

- DataGene publishes the Good Bulls Guide three times yearly to list top and around the world.
- Australian Breeding Values are used to organise bulls by the most common Dairy farmers can select bulls from the Good Bulls Guide with confidence that independent and backed by strong science.

- Using this guide is simple. Just choose your index:
 - ✓ BPI that maximises profit through a balance of production, type and health
 - ✓ HWI that fast tracks fertility, mastitis resistance and feed efficiency.
 - ✓ TWI that fast tracks type.

Now, use the Good Bulls Guide and app to pick bulls that meet your breeding performance using your Genetic Progress Report.



When you see this icon, you can be assured that the bull has been the requirements of the Good Bulls Guide.

Good Bulls Guide Notes

To be included, bulls must

- ✓ Be active with an ABV, ABV(i) or ABV(g)
- ✓ Meet minimum reliability requirements for ABV and ABV(i)
- ✓ Be amongst the best in their breed for Balanced Performance Index (BPI)

* Denotes an ABV that incorporates Australian data, all other traits for this bull are ABV(i)s using data from foreign daughters

Denotes an ABV(i) using data from foreign daughters

Source of Bulls

- ABS Australia -
- AGR Agri-Gene -
- ALT Alta Genetics (05)
- AXB Auzred XB
- CRV CRV Australia
- ECL Eclipse Genetics
- GAC Genetics Australia
- GGI GGI Australia
- IRG Ireland Genetics
- LIC Livestock Improvement - NZ
- SEM Semex
- SHG Shamrock Genetics
- SXT Sexing Technologies
- TLG Total Livestock Genetics
- UVS

- VDG Van Diemen Genetics

For more information, go to [www.vdggenetics.com](#)

bulls from Australia

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VIK VikingGenetics Australia
WWS World Wide Sires

Good Bulls Guide for Holstein - Balanced Performance Index (BPI)

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Indi	
							BPI \$	BPI Rel
1	0200HO10777	WESTCOAST PERSEUS	A22,CVF,BLF	g	I	SEM	451	70
2	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	428	83
3	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	413	78
4	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	391	66
5	7HO13696	SSI SCENARIO LORD	A22	g	I	GAC	390	68
6	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	385	72
7	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	369	69
8	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	367	77
9	MASNAH	PURNIM MVP MASNAH-ET	A22	g	A	GAC	366	78
10	14H07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	364	72
11	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	354	86
12	0200HO10755	WESTCOAST GALAHAD	A11,BLF,CVF	g	I	SEM	354	72
13	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	351	80
14	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	350	72
15	29HO17334	WILDER HAMLET	A22	g	I	ABS	347	69
16	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	346	69
17	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	337	72
18	011HO11778	BOMAZ ALTAROBSON	A22,CVF,BLF,DPF	g	I	ALT	337	71
19	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	335	72
20	NZGBBVECTR	BUSY BROOK WTP VECTOR S3F	A11	g	I	LIC	335	67
21	GGISEMINO	SEMINO	A22	g	I	GAC	334	72
22	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	333	84
23	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	332	80
24	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	332	75
25	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	332	83
26	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	331	73
27	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	331	81
28	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	328	79

29	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	327	71
30	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	327	71
31	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	326	69
32	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	326	70
33	07HO12978	LEANINGHOUSE HELIX 22137	A22	g	I	GAC	326	68
34	0200HO10660	STANTONS ADORABLE	CVF,BLF,A12	g	I	SEM	325	72
35	JSCOLD	ERNEST ANTHONY COLD P	A22,POC	g	I	GAC	324	71
36	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	321	88
37	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	321	73
38	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	320	78
39	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	320	72
40	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,BLF,CVF	g	I	SEM	320	74
41	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	319	72
42	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	319	73
43	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	318	74
44	011HO11827	PEAK ALTAMIGHTY P-ET	A12,POC	g	I	ALT	317	70
45	29HO18110	IHG ABS JERICHO-ET	A22	g	I	ABS	317	71
46	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	317	72
47	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,POC	g	I	ABS	317	72
48	29HO18527	SANDY-VALLEY RORDAN-ET	A12	g	I	ABS	317	67
49	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	317	87
50	7HO12898	OCD SUPERSPRING	A22	g	I	WWS	315	72
51	0200HO10383	LADYS-MANOR LUXUS	A12,BLF,CVF	g	I	SEM	315	78
52	14HO07848	PEAK ACCELENHANCE	A12	g	I	WWS	314	69
53	7HO12814	SEAGULL-BAY TRUE PP	POS,A22	g	I	WWS	313	69
54	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	313	74
55	0200HO10610	WESTCOAST WINDMILL	A22,BLF,CVF	g	I	SEM	312	75
56	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	310	68
57	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	310	80
58	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	309	86
59	CRVEASTON	PEAK EASTON	A22	g	I	CRV	309	71
60	011HO11631	PEAK ALTAPAINTER	A11,BLF,CVF,DPF	g	I	ALT	309	82
61	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,BLF,CVF,DPF	g	I	ALT	308	77
62	29HO17344	GIN AMOUR	A22	g	I	ABS	308	72
63	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	307	81
64	14HO07801	AOT HAROLDO	A22	g	I	WWS	307	73

65	GGIPALETTI	PALETTI PP	A12,POS	g	I	GAC	307	69
66	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	306	78
67	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	305	85
68	JSPowerBALL	VIEW-HOME POWERBALL P ET	POC,A22	g	A	GAC	305	89
69	011HO11829	PEAK ALTAVault P-ET	A12	g	I	ALT	305	70
70	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	304	73
71	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	304	81
72	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	304	70
73	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	303	89
74	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	302	70
75	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	302	82
76	29HO18202	ABS MOONWIND-P-ET	POC,A22	g	I	ABS	301	68
77	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	301	70
78	29HO18510	ABS ELDRIDGE-ET	A12	g	I	ABS	300	66
79	0200HO10229	VELTHUIS B FORCE	A22,CVF,BLF	g	I	SEM	299	72
80	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	299	74
81	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	298	72
82	CBEVOLVE	ENDCO EVOLVE		g	I	SXT	297	69
83	NZGMAIREGOLD	MAIRE FI GOLDDIGGER	A12	g	I	LIC	296	69
84	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	296	77
85	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	296	68
86	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,BLF,DPF	g	A	ALT	295	85
87	CLASHP	ANDERSTRUP CLASH	A22,POC	g	I	GAC	295	74
88	STGDELTAETA	ST GEN DELTA-ETA 67481-ET	A22	g	I	SXT	295	69
89	GGIBRENTANO	BRENTANO	A22	g	I	GAC	294	72
90	STGCHANCE	EDG DELTA-CHANCE-ET		g	I	SXT	293	69
91	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	293	73
92	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	293	76
93	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	293	71
94	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	292	79
95	7HO12095	DE-SU MALLINGER 11384	A22,BLF,CNF,CVF	g	A	WWS	291	87
96	CBBILL	COGENT BILL		g	I	SXT	291	73
97	POINTP	POINT P	POC	g	I	AGR	291	74
98	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	291	73
99	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	289	90
100	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	289	84

101	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,RDC	g	I	ABS	289	73
102	7HO12571	DE-SU HEINZ 12342	A12,BLF,CVF,DPF	g	I	WWS	289	74
103	14HO07770	AOT SILVER HELIX		g	I	WWS	288	76
104	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	288	74
105	29HO18296	ABS ACHIEVER-ET	A22	g	I	ABS	288	73
106	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	288	73
107	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	287	78
108	VIKHNERD	VH NUGGET NERD RC	RDC,A22	g	I	VIK	287	71
109	GGISINGER	SINGER		g	I	GGI	287	73
110	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	286	71
111	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	286	79
112	0200HO10220	LEOTHE DARK VADOR	A22,CVF,BLF	g	A	SEM	286	78
113	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	286	76
114	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	285	74
115	7HO13693	S-S-I FRANCHISE BENZ-ET	A22	g	I	WWS	284	66
116	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	284	68
117	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	283	71
118	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	283	77
119	29HO18589	TRIPLECROWN PONTIFF-ET	A12	g	I	ABS	283	67
120	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	283	70
121	7HO13647	S-S-I FERDINAND BIGHIT P-ET	A22,POC	g	I	WWS	282	67
122	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	282	67
123	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	282	76
124	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	282	71
125	011HO11999	PEAK ALTANAMATH-ET	A12	g	I	ALT	281	66
126	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	281	71
127	011HO11720	PEAK ALTAFLYWHEEL	A11,BLF,CVF	g	I	ALT	281	77
128	07HO12951	SIEMERS MODESTY HAIL-ET	A22	g	I	GAC	280	69
129	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	280	71
130	GGICOVER	COVER	A22	g	I	GGI	279	75
131	011HO11682	PEAK ALTAFUNKY	A22,CNF,BLF	g	I	ALT	279	74
132	011HO11821	PEAK ALTAFOREVER	A12,BLF,CVF	g	I	ALT	278	72
133	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	278	72
134	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	278	81
135	CBCOSUPREME	ENDCO SUPREME		g	I	SXT	277	68
136	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	277	73

137	0200HO10588	SANDY-VALLEY APACHE-P	A22,POC,CVF,BLF	g	I	SEM	277	68
138	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	277	76
139	29HO18545	CAL-ROY-AL YODA-ET	A12	g	I	ABS	276	68
140	29HO18066	ABS DANNER-P-ET	A22,POC	g	I	ABS	276	69
141	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	276	70
142	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	276	75
143	CBDREAMER	WILTOR DREAMER		g	A	SXT	276	84
144	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	275	67
145	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	275	74
146	0200HO10366	BENNER BARDO	BLF,CVF,A22	g	A	SEM	275	87
147	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	275	69
148	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	275	91
149	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	275	72
150	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	274	73
151	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	274	73
152	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,BLF,A22	g	I	CRV	274	76
153	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	274	75
154	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	273	72
155	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	273	88
156	29HO18285	PINE-TREE SPLENDID-P-ET	A22,POC,RDC	g	I	ABS	273	69
157	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	273	74
158	VIKHROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	273	72
159	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	272	88
160	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	272	70
161	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	271	75
162	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	271	74
163	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	271	91
164	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,A11	g	A	ABS	270	83
165	7HO12876	RI-VAL-RE POWER TOOL-P	POC,A12	g	I	WWS	269	72
166	011HO11813	PEAK ALTATOOHOT	A12,BLF,CVF	g	I	ALT	268	75
167	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	268	76
168	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	268	75
169	7HO13551	S-S-I HEINZ AMAZING	A22	g	I	WWS	268	69
170	CRVSTYLE	AMBZED FREE STYLE ET S2F		g	I	CRV	267	69
171	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	267	77
172	011HO11478	DE-SU ALTALEAF	A11,BLF,CVF	g	I	ALT	267	80

173	7HO13740	PROGENESIS MODEST ROLAN 512	A11	g	I	WWS	267	68
174	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	267	72
175	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	267	69
176	7HO13907	CLEAR-ECHO JED JARED 745-ET	A12	g	I	WWS	266	69
177	OUTLAST	REGANCREST OUTLAST PP-ET	POS,A12	g	I	GAC	266	71
178	GGIBORN	WIL BORN RDC PO	A22,RDC,CVF	g	I	GGI	265	65
179	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	265	76
180	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	264	72
181	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	263	87
182	NZGBOMAXIMA	BOTHWELL WT MAXIMA S2F	A12	g	I	LIC	263	70
183	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	263	79
184	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	263	71
185	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	263	70
186	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	263	71
187	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	263	70
188	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	262	73
189	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	262	74
190	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	261	72
191	011HO11531	BOMAZ ALTASABRE	A22,CVF,BLF,DPF	g	I	ALT	261	71
192	VERMOUTH	CARENDA VERMOUTH 394	A22	g	A	GAC	260	78
193	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	260	92
194	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	260	85
195	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	260	81
196	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	260	75
197	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	260	70
198	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	260	73
199	CRVDUFFY	LORNFACE MAC DUFFY-OC S3F	A22	g	I	CRV	259	68
200	011HO11900	IHG MAXIMUS		g	I	ALT	259	68
201	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	259	76
202	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	259	84
203	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	259	68
204	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	259	76
205	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	258	92
206	7HO13827	WILRA HANGT HARVARD 1098-ET	A22	g	I	WWS	258	68
207	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	258	68
208	011HO11767	RAKEN ALTACONCORD	A12	g	I	ALT	257	69

209	MAINSTREET	GLOMAR WALLSTREET	CNF,CVF,A22	g	A	GAC	257	88
210	NZGWELLFORAY	GREENWELL SB FORAY-ET	A22	g	I	LIC	256	70
211	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	256	70
212	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	256	74
213	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	255	73
214	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	255	68
215	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	255	71
216	7HO12212	DE-SU SS HONEYBEE 11569	A22,BLF,CNF,CVF	g	A	WWS	255	89
217	0200HO06530	EDG SKATEBOARD	A22,BLF,CVF	g	I	SEM	255	73
218	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	254	73
219	29HO17339	GLAMOUR BOGHILL CARLITO-ET	A12	g	I	ABS	253	72
220	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	253	92
221	011HO00582	SCHREUR ALTAUP	A22,BLF,CVF,DPF	g	I	ALT	253	69
222	CBMRGREY	PEAK MR GREY		g	I	SXT	253	77
223	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	253	69
224	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	252	93
225	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	252	88
226	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	252	71
227	011HO11939	ALTAMELVIN		g	I	ALT	252	69
228	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	252	72
229	14HO07811	PEAK ACCELREOWN	A22	g	I	WWS	252	73
230	7HO12993	COOKIECUTTER HUMBLENKIND-ET	A22	g	I	WWS	252	69
231	NZGBANDITO	ARKAN RAN BANDITO S3F	A12	g	I	LIC	251	66
232	CRVFARRELL	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	251	75
233	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	251	75
234	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	251	72
235	94HO0895	MR ANSLY ADDICTION-P-ET	A12,POC	g	A	ABS	251	82
236	CRVOMAH	BUSY BROOK OMAH-ET-OC S2F	A22	g	I	CRV	250	67
237	29HO17364	SAHARA COMPONENT KING	A12	g	I	ABS	250	69
238	GGIBASEMENT	BASEMENT	A22	g	I	GAC	250	74
239	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	250	73
240	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	250	70
241	011HO11630	PEAK ALTAMORENO	A22,BLF,CVF	g	I	ALT	249	72
242	NZGMEANDWING	MEANDER SB WINGMAN-ET S3F	A12	g	I	LIC	249	69
243	29HO18508	ABS JOHNSTOWN-ET	A12	g	I	ABS	249	66
244	7HO13680	S-S-I LA JEDI RISEN STAR-ET	A22	g	I	WWS	249	69

245	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	249	69
246	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	248	73
247	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	248	68
248	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,CVF,BLF	g	I	SEM	248	70
249	29HO17500	DG CHARLEY	A12	g	I	ABS	248	73
250	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	248	77
251	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	248	70
252	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	248	71
253	0200HO10038	SANDY-VALLEY EMERO	A22,BLF,CVF	g	A	SEM	247	83
254	14HO07303	LE-O-LA MOGUL GAMBLER	A22,BLF,CNF,CVF	g	A	WWS	247	88
255	NZGMAIRGAUNT	MAIRE IG GAUNTLET-ET	A22	g	I	LIC	246	67
256	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	246	76
257	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	246	71
258	0200HO10222	LINDENRIGHT MEGAWATT	BLF,CVF,A22	g	I	SEM	246	73
259	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	245	69
260	0200HO10569	IHG GEOGRAPHY-ET	A22,BLF,CVF	g	A	SEM	244	84
261	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	244	67
262	STGJOLT	FARNEAR TBR DELTA-JOLT-ET		g	I	SXT	244	69
263	14HO07328	COASTAL-VIEW MOOKIE	A22,BLF,CVF,DPF	g	A	WWS	243	90
264	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	243	70
265	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,CVF,BLF	g	A	ABS	243	87
266	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	242	75
267	NZGGOLANCE	GORDONS AM LANCELOT S3F	A11,BLF,CNF,CVF	g	I	LIC	241	69
268	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	241	68
269	VIKHSTORM	VH SPRITE STORM		g	I	VIK	241	71
270	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	241	74
271	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	240	73
272	0200HO02870	MR LOOKOUT P ENFORCER	BLF,CVF,A22	g	A	SEM	240	86
273	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	240	71
274	0200HO10857	STANTONS GALORE	A12	g	I	SEM	240	71
275	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,POC	g	I	AGR	239	72
276	ZEPHIR	BLUMENFELD DAMARIS ZEPHIR - ET	A12	g	I	AGR	239	67
277	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	239	69
278	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	239	78
279	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	239	77
280	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	238	83

