129	26890	28730	26893	1837	126	127	35 "	09.81
7-2-64	1030	50	128	26877	28715	26880	1835	126	126	34 "	10.78
7-2-64	1130	50	128	26867	28697	26865	1831	125	125	34 "	11.73
7-2-64	1230	50	128	26850	28686	26845	1841	125	125	34 "	12.86
7-2-64	1330	50	130	26835	28670	26836	1835	127	123	34 "	13.78

Table 8. Irradiation Data for Strain Gage No. 7. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B B-C		Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	26824	28665	26824	1841	127	132	35	meg	14.80
7-2-64	1530	50	132	26813	28654	26817	1837	127	128	35	"	15.80
7-2-64	1630	50	131	26803	28638	26797	1841	127	129	33	"	16.80
7-2-64	1730	50	130	26788	28626	26792	1834	129	130	34	"	17.80
7-2-64	1830	50	129	26778	28614	26772	1842	127	127	34	"	18.80
7-2-64	1930	50	129	26757	28600	26758	1842	125	125	34	"	19.80
-37- 7-2-64	2030	49.4	129	26744	28587	26750	1837	126	127	34	"	20.80
7-2-64	2130	50	129	26737	28578	26734	1844	130	130	34	"	21.80
7-2-64	2230	50	129	26726	28562	26723	1839	126	126	34	"	22.80
7-2-64	2330	50	129	26717	28557	26713	1844	127	125	34	"	23.80
7-3-64	0030	50	129	26696	28534	26696	1838	126	126	35	"	24.95
7-3-64	0135	50	129	26684	28526	26684	1842	124	122	35	"	25.91
7-3-64	0225	50	129	26676	28515	26680	1835	125	127	34	"	26.88
7-3-64	0330	50	129	26666	28499	26662	1837	126	126	35	"	27.86
7-3-64	0430	50	129	26655	28495	26655	1840	126	128	35	"	28.63
7-3-64	0530	50	129	26638	28484	26643	1841	126	122	35	"	30.07
7-3-64	0640	50	129	26625	28460	26625	1835	125	126	34	"	30.97
7-3-64	0725	50	129	26615	28454	26616	1838	126	126	34	"	31.67

Table 2. Irradiation Data for Strain Gage No. 7. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-3-64	0830	50	129	26604	28438	26607	1831	124	112	34 meg	32.80
7-3-64	0930	50	129	26588	28427	26594	1833	122	125	34 "	33.78
7-3-64	1030	50	129	26584	28408	26584	1824	122	126	34 "	34.76
7-3-64	1130	50	129	26570	28404	26570	1834	126	126	34 "	35.75
7-3-64	1230	50	129	26562	28390	26560	1830	128	128	34 "	36.73
7-3-64	1330	50	129	26550	28383	26547	1836	127	127	34 "	37.74
7-3-64	1430	50	130	26538	28368	26535	1833	128	127	34 "	38.74
7-3-64	1530	50	130	26520	28360	26525	1835	127	127	34 "	39.72
7-3-64	1630	50	130	26519	28348	26512	1836	125	125	34 "	40.80
7-3-64	1730	50	129	26501	28336	26502	1834	126	124	34 "	41.80
7-3-64	1830	50	129	26490	28326	26485	1841	127	127	33 "	42.80
7-3-64	1930	50	129	26477	28316	26476	1840	126	127	33 "	43.80
7-3-64	2030	50	129	26465	28300	26464	1836	124	125	34 "	44.80
7-3-64	2130	50	129	26454	28293	26456	1837	124	126	33 "	45.80
7-3-64	2230	50	129	26444	28280	26447	1831	127	128	34 "	46.80
7-3-64	2330	50	129	26435	28274	26434	1840	121	127	34 "	47.80
7-4-64	0031	50	129	26424	28260	26426	1834	128	128	35 "	48.80
7-4-64	0125	50	129	26415	28252	26420	1832	126	127	35 "	49.76

Table 8, Irradiation Data for Strain Gage No. 7. - Microdot Model No. SG333/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-4-64	0240	50	129	26400	28235	26407	1828	126	125	35 meg	51.18
7-4-64	0328	50	129	26403	28236	26401	1835	126	125	35 "	51.76
7-4-64	0445	50	129	26391	28224	26388	1836	125	125	35 "	53.10
7-4-64	0530	50	129	26375	28210	26376	1834	125	125	35 "	53.82
7-4-64	0640	50	129	26370	28202	26371	1831	125	125	35 "	55.04
7-4-64	0739	50	129	26364	28195	26365	1830	124	125	35 "	55.11
7-4-64	0815	0	130	26372	28205	26374	1934	125	125	220 "	56.59
7-4-64	1010	0	7.5	26385	28020	26383	1637	123	124	450	—
7-4-64	1100	0	7.5	26863	28110	26370	1940	124	124	300	—

