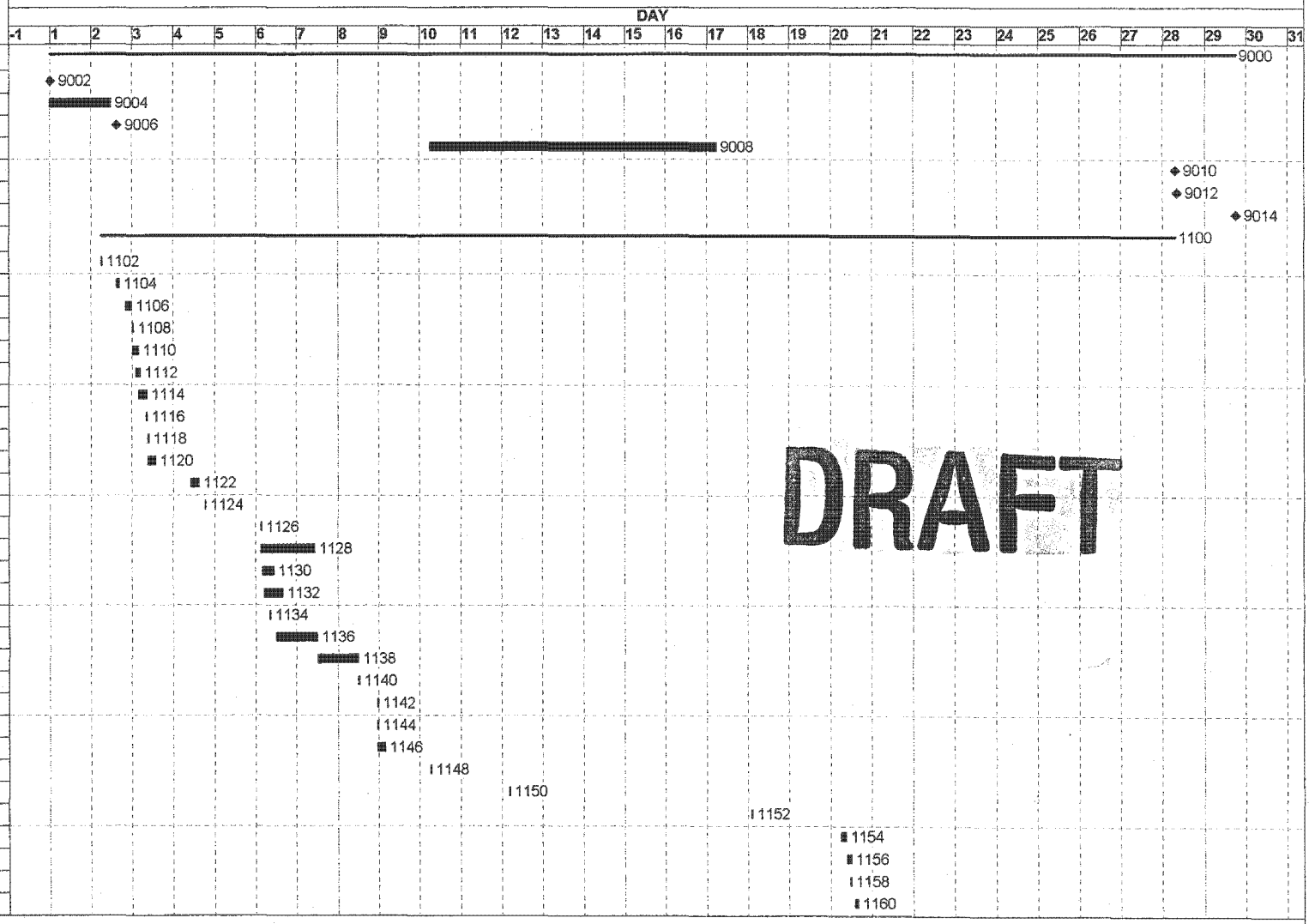
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
9000	**General**
9002	Turbine shutdown
9004	Turbine cooling
9006	Issue turbine Permit for Work
9008	HP/IP coupling work in lathe
9010	Clear turbine Permit for Work
9012	Turbine available for turning gear
9014	Turbine available for steam
1100	**Turbine End Standard**
1102	Measure shell/standard top key clearance
1104	Remove standard external instrumentation
1106	Unbolt & remove standard caps
1108	Remove standard oil deflectors
1110	Remove standard internal instrumentation
1112	Unbolt & remove upper main oil pump
1114	Unbolt & remove keep & upper No.1 bearing
1116	Measure standard datum
1118	Measure rotor/No.1 bearing axial clearances
1120	Coupled - journal, bearing & standard checks
1122	Uncoupled - journal, bearing & standard checks
1124	Measure standard datum
1126	Remove lower No.1 bearing
1128	Remove, clean & refit standard support packers
1130	NDE No.1 bearing
1132	Remove, refurbish & refit standard keys
1134	Measure oil wiper bores
1136	Blue No.1 bearing pads & set to mandrel
1138	Blue No.1 bearing support liners
1140	Fit lower No.1 bearing
1142	Measure standard datum
1144	Measure rotor/No.1 bearing axial clearances
1146	Journal, bearing & standard checks
1148	Remove lower No.1 bearing
1150	Fit lower No.1 bearing
1152	Measure standard datum
1154	Fit & bolt upper No.1 bearing
1156	Check No.1 bearing keep nip
1158	Finalise shell/standard top key packer sizes
1160	Unbolt & remove upper No.1 bearing



