

## Comparison of Pull Rates and Pull Distributions for 2002

**Introduction:** This documents the results of an analysis of the pull rates for 100 Mile rides compared to those of rides of 50 to 95 miles for the 2002 AERC season. The results are interesting and contain a few surprises. For this effort there were four categories, Lameness, Metabolic, Rider Option and Other. The RL pulls and L pulls make up the Lameness category and the RM and M pulls make up the metabolic category. By pull rate we mean the percent of pulls relative to the number of starters.

Table 1 below gives the pull rates.

	<i>Total Pull Rate</i>	<i>Lameness Pull Rate</i>	<i>Metabolic Pull Rate</i>	<i>RO Pull Rate</i>	<i>Other Pull Rate</i>
<i>100 Mile Rides</i>	38.99%	19.53%	9.8%	8.62%	1.93%
<i>50 to 95 Mile Rides</i>	14.91%	8.59%	2.5%	3.66%	0.16%

Pull Rate Comparison  
Table 1

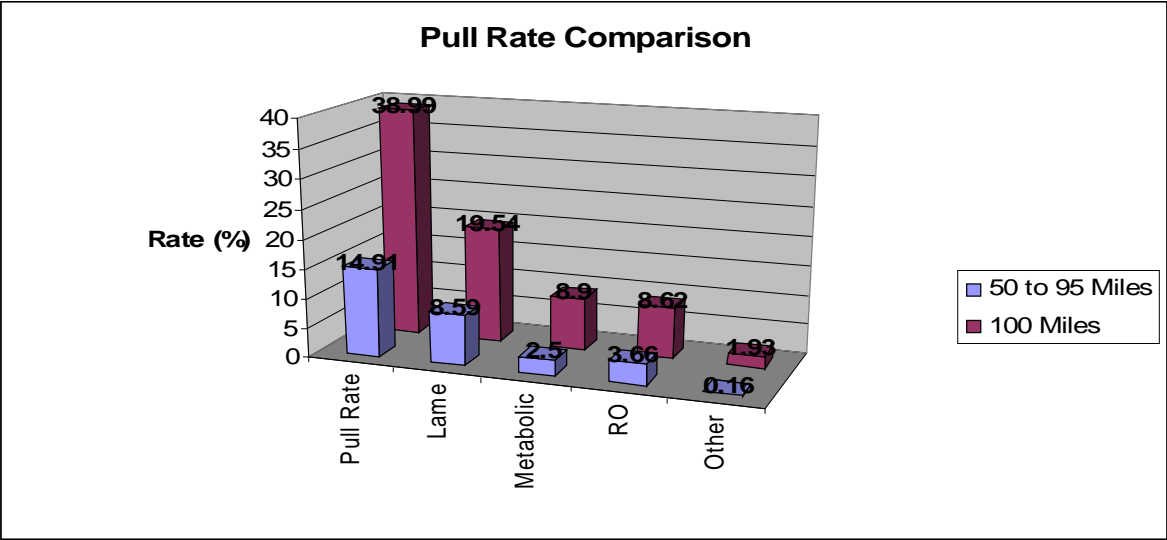
What is very interesting is how the pulls are distributed. By the pull distribution we mean the percentage of the pulls that are from lameness, metabolic issues, etc., relative to the number of total pulls. In Table 2 below this distribution is given.

	<i>Lameness Pull Percentage</i>	<i>Metabolic Pull Percentage</i>	<i>RO Pull Percentage</i>	<i>Other Pull Percentage</i>
<i>100 Mile Rides</i>	50.12%	22.82%	22.12%	4.94
<i>50 to 95 Mile Rides</i>	57.63%	16.76%	24.53%	1.07%