Table 9. Irradiation Data for Strain Gage No. 8. - Microdot Model No. SG123/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-1-64	1330	0	129	18042	16148	18043	1895	122	135	500 K	0
7-1-64	1750	0	129	17000	15111	17004	1893	129	136	400 K	0
7-1-64	2346	100 Kw	131	16986	15094	16990	1896	125	130	150 K	00.10
7-2-64	0033	1 mw	131	16990	15096	16993	1897	130	130	68 K	00.86
7-2-64	0102	10	131	16996	15096	16995	1899	128	130	100 K	01.39
7-2-64	0133	30	131	16994	15129	16995	1866	129	126	100 K	01.85
7-2-64	0210	38	131	17000	15103	17003	1800	130	130	100 K	02.47
7-2-64	0330	38	131	17010	15199	17000	1801	127	130	200 K	03.83
7-2-64	0440	50	131	17014	15100	17010	1910	128	133	300 K	04.84
7-2-64	0540	50	131	17014	15104	17020	1916	125	127	260 K	06.34
7-2-64	0636	50	131	17021	15100	17024	1924	128	130	300 K	06.93
7-2-64	0730	50	131	17071	15147	17074	1927	126	127	450 K	07.83
7-2-64	0830	50	131	16616	14696	16618	1922	125	130	900 K	08.73
7-2-64	0930	50	129	16713	14695	16613	1918	127	131	1.8 MEG	09.81
7-2-64	1030	50	128	16618	14694	16615	1921	126	125	1.5 "	10.78
7-2-64	1130	50	128	16620	14697	16616	1919	125	130	2.0 "	11.73
7-2-64	1230	50	128	16618	14695	16616	1919	125	130	2.0 "	12.86
7-2-64	1330	50	130	16621	14696	16622	1925	128	127	1.0 "	13.78

Table 9. Irradiation Data for Strain Gage No. 8. - Microdot Model No. SG123/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-2-64	1430	50	130	16624	14700	16622	1922	126	127	1.3 meg	14.80
7-2-64	1530	50	132	16626	14703	16627	1924	128	132	1.7 "	15.80
7-2-64	1630	50	131	16627	14701	16626	1925	128	135	3.0 "	16.80
7-2-64	1730	50	130	16627	14704	16623	1919	129	137	4.0 "	17.80
7-2-64	1830	50	129	16629	14706	16630	1924	127	134	4.0 "	18.80
7-2-64	1930	50	129	16631	14710	16630	1920	125	134	3.0 "	19.80
7-2-64	2030	49.4	129	16635	14711	16635	1924	126	135	4.0 "	20.80
7-2-64	2130	50	129	16636	14712	16634	1922	130	138	3.0 "	21.80
7-2-64	2230	50	129	16639	14714	16636	1923	126	136	3.0 "	22.80
7-2-64	2330	50	129	16640	14717	16636	1919	127	134	3.0 "	23.80
7-3-64	0030	50	129	16644	14719	16640	1921	126	130	5.0 "	24.95
7-3-64	0135	50	129	16165	14240	16164	1922	125	128	5.0 "	25.91
7-3-64	0225	50	129	16166	14242	16166	1928	125	129	3.0 "	26.88
7-3-64	0330	50	129	16166	14249	16168	1919	126	127	5.0 "	27.86
7-3-64	0430	50	129	16171	14248	16167	1919	125	128	3.5 "	28.63
7-3-64	0530	50	129	16174	14254	16171	1917	127	128	3.0 "	30.07
7-3-64	0640	50	129	16177	14251	16177	1926	126	135	4.0 "	30.97
7-3-64	0725	50	129	16178	14257	16176	1919	126	132	3.0 "	31.67

Table 9. Irradiation Data for Strain Gage No. 8. - Microdot Model No. SG123/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-3-64	0830	50	129	16180	14258	16180	1922	124	118	3 0 MEG	32.80
7-3-64	0930	50	129	16180	14262	16180	1918	123	132	1.0 "	33.78
7-3-64	1030	50	129	16184	14268	16183	1915	126	135	3.0 "	37.76
7-3-64	1130	50	129	16190	14268	16188	1920	126	130	5 0 "	35.75
7-3-64	1230	50	129	16190	14272	16188	1916	128	134	3.5 "	36.73
7-3-64	1330	50	129	16195	14273	16190	1917	127	131	5 0 "	37.74
7-3-64	1430	50	130	16200	14262	16182	1920	128	132	6 0 "	38.74
7-3-64	1530	50	130	16188	14270	16185	1915	128	132	1.0 "	39.72
7-3-64	1630	50	130	16098	14171	16092	1921	126	132	19 K	40.80
7-3-64	1730	50	129	16093	14170	16089	1919	126	134	38 K	41.80
7-3-64	1830	50	129	16093	14174	16093	1919	128	138	64 K	42.80
7-3-64	1930	50	129	16093	14167	16087	1920	126	134	200 K	43.80
7-3-64	2030	50	129	16091	14173	16090	1917	124	133	50 K	44.80
7-3-64	2130	50	129	16094	14175	16094	1919	125	133	150 K	45.80
7-3-64	2230	50	129	16098	14177	16094	1915	128	138	90 K	46.80
7-3-64	2330	50	129	16100	14175	16093	1918	127	132	270 K	47.80
7-4-64	0031	50	129	16100	14184	16100	1916	128	130	48 K	48.86
7-4-64	0125	50	129	16104	14181	16100	1919	127	133	72 K	49.76

Table 9. Irradiation Data for Strain Gage No. 8. - Microdot Model No. SCL3/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-4-64	0240	50	129	16106	14187	16105	1918	126	128	78 K	51.18
7-4-64	0328	50	129	16109	14187	16106	1919	126	128	78 K	51.76
7-4-64	0445	50	129	16111	14194	16110	1916	125	130	90 K	53.10
7-4-64	0530	50	129	16110	14190	16106	1916	125	130	87 K	53.82
7-4-64	0640	50	129	16113	14194	16110	1916	126	126	125 K	55.04
7-4-64	0739	50	129	16118	14194	16113	1919	125	130	130 K	55.97
7-4-64	0815	0	130	16123	14204	16120	1916	126	126	100 K	56.59
7-4-64	1010	0	7.5	16118	14415	16120	1705	124	128	150 K	—
7-4-64	1100	0	7.5	15628	14318	16115	1797	124	129	100 K	—