281	CRVASTRO	DELTA ASTRO	CVF,BLF	g	A	CRV	238	91
282	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	238	74
283	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	238	73
284	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	238	71
285	7HO13559	S-S-I HOTSHOT SNAZZY-ET	A11	g	I	WWS	238	67
286	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	237	71
287	OHGFAMOUS	FAMOUS - ET	BLF,CVF,A12	g	I	AGR	237	76
288	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	237	72
289	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	237	69
290	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	236	70
291	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	236	86
292	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	236	91
293	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	236	72
294	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	235	93
295	29HO17947	ABS ROWDY	A11	g	I	ABS	235	73
296	011HO11762	BUTLerview ALTARINGER		g	I	ALT	235	68
297	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	235	73
298	0200HO10598	CALBRETT SOLSTICE	A22,BLF,CVF	g	I	SEM	234	68
299	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	234	71
300	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	234	73
301	0200HO10794	PROGENESIS BENJAMIN	A12	g	I	SEM	233	67
302	011HO11725	PEAK ALTAAMULET	A22,BLF,CVF	g	I	ALT	233	72
303	GGIMONARCH	MONARCH		g	I	GGI	233	73
304	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	233	75
305	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	232	75
306	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	232	69
307	011HO11463	T-SPRUCE ALTAARN	BLF,CVF,DPF	g	A	ALT	232	83
308	CRVCUPIDO	DELTA CUPIDO	A12,CVF	g	I	CRV	232	73
309	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	232	71
310	CRVRUSKIE	BALANTIS B RUSKIEBEAR S3F		g	I	CRV	231	67
311	MCAPPLE	CHILDERS COVE ANNIE DALE MCAPPLE-IMP-ET	CVC	g	A	AGR	231	85
312	011HO11608	DF ALTAPARISIAN	A12,BLF,CVF	g	I	ALT	231	76
313	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	231	90
314	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	231	73
315	GGIAPPEAL	APPEAL	BLC,CNC,CVC,XIC	g	I	GGI	231	74
316	CBLOTTACLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	231	80

317	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	230	71
318	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,CVF	g	A	ALT	230	92
319	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,RDC	g	I	CRV	230	77
320	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	229	69
321	OHGBOSS	BOSS		g	A	AGR	228	88
322	14HO07842	FLY-HIGHER BAYO MAYO	A22	g	I	WWS	228	68
323	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	228	89
324	14HO07872	CLEAR-ECHO MODIFY-ET	A22	g	I	WWS	228	68
325	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,DPF	g	A	GAC	227	93
326	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,CVF,DPF	g	A	ALT	227	85
327	COGENTTWIST	COGENT TWIST	A22,CVF,BLF	g	A	SXT	227	92
328	GGISANTA	SANTACLUS		g	I	GGI	227	72
329	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,A22,CNF,BLF	g	A	LIC	226	86
330	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	226	70
331	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	226	75
332	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	226	71
333	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	225	73
334	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	225	72
335	NZGBACKDROP	ARKAN MGH BACKDROP-ET S2F	A12,BLF,CNF,CVF	g	I	LIC	224	66
336	NZGCYCLONE	PAALVASTS MT CYCLONE S2F	A11,BLF,CNF,CVF	g	I	LIC	224	66
337	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	224	73
338	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	224	69
339	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	223	79
340	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	223	72
341	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	222	74
342	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	222	70
343	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	222	86
344	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	221	69
345	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	221	79
346	0200HO06480	VAL-BISSON DOORMAN	BLF,CVF,A22	g	A	SEM	221	92
347	NZGSWEETAS	WESTEDGE VHR SWEET AS S2F	A22	g	I	LIC	220	68
348	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	220	70
349	CRVPAISLE	PEAK TANGO PAISLEY		g	I	CRV	220	74
350	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	219	76
351	NZGDIMANDATE	DICKSONS BG MANDATE S1F	A22,BLF,CNF,CVF	g	I	LIC	219	65
352	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	219	81

353	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	219	81
354	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	218	77
355	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	218	72
356	CBLEGO	VOGUE LEGO		g	I	SXT	218	71
357	29HO17318	ABS POLDARK-PP	A22,POS,RDC	g	A	ABS	218	77
358	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,POC	g	I	ABS	218	75
359	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	217	76
360	011HO11707	PEAK LC ALTACORDIAL	A22,BLF,CVF	g	I	ALT	217	74
361	CRVREMINDER	WD REMINDER		g	I	CRV	217	74
362	STGREVIVAL	VOGUE REVIVAL-RED-ET	RDC	g	I	SXT	217	65
363	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	216	69
364	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	215	74
365	CRVLENNAN	AMBZED GRAND LENNAN S1F		g	I	CRV	214	63
366	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	214	90
367	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	214	76
368	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	213	84
369	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	213	91
370	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	213	74
371	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	213	80
372	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	213	69
373	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	212	73
374	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	212	76
375	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	212	71
376	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	211	71
377	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	211	75
378	0200HO02942	SILVERRIDGE ALBUM	BLF,CVF,A22	g	I	SEM	211	75
379	0200HO10411	CLAYNOOK DEALMAKER	A12,BLF,CVF	g	I	SEM	211	72
380	NZGOVERTIME	WERDERS DE OVERTIME S1F	A22,BLF,CNF,CVF	g	I	LIC	209	64
381	CRVPHONIC	ROYSON JUSTICE PHONIC	A22	g	I	CRV	209	69
382	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	209	73
383	CRVFINDER	BOUW FINDER		g	I	CRV	209	76
384	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	209	82
385	0200HO06617	BOLDI V ACTOR		g	I	SEM	209	75
386	AVENGER	CO-OP AVENGER	A12	g	I	AGR	209	73
387	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	208	72
388	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	208	84

389	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	207	86
390	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	206	67
391	GGIPOPSTAR	VEKIS POPSTAR	POC,RDC,A22	g	I	GGI	206	73
392	0200HO07450	AMIGHETTI NUMERO UNO	BLF,CVF,A12	g	A	SEM	206	93
393	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	205	71
394	GGISILVESTRE	SILVESTRE	BLC,CNC,CVC,XIC	g	I	GGI	205	73
395	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	205	69
396	GGIFERRARI	FERRARI		g	I	GGI	205	73
397	CRVGERONIMO	MAIRE MINT GERONIMO	A22	g	I	CRV	204	71
398	CRVDUKE	AMBZED PAALVAST DUKE S1F		g	I	CRV	204	63
399	250HO01131	DELABERGE SALT	A22	g	A	WWS	204	91
400	011HO11745	MELARRY ALTASNAPSHOT-ET	A11	g	I	ALT	204	73
401	7HO12773	LARCREST KENOSHA		g	I	WWS	204	76
402	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,BLF	g	A	ALT	204	89
403	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	203	72
404	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	203	92
405	POLLPOWER	KEILAGLEN POWERBALL THEENFORCER-ET	POC,A22	g	A	GAC	202	78
406	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,POC	g	A	ABS	202	81
407	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	202	73
408	GGIFERRO	FERRO	BLC,CNC,CVC,XIC	g	I	GGI	202	73
409	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	201	86
410	7HO12165	BACON-HILL MONTROSS	A22,BLF,CVF,DPF	g	I	WWS	200	76
411	NZGTAFTANIUM	TAFTS WT TITANIUM	CVF,A22,BLF	g	I	LIC	200	69
412	RENEGADE	CO-OP RENEGADE - ET	A12	g	I	AGR	200	73
413	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	199	74
414	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	198	70
415	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	198	87
416	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	198	92
417	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,CNF,CVF	g	A	GAC	198	90
418	7HO12945	MELARRY MODESTY FIRST-ET	A12	g	I	WWS	197	68
419	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	197	70
420	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	196	73
421	NEWSLANG	ADLEJAMA DIMAGGIO JARGON-ET	A22	g	A	GAC	195	74
422	CRVADIOS	AMBZED BROPHYS ADIOS	A22	g	I	CRV	195	66
423	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	195	84
424	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	195	80

425	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	195	72
426	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,BLF,CVF	g	A	SEM	194	92
427	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	194	70
428	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	194	70
429	7HO12600	BACON-HILL PETY MODESTY	DPF,A12,BLF,CNF	g	I	WWS	194	73
430	NZGNAUTEXCEL	WHINLEA NAUT EXCEL	CVF,A12,CNF,BLF	g	I	LIC	193	74
431	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	192	82
432	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	192	70
433	CRVMCLAREN	WOODCOTE H MCLAREN ET S3F		g	I	CRV	191	67
434	IGRONNIE	CASTLEBLAGH RONNIE		g	I	IRG	191	72
435	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	191	76
436	RAZ	CARENDA RAZ	A22	g	A	GAC	191	76

ces		Production Traits										Survival		Conformation Traits			Workability				Daug Fert
HWI	TWI	ASI	Prot kg	Prot %	Milk L	Fat kg	Fat %	ASI Rel	No. Dtrs	No. Herds	No. Dtrs 1st Cntry	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert
392	413	218	29	0.39	308	27	0.20	75			202	109*	61	100	108	72	102	103	105	77	113
302	393	341	33	0.51	234	75	0.93	97			1,158	110*	62	102	105	65	103*	101*	105*	70	107
366	432	202	28	0.26	533	34	0.16	83			2,365	111*	68	105	108	79	104	103	105	82	108
320	375	223	37	0.23	908	34	-0.07	75			116	111*	58	102*	103*	64	102*	104*	107*	67	109
332	336	193	21	0.24	330	44	0.43	79			140	111*	52	96*	106*	61	103*	102*	105*	60	116
287	348	257	34	0.28	713	51	0.30	80			297	110*	61	102	102	70	101*	104*	106*	66	108
308	329	201	28	0.30	441	30	0.16	78			42	113*	58	99*	103*	64	102*	102*	105*	68	113*
286	346	234	42	0.20	1,173	33	-0.25	89			126	111*	62	101*	105*	70	102*	102*	105*	70	105
232	345	330	34	0.68	-80	50	0.77	89	99	17		107	65	103	107	73	104	106	108	74	99
325	385	124	7	0.20	-108	34	0.56	75			652	112*	70	108	108	81	102	103	105	83	108
281	358	170	26	0.23	513	24	0.03	96	242	45		113	70	106	102	87	101	105	107	83	108
284	344	169	22	0.32	194	20	0.17	80			160	110*	59	107	104	71	103	102	104	73	112*
292	380	195	28	0.03	1,008	55	0.18	89			17,059	112*	73	109	112	75	104	102	106	81	104
321	315	125	9	0.15	55	37	0.51	80			251	111*	60	99	104	72	104*	104*	106*	65	114
282	365	173	28	0.18	685	27	-0.03	75			146	110*	63	109	107	72	101	104	106	69	105
300	298	154	17	0.22	201	31	0.32	75			88	108*	65	97*	102*	73	102*	101*	102*	73	112
246	310	218	32	0.25	687	38	0.12	80			225	110*	63	99	107	71	102*	104*	106*	69	104
256	338	190	18	0.38	-65	32	0.50	75			1,241	110*	62	104	102	75	101	102	106	74	109
232	402	241	30	0.25	602	53	0.40	75			509	109*	64	114	114	75	103	101	105	82	101
255	238	213	22	0.45	-59	30	0.47	75			100	104*	47	93	89	62	104	104	102	72	117
261	369	194	21	0.32	152	36	0.43	79			92	109*	62	110	109	73	106	101	106	73	106
285	329	189	26	0.21	549	37	0.20	95			4,328	109*	67	100	105	77	101	102	104	80	108
225	299	243	36	0.29	762	40	0.10	90	72	25		107	67	103	97	79	103	104	106	78	105
283	325	172	20	0.21	341	38	0.34	80			2,302	110*	69	102	107	75	103*	102*	105*	72	104
277	337	152	21	0.19	416	26	0.12	93	147	34		112	68	107#	109#	75	103#	101#	105#	81	108#
299	327	157	17	0.27	81	28	0.36	80			720	111*	60	100	107	68	102*	101*	103*	66	109
281	359	131	28	0.10	831	13	-0.33	88	56	21		112	71	107	105	79	104#	105#	106#	80	109#
248	349	194	11	0.45	-460	39	0.84	89	51	16		111	66	103#	107#	77	102#	103#	106#	77	101

273	274	218	25	0.49	-40	24	0.37	74			3,191	106*	62	97	95	71	96	102	101	79	109
297	329	107	18	0.14	377	13	-0.04	80			144	114*	59	104*	106*	65	101*	105*	107*	68	113
252	330	220	22	0.50	-175	30	0.54	75			76	106*	60	106	107	68	100*	102*	103*	69	104
266	331	161	24	0.14	617	31	0.07	79			103	109*	58	105	104	68	102*	104*	105*	65	106
278	325	149	20	0.17	399	28	0.16	79			93	110*	53	103*	107*	60	102*	101*	105*	63	108
272	370	137	26	0.09	806	20	-0.21	75			155	113*	67	110	107	79	102	103	106	81	107
276	353	146	26	0.20	586	13	-0.18	80			84	110*	59	109	109	70	104	100	104	70	113
212	288	265	31	0.48	208	40	0.45	98	505	33		106	74	100	102	84	100	102	105	82	106
275	288	127	9	0.22	-83	30	0.48	80			102	109*	62	101	101	74	103	101	104	75	112
233	306	210	25	0.44	73	24	0.30	88	55	18		106	63	105	100	69	99	101	102	73	108
261	313	197	38	0.21	1,012	18	-0.36	78			665	109*	63	103	103	73	101*	103*	105*	66	104
256	326	177	14	0.34	-144	36	0.61	80			120	106*	62	103	105	74	103	102	105	79	106
260	325	203	31	0.15	855	42	0.08	75			1,981	110*	66	104	109	77	102	103	104	77	102
258	355	172	36	0.14	1,070	15	-0.44	80			405	113*	63	110	106	73	100*	105*	106*	67	103
241	310	180	23	0.21	444	36	0.25	80			2,207	110*	64	105	105	74	101*	103*	105*	67	110
249	306	209	36	0.24	863	27	-0.14	79			69	112*	57	101*	103*	65	103*	103*	106*	68	102
249	320	184	22	0.20	440	40	0.31	75			937	110*	64	104	107	75	104	105	106	76	105
271	291	159	24	0.26	361	18	0.04	76			3,157	111*	60	99	104	74	104	103	103	81	106
273	236	155	26	0.23	502	16	-0.08	80			427	110*	58	92	94	67	104*	101*	103*	66	115
267	299	153	12	0.29	-104	32	0.53	78			38	111*	52	103*	102*	60	103*	103*	105*	63	108*
294	354	99	19	0.04	635	17	-0.15	96	168	27		111	73	109	112	87	105	102	104	87	107
242	282	180	23	0.27	325	30	0.24	80			442	109*	62	102	103	71	100*	103*	105*	67	110
274	340	145	16	0.10	387	42	0.36	88			125	112*	62	109	110	73	102	98	105	75	109
262	301	165	23	0.12	605	38	0.17	75			156	108*	63	100*	100*	75	100*	100*	103*	69	105
271	250	169	34	0.12	1,011	21	-0.32	75			639	110*	59	93	100	66	102*	102*	104*	64	109
260	370	140	22	0.01	800	37	0.04	81			383	111*	62	112	113	75	104	104	105	75	103
265	354	158	27	0.16	689	22	-0.10	81			691	111*	64	110	110	77	94	102	105	81	103
263	309	154	28	0.07	903	27	-0.16	75			193	109*	60	105	109	64	101*	99*	102*	69	107
289	323	100	11	0.08	243	27	0.24	89	52	19		112	68	105#	107#	77	104#	101#	107#	78	110#
218	278	231	24	0.51	-109	30	0.50	93	99	25		104	74	101	103	86	102	102	101	89	104
251	316	148	15	0.18	203	35	0.38	79			72	112*	60	105	103	70	102*	103*	104*	70	106*
263	329	132	19	0.24	232	14	0.06	91			1,459	112*	68	109	109	79	104	102	106	83	108
242	268	196	29	0.20	698	35	0.07	82			1,739	108*	67	97	100	79	99	104	105	80	106
271	266	160	36	0.14	1,052	10	-0.51	80			191	108*	64	99	106	74	103	100	104	72	110*
241	304	189	32	0.36	502	8	-0.20	90	69	19		107	68	102	107	80	99	103	105	78	104
247	276	177	23	0.26	321	29	0.23	80			456	109*	61	100	105	72	100*	101*	104*	66	107