Run date	07-12-01 12:00
Page number	1A
Page count	8A

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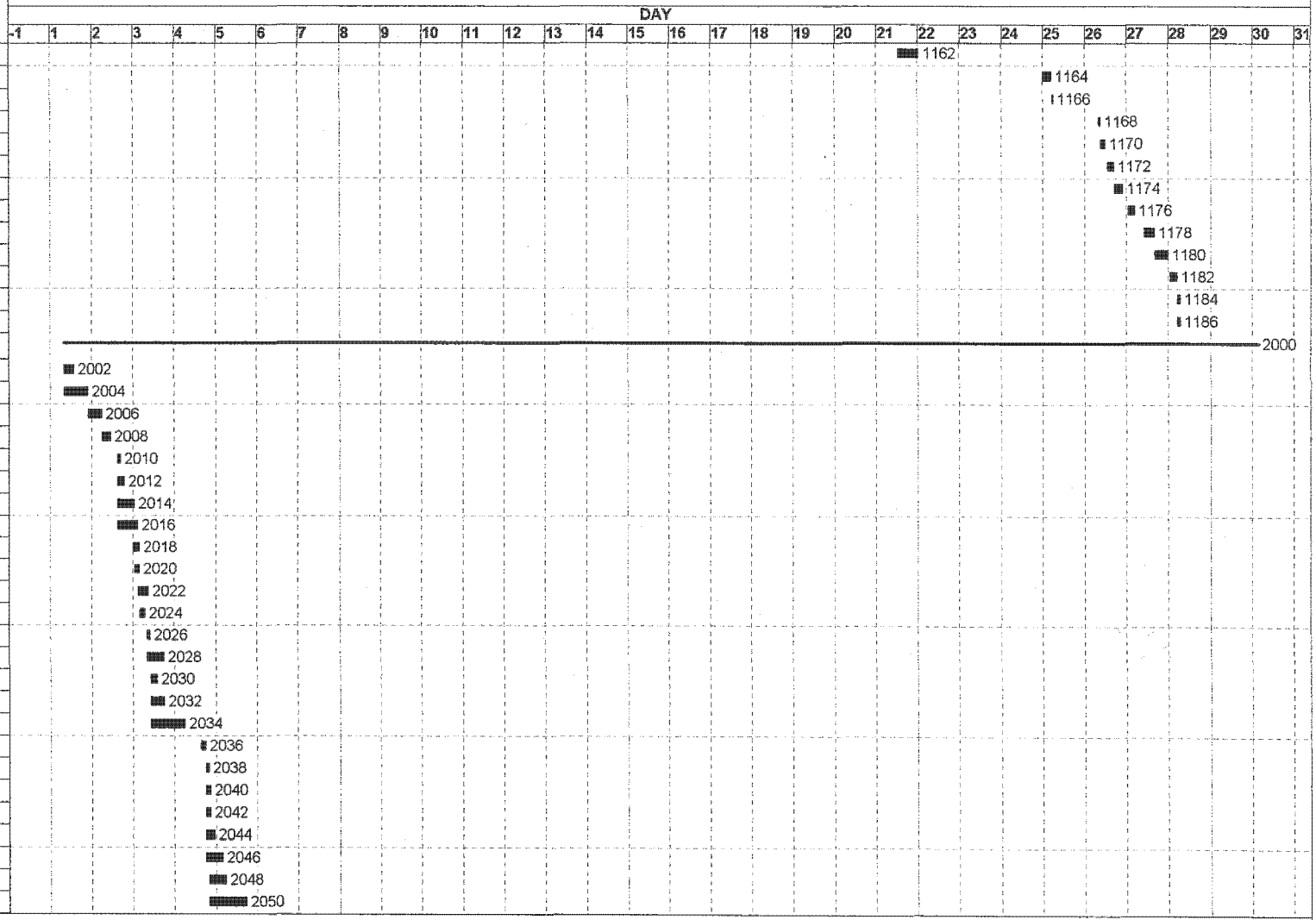
IP7010516

INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
1162	Machine shell/standard top key packers
1164	Journal, bearing & standard checks
1166	Fit standard oil deflectors
1168	Measure standard datum
1170	Fit & bolt upper main oil pump
1172	Fit standard caps for oil flush
1174	No.1 bearing open oil flush
1176	Remove standard caps after oil flush
1178	Fit & bolt upper & keep No.1 bearing
1180	Fit standard internal instrumentation
1182	Fit & bolt standard caps
1184	Fit shell/standard top key packers
1186	Fit standard external instrumentation
2000	**HP Shell**
2002	Erect top inlet pipe scaffolds
2004	Erect btm BS & IPRC pipe scaffolds
2006	Delag shell & pipework
2008	Disconnect & remove shell instrumentation
2010	Measure top front gib key clearance
2012	Disconnect & remove shell pipework
2014	Cut & remove BS & IPRC pipework sections
2016	Unbolt top inlet loop pipes
2018	Unbolt & remove upper A & E glands
2020	Remove BS & IPRC connecting pipes
2022	Strike top inlet pipe scaffolds
2024	Remove BS pipe seal assembly
2026	Record A & E gland datum
2028	Hone BS pipe seal assembly bore
2030	Fit temporary build keys
2032	Measure clearances & remove thrust keys
2034	Heat & remove outer shell half joint fasteners
2036	Remove upper outer shell
2038	Record A & E gland datum
2040	Measure top loop thermocouple drilling location
2042	Unbolt & remove upper B gland
2044	Clean & size upper outer shell keys & keyways
2046	Remove upper shell inlet snout seal assemblies
2048	Heat & remove inner shell half joint fasteners
2050	Inspect & NDE upper outer shell