Table 10. Irradiation Data for Strain Gage No. 9. - Microdot Model No. SG123/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	41980	43776	41970	1796	122	135	120 K	0
7-1-64	1750	0	129	42000	43789	41997	1792	129	135	150 "	0
7-1-64	2343	100Kw	131	42004	43790	41999	1791	125	126	90 "	00.10
7-2-64	0033	1mw	131	42000	43792	41998	1794	129	130	80 "	00.86
7-2-64	0102	10mw	131	42003	43790	41997	1793	127	130	70 "	01.39
7-2-64	0133	30	131	42003	43761	42000	1761	129	124	400 "	01.85
7-2-64	0210	38	131	42004	43791	42014	1777	128	130	160 "	02.47
7-2-64	0330	38	131	42010	43800	42016	1784	126	130	300 "	03.83
7-2-64	0440	50	131	42017	43790	42010	1780	130	133	500 "	04.84
7-2-64	0540	50	131	41991	43775	41990	1785	125	130	450 "	06.34
7-2-64	0636	50	131	41974	43766	41971	1795	127	130	175 "	06.93
7-2-64	0730	50	131	41968	43760	41970	1840	126	130	150 "	07.83
7-2-64	0830	50	131	41950	43745	41943	1802	125	129	120 "	08.73
7-2-64	0930	50	129	41933	43727	41938	1799	126	130	300 "	09.81
7-2-64	1030	50	128	41920	43727	41925	1792	125	128	500 "	10.78
7-2-64	1130	50	128	41912	43711	41908	1803	125	128	300 "	11.73
7-2-64	1230	50	128	41900	43700	41890	1810	125	127	600 "	12.86
7-2-64	1330	50	130	41883	43682	41886	1799	127	120	300 "	13.78

Table 10. Irradiation Data for Strain Gage No. 9. - Microdot Model No. SGL23/1 (Gage in Tension)

Date	Time	Power MW	H2O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H2O Pressure	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B B-C		Resistance (ohms) B to Cnd		
7-2-64	1430	50	130	41872	43615	41867	1808	126	130	110 K		14.80
7-2-64	1530	50	132	41862	43670	41860	1810	128	130	500 K		15.80
7-2-64	1630	50	131	41854	43647	41850	1797	128	135	400 K		16.80
7-2-64	1730	50	130	41844	43634	41844	1790	129	136	500 "		17.80
7-2-64	1830	50	129	41829	43625	41826	1799	127	134	600 "		18.80
7-2-64	1930	50	129	41819	43612	41820	1792	125	134	200 "		19.80
7-2-64	2030	50	129	41810	43600	41808	1792	126	133	500 "		20.80
7-2-64	2130	50	129	41793	43594	41797	1797	130	136	200 "		21.80
7-2-64	2230	50	129	41784	43578	41784	1794	126	136	500 "		22.80
7-2-64	2330	50	129	41774	43568	41773	1795	127	133	500 "		23.80
7-3-64	0030	50	129	41760	43560	41756	1804	126	131	1 MEG		24.95
7-3-64	0135	50	129	41743	43548	41745	1803	125	128	5 "		25.91
7-3-64	0225	50	129	41740	43536	41735	1801	125	130	1 "		26.88
7-3-64	0330	50	129	41727	43524	41728	1797	126	130	1 "		27.86
7-3-64	0430	50	129	41711	43517	41715	1802	125	130	1.4 "		28.63
7-3-64	0530	50	129	41703	43493	41691	1832	126	130	1.0 "		30.07
7-3-64	0640	50	129	41684	43485	41680	1805	126	130	1.0 "		30.97
7-3-64	0725	50	129	41680	43475	41680	1795	126	130	0.7 "		31.67

Table 10. Irradiation Data for Strain Gage No. 9. - Microdot Model No. SG123/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-3-64	0830	50	129	41662	43460	41658	1802	124	116	1.0 meg	32.80
7-3-64	0930	50	129	41652	43452	41646	1806	123	131	1.0 "	33.78
7-3-64	1030	50	129	41640	43442	41642	1790	126	132	1.5 "	34.76
7-3-64	1130	50	129	41629	43424	41625	1799	126	129	1.5 "	35.75
7-3-64	1230	50	129	41612	43415	41620	1795	127	134	1.0 "	36.73
7-3-64	1330	50	129	41600	43400	41603	1767	127	130	1.0 "	37.74
7-3-64	1430	50	130	41590	43406	41608	1798	123	130	1.0 "	38.74
7-3-64	1530	50	130	41594	43390	41592	1798	128	130	1.0 "	39.72
7-3-64	1630	50	130	41581	43382	41584	1798	125	131	1.0 "	40.80
7-3-64	1730	50	129	41567	43366	41576	1790	126	133	1.0 "	41.80
7-3-64	1830	50	129	41561	43354	41562	1792	128	138	1.0 "	42.80
7-3-64	1930	50	129	41549	43377	41546	1801	126	134	1.0 "	43.80
7-3-64	2030	50	129	41541	43333	41538	1795	124	133	1.4 "	44.80
7-3-64	2130	50	129	41529	43321	41529	1792	125	132	1.0 "	45.80
7-3-64	2230	50	129	41518	43313	41512	1801	127	136	1.5 "	46.80
7-3-64	2330	50	129	41510	43301	41505	1796	127	130	1.5 "	47.80
7-4-64	0031	50	129	41485	43290	41486	1804	128	130	1.5 "	48.86
7-4-64	0125	50	129	41486	43281	41475	1806	126	131	1.0 "	49.76