279	277	151	27	0.14	722	21	-0.14	77			74	108*	57	96	106	68	102*	100*	103*	63	107*
241	294	188	26	0.29	388	28	0.16	88			714	110*	67	104	107	66	102*	105*	107*	72	107
212	264	230	38	0.06	1,289	53	-0.02	94	131	28		107	71	102	106	85	94	97	102	84	105
252	262	202	43	0.28	1,052	4	-0.58	96	167	36		108	85	96	101	91	103	101	105	91	106
242	275	188	31	0.21	741	26	-0.08	80			136	109*	57	99*	101*	65	102*	101*	104*	68	105
280	293	95	16	0.07	465	16	-0.06	80			631	111*	61	105	103	70	100*	103*	104*	65	111
277	333	95	4	0.10	-36	35	0.53	90	69	20		110	66	107	105	79	104	104	105	76	111
275	287	90	13	0.11	281	15	0.05	79			95	109*	57	103*	105*	64	103*	102*	104*	66	116
265	303	117	18	0.14	380	18	0.03	98	561	93		109	89	103	100	86	101	101	104	90	110
288	269	126	26	0.16	628	7	-0.29	79			235	108*	57	97	102	67	103*	103*	105*	63	111
257	294	126	12	0.21	57	25	0.33	91			1,837	113*	70	102	103	78	103	102	105	79	107*
224	302	219	34	0.35	551	23	-0.01	75			126	108*	59	104	109	67	101*	103*	105*	67	103
235	270	160	25	0.28	375	13	-0.04	79			129	109*	57	101	102	66	101*	101*	104*	64	111
222	273	190	31	0.19	777	29	-0.06	76			12	110*	51	100*	101*	59	102*	104*	107*	63	107*
246	261	182	32	0.25	694	16	-0.19	80			136	107*	63	100	104	72	101*	100*	104*	66	107
279	304	114	27	0.06	888	8	-0.44	81			342	113*	64	104	106	74	100*	104*	105*	68	109
240	319	163	19	0.13	448	44	0.36	80			208	111*	61	105	112	72	104*	103*	105*	66	103
250	277	155	22	0.33	191	11	0.04	79			35	106*	57	100	103	65	103	102	103	65	107*
216	274	234	31	0.38	412	33	0.22	77			104	102*	51	101	96	64	104	103	102	73	108
273	285	133	14	0.19	152	27	0.30	83			698	109*	70	101	110	79	102	101	103	78	107
281	338	108	3	0.25	-367	27	0.62	75			171	112*	59	108	110	65	102*	102*	105*	67	103
207	340	179	35	0.10	1,096	26	-0.30	94	122	24		110	68	112#	110#	76	102#	101#	103#	83	105
243	283	166	30	0.25	608	11	-0.21	80			1,160	109*	62	101	104	72	102	100	103	78	108
251	296	162	17	0.19	238	39	0.42	79			115	109*	54	102*	106*	61	102*	102*	104*	63	104
274	320	101	10	0.31	-233	6	0.23	75			2,523	109*	69	107	104	77	105	102	103	83	104
217	293	191	21	0.11	576	56	0.46	79			78	110*	53	103*	106*	61	103*	102*	105*	63	104*
273	259	124	17	0.23	171	15	0.11	77			347	108*	61	100	99	74	97	101	100	78	112
266	272	99	9	0.29	-245	8	0.27	81			4,082	108*	68	102	102	75	99	101	101	80	117
262	279	91	17	0.23	187	-5	-0.19	74			2,751	108*	59	103	103	73	102	103	102	81	116
231	248	169	16	0.21	184	43	0.50	87			1,577	109*	69	98	99	75	103	105	103	75	103
232	310	209	32	-0.04	1,263	64	0.15	99	719	18		108	65	107#	110#	69	102	101	104	74	103
221	296	169	17	0.38	-106	22	0.38	75			2,027	106*	70	104	99	80	100	100	102	83	105
254	263	148	22	0.20	421	22	0.06	80			173	107*	65	100	103	76	103	102	105	78	107
259	303	112	16	0.29	24	2	0.01	80			946	107*	62	105	107	73	103*	102*	103*	65	111
199	295	243	45	0.26	1,148	27	-0.31	98	296	42		106	93	104	103	89	101	98	100	93	100
247	332	134	13	0.35	-216	13	0.32	95	139	18		111	67	107#	108#	74	101#	103#	105#	78	104

251	232	123	18	0.19	303	15	0.03	80			131	108*	61	95	100	72	102	101	101	65	115
298	253	24	12	-0.07	571	0	-0.35	77			2,819	109*	68	100	107	78	103	102	102	78	119
203	266	214	33	0.03	1,171	56	0.09	80			2,867	110*	70	102	105	79	102	102	105	78	104
234	291	180	23	0.27	323	30	0.24	78			4,842	108*	69	103	106	80	101	102	105	79	105
239	266	173	15	0.15	253	54	0.62	81			398	103*	59	98	105	72	101*	99*	101*	59	105
219	258	171	22	0.17	482	37	0.23	79			1,579	110*	67	101	103	71	103*	102*	105*	71	109
211	273	222	31	0.52	129	11	0.08	87	55	18		108	68	104	98	75	102	103	104	79	101
251	234	169	10	0.30	-197	43	0.74	78			406	104*	58	97	102	70	102	101	102	75	110
234	290	163	35	0.07	1,167	20	-0.44	80			366	111*	63	105	104	73	97	102	104	73	102
219	274	187	29	0.13	834	37	0.03	78			400	107*	60	102	105	69	101*	102*	104*	61	104
218	274	172	13	0.15	175	56	0.71	90	81	15		108	62	102#	104#	65	102	102	105	72	108#
226	250	160	18	0.31	43	24	0.32	91	88	17		108	60	101#	100#	69	101	98	102	65	108#
247	323	121	22	0.05	746	22	-0.14	81			1,642	111*	67	109	109	79	104	102	105	82	104
241	231	156	26	0.00	969	40	-0.01	80			3,151	108*	62	98	99	72	102*	100*	103*	67	111
244	263	137	23	0.16	560	17	-0.09	76			32	108*	48	99*	103*	56	103*	102*	105*	60	110*
251	279	104	17	0.19	267	6	-0.08	76			174	109*	56	103	102	66	100*	104*	104*	55	113
203	238	213	31	0.07	1,001	57	0.20	75			446	108*	62	96	98	75	102	103	105	77	103
215	279	190	40	0.17	1,141	16	-0.47	82			2,953	106*	69	106	107	79	98	100	102	82	102
219	286	176	27	0.20	623	27	0.01	77			41	108*	51	103*	105*	59	103*	104*	106*	63	103*
267	265	115	18	0.12	422	19	0.02	75			4,659	109*	62	101	104	70	103*	100*	104*	63	109
213	291	163	31	0.05	1,042	31	-0.20	77			31	111*	52	107*	106*	60	103*	102*	105*	60	110*
222	274	142	23	0.10	639	28	0.01	75			51	110*	60	102	104	67	100*	103*	104*	68	108
221	259	140	20	0.13	514	28	0.09	80			3,063	108*	66	98	103	77	102	102	104	78	108
248	234	133	25	0.09	762	19	-0.20	75			503	109*	64	97	102	74	99*	101*	103*	72	110
208	244	194	33	0.12	969	36	-0.08	77			26	110*	50	98*	104*	59	101*	102*	106*	62	105*
208	257	184	27	0.15	709	38	0.12	80			147	111*	61	101*	104*	67	102*	103*	105*	70	106
225	240	173	25	0.19	540	31	0.11	82			1,181	106*	68	97	104	79	100	102	104	80	108
243	270	141	21	0.16	480	23	0.04	79			84	109*	54	100*	106*	63	103*	103*	105*	64	107*
241	226	124	26	0.15	660	6	-0.32	80			181	110*	60	96	100	70	103*	104*	106*	66	111
240	287	131	18	0.08	510	31	0.14	81			888	111*	68	103	106	77	100	103	105	80	105
237	284	115	15	0.06	448	31	0.18	81			119	110*	64	106	109	74	103	102	105	74	108
212	296	165	23	0.10	647	40	0.19	75			308	112*	65	104	107	76	102	103	105	78	105
229	294	140	25	0.12	704	20	-0.14	80			270	111*	61	107	104	70	98*	103*	105*	68	106
265	249	101	17	0.00	613	27	0.01	89	50	17		108	70	98#	108#	78	101#	103#	105#	80	108#
234	267	153	23	0.17	503	26	0.07	78			51	108*	54	100	106	65	100	102	104	62	103*
238	269	152	18	0.08	518	44	0.32	75			13,763	110*	71	100	106	78	102	103	105	78	105

223	279	146	20	0.27	218	17	0.11	75			75	107*	58	105*	107*	69	104*	101*	104*	68	108
257	283	95	21	0.12	526	3	-0.29	81			1,813	111*	65	104	103	75	98	104	104	81	111
198	256	228	36	0.20	949	41	0.01	78			49	109*	52	97*	101*	62	103*	105*	107*	64	95*
237	224	163	33	0.12	998	17	-0.36	75			532	106*	59	95	100	69	100*	100*	103*	65	107
229	249	148	29	0.12	821	18	-0.25	78			175	108*	57	98	99	68	101*	104*	105*	62	105
228	266	138	19	0.13	445	30	0.16	81			920	109*	63	103	106	75	102	102	104	77	105
230	296	85	11	-0.01	430	28	0.14	93	99	17		112	73	106#	105#	80	101#	103#	104#	83	111#
222	238	172	34	0.04	1,175	31	-0.28	75			86	108*	56	98*	102*	64	100*	102*	104*	65	106
218	254	172	30	0.15	826	26	-0.14	80			697	112*	66	99	106	73	103*	103*	105*	71	104
228	251	156	14	0.26	20	34	0.47	97	299	59		108	69	100	108	80	103	100	104	85	103
215	247	146	19	0.17	395	29	0.18	78			92	109*	57	100*	102*	63	103*	101*	104*	66	109
230	233	140	18	0.26	169	18	0.16	99	522	75		109	93	97	99	93	101	101	103	95	110
224	303	136	24	0.12	664	19	-0.14	79			422	108*	60	107	104	72	101*	103*	104*	63	105
211	315	157	33	-0.07	1,372	36	-0.33	79			386	107*	62	112	111	76	100	100	100	74	105
254	245	111	29	0.05	956	5	-0.52	80			566	109*	62	100	104	69	100*	104*	105*	64	113
251	226	103	12	0.27	-92	7	0.16	80			3,508	106*	68	99	96	76	102	99	100	82	112
246	261	81	21	0.01	747	7	-0.36	81			1,622	114*	65	100	103	75	97	103	105	77	111
220	243	154	24	0.30	300	10	-0.03	81			102	109*	56	98*	103*	64	104*	102*	105*	67	106
223	296	148	26	0.15	685	19	-0.14	96	147	41		110	86	107	109	89	102	104	105	90	101
223	324	145	26	0.01	965	33	-0.12	75			182	110*	64	112	109	73	104	104	105	71	103
221	308	121	20	0.04	652	28	0.01	80			216	112*	68	108	109	74	102*	102*	105*	72	108
241	246	120	15	0.21	168	17	0.14	75			2,421	107*	60	98	102	73	102	101	102	80	111
193	194	209	29	0.33	412	29	0.17	96	160	26		103	87	95#	99#	80	98	100	100	89	107
227	261	136	14	0.13	266	37	0.37	79			193	110*	58	102	103	67	101*	103*	104*	66	108
227	256	149	6	0.44	-632	25	0.75	81			321	107*	65	99	101	75	104	102	104	70	106
249	265	114	12	0.29	-140	11	0.24	78			4,509	109*	61	101	99	74	105	101	102	80	108
240	273	105	29	0.04	1,000	2	-0.59	98	396	66		112	92	104	102	93	98	105	107	91	108
240	300	99	3	0.17	-231	31	0.59	91	70	17		111	75	105	108	88	105#	103#	105#	76	108#
248	254	118	26	0.12	732	5	-0.38	80			312	112*	60	99	104	69	102*	103*	105*	69	107
196	320	138	14	0.28	-15	20	0.30	81			410	111*	62	109	110	77	104	103	105	79	105
228	252	117	12	0.28	-112	13	0.26	84			3,170	106*	66	104	100	77	100*	100*	102*	69	111
245	290	90	5	0.13	-69	28	0.45	81			298	108*	69	105	104	77	103	101	103	76	108
257	255	70	18	0.01	642	6	-0.31	78			275	109*	53	101	108	63	100*	104*	104*	62	112
202	147	203	17	0.46	-283	34	0.66	76			120	99*	52	89	89	64	102	101	98	76	112
207	278	180	31	0.30	553	12	-0.17	81			696	108*	69	104	104	80	104	100	103	83	101
196	262	170	36	0.00	1,312	31	-0.37	89			2,483	106*	69	102	101	74	101*	102*	102*	73	102

211	256	154	17	0.11	397	44	0.39	78			72	108*	52	102*	106*	60	103*	102*	104*	63	105*
219	235	138	31	0.08	990	14	-0.41	80			262	110*	59	99*	102*	66	102*	103*	105*	68	107
255	251	98	17	0.03	581	21	-0.05	79			123	107*	56	101	106	66	100*	98*	102*	63	113
217	233	132	27	0.09	818	15	-0.29	79			50	109*	54	98*	102*	63	101*	103*	105*	65	108*
236	220	131	26	0.14	704	11	-0.27	79			80	107*	60	97	99	71	101	100	104	69	109
227	244	126	13	0.26	-26	18	0.27	74			21	108*	51	100	99	60	102*	100*	103*	60	107*
232	308	101	20	-0.04	833	24	-0.17	81			552	109*	65	111	111	79	99	101	104	82	104
218	240	135	22	0.09	630	26	-0.01	79			684	109*	61	99	98	72	102*	103*	105*	66	104
188	201	182	32	0.18	842	25	-0.16	98	334	56		109	70	96#	97#	67	100	103	106	88	107
222	209	174	11	0.44	-467	30	0.72	77			5,220	102*	53	97	95	62	100	101	99	72	110
212	263	166	20	0.25	259	28	0.25	89	68	21		104	64	102	105	66	101	100	103	83	104
226	227	121	18	0.17	319	16	0.04	77			364	108*	59	99	98	72	103	103	103	77	111
248	292	101	9	0.13	88	25	0.31	79			178	108*	57	105	108	67	104*	101*	103*	64	103
241	266	86	11	0.07	290	20	0.11	79			80	110*	62	103	104	72	104*	103*	106*	67	106
236	252	86	9	0.01	335	31	0.24	75			682	112*	65	101	100	74	102	103	105	74	110
212	250	134	28	-0.05	1,151	30	-0.28	81			689	108*	60	103	101	71	100*	105*	105*	66	109
224	292	108	25	-0.11	1,149	27	-0.31	77			798	114*	67	107	108	78	103	105	106	82	104
180	246	181	21	0.34	100	27	0.32	80	37	15		107	64	104	103	68	99	100	100	74	104
214	273	98	21	0.07	662	9	-0.27	75			1,053	109*	68	109	102	73	101	101	102	75	107
214	223	197	18	0.40	-125	34	0.57	88	53	18		102	67	97	105	76	103	99	100	74	98
211	233	172	27	0.22	564	23	-0.01	99	868	117		107	96	97	106	95	103	102	104	96	104
210	296	155	15	0.06	445	53	0.49	91	61	19		111	83	106	109	87	100#	102#	107#	83	99
225	237	148	28	0.19	684	11	-0.27	90	105	20		108	72	99#	100#	77	99#	103#	103#	82	104#
226	258	132	9	0.31	-272	23	0.50	79			5,294	104*	66	103	105	75	102	100	101	80	106
216	230	128	30	0.03	1,054	15	-0.43	80			159	110*	53	98*	101*	63	104*	104*	106*	65	106
232	282	92	21	-0.06	893	21	-0.25	77			633	111*	66	106	107	75	102	104	105	75	107
198	214	185	27	0.47	66	4	0.02	76			94	102*	51	99	94	60	102	101	100	67	109
187	247	175	21	0.23	320	36	0.32	75			134	107*	61	99*	104*	71	102*	102*	104*	67	102
188	280	172	20	0.20	369	38	0.32	82			1,811	109*	67	107	110	79	103	99	102	80	104
201	279	163	15	0.27	6	35	0.50	93	114	20		109	70	105	106	82	102	102	104	87	101
194	238	160	19	0.28	161	24	0.24	78			46	108*	55	98*	102*	64	104*	104*	106*	66	104*
219	265	124	14	0.21	101	22	0.26	81			1,038	110*	69	102	107	79	103	102	105	81	107
171	190	194	21	0.34	95	35	0.44	99	818	118		105	86	99	99	95	98	103	103	96	108
208	243	124	18	0.10	472	26	0.09	78			73	110*	52	103*	103*	60	100*	102*	105*	62	109
246	233	80	12	0.16	125	5	0.00	73			233	110*	55	100	102	68	98	103	102	72	113
189	264	142	7	0.14	-28	52	0.76	78			159	109*	53	104*	104*	60	102*	104*	105*	63	105