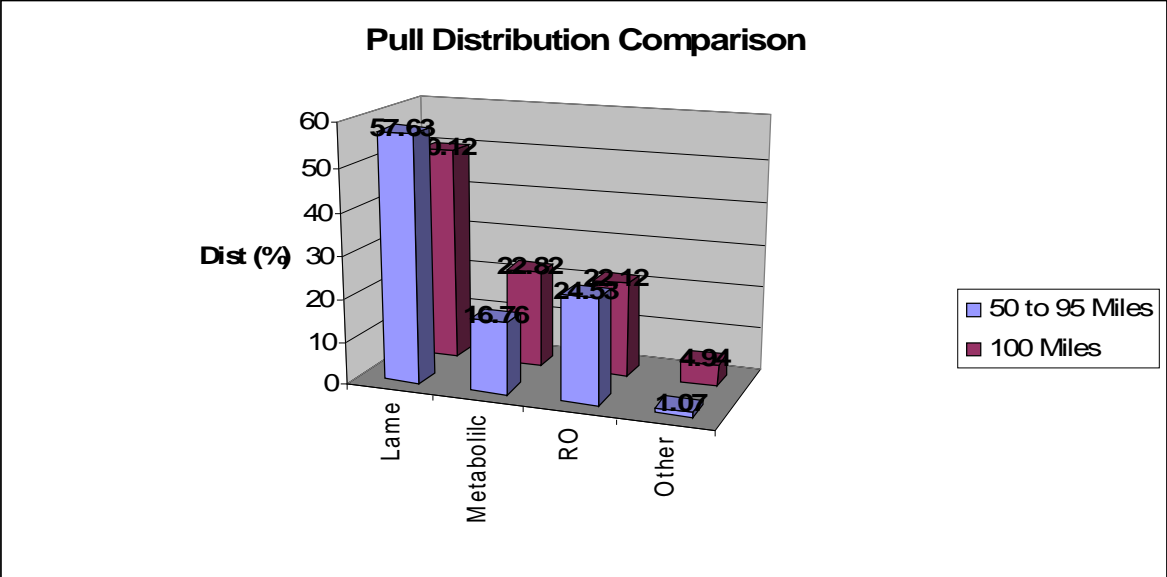
Distribution of Pulls  
Table 2

The pull rate tells you how many pulls results as a percent of the total number of starters and the pull distribution tell you in what proportions these pulls are distributed as a percent of the total number of pulls. They measure different things and one would expect while the pull rate on 100's would be higher – the pull distribution of between the two distances would be similar. The 2002 ride season that this is NOT the case.

The same information is displayed in the graphics below, Figure 1 corresponding to Table 1 and Figure 2 corresponding to Table 2. This dichotomy between pull rates and pull distribution is very obvious in the graphic.



Pull Rates  
Figure 1



Distribution of Pulls  
Figure 2

While it is reasonable to believe that the pull rates for a 100 would be higher it also seems reasonable that the proportions of the reason for pulls would remain constant over distance. Then, why is it that in a 100 if a horse is pulled it is 7 % more likely it will result from metabolic issues than if a horse gets pulled in a 50? More analysis is called

for to address this issue. This data raises the question as to whether the metabolic issues are more serious in a 100 than shorter distances.

The rides were ordered by pull rate and by metabolic pull rates. Below are the results of this ordering showing the 20 rides with the highest pull rates (total and metabolic) in the 100 Mile distance and top 40 with the highest pull rates (total and metabolic) in the distances 50 to 95.