Table 10. Irradiation Data for Strain Gage No. 9. - Microdot Model No. FGL3/1 (Gage in Pension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-4-64	0240	5c	129	41464	43270	41466	1804	126	130	1.0 meg	51.18
7-4-64	0328	5c	129	41460	43267	41462	1805	126	130	1.0 "	51.76
7-4-64	0445	5c	129	41444	43251	41447	1804	125	129	0.7 "	53.10
7-4-64	0530	5c	129	41434	43234	41440	1794	125	138	0.8 "	53.82
7-4-64	0640	5c	129	41424	43223	41422	1801	126	128	0.5 "	55.04
7-4-64	0739	5c	129	41418	43216	41416	1800	125	128	0.6 "	55.97
7-4-64	0815	0	130	41383	43185	41385	1800	125	127	1.0 "	56.59
7-4-64	1010	0	7.5	41400	43000	41403	1597	123	127	50 K	—
7-4-64	1100	0	7.5	41855	43078	41383	1795	124	127	150 K	—

Table 11. Irradiation Data for Strain Gage No. 10. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	27025	25860	27024	1164	123	130	1 K	0
7-1-64	1750	0	129	27000	25831	27001	1170	128	130	1150 meg	0
7-1-64	2346	100 KW	131	26995	25820	26996	1176	124	122	1300 "	00 10
7-2-64	0033	1 mw	131	26997	25820	26999	1179	127	126	1000 "	00 86
7-2-64	0102	10	131	26996	25819	26994	1175	125	130	680 "	01.39
7-2-64	0133	30	131	26987	25828	26990	1162	127	125	180 "	01.85
7-2-64	0210	38	131	26973	25791	26925	1184	126	126	190 "	02.47
7-2-64	0330	38	131	26953	25760	26951	1191	125	125	190 "	03.83
7-2-64	0440	50	131	26941	25747	26944	1197	127	127	160 "	04.84
7-2-64	0540	50	131	26930	25720	26938	1218	122	126	160 "	06.34
7-2-64	0636	50	131	26929	25730	26934	1204	125	125	160 "	06.93
7-2-64	0730	50	131	26930	25729	26934	1205	125	124	155 "	07.83
7-2-64	0830	50	131	26924	25718	26930	1212	124	125	150 "	08.73
7-2-64	0930	50	129	26920	25717	26925	1208	125	125	160 "	09.81
7-2-64	1030	50	128	26920	25710	26923	1213	124	125	160 "	10.78
7-2-64	1130	50	128	26919	25710	26922	1212	123	124	160 "	11.73
7-2-64	1230	50	128	26918	25710	26922	1212	123	123	160 "	12.86
7-2-64	1330	50	130	26919	25708	26918	1211	125	115	166 "	13.78

Table 11. Irradiation Data for Strain Gage No. 10. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-2-64	1430	50	130	26916	25710	26920	1210	124	126	160 MEG	14.80
7-2-64	1530	50	132	26916	25706	26920	1214	125	125	150 "	15.80
7-2-64	1630	50	131	26916	25708	26918	1210	127	129	162 "	16.80
7-2-64	1730	50	130	26914	25706	26919	1213	129	130	160 "	17.80
7-2-64	1830	50	129	26916	25707	26916	1209	126	123	160 "	18.80
7-2-64	1930	50	129	26913	25704	26917	1213	125	128	165 "	19.80
7-2-64	2030	49.4	129	26913	25699	26915	1216	125	127	162 "	20.80
7-2-64	2130	50	129	26913	25700	26913	1213	129	130	162 "	21.80
7-2-64	2230	50	129	26911	25702	26911	1209	126	129	165 "	22.80
7-2-64	2330	50	129	26911	25699	26912	1213	127	127	165 "	23.80
7-3-64	0030	50	129	26908	25696	26911	1215	126	126	165 "	24.95
7-3-64	0135	50	129	26905	25696	26911	1215	125	125	169 "	25.91
7-3-64	0225	50	129	26906	25696	26910	1214	125	125	165 "	26.88
7-3-64	0330	50	129	26906	25694	26909	1205	125	125	170 "	27.86
7-3-64	0430	50	129	26909	25694	26906	1212	125	125	165 "	28.63
7-3-64	0530	50	129	26904	25692	26903	1211	125	125	170 "	30.07
7-3-64	0640	50	129	26900	25690	26900	1210	125	125	170 "	30.97
7-3-64	0725	50	129	26906	25690	26907	1216	126	125	170 "	31.67