Run date	07-12-01 12:00
Page number	2A
Page count	8A

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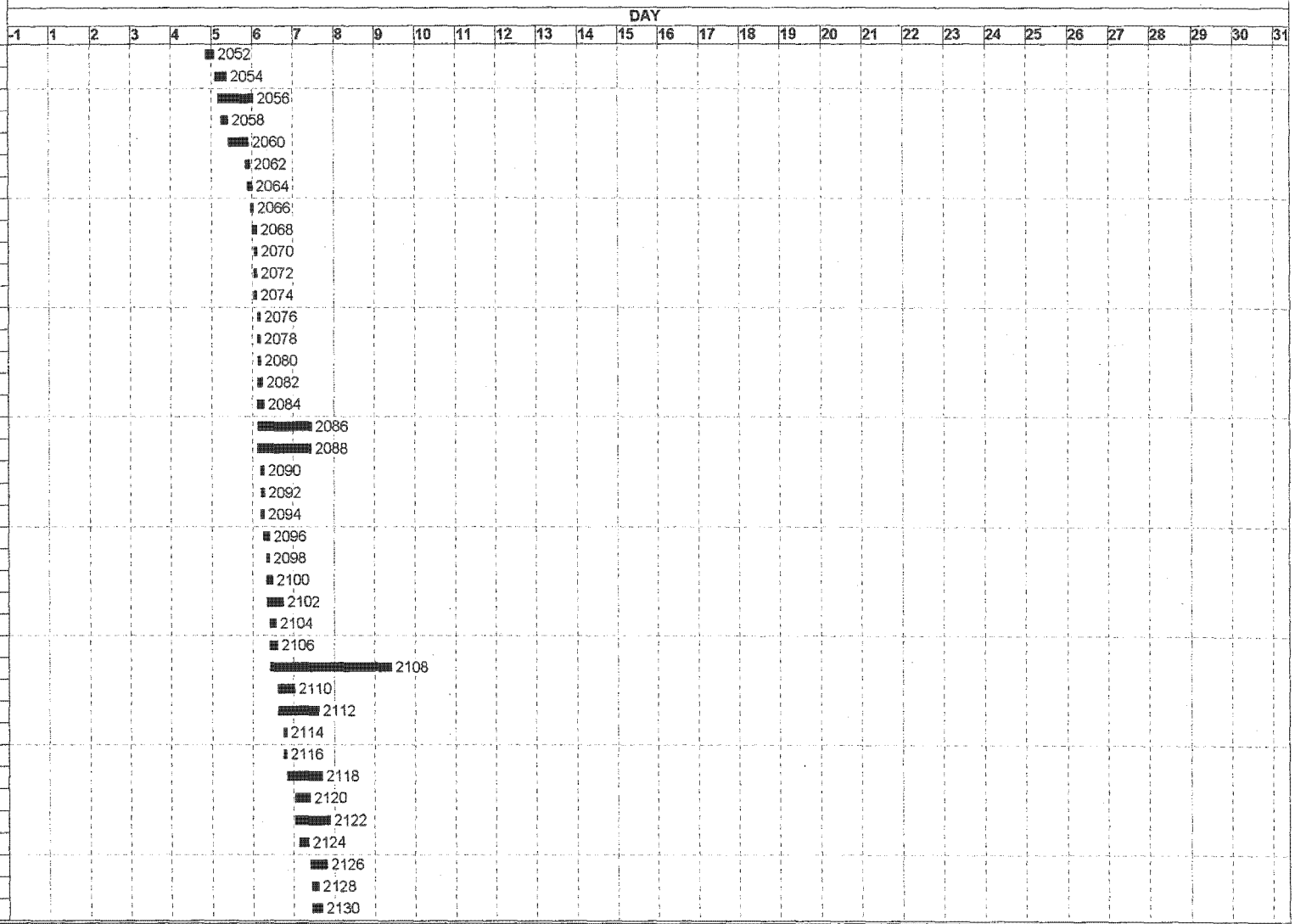
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
2052	Measure gland axial clearances
2054	Assess B/D gland axial clearances
2056	Hone upper shell inlet snout bores
2058	Remove upper inner shell
2060	Unbolt & remove upper diaphragms
2062	Unbolt & remove upper C gland
2064	Unbolt & remove upper nozzle box
2066	Check upper gland rub out pattern
2068	Remove rotor
2070	Remove upper outer shell D gland segments
2072	Remove upper A & E gland segments
2074	Remove upper B gland segments
2076	Check lower gland rub out pattern
2078	Measure inner/outer shell half joint steps
2080	Remove lower B gland segments
2082	Measure gland/outer shell half joint steps
2084	Measure rotor journal & gland dimensions
2086	Remove, refurbish & fit outer shell arm packers
2088	Remove, refurbish & refit thrust key packers
2090	Remove lower outer shell D gland segments
2092	Remove lower A & E gland segments
2094	Clean & size top front gib key inserts
2096	Unbolt & remove lower B gland
2098	Measure lower shell steam baffle location
2100	Measure selected bearing mandrel dimensions
2102	Machine top front gib key inserts
2104	Measure upper shell inlet snout bores
2106	Unbolt & remove lower inner shell
2108	Modify B gland in workshop
2110	Remove lower outer shell inlet seal assemblies
2112	Inspect & NDE lower outer shell
2114	Fit & wedge upper A & E gland segments
2116	Fit top front gib key inserts
2118	Hone lower outer shell inlet snout bores
2120	Remove inner shell support packers
2122	Remove, refurbish & refit shell/ped btm keys
2124	Clean & size lower outer shell keys & keyways
2126	Clean lower outer shell half joint
2128	Blank redundant instrument egress holes
2130	Jig drill new inner shell support packers