Ride Name	Reg	Dist	Pull Rate	Lame Rate	Metabolic Rate	RO Rate	Other Rate
Point Chaser XVI	MW	100	75	50.00	25.00	0.00	0.00
Carolina	SE	100	70.59	29.41	11.76	29.41	0.00
Smokey Hill River Run-FEI	CT	100	66.67	33.33	25.00	8.33	0.00
Great Northern Connection	MW	100	62.5	37.50	0.00	25.00	0.00
AERC National Championship	SE	100	62.07	34.48	17.24	10.34	0.00
Mustang Memorial I&II	NE	100	57.14	28.57	0.00	28.57	0.00
Foxfire	CT	100	57.14	47.62	0.00	9.52	0.00
Western States Trail Ride (Tevis Cup)	W	100	56.94	18.06	16.20	12.96	9.72
Liberty Run	SE	100	56.25	31.25	18.75	6.25	0.00
NEC (Northeast Challenge)	NE	100	50	50.00	0.00	0.00	0.00
Fort Howes-FEI-IAHA Nat'l Championship	MT	100	49.12	29.82	10.53	8.77	0.00
Swanton Pacific	W	100	47.83	17.39	17.39	13.04	0.00
Twenty Mule Team-CEI/FEI	PS	100	44.44	25.40	11.11	7.94	0.00
Ride Over The Rainbow	NW	100	44.44	22.22	11.11	11.11	0.00
Sunriver Endurance Ride	NW	100	42.86	28.57	7.14	7.14	0.00
Speckle Creek-100-IAHA/FEI Qualifier	NE	100	38.89	27.78	0.00	11.11	0.00
Sierra Valley-60 Rider Limit per Forestry Service	W	100	38.46	38.46	0.00	0.00	0.00
Mt. Adams Endurance Ride	NW	100	38.1	30.95	4.76	2.38	0.00
Goethe Challenge 25/50/100	SE	100	37.5	25.00	0.00	12.50	0.00
Old Dominion	NE	100	37.5	29.17	8.33	0.00	0.00

100 Mile Rides With The Highest Total Pull Rate  
Table 3

Ride Name	Reg	Dist	Pull Rate	Lame Rate	Metabolic Rate	RO Rate	Other Rate
Liberty Run II	SE	100	25.00	0.00	25.00	0.00	0.00
Point Chaser XVI	MW	100	75.00	50.00	25.00	0.00	0.00
Smokey Hill River Run-FEI	CT	100	66.67	33.33	25.00	8.33	0.00
Liberty Run	SE	100	56.25	31.25	18.75	6.25	0.00
Frigid Digit	CT	100	25.00	0.00	18.75	6.25	0.00
Swanton Pacific	W	100	47.83	17.39	17.39	13.04	0.00
AERC National Championship	SE	100	62.07	34.48	17.24	10.34	0.00
Battle Hollow	NE	100	33.33	0.00	16.67	16.67	0.00
Spook Run	MW	100	33.33	0.00	16.67	16.67	0.00
Western States Trail Ride (Tevis Cup)	W	100	56.94	18.06	16.20	12.96	9.72
Bandit Springs	NW	100	21.43	7.14	14.29	0.00	0.00
Owyhee High Country I & II	NW	100	28.57	0.00	14.29	14.29	0.00
Far Out Forest	SE	100	12.50	0.00	12.50	0.00	0.00
Texas Bluebonnet Classic/IAHA Region 9 Championshi	CT	100	37.50	12.50	12.50	12.50	0.00
Carolina	SE	100	70.59	29.41	11.76	29.41	0.00
Morgan Springs	W	100	33.33	0.00	11.11	22.22	0.00
Twenty Mule Team-CEI/FEI	PS	100	44.44	25.40	11.11	7.94	0.00
Ride Over The Rainbow	NW	100	44.44	22.22	11.11	11.11	0.00
Fort Howes-FEI-IAHA Nat'l Championship	MT	100	49.12	29.82	10.53	8.77	0.00
Cuneo Creek Ride	W	100	20.00	10.00	10.00	0.00	0.00