Table 11. Irradiation Data for Strain Gage No. 1Q - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-3-64	0830	50	129	26903	25690	26903	1213	122	111	170 meg	32.80
7-3-64	0930	50	129	26906	25690	26900	1210	123	126	170 "	33.78
7-3-64	1030	50	129	26905	25695	26905	1210	125	127	165 "	34.76
7-3-64	1130	50	129	26905	25690	26902	1212	124	125	165 "	35.75
7-3-64	1230	50	129	26905	25690	26905	1215	131	128	168 "	36.73
7-3-64	1330	50	129	26900	25693	26907	1214	125	125	165 "	37.74
7-3-64	1430	50	130	26908	25688	26900	1212	125	125	160 "	38.74
7-3-64	1530	50	130	26905	25690	26900	1210	126	125	160 "	39.72
7-3-64	1630	50	130	26902	25690	26906	1216	123	126	160 "	40.80
7-3-64	1730	50	129	26904	25685	26904	1219	124	127	160 "	41.80
7-3-64	1830	50	129	26904	25686	26902	1216	127	132	160 "	42.80
7-3-64	1930	50	129	26900	25681	26897	1216	125	127	160 "	43.80
7-3-64	2030	50	129	26899	25679	26896	1217	124	127	162 "	44.80
7-3-64	2130	50	129	26898	25680	26898	1218	125	126	155 "	45.80
7-3-64	2230	50	129	26896	25678	26894	1216	126	129	165 "	46.80
7-3-64	2330	50	129	26895	25676	26889	1213	125	125	165 "	47.80
7-4-64	0031	50	129	26890	25674	26893	1219	126	125	170 "	48.86
7-4-64	0125	50	129	26888	25670	26889	1219	125	125	170 "	49.76

Table 11. Irradiation Data for Strain Gage No. 10. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power W	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) 3 to End	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-4-64	0240	50	129	26883	25667	26885	1218	125	125	170 meg	51.18
7-4-64	0328	50	129	26883	25671	26884	1213	125	125	170 "	51.76
7-4-64	0445	50	129	26884	25666	26884	1218	123	130	171 "	53.10
7-4-64	0530	50	129	26880	25662	26876	1214	123	129	170 "	53.82
7-4-64	0640	50	129	26879	25662	26879	1217	124	124	170 "	55.04
7-4-64	0739	50	129	26879	25661	26878	1217	122	122	170 "	55.97
7-4-64	0815	0	130	26828	25610	26828	1218	123	128	820 "	56.59
7-4-64	1010	0	7.5	26785	25703	26785	1082	122	121	850 "	—
7-4-64	1100	0	7.5	26494	25666	26810	1150	122	122	800 "	—

Table 12. Irradiation Data for Strain Gage No. 11. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-1-64	1330	0	129	36972	38033	36970	1063	132	136	680 meg	0
7-1-64	1750	0	129	37000	38066	36999	1067	133	135	700 "	0
7-1-64	2346	100 Kw	131	37000	38066	37000	1066	126	130	700 "	00.10
7-2-64	0033	1 mw	131	37000	38066	36997	1069	131	131	620 "	00.86
7-2-64	0102	10 "	131	37000	38060	36994	1066	130	135	300 "	01.39
7-2-64	0133	30	131	37007	38054	37004	1050	132	128	160 "	01.85
7-2-64	0210	38	131	37005	38075	37004	1071	130	133	95 "	02.47
7-2-64	0330	38	131	36997	38074	37000	1074	130	130	92 "	03.83
7-2-64	0440	50	131	37000	38078	36996	1082	132	135	80 "	04.84
7-2-64	0540	50	131	36991	38066	36989	1077	126	130	78 "	06.34
7-2-64	0636	50	131	36981	38060	36983	1077	130	130	76 "	06.93
7-2-64	0730	50	131	36980	38061	36975	1086	128	130	77 "	07.83
7-2-64	0830	50	131	36968	38048	36970	1078	128	128	77 "	08.73
7-2-64	0930	50	129	36965	38043	36963	1080	129	130	76 "	09.81
7-2-64	1030	50	128	36960	38038	36958	1080	128	128	76 "	10.78
7-2-64	1130	50	128	36954	38032	36954	1078	127	128	78 "	11.73
7-2-64	1230	50	128	36946	38026	36942	1084	127	128	77 "	12.86
7-2-64	1330	50	130	36938	38022	36936	1084	130	126	74 "	13.78

Table 12. Irradiation Data for Strain Gage No. 11 - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	36934	38015	36930	1085	128	130	80	meg	14.80
7-2-64	1530	50	132	36930	38008	36927	1081	129	130	80	"	15.80
7-2-64	1630	50	131	36924	38005	36922	1083	133	134	82	"	16.80
7-2-64	1730	50	130	36920	38000	36918	1082	135	136	80	"	17.80
7-2-64	1830	50	129	36912	37992	36908	1084	133	134	81	"	18.80
7-2-64	1930	50	129	36905	37985	36905	1080	131	132	81	"	19.80
7-2-64	2030	49.4	129	36896	37978	36895	1083	129	132	81	"	20.80
7-2-64	2130	50	129	36893	37975	36895	1083	134	136	82	"	21.80
7-2-64	2230	50	129	36882	37962	36881	1081	133	133	84	"	22.80
7-2-64	2330	50	129	36877	37957	36875	1082	131	131	85	"	23.80
7-3-64	0030	50	129	36866	37946	36864	1082	130	132	86	"	24.95
7-3-64	0135	50	129	36858	37938	36855	1083	128	125	86	"	25.91
7-3-64	0225	50	129	36854	37932	36850	1082	129	130	86	"	26.88
7-3-64	0330	50	129	36842	37925	36841	1084	128	130	87	"	27.86
7-3-64	0430	50	129	36840	37920	36836	1084	130	130	86	"	28.73
7-3-64	0530	50	129	36829	37909	36827	1082	126	130	88	"	30.07
7-3-64	0640	50	129	36820	37900	36819	1081	130	130	88	"	30.97
7-3-64	0725	50	129	36816	37893	36811	1082	128	130	88	"	31.67