Run date 07-12-01 12:00
Page number 3A
Page count 8A
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Summary bar
Start milestone point
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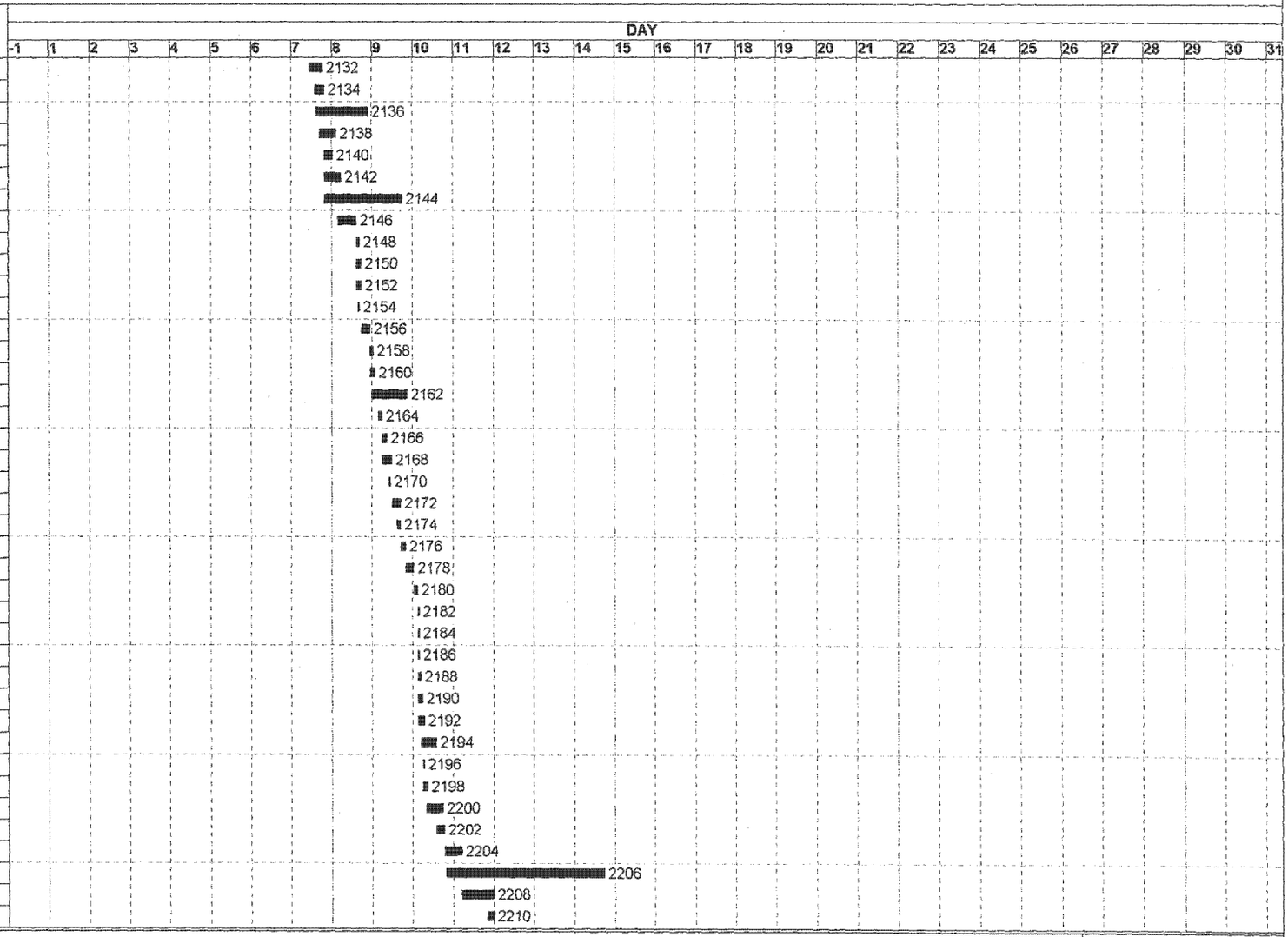
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 issue E

ID	Description
2132	Increase support packer bolt hole sizes
2134	Measure lower shell inlet snout bores
2136	Drill top loop thermocouple pilot holes
2138	Prepare & pull shell to rear
2140	Prepare lower outer shell
2142	Clean upper outer shell half joint
2144	Refurbish & NDE outer shell h j fasteners
2146	Lift lower inner shell to place & position
2148	Measure inner/outer shell half joint steps
2150	Measure inner/outer shell axial & radial datum
2152	Measure critical outer shell dimensions
2154	Fit lower B gland
2156	Fit new rotor to datum
2158	Record A & E gland datum
2160	Measure outer shell gland axial clearances
2162	Drill top loop thermocouple final holes
2164	Set rotor to inner shell axial datum
2166	Mouse lower inner/outer shell glands
2168	Check inner shell axial & radial datum
2170	Fit upper B gland segments
2172	Adjust rotor & inner shell axial positions
2174	Fit lower A, B, D & E gland segments
2176	Measure outer shell gland seg axial clearances
2178	Adjust outer shell axial position
2180	Measure inner/outer shell axial & radial datum
2182	Measure btm front gib key clearance
2184	Check shell hold down bolt hole positions
2186	Measure lower baffle axial & radial clearances
2188	Measure btm axial key clearances
2190	Remove rotor
2192	Measure btm inlet pipes concentricity
2194	Fit temporary locking packers to inner shell
2196	Measure btm rear gib key clearance
2198	Remove lower A, B, D & E gland segments
2200	Assess btm inlet pipe sleeve dimensions
2202	Set up laser & take open laser readings
2204	Fit & bolt upper inner shell
2206	Machine btm inlet seal ring sleeves
2208	Fit & bolt upper outer shell
2210	Remove temporary build keys