223	257	139	20	0.14	469	26	0.09	97	212	60		103	80	106	109	85	103	97	100	89	104
199	230	188	30	0.39	339	9	-0.09	77			1,723	101*	49	102	99	63	102	101	100	75	106
242	228	92	17	0.10	428	10	-0.12	80			312	108*	54	97*	105*	62	102*	100*	102*	64	112
233	279	83	22	-0.03	861	10	-0.39	80			117	110*	63	105	106	75	100	103	102	77	106
210	191	149	24	0.14	596	25	0.00	80			2,628	110*	63	93	94	72	102*	102*	105*	63	106
197	288	131	15	0.10	353	36	0.30	75			87	110*	62	108	108	67	103*	102*	105*	71	102
213	245	123	24	0.00	881	25	-0.18	80			154	111*	54	102*	100*	63	101*	102*	102*	67	107
214	242	117	30	-0.12	1,351	26	-0.46	99	496	25		111	77	103	107	84	100#	103#	106#	82	106
221	254	110	5	0.10	-17	42	0.62	76			746	105*	69	101	102	77	105	101	103	80	108
191	260	140	6	0.16	-99	50	0.78	81			76	109*	61	104*	105*	71	103*	101*	103*	71	105
178	232	175	11	0.35	-296	40	0.76	81			177	108*	62	100	101	73	103	102	105	71	106*
181	310	154	27	0.08	841	29	-0.10	99	568	119		111	95	109	109	94	104	103	106	96	99
222	254	132	20	0.17	416	18	0.01	75			120	108*	63	101	103	70	101*	101*	103*	67	103
219	211	97	16	0.09	428	15	-0.05	84			500	110*	67	99	99	78	101	103	103	75	113
229	264	75	14	-0.05	609	22	-0.06	79			70	111*	57	104*	103*	63	99*	104*	106*	65	109
166	275	191	22	0.28	259	36	0.36	99	2,133	235		108	98	108	109	97	103	105	106	98	99
175	244	190	49	0.12	1,564	5	-0.89	96	213	28		110	77	101	102	91	99#	103#	108#	80	101
195	234	151	21	0.17	456	28	0.12	77			179	109*	58	98	99	70	98	102	103	74	103
200	251	149	36	0.13	1,078	4	-0.61	78			106	108*	54	102*	103*	62	103*	103*	105*	65	104*
218	273	111	24	-0.08	1,058	27	-0.26	80			294	111*	62	107	108	71	103*	102*	105*	65	106
228	266	103	17	-0.06	739	34	0.04	77			1,342	112*	64	107	111	75	103	101	105	73	106
236	222	100	17	0.09	439	17	-0.03	79			49	109*	57	97*	103*	65	102*	101*	104*	66	109*
185	146	197	14	0.59	-631	20	0.68	74			104	99*	43	89	87	61	101	101	100	72	111
211	262	123	24	0.00	899	24	-0.20	81			1,272	109*	64	105	108	74	101	101	103	78	108
224	186	119	21	0.06	681	21	-0.11	78			1,725	109*	70	95	97	80	103	103	105	83	109
219	240	96	14	0.05	410	23	0.07	81			99	112*	62	100	104	69	103	102	104	69	108
254	276	56	2	0.22	-368	5	0.30	90	55	20		109	78	102#	107#	79	104#	102#	103#	82	107
197	175	227	32	0.47	259	18	0.10	74			99	99*	49	93	93	62	100	96	99	73	106
197	200	167	23	0.25	363	25	0.13	80			43	103*	56	96	101	66	100	102	101	66	106*
198	242	159	25	0.25	440	16	-0.04	80			265	109*	65	102	100	73	100	100	103	76	105
216	271	132	21	0.02	768	34	0.01	80			736	109*	60	106	105	71	102*	103*	105*	67	101
242	238	78	1	0.16	-292	24	0.53	75			346	110*	66	101	105	75	102	100	104	75	107
182	291	182	33	0.03	1,168	39	-0.15	75			1,898	108*	66	110	112	76	96	100	103	82	100
205	177	164	14	0.44	-332	17	0.45	76			600	101*	48	93	99	63	101	102	101	74	111
198	239	160	26	0.03	911	39	0.00	76			16	109*	52	102*	103*	60	102*	102*	105*	60	101*
195	228	135	26	0.11	748	17	-0.21	79			73	110*	54	100*	101*	62	100*	103*	105*	64	106*

204	234	109	14	0.03	458	32	0.18	80				77	109*	57	100*	110*	64	103*	102*	105*	65	106
200	258	136	19	0.09	548	32	0.12	80				209	111*	55	103*	107*	63	104	102	105	75	104
203	233	126	12	0.05	356	42	0.38	75				127	108*	59	101*	104*	65	101*	101*	103*	69	103
231	213	108	25	0.02	893	13	-0.36	75				308	107*	63	97	101	75	102*	102*	105*	62	107
234	236	91	25	-0.03	1,008	9	-0.49	75				880	109*	70	101	103	80	98	103	106	82	108
225	289	84	12	0.16	120	8	0.04	82				517	109*	69	108	109	79	99	103	105	82	105
237	262	82	20	-0.10	955	20	-0.30	75				2,207	110*	65	104	110	74	103*	100*	104*	67	109
228	258	69	2	0.15	-231	19	0.42	76				306	109*	58	106	105	71	99	103	103	76	114
189	232	125	16	0.14	343	25	0.16	95	132	21			109	66	103#	105#	65	104	104	106	72	104
230	312	96	25	-0.14	1,185	25	-0.37	99	950	38			109	90	108#	113#	78	102#	103#	105#	83	103
176	218	179	31	0.24	661	18	-0.14	75				456	102*	46	103	95	62	103	103	101	71	109
222	230	117	24	0.13	641	8	-0.27	82				526	108*	64	102	107	76	100	102	105	79	107
216	255	112	23	-0.04	940	26	-0.21	79				260	108*	60	102	105	71	103*	102*	105*	64	104
221	227	89	13	0.10	287	14	0.03	75				1,356	108*	70	102	107	81	102	102	105	84	112
226	268	86	23	-0.08	1,023	15	-0.41	75				81	109*	64	106	113	75	99	99	103	75	108
191	249	141	21	0.04	678	37	0.12	96	214	37			111	62	105#	105#	64	104	102	105	76	102
191	207	128	15	0.12	334	31	0.24	75				92	109*	58	98*	100*	65	99*	102*	104*	68	108
199	230	125	17	0.04	546	36	0.18	79				121	109*	53	100*	104*	61	103*	102*	104*	63	103*
174	258	177	12	0.20	63	55	0.75	99	509	62			108	94	103	103	89	101	100	104	88	103
188	245	148	34	0.08	1,094	13	-0.48	79				163	109*	57	103	103	67	102*	102*	104*	65	101
185	196	140	22	0.25	327	12	-0.03	95	124	49			105	87	98	100	83	103	101	102	88	108
167	224	204	27	0.36	282	26	0.20	85	48	15			105	65	100	103	69	102	101	104	75	98
181	136	196	18	0.51	-339	22	0.52	76				2,334	100*	49	88	86	64	101	100	99	76	111
198	254	134	25	0.01	903	30	-0.13	78				25	110*	57	103*	108*	64	103*	102*	106*	65	101*
221	231	121	26	0.12	720	9	-0.31	75				2,614	105*	66	103	102	72	100	101	100	80	105
231	235	68	13	0.08	321	6	-0.11	82				340	108*	62	102	100	71	99*	100*	101*	64	111
179	214	148	31	-0.02	1,211	29	-0.33	80				362	108*	61	100	101	73	101*	102*	104*	66	106
178	180	131	31	0.12	894	5	-0.48	96	158	29			107	73	102#	99#	78	102#	100#	103#	81	112
218	217	106	17	0.02	594	27	0.03	79				84	107*	61	99	105	70	102*	100*	103*	66	107
192	286	87	7	0.10	43	25	0.34	80				163	111*	59	109	105	69	105	102	104	72	107*
190	207	136	32	0.13	939	5	-0.51	80				495	108*	57	99*	103*	66	101	102	104	70	106
206	213	118	25	0.03	863	17	-0.28	78				22	109*	50	98*	103*	58	100*	104*	106*	61	107*
228	232	77	20	-0.01	756	9	-0.33	79				129	110*	55	102*	107*	62	98*	103*	104*	64	111
205	293	75	19	-0.02	753	9	-0.33	83				686	111*	68	110	110	80	101	102	104	83	105
245	241	56	6	0.02	191	18	0.14	82				1,576	110*	70	103	103	79	102	100	102	82	108
159	229	187	28	0.15	749	38	0.09	93	108	38			106	68	104	102	80	95	104	105	82	103

188	232	125	14	0.22	95	20	0.23	99	569	79		106	95	105	101	89	101	100	103	96	109
213	229	120	31	-0.01	1,181	11	-0.56	80			527	105*	63	101	105	71	104*	101*	105*	65	104
223	227	102	16	0.18	222	9	0.00	75			1,249	106*	71	98	103	80	103	102	103	82	106
221	257	81	16	0.09	429	6	-0.18	75			1,253	109*	67	102	105	73	102*	100*	102*	69	105
228	196	60	11	0.07	279	5	-0.10	76			119	111*	50	96	99	61	100*	102*	104*	56	112
186	219	148	25	0.07	791	29	-0.06	79			247	108*	57	99	103	67	102*	100*	104*	63	103
208	236	125	24	0.14	625	11	-0.22	81			1,073	107*	69	103	102	78	100	101	102	81	106
185	219	116	26	0.17	626	-1	-0.39	77			1,457	108*	60	102	98	74	101	98	100	80	111
201	251	100	11	0.03	359	33	0.26	79			89	112*	57	103*	106*	64	102*	103*	107*	66	105
187	190	140	26	-0.01	990	33	-0.14	78			91	108*	58	99	102	67	99*	102*	104*	64	108
173	293	130	19	0.23	274	13	0.01	94	105	42		104	85	115	105	82	103	100	103	86	102
211	281	83	16	-0.06	696	24	-0.08	99	576	89		110	93	106	108	92	102	103	106	95	104
237	274	40	17	-0.09	807	1	-0.48	75			5,323	110*	71	106	107	74	104	104	103	82	110
166	209	160	19	0.29	133	23	0.26	99	1,519	186		106	89	103	100	98	97	101	101	98	106
187	222	152	28	-0.02	1,088	36	-0.15	80			804	109*	65	102	100	71	100*	103*	105*	68	104
204	244	65	12	-0.06	569	20	-0.06	75			138	109*	58	105*	107*	66	100	101	102	70	110
221	230	45	15	0.08	404	-11	-0.41	78			674	111*	61	105	102	75	101	102	103	80	112
205	213	117	21	0.05	701	22	-0.11	75			96	108*	61	100	104	70	100*	98*	102*	67	108
201	206	116	13	-0.04	546	47	0.34	75			2,652	108*	65	99	103	71	99*	100*	103*	72	106
211	222	76	9	0.12	99	13	0.13	75			457	110*	69	102	106	79	103	101	103	82	109
191	222	135	23	0.13	602	20	-0.09	77			54	106*	50	101*	102*	59	102*	101*	103*	62	103*
196	260	115	26	-0.12	1,187	31	-0.29	75			1,093	114*	66	106	107	78	100	102	105	80	103
200	234	107	18	0.11	448	16	-0.04	80			358	107*	62	102	105	72	101	104	105	72	108
209	232	106	23	-0.10	1,054	28	-0.24	81			5,786	112*	65	102	101	76	98*	103*	105*	68	102
183	267	147	22	0.11	613	31	0.06	80			411	110*	64	105	107	76	100	101	104	77	100
201	227	116	12	0.20	51	21	0.27	79			56	109*	60	99*	104*	65	104*	102*	104*	69	105
192	215	110	14	0.14	265	20	0.13	91	77	15		109	72	101#	104#	79	102#	99#	103#	74	109
195	227	97	20	0.18	385	-2	-0.26	75			5,114	113*	69	103	102	77	97	102	104	83	107
229	191	72	1	0.23	-411	13	0.44	75			3,664	105*	67	97	98	73	99	100	99	80	113
170	165	193	23	0.38	109	24	0.28	76			113	100*	48	97	94	61	102	102	99	68	106
172	272	134	3	0.32	-513	35	0.82	94	119	30		105	78	112	111	83	98	99	102	75	106
192	209	107	15	0.08	411	24	0.10	81			658	107*	68	100	105	77	102	103	104	78	108
195	260	103	13	0.18	143	15	0.13	97	234	40		106	91	107	104	91	100	103	105	93	105
213	213	73	1	0.28	-492	8	0.42	82	41	20		107	64	102	102	69	102	103	103	73	109
211	253	69	15	0.04	469	7	-0.18	81			348	109*	63	105	104	73	102	101	104	76	106
217	251	52	21	-0.18	1,146	10	-0.56	90	89	25		110	65	106#	107#	76	103#	103#	105#	77	110#

172	204	145	28	0.07	906	24	-0.22	79			242	106*	60	99	104	70	104*	103*	105*	66	105
186	266	92	17	0.09	447	11	-0.11	99	590	99		108	95	107	102	93	103	105	106	95	104
232	206	39	2	0.13	-168	3	0.15	82			592	113*	69	100	102	80	101	103	104	82	113
202	209	111	21	0.04	706	20	-0.15	75			929	109*	59	99	103	68	99*	104*	105*	63	106
157	169	193	31	0.34	495	14	-0.10	97	224	37		105	84	94#	104#	76	100	100	103	91	103
189	231	133	23	0.11	616	22	-0.07	78			64	109*	52	101*	105*	59	101*	102*	105*	64	102
173	270	127	12	0.20	35	28	0.38	98	416	32		109	86	106	109	90	102#	102#	105#	82	102
190	184	111	20	0.07	599	19	-0.09	78			80	106*	52	95*	102*	61	102*	101*	103*	62	109*
132	207	219	25	0.33	262	41	0.43	100	3,581	374		103	99	104	98	99	101	101	103	99	99
161	168	180	27	0.22	579	29	0.06	95	123	17		107	72	95#	96#	80	101#	100#	102#	73	103
159	206	148	15	0.18	202	36	0.40	99	1,016	151		108	97	102	96	95	102	104	106	98	102
195	235	93	24	0.04	822	3	-0.46	80			150	110*	61	102	102	72	99	103	105	71	106
114	190	224	32	0.46	295	16	0.05	97	277	22		105	66	101#	92#	72	103#	103#	103#	80	105
169	203	165	31	0.11	941	25	-0.22	75			230	104*	66	101	102	71	99	100	102	75	100
209	245	81	17	-0.06	750	22	-0.14	81			703	108*	68	104	107	76	102	102	102	75	107
199	193	68	9	0.12	90	10	0.09	80			135	108*	55	99*	100*	61	100*	101*	102*	63	113
192	233	106	16	0.12	355	16	0.02	80			1,345	108*	59	100	102	64	101*	103*	104*	64	103
199	228	97	23	-0.14	1,141	28	-0.29	80			451	108*	60	104	106	69	101*	101*	105*	68	105
171	91	169	10	0.56	-728	16	0.67	73			195	102*	47	84	86	62	101	102	101	73	114
175	113	150	4	0.40	-627	33	0.87	73			112	101*	46	89	89	62	104	102	100	74	115
179	215	138	28	-0.07	1,188	33	-0.25	77			4,501	108*	66	103	101	75	100	104	104	78	101
199	213	90	18	0.02	619	16	-0.15	79			76	109*	55	100*	106*	62	102*	103*	105*	62	106
191	200	113	14	0.03	454	34	0.22	87			919	108*	70	99	102	74	104*	103*	105*	75	105
174	216	110	14	-0.01	537	38	0.22	80			365	110*	61	102	106	71	102*	101*	104*	65	106
153	232	146	33	0.04	1,123	19	-0.42	78			5,958	108*	68	106	104	74	97	104	106	79	105
178	221	105	28	-0.14	1,325	24	-0.47	78			27	110*	63	106*	108*	69	100*	100*	103*	71	107*
204	247	76	10	0.10	192	13	0.08	93	89	25		112	81	104	107	90	102#	103#	106#	83	108
188	217	113	8	0.10	120	37	0.47	78			79	107*	57	100	101	67	102*	104*	105*	63	103*
181	214	110	29	0.10	885	-3	-0.58	89	53	16		110	64	105#	105#	71	95	104	105	69	106#
185	266	94	8	0.23	-144	12	0.27	99	483	113		110	95	107	109	97	95	103	107	92	103
148	82	235	19	0.58	-435	35	0.77	75			112	98*	51	82	83	62	103	101	102	75	107
190	188	100	17	0.07	498	17	-0.06	80			103	108*	57	101*	100*	63	100*	101*	102*	66	112
218	188	60	8	-0.01	306	20	0.11	81			1,079	110*	65	99	104	77	103*	102*	104*	64	112
144	172	155	21	0.23	343	24	0.13	81			5,235	105*	69	99	96	76	100	100	99	83	107
182	141	130	1	0.50	-961	17	0.84	71			341	100*	41	93	93	60	98	101	99	70	114
207	248	57	18	0.00	669	-1	-0.43	91	77	21		107	67	106	108	71	99	104	104	76	106