Table 12. Irradiation Data for Strain Gage No. 11. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He	Applied He Pressure minus H ₂ O Pressure	Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-3-64	0830	50	129	36810	37888	36806	1082	126	130	89 meg	32.80
7-3-64	0930	50	129	36800	37882	36803	1079	129	131	88 "	33.78
7-3-64	1030	50	129	36795	37870	36792	1078	131	132	90 "	34.76
7-3-64	1130	50	129	36790	37865	36790	1075	128	129	90 "	35.75
7-3-64	1230	50	129	36780	37860	36780	1080	128	133	90 "	36.73
7-3-64	1330	50	129	36774	37854	36773	1081	129	130	90 "	37.74
7-3-64	1430	50	130	36765	37854	36775	1079	129	130	90 "	38.74
7-3-64	1530	50	130	36763	37843	36765	1078	130	130	89 "	39.72
7-3-64	1630	50	130	36760	37842	36760	1082	127	130	88 "	40.80
7-3-64	1730	50	129	36750	37828	36744	1084	138	131	90 "	41.80
7-3-64	1830	50	129	36741	37820	36739	1081	136	134	90 "	42.80
7-3-64	1930	50	129	36734	37817	36731	1086	129	131	90 "	43.80
7-3-64	2030	50	129	36721	37806	36725	1081	128	131	90 "	44.80
7-3-64	2130	50	129	36715	37794	36712	1082	129	130	88 "	45.80
7-3-64	2230	50	129	36707	37793	36706	1087	134	134	90 "	46.80
7-3-64	2330	50	129	36706	37785	36694	1091	129	129	92 "	47.80
7-4-64	0031	50	129	36690	37768	36686	1082	130	130	95 "	48.86
7-4-64	0125	50	129	36680	37761	36679	1082	128	130	95 "	49.76

Table 12. Irradiation Data for Strain Gage No. 11. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-4-64	0240	50	129	36670	37747	36666	1081	128	130	94 meg	51.18
7-4-64	0328	50	129	36665	37746	36665	1081	128	130	94 "	51.76
7-4-64	0445	50	129	36655	37737	36654	1083	127	128	96 "	53.10
7-4-64	0530	50	130	36650	37729	36646	1083	128	128	95 "	53.82
7-4-64	0640	50	129	36638	37716	36636	1080	128	128	70 "	55.04
7-4-64	0739	50	129	36630	37711	36630	1081	126	127	95 "	55.97
7-4-64	0815	0	130	36567	37646	36567	1079	124	129	420 "	56.59
7-4-64	1010	0	7.5	36540	37508	36540	968	125	126	620 "	—
7-4-64	1100	0	7.5	36844	37588	36558	1027	126	127	480 "	—

Table 13. Irradiation Data for Strain Gage No. 12. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-1-64	1330	0	129	22018	21154	22007	853	130	132	1.1 K	0
7-1-64	1750	0	129	22000	21131	21996	865	133	131	1200 MEG	0
7-1-64	2346	100 KW	131	22005	21136	22000	864	126	125	1050 "	00.10
7-2-64	0033	1 mw	131	22000	21132	22004	872	130	129	680 "	00.86
7-2-64	0102	10	131	22000	21125	21999	874	129	125	170 "	01.39
7-2-64	0133	30	131	21990	21141	21994	853	131	126	44 "	01.85
7-2-64	0210	38	131	21952	21094	21954	860	130	130	45 "	02.47
7-2-64	0330	38	131	21914	21040	21920	880	129	127	45 "	03.83
7-2-64	0440	50	131	21887	21016	21894	878	133	130	40 "	04.84
7-2-64	0540	50	131	21835	20999	21869	870	124	126	42 "	06.34
7-2-64	0630	50	131	21844	20970	21842	872	129	125	40 "	06.43
7-2-64	0730	50	131	21838	20963	21839	876	127	125	40 "	07.83
7-2-64	0830	50	131	21812	20931	21812	881	127	125	40 "	08.73
7-2-64	0930	50	129	21795	20917	21793	876	129	126	40 "	09.81
7-2-64	1030	50	128	21774	20900	21778	878	127	125	40 "	10.78
7-2-64	1130	50	128	21759	20880	21757	877	125	125	40 "	11.73
7-2-64	1230	50	128	21744	20866	21747	881	126	125	40 "	12.86
7-2-64	1330	50	130	21730	20853	21730	877	128	117	40 "	13.78