Run date	07-12-01 12:00
Page number	4A
Page count	8A

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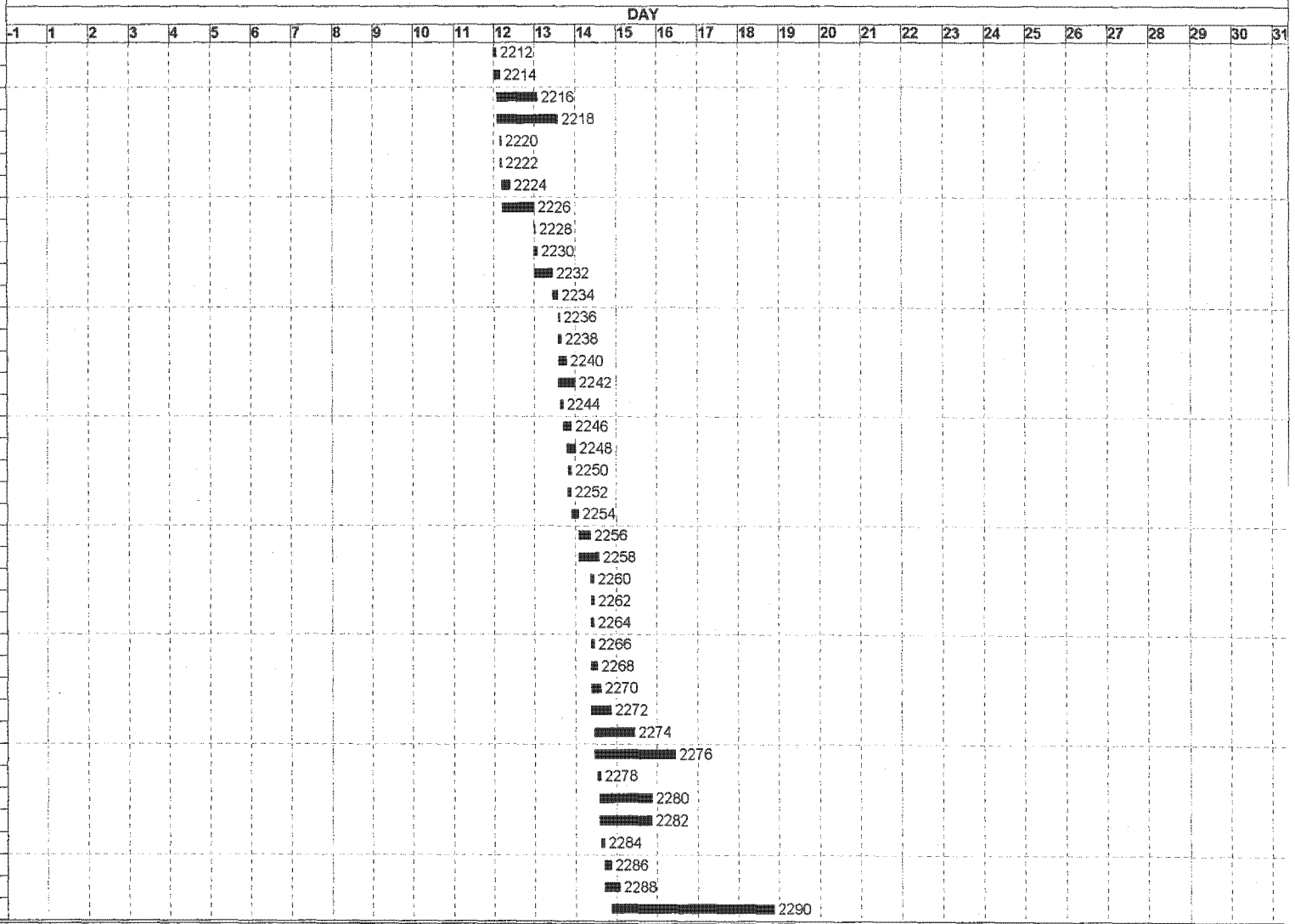
Early bar
Summary bar
Start milestone point
Finish milestone poin

IP7010519

INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
2212	Measure BS & IPRC pipe positions
2214	Take boxed laser readings
2216	Machine IPRC connecting pipe
2218	Machine BS pipe sleeve
2220	Measure top front gib key clearance
2222	Measure top rear gib key clearance
2224	Fit temporary build keys
2226	Unbolt & remove upper outer shell
2228	Remove lower B gland
2230	Fit & wedge upper outer shell D gland segments
2232	Unbolt & remove upper inner shell
2234	Remove lower inner shell
2236	Fit lower B gland
2238	Fit & wedge lower A, B, D & E gland segments
2240	Fit BS pipe sleeve assembly
2242	Fit btm inlet pipe sealing rings
2244	Fit & bolt upper B gland
2246	Fit upper outer shell & measure free h i gaps
2248	Fit BS connecting pipe to sleeve assembly
2250	Fit upper A & E glands
2252	Measure A, B, D & E gland bores & h i gaps
2254	Check top/btm baffle & axial keyway mismatch
2256	Measure top/btm inlet/key/gland relationship
2258	Assess steam baffle dimensions
2260	Finalise top & btm front gib key packers
2262	Finalise top & btm rear gib key packers
2264	Finalise inner shell arm packers
2266	Finalise inner axial key packer sizes
2268	Finalise thrust key packer sizes
2270	Bolt upper outer shell at gland areas
2272	Assess top inlet pipe sleeve dimensions
2274	Machine top & btm rear gib key packers
2276	Machine inner axial key packers
2278	Bolt upper A & E glands
2280	Machine inner/outer shell btm steam baffle
2282	Machine inner/outer shell top steam baffle
2284	Measure A, B, D & E gland bores & h i gaps
2286	Unbolt & remove upper A & E glands
2288	Unbolt & remove upper outer shell
2290	Machine top inlet seal ring sleeves