193	262	57	13	-0.11	700	20	-0.14	91			439	111*	68	107	107	73	103	103	105	71	106*
168	216	147	35	-0.01	1,324	21	-0.51	82			3,547	108*	69	101	104	77	102	104	108	81	99
185	242	118	14	0.16	226	23	0.19	79			258	109*	60	102	106	73	103	101	104	76	101*
182	208	107	10	0.12	145	29	0.33	79			78	109*	63	100	102	68	101	99	103	73	105*
185	185	100	8	0.14	15	27	0.38	90	93	17		104	54	98	100	65	102	101	102	68	111
204	196	87	11	0.08	245	20	0.14	81			572	110*	67	97	101	76	103	102	104	77	105
189	139	117	29	-0.07	1,222	20	-0.46	81			4,761	109*	69	94	98	77	101	104	105	77	112
175	222	111	18	0.08	508	22	0.00	81			255	110*	62	104	106	70	100	100	104	74	106
210	199	87	17	0.10	426	8	-0.15	80			146	106*	63	98	102	74	94	100	101	79	107
192	183	73	10	-0.03	439	25	0.10	76			27	108*	49	98*	102*	57	100*	102*	104*	60	111*
220	247	4	-3	0.11	-337	-4	0.14	75			101	110*	60	108	107	72	102	101	100	77	115*
144	239	156	26	-0.03	1,013	43	0.00	76			1,802	110*	68	108	104	80	100	103	106	83	99
161	89	164	5	0.46	-707	31	0.88	70			119	99*	41	84	84	60	101	100	97	73	111
150	207	145	28	-0.07	1,176	38	-0.18	97	259	51		110	91	105	102	92	99	103	105	93	103
191	203	86	7	0.28	-266	4	0.23	80			1,850	107*	67	103	102	77	102	99	99	83	109
172	177	140	20	0.11	528	30	0.10	93	89	24		106	80	98	106	78	105	104	107	80	104
204	210	99	28	-0.20	1,425	28	-0.47	99	1,328	93		111	88	103	107	89	100	97	101	90	107
197	170	95	14	0.10	333	16	0.03	78			4,674	106*	68	96	99	74	100	100	101	81	111
205	217	75	6	0.12	-31	19	0.29	86			852	107*	76	102	104	80	101	101	103	79	105*
187	196	48	8	-0.05	403	17	0.00	75			556	111*	58	101*	103*	65	102*	102*	103*	72	109
165	210	114	28	-0.09	1,208	23	-0.41	80			763	108*	63	103	105	72	98*	99*	102*	69	105
163	200	114	9	0.23	-115	22	0.38	81			995	109*	67	100	103	78	97	102	103	81	106
182	195	81	13	0.07	358	15	-0.01	80			277	111*	58	100*	101*	63	101*	103*	104*	67	107
188	241	91	13	-0.01	511	28	0.09	80			189	106*	60	105	108	71	100*	102*	104*	65	105
187	244	72	22	-0.14	1,081	16	-0.43	81			674	112*	67	108	106	77	97	104	104	79	104
191	188	67	12	0.09	278	5	-0.10	77			3,803	108*	74	101	103	81	99	101	103	84	109
214	239	41	13	-0.15	767	17	-0.23	75			375	108*	65	105	113	77	101	102	105	79	105
162	106	190	13	0.54	-599	24	0.71	71			110	98*	43	89	90	61	102	101	100	73	109
175	107	151	9	0.46	-575	18	0.61	76			3,960	101*	52	88	90	62	102	101	98	74	110
149	261	115	23	0.10	650	13	-0.21	80			343	110*	62	109	109	75	99	100	106	74	101
164	214	99	7	0.21	-135	19	0.36	81			3,921	108*	68	101	99	79	100	101	103	84	104
199	199	77	12	0.13	205	7	-0.02	94	182	26		106	68	96	110	83	104	101	103	74	108
192	193	57	8	0.06	193	11	0.04	81			162	107*	66	99	102	76	103	103	103	78	107
206	182	16	1	0.02	-14	6	0.10	75			5,105	111*	71	99	101	80	101	103	102	81	115
176	216	75	9	0.11	119	13	0.12	81			120	110*	56	102*	106*	62	103	102	104	72	106
207	230	40	5	-0.03	256	16	0.07	95	135	21		108	67	104#	106#	72	102	103	105	72	108

189	234	40	20	-0.24	1,196	13	-0.55	98	432	51		109	64	105	112	76	103	102	105	74	105
173	171	113	18	0.20	266	10	-0.03	73			165	106*	50	97	96	60	98	98	100	69	107
177	209	96	25	0.15	629	-7	-0.49	78			822	109*	62	101	102	73	103	101	104	74	104
182	192	62	0	0.05	-99	28	0.47	99	1,218	212		108	98	101	104	98	105	102	105	96	108
154	199	142	26	0.06	854	26	-0.16	75			617	108*	64	103	99	78	102	102	105	71	102
175	220	86	15	0.00	539	22	-0.01	80			216	108*	63	103	106	73	103	100	105	74	107
200	187	35	10	-0.08	548	10	-0.20	75			118	109*	64	100*	104*	68	102*	102*	104*	73	111
219	207	27	6	-0.04	307	8	-0.08	75			11,569	109*	73	102	103	79	103	102	101	82	107
140	147	189	27	0.19	632	37	0.15	79			284	101*	55	96	92	66	102	103	102	72	104
162	119	176	23	0.34	166	21	0.20	71			59	99*	44	92	92	58	103	101	99	65	110
152	264	107	5	0.31	-433	16	0.50	99	731	60		110	88	108	110	92	102	101	105	89	103
192	204	61	28	-0.12	1,253	-3	-0.81	80			960	113*	61	103	105	73	98*	103*	104*	66	105
187	271	50	8	-0.01	304	14	0.02	81			1,531	110*	67	114	112	75	97	99	102	78	107
193	252	47	12	-0.03	499	7	-0.21	97	216	44		111	86	104	111	90	102	103	106	88	105
163	156	141	14	0.26	28	25	0.35	78			443	104*	60	93	102	73	93	100	101	78	102
144	162	138	28	-0.06	1,134	34	-0.21	99	422	60		111	97	98	97	97	99	105	107	97	103
171	146	122	19	0.21	274	12	0.00	91	83	20		103	60	94	104	70	103	101	104	74	106
172	205	94	12	0.21	7	8	0.12	91	74	22		110	65	102#	103#	69	102#	103#	102#	65	104
183	216	89	17	0.03	565	16	-0.12	79			381	108*	62	104	107	74	101	101	103	78	101
181	218	88	18	0.05	551	12	-0.17	78			806	108*	62	105	104	74	101	102	103	77	105
162	222	116	18	0.06	535	26	0.05	94	113	28		107	84	104	109	86	101#	100#	104#	84	103
162	234	130	36	-0.09	1,516	17	-0.68	79			18,871	109*	73	108	108	81	102	102	107	81	101
163	185	109	13	0.45	-383	-12	0.06	77			1,892	102*	51	103	97	61	103	100	99	71	110
156	199	102	13	-0.04	538	38	0.22	75			2,725	108*	70	104	104	79	104	102	105	82	105
200	245	12	11	-0.22	844	11	-0.36	81			515	112*	64	109	111	75	101	100	104	71	106
165	182	127	18	0.02	621	37	0.15	78			147	106*	57	98	105	68	103*	102*	105*	62	106
147	191	121	28	0.04	972	13	-0.41	95	146	27		107	73	101	98	88	102	101	105	89	106
141	203	115	20	0.05	643	23	-0.07	99	344	90		108	96	102	106	97	103	103	105	95	102
191	172	100	14	0.02	474	29	0.13	98	470	67		105	76	97	99	90	104	103	104	93	96
168	188	120	18	0.06	551	29	0.07	78			39	106*	53	99*	105*	62	103*	101*	103*	63	104
181	180	101	17	0.12	377	14	-0.03	78			186	105*	57	96	104	68	103*	101*	104*	61	103
209	171	30	8	0.07	157	-4	-0.16	77			2,136	108*	60	100	99	72	98	99	102	80	112
144	158	140	25	0.23	476	8	-0.18	83	38	16		103	64	98	100	69	101	106	106	72	97
158	119	131	16	0.30	-13	13	0.19	75			165	101*	45	93	93	60	100	100	99	68	112
164	197	82	9	0.08	160	21	0.21	95	140	35		108	66	102#	106#	74	100#	100#	102#	75	106
183	178	75	13	0.11	268	7	-0.07	88	47	17		106	69	101#	98#	74	102#	100#	101#	80	112

195	165	9	-1	0.01	-68	6	0.13	75			5,328	109*	67	100	100	76	102	100	99	76	113
132	170	154	29	0.06	960	27	-0.20	99	976	85		104	98	100	98	96	100	100	104	96	106
142	172	98	30	-0.16	1,446	18	-0.63	79			36	110*	57	99	103	68	99	103	105	67	105*
181	211	88	20	0.04	668	8	-0.29	79			65	109*	60	102*	108*	66	103*	101*	104*	68	103
195	197	79	9	0.04	253	23	0.18	75			14,075	108*	71	99	104	79	103	102	103	84	105
102	86	229	16	0.74	-858	18	0.79	81			825	99*	61	90	86	65	97	98	96	76	109
164	206	61	-1	0.25	-535	9	0.46	93	120	21		109	67	102	103	74	104	101	104	72	107
154	148	54	15	-0.12	803	16	-0.26	75			264	106*	60	100	97	71	102	101	100	69	114
143	113	149	22	0.34	128	7	0.03	74			100	102*	49	92	93	64	101	102	100	73	109
127	101	149	9	0.33	-302	30	0.62	81			2,036	103*	56	92	92	65	101*	99*	99*	55	112
150	169	113	15	0.21	134	14	0.12	80			505	104*	71	101	100	78	102	98	99	83	105
128	219	102	21	-0.07	921	26	-0.19	86	58	17		109	63	110	103	73	103	103	106	72	104



Fighter Ability	Cell Count		Feed Saved		Calving Ease	
	Rel	CC	Rel	Feed Saved	Rel	Calving Ease
63	190	80	79	37	106*	97
75	115	88	-59	35	102*	98
81	162	86	114	40	101	79
55	175	72	17	34	105*	93
51	149	76	32	32	105	75
63	150	79	-76	37	101	67
58	143	72	47	34	103	71
61	170	85	-46	36	103*	97
61	109	83	-143	38	102	97
69	204	84	3	40	103*	94
74	184	95	-111	44	103	96
53	163	80	-97	37	103	76
82	151	89	-17	39	104*	92
64	162	79	89	38	102	74
64	188	74	-76	38	104	75
67	188	69	38	39	102	68
66	172	79	-148	37	103	73
71	169	81	-99	39	102*	92
78	139	83	-203	38	103	77
50	107	78	24	35	103	71
63	143	75	-72	37	102*	94
81	152	81	91	40	104*	95
60	148	84	-145	41	105	85
80	176	83	39	38	104	73
79	164	92	-63	38	101	98
71	157	82	125	36	103	68
78	171	89	-68	40	102	96
62	181#	87	-99	39	103	93

77	139	81	180	38	103	70
59	173	80	20	34	103	75
70	145	77	1	36	102	73
55	180	76	-57	36	102	75
52	177	75	-10	32	103	77
72	173	81	-87	40	103	79
52	128	79	-38	36	101	77
84	121	97	-117	43	102	97
67	177	79	-16	38	105	67
69	157	83	-85	36	105	87
70	162	82	35	38	104*	91
70	172	81	-30	38	103*	86
78	137	82	20	39	103*	92
68	173	81	-57	38	102	71
76	138	83	-125	38	103	76
58	148	75	-2	34	103	78
77	149	83	-65	38	104	80
75	156	80	44	37	103	83
64	143	80	92	36	105	69
53	166	72	19	32	106	67
85	175	93	8	44	101	94
65	160	80	-84	37	104*	89
70	149	87	9	38	101*	85
61	204	71	23	39	103*	92
71	154	77	88	35	102*	89
66	168	83	-107	39	103*	95
75	212	83	-6	39	103*	93
61	177	75	-16	33	101*	91
79	169	89	56	39	103	97
86	143	92	-70	43	103	96
62	176	78	-62	37	104*	83
84	153	90	-43	40	105*	92
81	168	86	1	40	102*	90
58	136	76	76	39	104	71
71	165	86	-41	41	102	87
69	157	82	-16	38	104	76

53	158	74	128	36	100*	89
77	128	87	-32	35	103*	87
78	179	91	-145	43	99	93
92	126	95	86	45	102	98
61	158	77	2	34	103	71
71	184	81	36	37	104*	90
75	165	84	17	41	102	86
62	157	78	-15	33	102	71
93	191	97	15	43	102	99
57	144	79	180	36	103	75
85	169	91	-16	40	105	75
59	117	75	-51	36	102*	87
55	157	77	-86	35	103	74
51	143	68	-98	32	104	71
66	146	79	35	37	104	72
70	161	83	80	38	103	70
63	151	79	-73	37	104	72
55	148*	70	32	35	103*	86
55	96	80	29	36	101	72
79	150	86	109	40	101*	84
62	182	77	118	34	104	74
90	131	93	-242	39	100	92
70	137	82	14	37	103	72
54	157	76	54	33	103	71
82	177	82	95	38	103	79
53	151	75	-107	33	102	73
75	171	83	160	38	104	77
81	148	85	54	39	102*	94
73	143	76	-7	37	102	81
81	176	89	-11	38	102*	87
96	114	98	15	36	103	94
81	186	81	-58	40	103	75
68	146	80	81	38	104	68
69	153	82	17	38	102	77
97	142	97	-76	44	103	97
82	170	94	9	38	104	88

69	155	82	36	38	101	69
80	176	84	72	39	103	68
81	134	84	-125	40	103	80
81	137	86	30	40	104	79
67	158	82	51	37	103	80
78	138	82	-84	37	103	77
67	132	80	22	39	99	87
65	127	78	157	37	104	73
71	186	81	-18	38	105	76
65	140	80	-50	37	101	71
76	143	88	-71	35	103	94
63	157	88	-27	36	102	95
80	159	84	-35	40	100	75
77	149	82	55	37	103	74
51	140	70	29	31	104	79
57	164	76	7	35	104	66
72	142	81	-59	39	103*	95
83	162	86	-65	40	103	80
51	146	71	-47	32	103	73
78	156	79	134	36	105	73
52	114	71	-139	32	103*	92
55	163	70	-101	35	103	67
79	171	84	-106	40	100*	91
73	172	81	59	38	105*	86
51	139	69	-76	32	105	74
62	140	77	-93	34	103	78
81	154	86	0	40	102	81
55	139	74	47	33	104	79
58	149	78	15	37	104	74
77	172	82	9	39	104	79
71	146	82	-63	38	103	77
75	138	82	-105	39	103	80
66	169	79	-33	37	101	77
82	164	89	93	40	103	92
49	162*	67	31	36	101	77
83	131	84	52	40	103	77

57	125	74	-54	36	102*	84
77	163	84	62	39	104	83
53	154	72	-13	33	102	79
68	151	78	96	37	105	75
58	169	77	17	36	99	73
75	164	84	-35	39	102	81
82	180	92	-144	40	102	90
56	150	73	11	34	102*	85
73	138	82	-31	38	104*	91
88	143	97	19	41	100	97
54	151	75	-78	33	102	74
97	159	98	29	45	103	98
62	170	80	-58	37	101	73
63	143	82	-143	39	101*	97
71	137	82	85	36	103	73
81	168	84	115	38	103	81
78	195	84	-32	38	106*	88
70	144	81	-11	34	103	79
93	154	95	-46	44	102	95
60	130	76	-66	38	100*	87
72	147	80	-123	38	103*	94
76	150	82	59	38	103*	91
95	137	95	-42	40	103	97
57	143	78	-5	36	104	77
75	145	84	76	39	102	77
79	141	83	138	38	103	75
97	179	98	8	45	104	99
82	144	89	2	44	103	95
67	146	80	96	36	103	71
73	143	84	-197	40	102	76
77	162	86	20	39	105	75
72	165	83	40	40	103	73
54	170	78	40	34	102	72
54	121	78	108	36	102	61
80	146	84	-13	40	103	76
79	170	88	-115	38	103*	87