100 Mile rides with The Highest Metabolic Pull Rate  
Table 4

Ride Name	Reg	Dist	Pull Rate	Lame Rate	Metabolic Rate	RO Rate	Other Rate
FERA Moonlight Madness	SE	50	70.00	30.00	0.00	40.00	0.00
Biltmore Challenge-CEI/FEI	SE	80	47.06	23.53	11.76	11.76	0.00
Iron Furnace & Reg. 14 Champ.&Ride for the Cure	NE	50	46.67	26.67	0.00	13.33	6.67
Biltmore/Mountin' Hopes Fall Fling	SE	55	45.95	32.43	10.81	2.70	0.00
Kootenai Klassic	NW	50	45.83	20.83	4.17	20.83	0.00
Midsummer Madness	PS	50	42.59	1.85	0.00	40.74	0.00
Top of the Rock	MW	50	42.55	10.64	27.66	4.26	0.00
Mt. Adams Endurance Ride	NW	75	42.11	31.58	0.00	10.53	0.00
USET Festival of Champions	NE	75	42.11	31.58	5.26	5.26	0.00
American River Rides	W	50	39.62	30.19	3.77	0.00	5.66
Sand Hills Stampede I & II	SE	55	39.62	18.87	11.32	9.43	0.00
Roundup Rendezvous 50	MT	50	38.46	15.38	0.00	23.08	0.00
Foxfire	CT	50	37.78	26.67	0.00	11.11	0.00
Passage Creek No Frills	NE	50	37.50	15.00	15.00	7.50	0.00
Aprifest	NE	50	37.04	14.81	0.00	22.22	0.00
Carolina	SE	50	36.84	24.56	5.26	7.02	0.00
Ellison Ridge Endurance Ride	NW	50	36.36	27.27	0.00	9.09	0.00
Doncaster Renegade	NE	50	35.80	22.22	4.94	7.41	1.23
AERC National Championship	SE	50	35.63	27.59	5.75	2.30	0.00
Ponce De Leon Pirate Run	SE	55	35.14	16.22	10.81	8.11	0.00
Sonora Desert Classic	NW	50	35.00	10.00	0.00	25.00	0.00
Pyramid Challenge	SE	50	33.33	18.33	6.67	8.33	0.00
Mt. Charleston Challenge I & II	PS	75	33.33	13.33	20.00	0.00	0.00
Home On The Range	NW	75	33.33	16.67	8.33	8.33	0.00
Foothills of the Cascades	NW	50	33.33	16.67	3.33	13.33	0.00
Twenty Mule Team-CEI/FEI	PS	65	32.63	25.26	3.16	4.21	0.00
Indian Territory	CT	50	32.14	28.57	3.57	0.00	0.00
Alpine Endurance	NW	50	31.91	17.02	8.51	2.13	4.26
GMHA 50 Mile Endurance Ride	NE	50	31.58	13.16	5.26	13.16	0.00
AHDRA II	MW	50	31.58	15.79	5.26	10.53	0.00
FAHA Endurance Ride	NE	50	31.43	15.71	5.71	10.00	0.00
Montell Cliff Hanger I & II	CT	50	31.43	11.43	8.57	5.71	5.71
Colfax Coal Rush	SW	55	31.25	12.50	6.25	12.50	0.00
Beaverdell Bonanza Endurance Ride	NW	50	31.25	25.00	0.00	6.25	0.00
AHAO Distance Classic	NE	50	31.03	20.69	10.34	0.00	0.00
PAC Benefit Ride	NE	50	31.03	24.14	3.45	3.45	0.00
Old Glory I	CT	50	30.30	18.18	6.06	6.06	0.00
Land of the Sun Endurance Ride	SW	50	30.19	13.21	7.55	9.43	0.00
White River Labor Day(Pioneer)	MW	50	30.00	25.00	0.00	5.00	0.00
White River Labor Day(Pioneer)	MW	50	30.00	30.00	0.00	0.00	0.00