Run date	07-12-01 12:00
Page number	5A
Page count	8A

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Summary bar
Start milestone point
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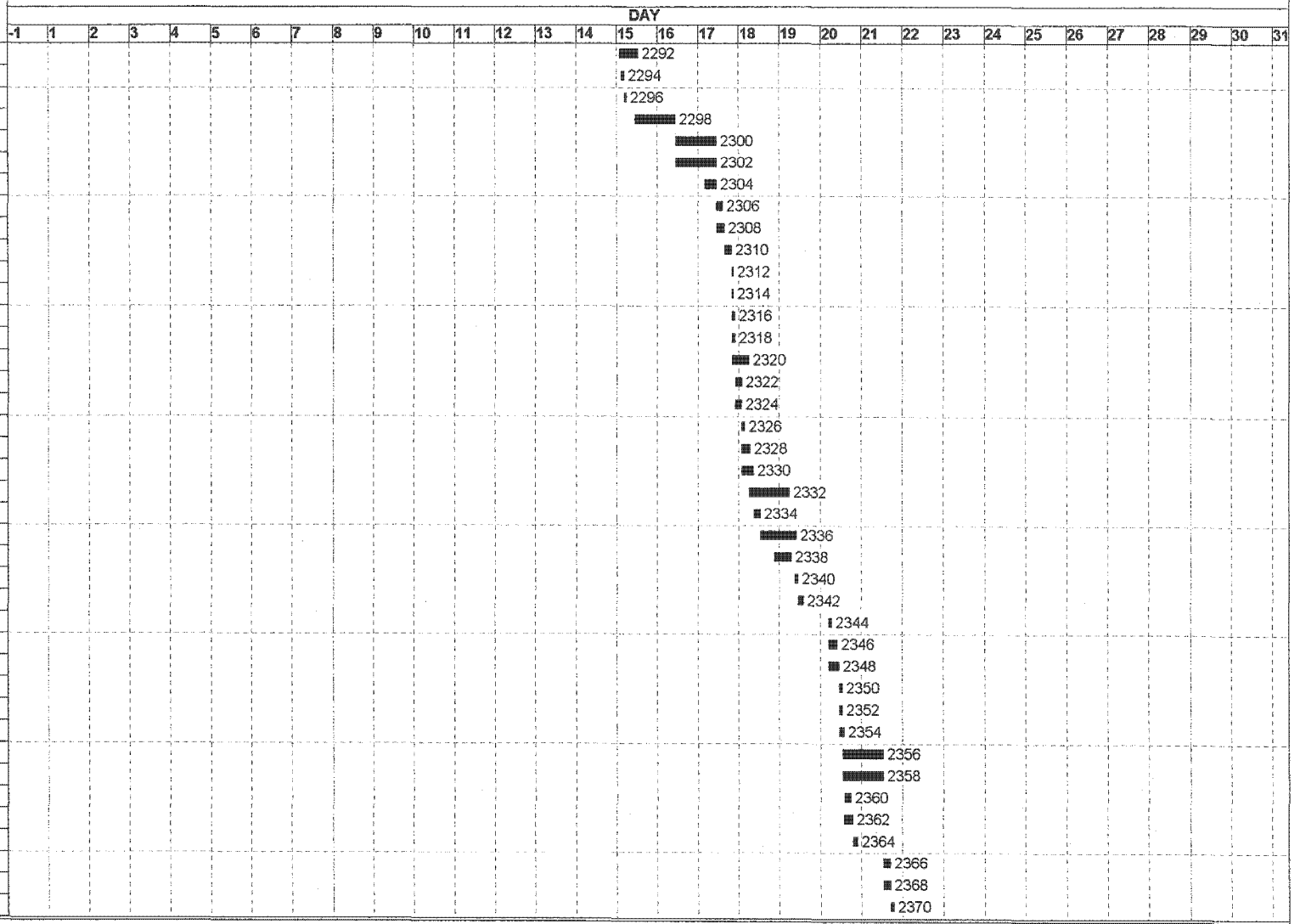
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
2292	Fit btm inlet seal ring sleeve assemblies
2294	Unbolt & remove upper B gland
2296	Remove lower B gland
2298	Machine inner shell arm packers
2300	Machine top & btm front gib key packers
2302	Machine thrust key packers
2304	Fit lower inner shell final packers
2306	Fit upper inner shell final packers
2308	Prepare outer shell, TV inspection
2310	Fit & bolt lower inner shell
2312	Fit lower B gland
2314	Measure lower steam baffle clearances
2316	Wedge & lead lower A, B, D & E gland segments
2318	Measure inner/outer datum
2320	Fit BS & IPRC connection assemblies
2322	Measure & adjust arm reaction crushing pegs
2324	Fit rotor to inner shell axial datum
2326	Record A & E gland datum
2328	Check inner shell axial & radial datum
2330	Measure gland axial & radial clarances
2332	Weld BS & IPRC pipe sections
2334	Remove rotor & retrieve leads
2336	Adjust gland clearances
2338	Fit top inlet seal ring sleeve assemblies
2340	Fit lower A, B, D & E gland segments
2342	Fit rotor
2344	Record A & E gland datum
2346	Measure A, B, D & E axial & radial clarances
2348	Check inner shell axial & radial datum
2350	Finalise outer shell arm packer sizes
2352	Finalise outer shell gib key packers
2354	Remove rotor
2356	Machine outer shell arm packers
2358	Machine outer shell gib key packers
2360	Remove lower D & E gland segments
2362	Prepare inner shell, TV inspection
2364	Final fit rotor
2366	Fit outer shell arm packers
2368	Fit outer shell gib key packers
2370	Record A & E gland datum