Table 13. Irradiation Data for Strain Gage No. 12. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MV	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation		Continucus Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	21714	20838	21720	882	127	127	42 meg		14.80
7-2-64	1530	50	132	21705	20833	21700	867	127	126	40 "		15.80
7-2-64	1630	50	131	21690	20814	21690	876	132	129	41 "		16.80
7-2-64	1730	50	130	21674	20804	21677	873	133	132	40 "		17.80
7-2-64	1830	50	129	21666	20794	21665	871	130	129	40 "		18.80
7-2-64	1930	50	129	21654	20779	21652	873	129	127	40 "		19.80
-57- 7-2-64	2030	49.4	129	21642	20770	21640	870	128	128	40 "		20.80
7-2-64	2130	50	129	21628	20753	21630	877	133	131	40 "		21.80
7-2-64	2230	50	129	21619	20748	21618	870	132	128	41 "		22.80
7-2-64	2330	50	129	21610	20735	21609	874	130	128	41 "		23.80
7-3-64	0030	50	129	21594	20723	21599	876	129	126	40 "		24.95
7-3-64	0135	50	129	21584	20710	21585	875	127	126	42 "		25.91
7-3-64	0225	50	129	21576	20704	21576	872	128	125	40 "		26.88
7-3-64	0330	50	129	21565	20690	21564	874	126	125	41 "		27.86
7-3-64	0430	50	129	21560	20688	21558	870	128	125	40 "		28.63
7-3-64	0530	50	129	21546	20673	21548	875	127	125	42 "		30.07
7-3-64	0640	50	129	21534	20655	21534	879	129	125	40 "		30.97
7-3-64	0725	50	129	21525	20652	21526	874	127	126	42 "		31.67

Table 13. Irradiation Data for Strain Gage No. 12. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C		
7-3-64	0830	50	129	21517	20640	21518	878	124	125	42 meg	32.80
7-3-64	0930	50	129	21510	20633	21508	875	128	126	42 "	33.78
7-3-64	1030	50	129	21503	20623	21500	877	129	132	43 "	34.76
7-3-64	1130	50	129	21493	20618	21490	872	126	124	23 "	35.75
7-3-64	1230	50	129	21488	20610	21485	875	123	128	43 "	36.73
7-3-64	1330	50	129	21478	20600	21478	878	127	125	42 "	37.74
-58- 7-3-64	1430	50	130	21473	20584	21462	878	128	126	43 "	38.74
7-3-64	1530	50	130	21455	20580	21455	875	128	125	42 "	39.72
7-3-64	1630	50	130	21446	20573	21452	879	126	126	42 "	40.80
7-3-64	1730	50	129	21444	20564	21441	877	136	127	41 "	41.80
7-3-64	1830	50	129	21432	20558	21431	873	134	129	43 "	42.80
7-3-64	1930	50	129	21423	20548	21520	872	127	126	42 "	43.80
7-3-64	2030	50	129	21416	20539	21417	878	127	127	43 "	44.80
7-3-64	2130	50	129	21412	20533	21410	857	127	125	42 "	45.80
7-3-64	2230	50	129	21409	20531	21410	879	132	128	42 "	46.80
7-3-64	2330	50	129	21397	20519	21397	878	127	124	42 "	47.80
7-4-64	0031	50	129	21385	20514	21385	871	128	125	43 "	48.86
7-4-64	0125	50	129	21382	20508	21386	878	126	125	44 "	49.76

Table 13. Irradiation Data for Strain Gage No. 12. - Microdot Model No. SG323/1 (Gage in Compression)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd	
7-4-64	0240	50	129	21369	20490	21366	876	126	125	42 meg	51.18
7-4-64	0328	50	129	21364	20494	21364	870	126	125	43 "	51.76
7-4-64	0445	50	129	21360	20481	21360	879	127	125	44 "	53.10
7-4-64	0530	50	129	21347	20470	21348	878	125	125	44 "	53.82
7-4-64	0640	50	129	21337	20464	21335	871	125	123	42 "	55.04
7-4-64	0739	50	129	21333	20455	21329	874	124	122	44 "	55.94
7-4-64	0815	0	130	21288	20407	21288	881	125	130	500 "	56.59
7-4-64	1010	0	7.5	21275	20490	21277	787	122	120	900 "	—
7-4-64	1100	0	7.5	21048	20445	21284	839	123	121	820 "	—

Table 14. Irradiation Data for Strain Gage No. 13. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	B-C	Resistance (ohms) B to Gnd	
7-1-64	1330	0	129	31967	32953	31972	981	124	125	1 K	0
7-1-64	1750	0	129	32000	32989	32003	986	126	126	1180 meg	0
7-1-64	2346	100KW	131	31997	32986	31998	988	120	120	1250 "	00.10
7-2-64	0033	1mw	131	31998	32984	31994	990	124	124	700 "	00.86
7-2-64	0102	10	131	31986	32963	31976	987	122	122	200 "	01.39
7-2-64	0133	30	131	31980	32942	31966	976	125	122	90 "	01.85
7-2-64	0210	38	131	31941	32920	31926	994	125	124	54 "	02.47
7-2-64	0330	38	131	31903	32890	31904	986	127	120	50 "	03.83
7-2-64	0440	50	131	31897	32880	31897	983	130	125	44 "	04.84
7-2-64	0540	50	131	31878	32860	31874	996	119	120	45 "	06.34
7-2-64	0636	50	131	31864	32854	31861	993	127	121	45 "	06.93
7-2-64	0730	50	131	31856	32849	31855	994	122	120	44 "	07.83
7-2-64	0830	50	131	31846	32837	31847	950	120	120	45 "	08.73
7-2-64	0930	50	129	31838	32830	31840	990	122	122	45 "	09.81
7-2-64	1030	50	128	31833	32824	31833	991	121	120	45 "	10.78
7-2-64	1130	50	128	31823	32820	31830	990	120	120	45 "	11.73
7-2-64	1230	50	128	31823	32814	31818	996	119	119	45 "	12.86
7-2-64	1330	50	130	31818	32810	31818	992	122	112	44 "	13.78