53	139	73	-51	33	102	74
68	152	81	-32	34	104	77
52	157	75	111	35	106	76
55	167	72	-50	33	102	74
62	149	76	93	37	104	74
50	171	71	48	33	102	75
73	184	85	-55	40	102	77
68	174	81	-1	37	103	76
91	142	97	-80	35	102	97
59	112	85	174	35	103	71
71	143	83	25	35	104	87
69	139	77	35	37	103	77
57	162	78	93	36	104	70
58	173	79	28	37	103	73
69	172	80	14	38	103*	89
72	151	82	-59	37	103	75
79	166	84	-68	40	103	80
64	154	75	-129	35	100	85
81	194	84	-109	38	102*	93
69	143	83	144	40	100	86
98	133	99	40	46	102	98
90	166	91	-20	43	102	86
82	164	88	99	39	100	97
79	155	83	65	39	104	72
55	162	77	-23	33	103*	87
77	165	84	-24	38	104	77
53	107	79	58	34	102	71
59	161	75	-99	37	103	67
79	131	85	-124	40	100	78
74	149	89	-28	42	102	92
56	150	70	-67	33	102	65
76	132	84	-10	40	102	78
96	144	99	-118	46	102	99
51	161	74	-67	32	104	73
65	155	73	98	35	104	76
57	162	76	-143	32	100	74

90	149	95	52	43	98	96
56	113	84	58	36	101	71
58	144	79	89	33	102	75
72	186	82	-6	39	102	79
76	161	83	58	37	103	68
60	164	72	-120	36	104*	87
61	161	79	-23	33	104*	92
94	162	98	-69	42	102	94
81	150	84	22	40	98	76
61	151	76	-108	37	103*	90
60	125	76	-87	38	103	73
98	162	98	-176	46	100	98
69	155	80	78	37	101*	86
78	145	86	-6	40	104	76
56	178	74	-15	33	103	65
99	123	99	-173	47	103	100
91	159	96	-122	45	104	97
66	168	75	-40	36	104	80
56	144	75	-45	33	104	73
67	133	80	-31	37	101	74
75	135	83	12	39	103*	95
57	151	73	105	34	105	74
44	126	79	102	35	103	71
77	138	84	-41	38	102	75
84	150	86	97	41	104	80
59	165	78	-16	36	101	77
89	178	90	131	40	102	86
50	109	78	208	35	101	70
54	153*	70	20	35	100	65
73	143	81	14	38	103*	89
71	164	82	39	37	103	75
72	166	79	120	38	102*	89
83	141	82	-103	39	102*	89
53	118	83	113	36	103	72
54	161	69	-5	32	104	73
55	165	73	-69	33	102	74

54	160	75	-101	33	102	75
69	140	82	-44	33	101	75
65	186	77	-36	34	100*	88
70	172	83	112	38	101*	82
78	177	84	76	41	104	75
79	181	86	7	40	102*	94
77	141	76	50	38	104	73
67	148	80	12	36	102	76
87	157	93	-126	35	102	92
97	161	99	18	38	102	97
49	95	83	-38	35	100	73
76	141	85	64	39	104	80
63	157	79	19	37	103	74
83	133	84	6	41	102*	85
64	169	74	-14	38	101	67
87	140	95	-68	34	101	96
61	158	73	-64	34	102*	86
53	167	75	-35	33	104	72
97	130	98	-55	44	102	99
57	156	77	-67	36	104	73
92	145	93	-66	42	101	93
65	140	78	-39	36	101	84
53	105	84	138	36	100	69
58	155	70	-35	33	103	71
78	149	81	122	38	102	73
70	168	83	86	38	103	72
68	156	80	-102	38	102	73
92	127	95	-125	40	103	97
59	154	75	70	37	103	66
56	152	78	-139	37	103	79
69	143	82	-46	34	104*	92
50	165	70	17	32	105	72
56	153	76	59	33	103	76
76	170	86	-115	40	101*	95
80	170	84	159	39	102	78
72	156	89	-118	41	102	89

98	118	98	-46	44	100	97
77	140	84	60	37	104	76
83	160	85	120	40	102*	91
80	192	84	42	38	99	75
53	169	74	75	34	105	69
62	151	79	-29	36	103	77
80	141	86	73	39	102	78
72	152	76	-82	37	104	81
57	162	75	-38	33	99*	87
58	141	76	-38	36	102	69
91	140	91	-142	42	101	89
97	158	98	-25	45	102	99
83	151	84	49	38	103*	90
98	155	99	-86	47	101	99
75	146	82	6	37	104	76
61	176	74	-103	34	101	66
71	165	81	-4	38	101	79
59	153	74	40	37	102	65
77	166	82	21	36	102	74
79	150	83	-4	39	103	80
51	159	72	18	32	101	73
80	156	83	-48	40	102	80
71	136	81	-4	37	103	76
79	189	84	54	39	102	79
74	151	83	-36	39	100	76
57	144	73	50	34	102	72
88	145#	90	-30	40	101	92
82	163	84	-38	38	101	80
78	163	81	174	38	102*	88
51	90	77	72	34	101	73
88	133	92	-111	42	99	93
81	147	85	-37	40	103	79
95	157	96	-13	45	101	96
64	154	76	58	35	98	86
72	178	81	0	38	100	77
64	150	88	-42	39	104	95

61	133	79	-91	37	105	79
98	170	98	-96	46	101	97
80	156	86	104	40	104	81
71	155	80	46	36	101*	95
94	126	96	-47	38	101	96
54	153	74	12	32	102*	91
95	151	98	-105	44	104	94
52	150	74	-19	33	102*	94
99	120	99	-118	47	101	100
91	133	94	-13	40	105	92
99	145	99	-91	46	101	99
66	175	78	-32	37	104	78
93	88	96	-195	38	103	93
79	154	79	-25	35	103	72
78	141	83	28	39	104	76
63	160	80	-20	33	101*	91
75	173	83	10	34	104	75
66	159	80	-7	36	104	77
51	104	78	132	35	103	71
46	94	78	93	35	104	53
80	146	83	-14	38	99	76
54	153	75	0	33	104	72
78	142	87	31	38	102*	95
61	147	80	-111	37	105*	92
82	144	85	-169	38	101	79
64	155	72	-124	35	102	75
91	130	93	24	44	104	95
54	160	75	39	36	104	75
70	153	88	-53	37	103	86
98	189	98	-54	47	102	98
52	92	79	167	35	101	72
58	140	77	16	33	105	74
77	122	85	104	39	104	74
81	140	84	-128	38	102	81
48	122	79	125	35	104	71
74	173	87	0	38	102	86

87	154	90	-88	38	101*	81
82	135	85	-41	39	102*	93
55	144	80	23	38	103	75
63	152	74	2	35	103	74
53	145	85	15	35	102	97
77	158	83	99	39	100	78
82	117	85	66	39	105*	92
76	142	85	-58	36	98*	91
74	175	82	141	38	103	76
50	162	69	-15	31	104	69
54	151	80	15	37	103*	80
82	154	86	-159	40	101	79
45	121	74	127	35	104	52
95	145	97	-127	45	103	98
81	134	84	47	38	102	80
88	109	91	15	40	102	90
98	127	99	98	44	103	99
80	135	82	118	38	105	73
85	159	88	106	41	100	75
69	178	78	-88	34	103	66
70	168	81	-101	37	101	77
80	153	86	-69	40	102	79
66	152	80	-28	33	105	70
61	148	78	14	37	101	75
77	181	84	-45	39	105	78
85	172	85	3	41	104*	96
73	167	80	34	39	101*	95
42	74	75	201	35	100	69
57	103	85	196	36	104	71
60	171	81	-193	39	103*	96
81	178	84	-55	39	102	83
61	136	90	63	42	105	98
73	163	81	9	39	101	73
83	167	85	17	40	102*	91
67	156	80	-66	33	101	74
89	160	93	55	37	101	95

84	171	97	-113	40	101	98
66	161	70	59	34	102	70
73	145	81	11	38	104	74
99	148	99	-34	47	101	99
73	129	85	-28	40	103	79
68	135	79	-39	38	102	76
69	162	74	14	35	102	65
83	158	83	132	40	100	77
55	105	83	39	36	101	75
43	63	72	171	33	103	52
95	146	98	-124	45	103	98
73	165	82	3	38	104	76
76	166	83	-64	37	98*	87
94	159	96	-32	44	102	98
70	170	76	61	37	105	82
98	154	98	-92	47	103	99
54	120	87	53	37	100	91
83	136	90	8	36	103	89
70	155	77	37	37	103	81
74	129	81	37	38	103	77
92	129	93	-39	43	100	97
86	112	87	-25	41	103	86
58	118	84	41	35	102	68
83	121	84	-84	39	101*	88
70	187	82	-46	39	101	76
55	94	76	36	36	104	74
86	139	94	-81	44	103	95
98	151	98	-154	47	100	98
92	165	97	178	45	103	98
54	122	72	48	33	101	74
56	141	77	104	36	104	73
75	161	81	165	38	104	71
64	142	75	-21	36	103	83
45	96	80	97	34	103	71
86	156	93	-48	38	102	93
80	113	87	98	38	104	95

80	181	82	25	39	105*	94
99	121	99	-72	47	103	98
57	165	72	-168	36	102	67
55	140	74	69	35	99	73
84	127	85	171	40	104	81
79	86	88	30	36	102	73
81	147	91	-36	39	101	98
70	159	79	-135	38	103	65
49	95	76	66	36	102	58
69	97	85	-28	36	104*	74
83	131	84	-10	39	102	81
61	131	81	-218	38	100	88

Rank	Bull ID	Bull Name	Date of Birth	Genetic Codes	Genomics Included	Australian Proven or International
1	0200HO11749	PROGENESIS PROCEED	20190121	A22,CVC	g	A
2	KARAT	KAARMONA DIAMOND-ET	20190829	A12	g	A
3	7HO13981	SANDY-VALLEY BD FREEBORN-ET	20160914	A22	g	A
4	29HO19442	WILRA KNOWHOW-ET	20190328	A22	g	A
5	29HO17458	BOGHILL GLAMOUR PERSUADE	20180123	A22	g	A
6	011HO15023	PEAK FSCNTR ALTAGLOW-ET	20180614	A22	g	A
7	0200HO11284	PROGENESIS POWERHOUSE	20171101	A12	g	A
8	14HO14894	S-S-I NIGEL BIG DEAL-ET	20181002	A22	g	A
9	0200HO11353	PROGENESIS DRACAENA	20180110	A12	g	A
10	DELTANIPPONP	DELTA NIPPON P	20190205	A22,POC	g	A
11	0200HO11665	WESTCOAST ALMAMATER	20180813	A22	g	A
12	LASTIN	REDMAW FEDORA LASTIN-ET-CNF-DPF-XIF-BLF	20190710	A12	g	A
13	29HO18698	ABS JERONIMO-P-ET	20170306	A22,POC	g	A
14	29HO19002	PINE-TREE HURON-ET	20171227	A22	g	A
15	SNAKEOIL	CURRAJUGLE SNAKEOIL	20150921	A22	g	A
16	COLUMBUS	BUNDALONG HOTSPOT COLUMBUS-CNF-DPF-	20190712	A12,POC	g	A
17	011HO15391	PEAK ALTACRAZED-ET	20190618	A22	g	A
18	011HO12315	PEAK ALTAMEDERA-ET	20170917	A22	g	A
19	PILBARA	CARENDA PILBARA	20180908	A22	g	A
20	SONDALO	CARENDA SONDALO	20190310	A12	g	A
21	29HO19493	DENOVO 16197 GONZAGA-ET	20190802	A22	g	A
22	KARDEW	KAARMONA DEWEY-ET-CNF-DPF-XIF-BLF	20190903	A22	g	A
23	TLGMOHAWK	COOMBOONA DUKE MOHAWK-IMP-ET	20170127	A22	g	A
24	SHILA	WILARA SHILA-ET-CNF-DPF-XIF-BLF	20190711	A12	g	A
25	29HO18863	DENOVO 14520 AMSTEL-ET	20171003	A12	g	A
26	TLGLARK	VALA BANDARES LARK-ET	20181115	A22	g	A
27	JSHERMES	PEAK HERMES-ET	20181212	A22	g	A
28	PEMBERTON	CARENDA PEMBERTON	20180314	A22	g	A

29	29HO19485	BOMAZ EPISODE-ET	20190614	A22	g	A
30	0200HO11385	WESTCOAST RIVER	20180116	A22	g	A
31	CFP	VOGUE CFP	20190204	A22,POS,RDC	g	A
32	29HO19378	FB 53 KENOBI GIANNIS-ET	20190202	A22	g	A
33	STGLON	PINE-TREE LAWSON LON-ET	20190225	A22	g	A
34	0200HO11251	PROGENESIS WIMBLEDON	20170926	A22	g	A
35	0200HO11372	STANTONS GOLDMEDAL	20171029	A22	g	A
36	7HO15305	HILMAR LEGACY SHOOTER-ET	20190605	A22	g	A
37	29HO20018	DENOVO ZIGGY ET	20190702	A22	g	A
38	NIPIT	VOGUE NIPIT-PP	20190410	A22,POS,RDC	g	A
39	7HO15134	S-S-I CASCADE REID-ET	20190518	A12	g	A
40	29HO18790	PINE-TREE DURABLE-ET	20170525	A22	g	A
41	011HO15316	PEAK ALTAKUMEROW-ET	20190422	A22	g	A
42	011HO15036	PEAK MARUS ZAZZLE-ET	20180927	A12	g	A
43	STGBOLD	VALA SUITS BOLD-ET-PO	20180823	POC	g	A
44	TIRANO	CARENDA TIRANO	20190308	A12,POC	g	A
45	0200HO11297	PROGENESIS PYRAMID	20171106	A22	g	A
46	7HO15186	S-S-I LEGACY MR LEXUS-ET	20190725		g	A
47	WIFI	HINDLEE WIFI-ET	20190807	A12	g	A
48	011HO15202	PEAK ALTAFLASHBACK-ET	20181208	A22	g	A
49	SAMARIA	WILARA SAMARITAN-ET-CNF-DPF-XIF-BLF-PO	20190904	A12,POC	g	A
50	14HO14893	PEAK FSCNTR ULMER-ET	20180626	A12	g	A
51	FORTNITE	PEAK FORTNITE-ET	20181102	A22	g	A
52	29HO19444	FB 7683 VIRTUE CONFORTO-ET	20190320	A22	g	A
53	TELLMAN	PEAK TELLMAN-ET	20181213	A12	g	A
54	011HO12424	PEAK ALTAGUAPO-ET	20180413	A12	g	A
55	GGGOLDENGATE	GOLDENGATE	20180212	A22	g	A
56	SUPERDAVE	WARRAMONT SUPERHERO DAVE-ET	20171017	A22	g	A
57	STGSHAYDON	VALA BANDARES SHAYDON ET	20180701		g	A
58	ITLETSGO	VOGUE LETSGO TV TL TY CF	20170516	A12	g	A
59	14HO14442	WELCOME DELPRO 3565-ET	20170619	A22	g	A
60	011HO15350	ALTAMAZDEAN	20190503	A11	g	A
61	TLGATTICUS	VALA BANDARES ATTICUS	20180411	A22	g	A
62	011HO15329	PEAK ALTAVITOR-ET	20190413		g	A
63	CHAIRMAN	ST GEN DIRECTOR CHAIRMAN-ET	20160415	A12	g	A
64	011HO12246	PEAK ALTATBAY-ET	20170628	A22	g	A

65	ENDGAME	WINAVIEW SUPERHERO AVENGER	20180919	A12	g	A
66	14HO13980	SANDY-VALLEY FEDORA-ET	20160910	A12	g	A
67	011HO12418	PEAK ALTAWARRANT-ET	20180421	A12	g	A
68	BAMBOOZLE	CARENDA BAMBOOZLE	20150813	A22	g	A
69	STGFONDOO	KIRK ANDREWS FON DOO-IMP-ET	20170118		g	A
70	ANAKIN	KIRK ANDREWS VADOR ANAKIN	20180407	A12	g	A
71	250HO14717	OCD ANSWER PENSIVE-P-ET	20171129	A22,POC	g	A
72	WALPOLE	CARENDA WALPOLE P	20180923	A12,POC	g	A
73	29HO15636	CARENDA CHEVY PP	20190324	A22,POS	g	A
74	0200HO11795	PROGENESIS METALLICA	20190312	A22	g	A
75	011HO15365	PEAK WHEELHOUSE-ET	20190902		g	A
76	GGILENETT	LENETT	20181224	A12	g	A
77	COMIX	PEAK COMIX-ET	20190519		g	A
78	250HO14048	BACON-HILL MOEMONEY 3320-ET	20160921	A22	g	A
79	STGTACOMA	ST GEN NOBLE TACOMA	20180226		g	A
80	CBR2D2	NORTONHILL R2 D2	20190325	A12	g	A
81	29HO18957	DENOVO 14744 GINETTA-ET	20171223	A22	g	A
82	SWEETSPOT	HINDLEE SWEETSPOT-ET	20190810	A22	g	A
83	0200HO11384	WESTCOAST REDCARPET	20180114	A22	g	A
84	NACASH	NACASH	20171214	A22	g	A
85	MAGICBALLPP	PEAK MAGIC BALL-PP-ET	20190430	A12,POS	g	A
86	VDGCOMIC	DOUBLE-EAGLE GRNTE COMIC-ET	20180308	A22	g	A
87	LAUTA	REDMAW PERCY LAUTA M57-ET	20190203	A22	g	A
88	CBCARO	BOGHILL GLAMOUR CARO	20190314	A22	g	A
89	7HO14174	OCD ALLTIME LATROBE-ET	20161117	A12	g	A
90	011HO15373	PEAK ALTABRISBY-ET	20190409	A22	g	A
91	14HO14828	REGEL BIG BUBBA MORTON-ET	20180221	A22	g	A
92	ETHOS	REDMAW PERSEUS ETHOS-ET	20180619	A22	g	A
93	250HO15217	REGAN-DANHOF CAPONE-ET	20190303	A22	g	A
94	STGHEIR	ST GEN DEDICATE HEIR	20190101	A22	g	A
95	7HO14023	LARCREST B COMPLETE-ET	20161224	A22	g	A
96	011HO15388	ALTACOMPTON	20190609		g	A
97	29HO19347	DENOVO 15953 CHALET-ET	20190304	A22	g	A
98	GGIHIGHFLY	HIGHFLY P	20190209	A22,POC	g	A
99	7HO14163	KINGS-RANSOM B DRASTIC-P-ET	20161126	A22,POC	g	A
100	29HO17454	DENOVO INVICTUS-ET	20180403	A22	g	A