Run date	07-12-01 12:00
Page number	6A
Page count	8A

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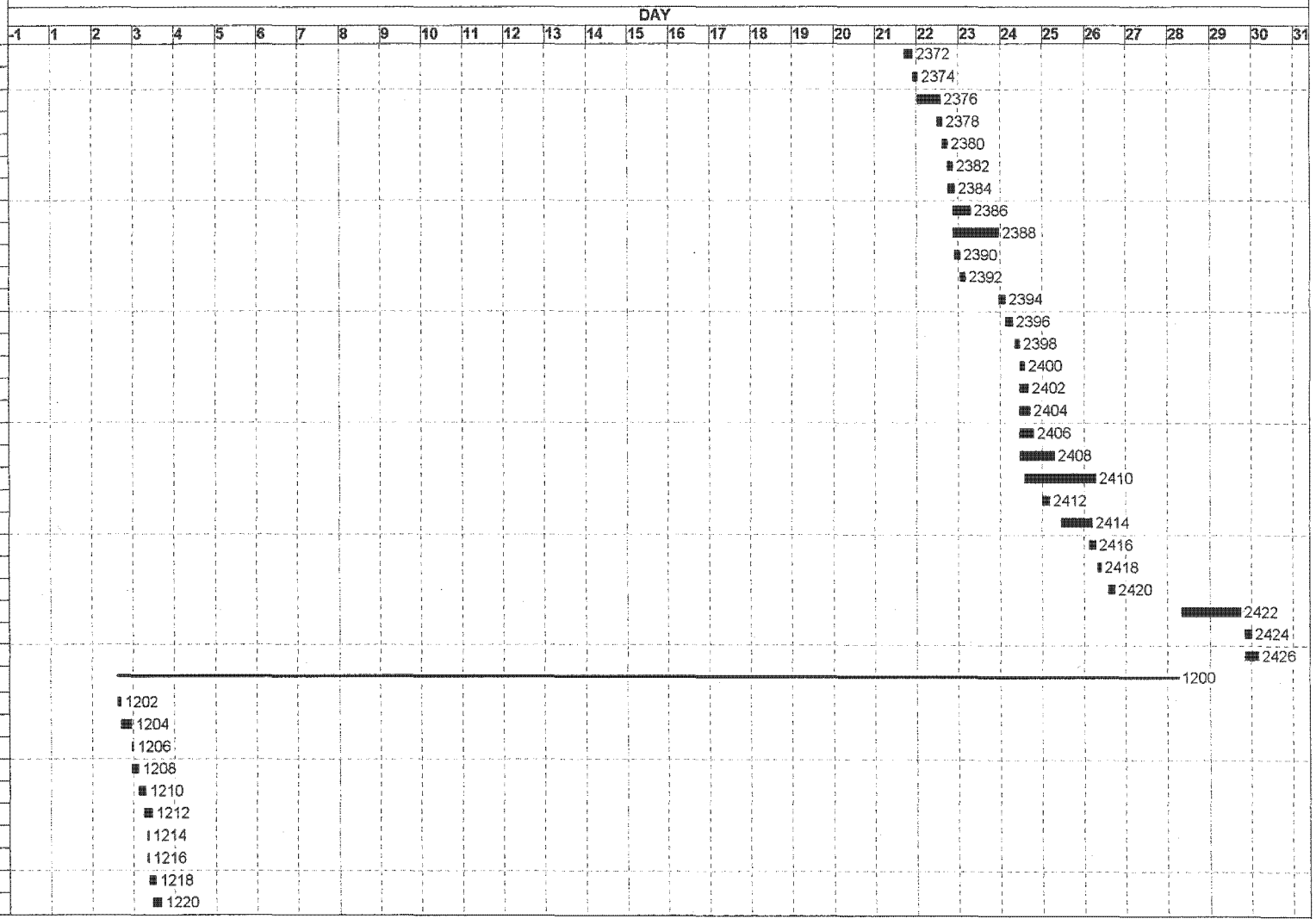
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
2372	Check inner shell axial & radial datum
2374	Measure rotor bumping clearance
2376	Fit & bolt upper diaphragms
2378	Fit & bolt upper inlet gland
2380	Measure rotor bumping clearance
2382	Fit upper inner shell
2384	Fit lower D & E gland segments
2386	Fit top inlet pipe sealing rings
2388	Bolt heat & tighten upper inner shell
2390	Measure rotor bumping clearance
2392	Fit & bolt upper B gland
2394	Fit upper outer shell & make lead impressions
2396	Remove upper outer shell & retrieve leads
2398	Final fit upper outer shell
2400	Measure rotor bumping clearance
2402	Fit & reconnect upper shell pipework
2404	Erect top inlet pipe scaffolds
2406	Fit top loop pipe thermocouples
2408	Instal & connect shell instrumentation
2410	Bolt heat & tighten upper outer shell
2412	Fit thrust key packers
2414	Bolt top inlet loop pipes
2416	Remove temporary build keys
2418	Record A & E gland datum
2420	Fit & bolt upper A & E glands
2422	Relag shell & pipework
2424	Strike top inlet pipe scaffolds
2426	Strike btm BS & IPRC pipe scaffolds
1200	**Middle Standard**
1202	Remove standard external instrumentation
1204	Unbolt & remove standard caps
1206	Remove standard oil deflectors
1208	Remove standard internal instrumentation
1210	Measure thrust float & set rotors on thrust
1212	Unbolt & remove keep & upper No.2 bearing
1214	Measure standard datum
1216	Measure rotor/No.2 bearing axial clearances
1218	Unbolt & remove keep & upper No.3 bearing
1220	Unbolt & remove upper thrust bearing