Table 14. Irradiation Data for Strain Gage No. 13. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H2O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H2O Pressure	Strain Gage		Insulation		Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms) A-B	Resistance (ohms) B-C	Resistance (ohms) B to Gnd		
7-2-64	1430	50	130	31816	32808	31812	996	122	122	45	meg	14.80
7-2-64	1530	50	132	31812	32806	31812	994	121	121	45	"	15.80
7-2-64	1630	50	131	31809	32800	31809	991	125	126	44	"	16.80
7-2-64	1730	50	130	31806	32800	31804	996	126	127	45	"	17.80
7-2-64	1830	50	129	31804	32790	31800	990	124	124	44	"	18.80
7-2-64	1930	50	129	31796	32792	31798	994	123	124	45	"	19.80
7-2-64	2030	49.4	129	31793	32788	31794	994	122	124	45	"	20.80
7-2-64	2130	50	129	31793	32785	31790	985	126	127	45	"	21.80
7-2-64	2230	50	129	31790	32777	31786	991	125	125	45	"	22.80
7-2-64	2330	50	129	31783	32774	31781	993	123	123	45	"	23.80
7-3-64	0030	50	129	31779	32769	31776	993	124	123	45	"	24.95
7-3-64	0135	50	129	31773	32766	31773	993	121	120	45	"	25.91
7-3-64	0225	50	129	31770	32760	31770	990	123	122	45	"	26.88
7-3-64	0330	50	129	31767	32759	31764	995	120	120	45	"	27.86
7-3-64	0430	50	129	31765	32757	31764	993	122	120	45	"	28.63
7-3-64	0530	50	129	31759	32750	31758	992	121	120	45	"	30.07
7-3-64	0640	50	129	31755	32745	31750	985	121	120	45	"	30.97
7-3-64	0725	50	129	31754	32739	31751	988	121	122	45	"	31.67

Table 14. Irradiation Data for Strain Gage No. 13. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage Resistance (ohms)		Insulation Resistance (ohms) B to Gnd	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		A-B	B-C		
7-3-64	0830	50	129	31750	32740	31744	996	118	120	46 MEG	32.80
7-3-64	0930	50	129	31748	32736	31746	990	121	121	45 "	33.78
7-3-64	1030	50	129	31745	32735	31745	990	123	118	45 "	34.76
7-3-64	1130	50	129	31745	32730	31745	985	120	120	45 "	35.75
7-3-64	1230	50	129	31740	32730	31740	990	124	123	25 "	36.73
7-3-64	1330	50	129	31738	32727	31738	991	120	120	45 "	37.74
7-3-64	1430	50	130	31735	32728	31738	990	122	120	45 "	38.74
7-3-64	1530	50	130	31730	32725	31735	990	122	120	48 "	39.72
7-3-64	1630	50	130	31732	32719	31731	988	119	122	44 "	40.80
7-3-64	1730	50	129	31726	32717	31726	991	119	122	45 "	41.80
7-3-64	1830	50	129	31724	32714	31720	994	127	126	45 "	42.80
7-3-64	1930	50	129	31719	32712	31721	992	122	123	45 "	43.80
7-3-64	2030	50	129	31716	32708	31712	996	122	122	45 "	44.80
7-3-64	2130	50	129	31709	32700	31709	991	120	121	44 "	45.80
7-3-64	2230	50	129	31706	32697	31705	992	126	125	45 "	46.80
7-3-64	2330	50	129	31700	32691	31701	990	121	120	45 "	47.80
7-4-64	0031	50	129	31694	32686	31693	993	121	121	46 "	48.86
7-4-64	0125	50	129	31690	32683	31689	994	120	120	46 "	49.76

Table 14. Irradiation Data for Strain Gage No. 13. - Microdot Model No. SG323/1 (Gage in Tension)

Date	Time	Power MW	H ₂ O Pressure	Strain μ in/in			Δ Strain μ in/in Applied He Pressure minus H ₂ O Pressure	Strain Gage		Insulation	Continuous Run-Time Hours
				Normal 120 psig He	Applied 210 psig He	Normal 120 psig He		Resistance (ohms)		Resistance (ohms) B to Gnd	
								A-B	B-C		
7-4-64	0240	50	129	31683	32673	31680	993	120	119	45 meg	51.18
7-4-64	0328	50	129	31679	32671	31676	995	120	119	45 "	51.76
7-4-64	0445	50	129	31672	32665	31670	995	118	118	46 "	53.10
7-4-64	0530	50	129	31666	32660	31664	996	120	120	45 "	53.82
7-4-64	0640	50	129	31658	32651	31636	1015	119	117	45 "	55.04
7-4-64	0739	50	129	31659	32646	31653	993	117	117	46 "	55.97
7-4-64	0815	0	130	31621	32616	31622	994	126	128	380 "	56.59
7-4-64	1010	0	7.5	31638	32523	31637	886	116	116	820 "	—
7-4-64	1100	0	7.5	31890	32563	31620	943	117	117	800 "	—

4.0 REFERENCES

1. WANL-TNR-119, "Experiment Design Manual and Hazards Analysis, Plum Brook Reactor Facility, Exp. No. 63-05", Westinghouse Astronuclear Laboratory.
2. REP-487, "Design Manual and Hazards Analysis for Experiment No. 23/W406 - Strain Gages". Westinghouse Astronuclear Laboratory.
3. WANL-TME-753, "Final Test Specification for NRX-A Candidate Strain Gages to be Irradiated at the Plum Brook Reactor 23/W406", Westinghouse Astronuclear Laboratory.