101	011HO12188	MATCREST ALTACUCHILLO-ET	20170303	A22	g	A
102	GGIFEDBACK	THI FEEDBACK	20170523	A22	g	A
103	SILVERLINE	GLOMAR SILVER 1717-ET	20150710	A12	g	A
104	7HO15052	S-S-I LEGACY ROCKET-ET	20190406	A22	g	A
105	0200HO11154	SANDY-VALLEY LICORICE-ET	20170202	A22	g	A
106	NARUTO	NARUTO	20170607	A22	g	A
107	MICHALAK	MICHALAK	20161206	A12	g	A
108	MUSCLEUP	PEAK MUSCLE UP-ET	20181212		g	A
109	ADLONP	ADLON P	20170829	A22,POC	g	A
110	0200HO11532	K-STAR DASHBOARD-ET	20180110	A22	g	A
111	VDGKINGSTON	LEANINGHOUSE KINGSTON	20170521	A22	g	A
112	011HO12285	AARDEMA ALTANIXIE-ET	20170522	A22	g	A
113	GGIHOTSPOT	WIL HOTSPOT P	20170117	A12,POC	g	A
114	29HO19325	BLUMENFELD SEDONA-ET	20181029	A22	g	A
115	CRVSHERO	PEAK SHERO	20161126	A22	g	A
116	GGIHOLDER	HOLDER P	20181227	POC	g	A
117	29HO19334	BOMAZ KETTLE-ET	20190121	A22	g	A
118	LOSTEM	REDMAW FEDORA LOSTEM-CNF-DPF-XIF-BLF-PO	20190617	A22,POC	g	A
119	29HO18639	ABS JOPPOLO-PP-ET	20161210	A22,POS	g	A
120	7HO14250	PINE-TREE CW LEGACY-ET	20170623	A22	g	A
121	202HO01805	MHD HOBBIT PP	20190116	A22,POS	g	A
122	011HO12161	PEAK ALTAAROLDIS-ET	20170423	A22	g	A
123	CALAVEN	CARENDA CALAVEN	20170503	A12	g	A
124	TEXMEX	WILARA TEX	20180526	A12	g	A
125	29HO19229	WINSTAR STYLES-ET	20180720	A22	g	A
126	011HO12132	PEAK ALTAMOLINA-ET	20161228	A12	g	A
127	011HO15052	PEAK ALTAPIXAR-ET	20180514	A22	g	A
128	GGIPAYCHECK	PAYCHECK	20180303	A22	g	A
129	7HO15246	PINE-TREE LEGACY HOWDY-ET	20190327	A22	g	A
130	ORPHAN	RENGAW MAEBULL ORPHAN 45	20180810	A22	g	A
131	29HO18929	DENOVO 14685 VALUE-ET	20171207	A22	g	A
132	KADE	WILARA HERO KADE-ET	20170723	A11	g	A
133	011HO12281	PEAK ALTATIGRE-ET	20170628	A22	g	A
134	0200HO11080	PROGENESIS HAPPYDAY	20170322	A22	g	A
135	29HO19101	DENOVO 15209 DETROIT-ET	20180708	A22	g	A
136	14HO13976	SIEMERS BANDARES SIR-ROZ-ET	20160921	A12	g	A

137	ENDEAVOR	CO-OP DUKE ENDEAVOR-ET	20180109	A11	g	A
138	29HO18878	PINE-TREE HOWLER-ET	20170820	A22	g	A
139	7HO14975	S-S-I LA FUTUR STARBURST-	20181213	A22	g	A
140	CRVSTARMAKER	VELDER STARMAKER	20180225		g	A
141	250HO14057	PINE-TREE BIGTIME 800-ET	20161016	A22	g	A
142	011HO12157	PEAK ALTALAWSON-ET	20170414	A22	g	A
143	250HO15117	CLEAR-ECHO TAHTI TRUXTON-	20190122	A22	g	A
144	29HO18635	SANDY-VALLEY LOTTERY-ET	20160914	A12	g	A
145	BERZERKPP	PEAK BERZERK-PP-ET	20190425	A12,POS	g	A
146	011HO15085	PEAK ALTAMANIC -ET	20181005	A22	g	A
147	7HO14694	ENGLAND-AMMON BANJO-P-ET	20180126	A22,POC	g	A
148	011HO12404	G-DERUYTER ALTARISEN-ET	20171129	A22	g	A
149	29HO18660	ABS PAULY-P-ET	20161220	A22,POC	g	A
150	AMALFI	CARENDA AMALFI	20190207	A22	g	A
151	CBCURSOR	BOGHILL GLAMOUR CURSOR	20180211	A22	g	A
152	STGPOOLE	DELICIOUS DW POOLE-ET	20180326	A12	g	A
153	JSAUSTAD	PEAK AUSTAD-ET	20181029	A22	g	A
154	250HO13857	S-S-I BANDARES BIGGIE-ET	20160904	A12	g	A
155	STGDEDICATE	MR SUPERHERO DEDICATE	20170315	A22	g	A
156	29HO19313	WINSTAR EDGE-P-ET	20181116	A12,POC	g	A
157	011HO12326	PEAK ALTADEBUG	20170925	A22	g	A
158	STGRATIONALE	ST GEN CHRL RATIONALE	20181013	A22	g	A
159	GGIHULK	WIL HULK P	20181015	A22,POC	g	A
160	7HO14133	S-S-I TR SUPRHRO BECKHAM-ET	20170202	A12	g	A
161	011HO15273	PROGENESIS ALTADAYLON-ET	20190306	A22	g	A
162	GGIPAINTED	PAINTED	20180802	A22	g	A
163	TLGLASZLO	VALA JERONIMO LASZLO ET	20190802	A22	g	A
164	SUPERGLOW	GLOMAR SUPERHERO 1844	20170823	A22	g	A
165	011HO12131	PEAK ALTASTOKED-ET	20161214	A22	g	A
166	SUPERJET	SUPERJET	20170627	A12	g	A
167	29HO19235	DENOVO 15540 SEMINOLE-ET	20181220	A22	g	A
168	011HO12258	PEAK ALTASTAFFORD-ET	20170730	A22	g	A
169	011HO15296	PEAK ALTAREAL MONEY-ET	20190307	A12	g	A
170	SUPERDUDE	GLOMAR SUPERSIRE 1667-ET	20150104	A12	g	A
171	TLGBOUYANCY	COOMBOONA SUPERSHOT BOUYANCY-IMP-ET	20151008	POC,RDC	g	A
172	CRKAYO	PEAK KAYO-ET	20180804	A22	g	A

173	JSYOLO	BGP YOLO-ET	20170716	A22	g	A
174	CRVDILAN	KEESOM DILAN-RED	20180223	RDC	g	A
175	0200HO11751	OCD FERRARO-ET	20181214	A12	g	A
176	DERRINGER	PROGENESIS DERRINGER-ET	20180718	A12	g	A
177	JSPEAK	PEAK DAVIS-ET	20181021	A12	g	A
178	A2P2	VOGUE A2P2-PP	20190328	A22,POS	g	A
179	011HO12323	PEAK ALTAKLAEBO-ET	20171025	A22	g	A
180	TAILORDAN	WARRAMONT TAILOR DAN	20170227	A22	g	A
181	FIRSTCHOICE	CALISTER ALLTIME FC200-ET	20170729	A12	g	A
182	STGB52	EDG DELTA B52	20151110		g	A
183	011HO15201	PEAK ALTAVANISH-ET	20181022	A12	g	A
184	RYOBI	CALISTER RYOBI	20190313	A22,POC	g	A
185	GLORIUS	HINDLEE SUPERHERO CLARENCE 1746	20170907	A11	g	A
186	011HO12375	PEAK ALTARUMOR-ET	20180225	A22	g	A
187	29HO18693	ABS CRIMSON-ET	20170226	A22	g	A
188	JSMOLINE	PEAK MOLINE-ET	20190106	A22	g	A
189	29HO18726	DE-SU 14030 WRIGLEY-ET	20170130	A12	g	A
190	29HO17429	RELOUGH CLINCHER	20170419	A22	g	A
191	0200HO11469	T-SPRUCE GOLIATH	20171229	A22	g	A
192	FASHIONABULL	ILLAWAMBRA PERSEUS DEBONAIR	20180203	A12	g	A
193	NOTICEPP	PEAK NOTICE-PP-ET	20190423	A12,POS	g	A
194	CRVLISTROTTO	DELTA LISTROTTO-RED	20171217	RDC	g	A
195	7HO15221	SANDY-VALLEY EUSTICE	20190315		g	A
196	7HO14298	PENN-ENGLAND DAYLITE PP-ET	20170408	A12,POS	g	A
197	TLGBEAMER	VALA JERONIMO BEAMER ET	20190918	A22,POC	g	A
198	29HO19226	DENOVO 15492 HUGO-ET	20181125	A22	g	A
199	AGTORRO	MAPLEHURST DELROY TORRO-E	20180811	A12	g	A
200	PLEXUS	WELCOME PLEXUS-ET	20170401	A12	g	A
201	29HO17482	DENOVO JOYRIDE-P	20190208	POC,A22	g	A
202	CRVSLADE	LEXVOLD SLADE	20171105		g	A
203	7HO14093	SANDY-VALLEY BDRS ALAMO-ET	20161224	A22	g	A
204	ALWAYS	ADLEJAMA ALLTIME 9239	20170819	A11	g	A
205	29HO19468	PINE-TREE KASHI-ET	20190528	A22	g	A
206	GGIGOLOMAN	GOLOMAN	20180519	A22	g	A
207	ROYALTIME	HINDLEE ALLTIME ROYAL 1724-ET	20170804	A12	g	A
208	GGIGRINGO	GRINGO	20171227	A12	g	A

209	29HO18603	PINE-TREE GALVESTON-ET	20160903	A12	g	A
210	29HO19279	FB KENOBI TARGARYEN-ET	20190106	A12	g	A
211	MRMAGIC	BUNDALONG MAGICTOUCH MISTER-ET	20180603	A22	g	A
212	GGIKEEPER	WIL KEEPER P	20161220	A22,POC	g	A
213	011HO12168	PEAK ALTAGILMORE-ET	20170228	A22	g	A
214	0200HO11887	DRUMDALE ALLDAY P	20190123	A22	g	A
215	PINJARRA	CARENDA PINJARRA	20180423	A22	g	A
216	29HO18678	DE-SU 14049 FLOWRIDER-ET	20170211	A12	g	A
217	29HO18703	DE-SU 14136 GENESIS-ET	20170405	A12	g	A
218	0200HO11691	LEANINGHOUSE TORRANCE	20180817	A22	g	A
219	011HO12353	PEAK ALTATRUSTEE-ET	20171127	A12	g	A
220	SUREROZ	SIEMERS S-HERO SURE-ROZ-ET	20170130	A12	g	A
221	STGSANTANDER	LESPERRON SANTANDER *RC	20180510	A12	g	A
222	STGSHEAN	VALA KINGROYAL SHEAN ET PF	20180707		g	A
223	29HO18801	DENOVO 7960 ARTISAN-ET	20170726	A12	g	A
224	SILVERSTAR	COUNTRY ROAD SILVERLINE 4910	20180308	A12	g	A
225	250HO14924	OCD EINSTEIN FORTNITE-ET	20180702	A22	g	A
226	0200HO11458	OCD SHERPA	20171018	A22	g	A
227	CRVRECORDING	DELTA RECORDING PP	20190420	POS	g	A
228	GGIHANSEN	HANSEN PP	20190201	A22,POS	g	A
229	SINGULAR	ECLIPSE AKINA UNO F173-IMP-ET	20140408	RDC,A22	g	A
230	011HO12347	PINE-TREE ALTAANNUITY-ET	20171120	A12	g	A
231	JSMATERMIND	MR MASTERMIND	20160707	A12	g	A
232	29HO19285	TTM SECURITY-ET	20180924	A12	g	A
233	GENAGAVATAR	ROSY-TREE AVATAR-ET	20180427	A22	g	A
234	FRANKLAND	CARENDA FRANKLAND	20180301	A22	g	A
235	7HO13811	TELSTAR SSI ALLTM SANDOR-ET	20160721	A11	g	A
236	011HO12380	PEAK ALTAGRECO-ET	20180115	A22	g	A
237	SUPERLOYAL	HINDLEE SUPERHERO LOYALTY 1749	20170920	A11	g	A
238	CRPRICELESS	PEAK FRZLD PRICELESS-ET	20180523		g	A
239	STGMADDEN	ST GEN CHIEF MADDEN	20170320	A22	g	A
240	29HO17434	DENOVO ARCHANGEL	20170625	A22	g	A
241	CRVCHAMPION	SANDY-VALLEY CHAMPION-ET	20170108		g	A
242	7HO14792	PLAIN-KNOLL SI MAGNITUDE-ET	20180517	A11	g	A
243	JSARSENAL	PEAK ARSENAL	20161211	A22	g	A
244	0200HO07952	REGANCREST CHEESEBOY	20190203	A22	g	A

245	0200HO11332	PROGENESIS STRIKEOUT	20171126	A22	g	A
246	ITDUPLO	GHEZZI GPLUS DUPLO TV TL TY CF	20170619	A12	g	A
247	011HO12151	LADYS-MANOR ALTASCION-ET	20161106	A22	g	A
248	29HO19327	BOMAZ KNOCKOUT-ET	20181209	A22	g	A
249	STGLANDSLIDE	VOGUE LANDSLIDE	20170519	A12	g	A
250	011HO12196	BOMAZ ALTAMONSON-ET	20170505	A12	g	A
251	7HO15204	FLY-HIGHER MELLENCAMP-ET	20190219	A22	g	A
252	29HO18914	DE-SU 14673 APPEAL	20171130	A12	g	A
253	011HO15253	PEAK ALTAFAFANDOM-P-ET	20190306	A12,POC	g	A
254	29HO18718	WILRA ABS MONTAGE-ET	20170417	A12	g	A
255	CRVBOUNCER	DELTA BOUNCER	20160722	A12	g	A
256	MACAVOY	HINDLEE ALLTIME ROYAL 1726-ET	20170807	A12	g	A
257	STGLUMINA	STGEN CHARL LUMINA	20180818		g	A
258	0200HO10894	WESTCOAST SCOTCH	20160824	A22,BLF,CVF	g	A
259	29HO18794	BOMAZ ACCOLADE-ET	20170518	A12	g	A
260	7HO14438	WELCOME GODDARD 3571-ET	20170623	A22	g	A
261	DOMINATION	ROCKWELLA FARM JERONIMO DOM	20190401	A22,POC	g	A
262	29HO19117	DENOVO 2872 PENSACOLA-ET	20180627	A22	g	A
263	011HO15179	PEAK ALTAINCEPTION-ET	20180821	A12	g	A
264	250HO14274	S-S-I PR CHARLEY DEREK-ET	20170701	A22	g	A
265	29HO19278	FB 786 SKYWALKER STARK-ET	20180920	A22	g	A
266	JSSANJAY	PEAK SANJAY-ET	20190317	A22	g	A
267	29HO19488	WINSTAR ROOKIE-PP-ET	20190311	A22,POS	g	A
268	011HO12346	DAR-BURN ALTATORRENT	20171015	A22	g	A
269	011HO12259	PEAK ALTABACK9-ET	20170728	A11	g	A
270	011HO15060	PEAK ALTASHAZAM-ET	20181007	A22	g	A
271	011HO12327	PEAK ALTAMORRIS-ET	20171105	A22	g	A
272	7HO14615	S-S-I HODEDOE MONTLEY-ET	20180305	A22	g	A
273	KOBE	WILARA KOBE-ET	20180811	A12	g	A
274	0200HO11661	WESTCOAST STAMKOS*RC	20181105	A22,RDC	g	A
275	ENOUGHROPE	KAARMONA DENTON-TWIN	20180807	A12	g	A
276	29HO18924	BOMAZ FOXTROT-ET	20170923	A12	g	A
277	29HO18889	DENOVO 14585 OUTLAY-ET	20171030	A22	g	A
278	7HO14319	OCD HELIX FORTE-ET	20170425	A12	g	A
279	GGIQUENTIN	SPH QUENTIN	20171203	A12	g	A
280	NORDAHL	NORDAHL	20170731	A22	g	A