Top 50 – 95 Mile Rides With The Highest Total Pull Rate  
Table 5

Ride Name	Reg	Dist	Pull Rate	Lame Rate	Metabolic Rate	RO Rate	Other Rate
Top of the Rock	MW	50.00	42.55	10.64	27.66	4.26	0.00
Mt. Charleston Challenge I & II	PS	75.00	33.33	13.33	20.00	0.00	0.00
Passage Creek No Frills	NE	50.00	37.50	15.00	15.00	7.50	0.00
Dupuis Piney Pig	SE	50.00	20.00	6.67	13.33	0.00	0.00
Alpine Endurance	NW	75.00	26.67	13.33	13.33	0.00	0.00
Swanton Pacific	W	75.00	24.00	12.00	12.00	0.00	0.00
Biltmore Challenge-CEI/FEI	SE	80.00	47.06	23.53	11.76	11.76	0.00
Coso Junction Jam I	PS	50.00	17.14	5.71	11.43	0.00	0.00
Sand Hills Stampede I & II	SE	55.00	39.62	18.87	11.32	9.43	0.00
Biltmore/Mountin' Hopes Fall Fling	SE	55.00	45.95	32.43	10.81	2.70	0.00
Ponce De Leon Pirate Run	SE	55.00	35.14	16.22	10.81	8.11	0.00
Chalk Rock Ride	W	50.00	14.29	3.57	10.71	0.00	0.00
AHAO Distance Classic	NE	50.00	31.03	20.69	10.34	0.00	0.00
Cow Tanks I,II,III-Pioneer-IAHA	SW	55.00	9.09	0.00	9.09	0.00	0.00
Glass Mountains I,II,III Pioneer	CT	50.00	9.09	0.00	9.09	0.00	0.00
Spirit Mt.	MW	50.00	18.18	9.09	9.09	0.00	0.00
Okmulgee Cougar Prowl	CT	50.00	14.71	0.00	8.82	5.88	0.00
Mt. Charleston Challenge I & II	PS	50.00	21.74	8.70	8.70	0.00	4.35
Old Pueblo	SW	50.00	14.29	2.86	8.57	2.86	0.00
Montell Cliff Hanger I & II	CT	50.00	31.43	11.43	8.57	5.71	5.71
Bear Valley Springs	PS	50.00	19.15	2.13	8.51	8.51	0.00
Alpine Endurance	NW	50.00	31.91	17.02	8.51	2.13	4.26
Home On The Range	NW	75.00	33.33	16.67	8.33	8.33	0.00
NEC (Northeast Challenge)	NE	50.00	8.33	0.00	8.33	0.00	0.00
Kenlyn Flat Urban Challenge	MT	50.00	16.67	0.00	8.33	8.33	0.00
Roundup Rendezvous 50	MT	50.00	8.00	0.00	8.00	0.00	0.00
Warner Hot Springs	PS	50.00	16.88	7.79	7.79	1.30	0.00
Sunland Ride	PS	50.00	15.38	7.69	7.69	0.00	0.00
Lone Star I & II	CT	55.00	26.92	7.69	7.69	11.54	0.00
Land of the Sun Endurance Ride	SW	50.00	30.19	13.21	7.55	9.43	0.00
Witch Dance II	SE	55.00	14.29	7.14	7.14	0.00	0.00
Scramble IV	MW	50.00	14.29	7.14	7.14	0.00	0.00
Black Hills Ride I & II, IAHA Reg. 6 Championship	MT	50.00	21.43	14.29	7.14	0.00	0.00
Montell Cliff Hanger I & II	CT	50.00	21.43	14.29	7.14	0.00	0.00
Oakland Hills, IAHA Reg.3 Championship	W	50.00	15.25	6.78	6.78	1.69	0.00
Pyramid Challenge	SE	50.00	33.33	18.33	6.67	8.33	0.00
Silver State Point to Point Pioneer	PS	50.00	16.67	8.33	6.67	1.67	0.00
Illinois Jubilee Ride	MW	50.00	20.00	0.00	6.67	6.67	6.67
White River Summer	MW	50.00	13.33	0.00	6.67	6.67	0.00
Biltmore Challenge-CEI/FEI	SE	50.00	25.93	17.59	6.48	1.85	0.00

Top 50 – 95 Mile Rides With The Highest Metabolic Pull Rate  
Table 5