Run date	07-12-01 12:00
Page number	7A
Page count	8A

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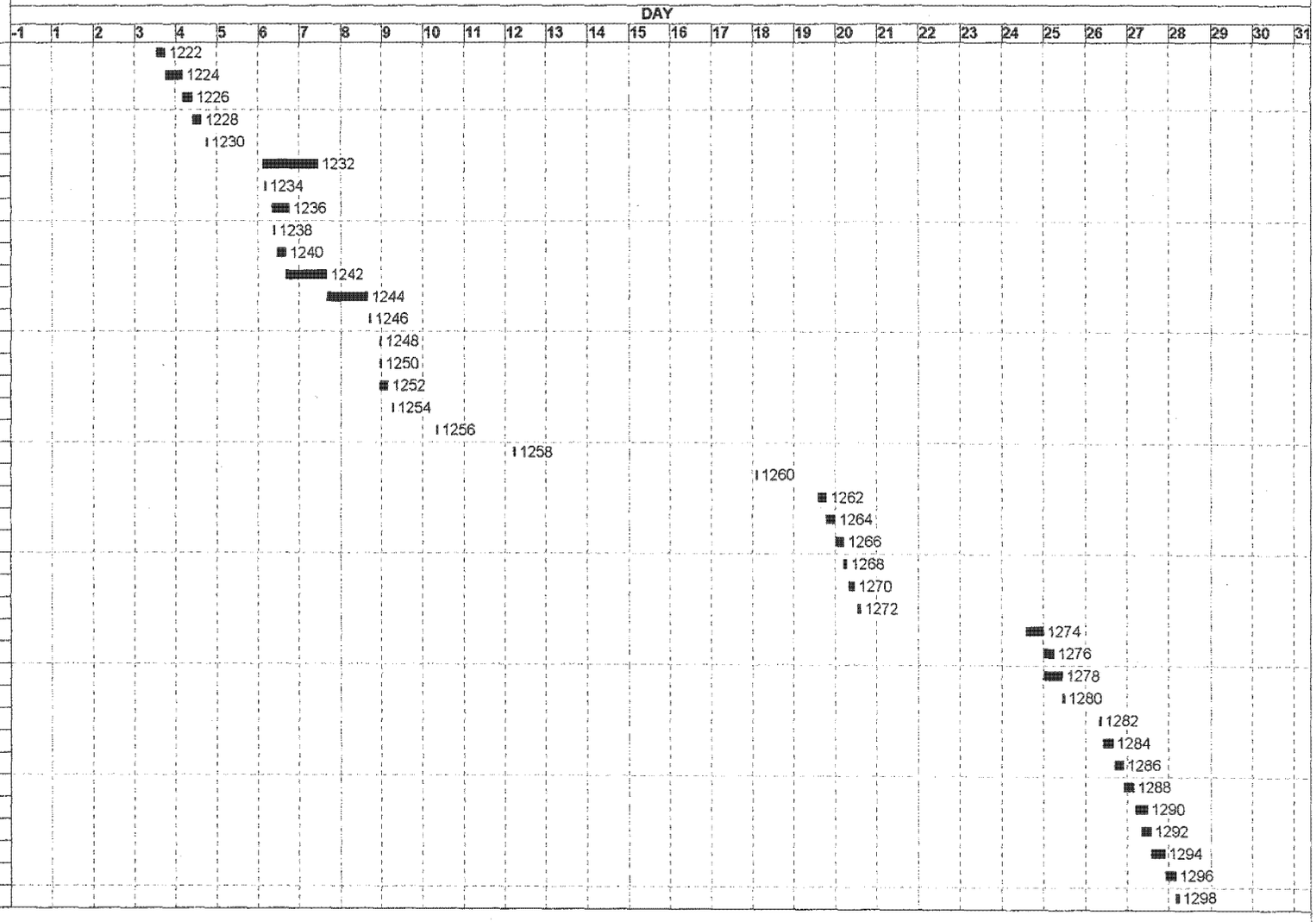
INTERMOUNTAIN HP REPLANT

Drawing No. CS/RM/IM/01854 Issue E

ID	Description
1222	Coupled - journal, bearing & standard checks
1224	Split HP/IP coupling
1226	Check HP/IP alignment
1228	Uncoupled - journal, bearing & standard checks
1230	Measure standard datum
1232	Remove, clean & refit standard support packers
1234	Remove lower No.2 bearing
1236	Remove, refurbish & refit standard keys
1238	Measure oil wiper bore
1240	NDE No.2 bearing
1242	Blue No.2 bearing & set to mandrel
1244	Blue No.2 bearing support liners
1246	Fit lower No.2 bearing
1248	Measure rotor/No.2 bearing axial clearances
1250	Measure standard datum
1252	Journal, bearing & standard checks
1254	Measure standard datum
1256	Remove lower No.2 bearing
1258	Fit lower No.2 bearing
1260	Measure standard datum
1262	Check HP/IP alignment
1264	Adjust No.2 bearing
1266	Recheck HP/IP alignment
1268	Fit & bolt upper No.2 bearing
1270	Check No.2 bearing keep nip
1272	Unbolt & remove upper No.2 bearing
1274	Make HP/IP coupling & set concentric
1276	Clean & box thrust bearing
1278	Journal, bearing & standard checks
1280	Fit standard oil deflectors
1282	Measure standard datum
1284	Fit standard caps for oil flush
1286	No.2 bearing open oil flush
1288	Remove standard caps after oil flush
1290	Fit & bolt upper & keep No.2 bearing
1292	Fit & bolt upper & keep No.3 bearing
1294	Fit standard internal instrumentation
1296	Fit & bolt standard caps
1298	Fit standard external instrumentation



Run date	07-12-01 12:00
Page number	8A
Page count	8A

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