

**Supplementary Table S3:** Summary of the features selected for inclusion in the BRD1 model with associated chi square correlation coefficients.

<b>Feature</b>	<b>Chi Square Correlation Coefficient</b>
Event DOF	4573.702274
Event Weight	1588.435581
Temp	1265.809628
Lot Arrival Weight	1032.181785
Death Count	909.6541482
Railer Count	906.9989237
Difference from Yard Pull Moving 7 Day Average	616.5512241
Difference from Yard Pull Moving 5 Day Average	587.9573396
Difference from Yard Pull Moving 3 Day Average	530.6411536
Difference from Yard Pull Moving 21 Day Average	488.7084571
Difference from Yard Pull Moving 14 Day Average	464.809555
Pulls Last Week	423.6559944
Difference from Yard Pull Moving 28 Day Average	336.2323994
Lot Head In	280.5218564
Origin Longitude	250.4637661
ADG at Pull	171.0379668
Origin Latitude	167.5820331
Pulls Today	166.8064602
Sex	159.4191228
Arrival Month	123.291462
Lot Max Month	123.2709112
Pull Month	121.3196543
Distance	109.5110013
Arrival Quarter	95.74068774
Yard Pulls Moving 7 Day Average	83.40157531
Yard Pulls Moving 5 Day Average	83.22193657
Yard Pulls Moving 3 Day Average	75.91059225
Pull Quarter	75.70398169

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Yard Pulls Moving 28 Day Average	74.67447512
Yard Pulls Today	74.0621834

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