281	VDGLIVENOW	CHERRY-LILY LIVE NOW-ET PP	20190404	A22,POS	g	A
282	29HO19272	DENOVO 15575 JAGGER-PP-ET	20181229	A22,POS	g	A
283	011HO15061	PEAK MARUS HAWTHORN-ET	20181008	A11	g	A
284	011HO12376	PEAK ALTADEEP-ET	20180228	A22	g	A
285	011HO15001	PEAK ALTAJURGEN-ET	20180926	A12	g	A
286	LOGANX	REDMAW POWERBALL LOGAN P-ET-POR	20161105	A12,POC	g	A
287	29HO19215	DENOVO 15470 HALIFAX-ET	20181116	A22	g	A
288	GGIHESEKIEL	KNS HESEKIEL PP	20190213	A22,POS	g	A
289	STGNOLAN	MR SUPERHERO NOLAN	20170320	A12	g	A
290	OBJECTIVE	OBJECTIVE	20180422	A22	g	A
291	SHGGGENERAL	GLOMAR COMMANDER 1696-ET	20150404		g	A
292	29HO19005	PINE-TREE NEIMAN-ET	20180107	A22	g	A
293	29HO18708	DE-SU 14222 KENOBI-ET	20170522	A22	g	A
294	STGESQUIRE	ST GEN R-AGRO ESQUIRE	20170620	A12	g	A
295	TLGPOLAR	CALBRETT POLAR	20150916	A22,POC,RDC	g	A
296	JSPAVLIK	PEAK PAVLIK-ET	20180717	A22	g	A
297	29HO18940	DENOVO 14787 IMAGINE-ET	20180111	A22	g	A
298	14HO15207	PINE-TREE KENOBI ENERGY-E	20181228	A22,POF	g	A
299	LAGER	ILLAWAMBRA PERSEUS LAGER	20181228	A22	g	A
300	011HO12263	PEAK ALTAPINETTA-ET	20170522	A22	g	A
301	29HO18987	DEXPRO MOJO-ET	20180201	A22	g	A
302	MATZO	ILLAWAMBRA SUPERHERO MATZO	20170716	A11	g	A
303	011HO12349	NO-FLA ALTAHEMI-ET	20171027	A12	g	A
304	GGIAVICII	AVICII	20160607	A22	g	A
305	STGCZAR	ST GEN NOBLE CZAR	20180118	A22	g	A
306	TLGNADO	VALA QUANTUM NADO	20180515	A12	g	A
307	TLGBOOM	COOMBOONA 1STCLASS BOOM-ET	20170714	A12	g	A
308	CRHEALER	AOT BLOWTORCH HEALER-ET	20170224	A22	g	A
309	29HO19071	BOMAZ MONUMENT-P-ET	20180624	A22,POC	g	A
310	29HO19149	DENOVO 15424 GAMMON-ET	20180901	A22	g	A
311	29HO18777	DENOVO 7876 SWAYZE-PP-ET	20170612	A22,POS,RDC	g	A
312	GGISAGUN	SH SH SAGUN	20180103	A22	g	A
313	0200HO11277	STE ODILE EXPOSURE	20171014	A22	g	A
314	14HO14370	PEAK ALTACEPHUS -ET	20170209	A22	g	A
315	011HO12336	PEAK ALTALEAP-ET	20171101	A22	g	A
316	DONK	WARRAMONT SUPERHERO DONK-ET	20180310	A22	g	A

317	STGHARDBALL	DELICIOUS CHARL HARDBALL-ET	20190109	A22	g	A
318	14HO14220	S-S-I BG FRZZLD RIVETING-ET	20170518	A22	g	A
319	29HO18903	DENOVO 14652 ROYAL-ET	20171124	A22	g	A
320	STGWYLIE	GENOSOURCE DW WYLIE	20171114	A22	g	A
321	BULWINDER	GLOMAR BALISTO 1881-ET	20180809	A12	g	A
322	MONTINI	EMU BANKS MONTINI	20170419	A12	g	A
323	011HO12261	PEAK ALTASIZZLER-ET	20170813	A22	g	A
324	CRVLEVERAGE	DELTA LEVERAGE	20171110		g	A
325	0200HO11627	PROGENESIS DARMOUTH	20180904	A11	g	A
326	94HO19526	KINGS-RANSOM S DREAMBIG	20190507	A22	g	A
327	0200HO11082	PROGENESIS PARACHUTE	20170404	A12	g	A
328	WRINGER	DILEE WRANGLER OLLIE 251	20170105	A12	g	A
329	29HO19392	PLAIN-KNOLL SURGE-ET	20181213	A22	g	A
330	SKIPPY	AARDEMA SKIPPY - ET	20160803	A12	g	A
331	011HO15049	HOLYLAND DLRY TRILL-ET	20180820	A12	g	A
332	STGHOLDON	DELICIOUS CHARL HOLDON-ET	20181123		g	A
333	29HO17414	DENOVO JULEP	20170124	A11	g	A
334	0200HO11307	PROGENESIS HAMMERHEAD	20171113	A22	g	A
335	SAINTNICK	HINDLEE XMAS COLADALLAS 1637-ET	20160803	A22	g	A
336	TERRAINE	WILARA ALL TERRAINE-ET	20170801	A11	g	A
337	7HO15085	SIEMERS RENGD PARFECT-ET	20190203	A22	g	A
338	29HO19003	PINE-TREE PRESTIGE-ET	20171223	A22	g	A
339	011HO12163	PEAK ALTAANCHOR-ET	20170205	A12	g	A
340	011HO12333	PEAK ALTARUBAN-ET	20171029	A22	g	A
341	GGIKONTEX	HAS KONTEX	20161210	A22	g	A
342	202HO01721	AURORA SUPERTRAMP	20161129	A22	g	A
343	STGVERDE	EDG NOBLE VERDE	20171101		g	A
344	011HO12288	WINSTAR ALTAMAYAN-ET	20170723		g	A
345	250HO14140	OCD RAMBO SEABISCUIT-ET	20170110	A22	g	A
346	29HO17445	BROEKS HYPERION	20170622	A11	g	A
347	0200HO10895	PROGENESIS DIABLO	20160811	A12	g	A
348	0200HO11888	BLACK SILVER DIAMOND	20190115	A12	g	A
349	011HO12361	PEAK ALTAJIMI-ET	20171216	A12	g	A
350	011HO12115	PEAK ALTAFORCE-ET	20170105	A11	g	A
351	011HO12230	PEAK ALTABELDING-ET	20170721	A12	g	A
352	GGIBOUDY	BOUDY	20171219	A22	g	A

353	WOOKIE	WILARA ROOKIE JO	20170805	A22	g	A
354	MUSO	P.J. PARK HARPER MUSO	20170504	A12	g	A
355	BALBOA	GALLRAE 870 ROCKY 93	20160305	A12	g	A
356	29HO18724	ABS ZEBEDEE-ET	20170420	A22	g	A
357	JSSTALLONE	PEAK STALLONE-ET	20190117	A22	g	A
358	011HO12194	BOMAZ ALTACABOT-ET	20170423	A12	g	A
359	29HO17383	SAHARA SKYBALL	20160915	A22	g	A
360	STPANTHER	TJR DYNAMO PANTHER-ET	20170902	A22	g	A
361	CRVSKIPPY	DELTA SKIPPY	20170301		g	A
362	29HO18843	FB 6860 SPECTRE PERK-ET	20170503	A22	g	A
363	VDGSEBASTAIN	GORTCREEN SEBASTAIN	20150118		g	I
364	ITINNUENDO	GO-FARM INNUENDO TV TL TY CF	20170618	A12	g	A
365	CRVFAITHFUL	BENTEHOEK FAITHFUL-RED	20171101	RDC,A22	g	A
366	STGCECIL	GLENHAVEN SUPER CECIL	20161228		g	A
367	CBLANCASTER	PREHEN LANCASTER	20160605		g	A
368	BEEZKNEEZ	ADLEJAMA NARDOO 9198-ET	20150707	A22	g	A
369	TLGBRINX	COOMBOONA SUPERHERO BRINX-IMP-ET	20170531	A12,POC	g	A
370	STGJOHNBOY	GENOSOURCE JOHNBOY	20180913	A22	g	A
371	STGMAROON	ST GEN DYNASTY MAROON-ET	20171004		g	A
372	29HO19248	JC-KOW VITALITY-ET	20181019	A22	g	A
373	TLGSALOM	VALA BIGHIT SALOM-IMP-ET-P	20180913	A22,POC	g	A
374	7HO14645	S-S-I STARR-P EUSTICE-PP-ET	20180408	A22,POS	g	A
375	STGNITRO	MR SPRING NITRO-ET	20160202		g	A
376	011HO12130	PEAK ALTAZONE-ET	20161212	A22	g	A
377	CRHANDLE	AOT BLOWTORCH HANDLE-ET	20170226		g	A
378	29HO19122	BOMAZ C3PO-ET	20180715	A22	g	A
379	STGIMPERIAL	EDG NOBLE IMPERIAL	20180206	A22	g	A
380	011HO12248	PEAK ALTAFLYHIGH-ET	20170706	A22	g	A
381	CRVCITADEL	DIEPENHOEK CITADEL	20170113		g	A
382	29HO17443	K&L OH BELLWETHER	20171114	A12	g	A
383	STGJUMPSTART	FARNEAR JUMPSTART	20180315		g	A
384	7HO14739	VATLAND MELROSE-ET	20171210	A12	g	A
385	GGIBALEO	BALEO	20180831	A22	g	A
386	14HO14583	DIRT-ROAD CANNONBALL-ET	20170926	A11	g	A
387	0200HO11242	PROGENESIS PAVAROTTI	20170906	A22	g	A
388	TLGLENO	COOMBOONA SME LENO	20150307	A22	g	A

389	0200HO11755	REGAN-DANHOF CHAPTER-ET	20190104	A12	g	A
390	VDGSEASAW	LADYS-MANOR BAND SEASAW	20161003		g	A
391	OAKLINE	RENGAW WRANGLER OKLINE	20170314	A12	g	A
392	JSEASTWOOD	PEAK EASTWOOD-ET	20190427	A22	g	A
393	CRVDELTA GOAL	DELTA GOAL	20160903		g	A
394	STGJONES	ST GEN RUBICON JONES	20170301	A12	g	A
395	011HO12240	PEAK ALTAMILESTONE-ET	20170608	A12	g	A
396	0200HO11049	PROGENESIS DRYDEN	20170220	A22	g	A
397	7HO14229	DE-SU FRAZZ TAHITI 14104-ET	20170323	A22	g	A
398	011HO12303	PEAK ALTADERRICK-ET	20170822	A12	g	A
399	JSMMAINSTAGE	PEAK MAIN STAGE-ET	20190614	A12	g	A
400	0200HO11078	PROGENESIS METHOD	20170406	A11	g	A
401	29HO19241	DENOVO 15567 KIMMEL-ET	20181227	A22	g	A
402	STNEXUS	MR SUPERHERO NEXUS - ET	20170324	A12	g	A
403	GGIKENSING	KENSINGTON	20170410	A22	g	A
404	7HO12973	SANDY-VALLEY CODEC-ET	20160216	A12	g	A
405	JEDIFY	NO-FLA JEDIFY - ET	20160728	A22	g	A
406	29HO17459	HOOGERHORST DG OH RUBELS RED	20180120	A12,RDC	g	A
407	STGAPPLEFREE	ST GEN RR APPLEFREE-RED-ET	20170719	A22,RDC	g	A
408	202HO01758	LADYS-MANOR HURRICANE	20180322	A22	g	A
409	7HO14742	WELCOME PABLO 3730-ET	20180105	A12	g	A
410	DALKING	HINDLEE KINGTUT DALLAS 1747	20170907	A22	g	A
411	GGIHYPE	HYPE	20160505	A12	g	A
412	CRVPOPCORN	DELTA POPCORN-RED	20170530	RDC,A22	g	A
413	29HO18699	ABS SNAPPLE-ET	20170306	A12	g	A
414	STGYEOMAN	PINE-TREE SKY YEOMAN	20181103	A22	g	A
415	7HO13710	S-S-I EXACTLY PERCY-P-ET	20160513	POC,A22	g	A
416	CBCORONA	SJK CORONA	20170710	A22	g	A
417	LUCKYBRO	GLOMAR SUPER LUCKYBRO - ET	20150104	A22	g	A
418	29HO18611	BOMAZ SKYWALKER-ET	20161122	A22	g	A
419	ITDRAGON	GEGANIA DRAGON TV TL TY PC CF	20170316	POC,A22	g	A
420	011HO12250	PEAK ALTASPORT-ET	20170716	A12	g	A
421	29HO18617	SANDY-VALLEY 3121 PORT-ET	20161124	A12	g	A
422	AIARROW	DG NH ARROW	20180827	A11	g	A
423	29HO18691	PARKHURST SAMARITAN-ET	20170219	A22	g	A
424	14HO14448	PEAK MOTION-ET	20170408	A22	g	A

425	0200HO11213	PROGENESIS DROPKICK	20170331	A22	g	A
426	0200HO11852	PROGENESIS PINBALL	20190415	A22	g	A
427	0200HO11143	PROGENESIS WELLINGTON	20170624	A22	g	A
428	011HO12282	PEAK ALTALOCH-ET	20170629	A11	g	A
429	MEXICOLA	BUNDALONG SUPERSPRING WINNER	20180816	A22	g	A
430	7HO14132	S-S-I TR MORTZ LIBERTY-P-ET	20170112	A22,POC	g	A
431	GGICHARMING	HLM CHARMING	20160105	A22	g	A
432	250HO14853	T-SPRUCE RIO RONDO-ET	20180531	A22	g	A
433	DELROYAL	HINDLEE SUPERLUCKY DELROYAL 17 4-ET	20170206	A12	g	A
434	STGNASHVILLE	MR DYNASTY NASHVILLE	20170704	A22	g	A
435	011HO15183	PEAK ALTAWARTIME-ET	20180908	A12	g	A
436	29HO19222	DENOVO 15482 HONOR-ET	20181120	A22	g	A
437	011HO12377	PEAK ALTAEXHIBIT	20180220	A22	g	A
438	BERRYBLAK	CO-OP AARDEMA BERRY BLAK-ET	20170113		g	A
439	250HO14167	OCD FLAGSHIP CANDOR-ET	20161105	A11	g	A
440	STGREDROCK	REDROCK-VIEW KLUTCH	20160801		g	A
441	MEME	PEAK MEME-ET	20181230	A22	g	A
442	29HO18521	REGAN-DANHOF OLAF-PP-ET	20160504	A12,POS	g	A
443	011HO12384	PROGENESIS ALTAPLEDGE-ET	20180217	A12	g	A
444	CRVLENDOR	DELTA LENDOR	20161208		g	A
445	7HO14096	SANDY-VALLEY FS CAMDEN-ET	20170203	A12	g	A
446	011HO12088	PEAK ALTAActor-ET	20160904	A22	g	A
447	STGDUBAI	ST GEN NOBLE DUBAI-ET	20180221	A22	g	A
448	STGXANDER	STGEN NASH XANDER-ET	20190327	A22	g	A
449	011HO12403	KP-ACK ALTAMORISON-ET	20180114	A22	g	A
450	011HO15016	PEAK ALTAHOLST -ET	20180502	A22	g	A
451	7HO14648	S-S-I JARED CAFFEINE-P-ET	20180414	A22,POC	g	A
452	0200HO11616	OCD SHELBY-ET	20180327	A22	g	A
453	29HO18747	DENOVO 14242 KOKOMO-ET	20170531	A12	g	A
454	0200HO11535	RICHMOND-FD MONTANA-ET	20180318	A22	g	A
455	011HO00593	KOEPON ALTADJ	20180208	A22,VRC	g	A
456	250HO13863	S-S-I BANDARES BRAVO-ET	20160910	A12	g	A
457	0200HO11648	PROGENESIS PAYDAY	20181031	A22	g	A
458	0200HO11265	SANDY-VALLEY I BATMAN-ET	20170927	A12	g	A
459	AGRMILKY	MILKY	20160705	A22	g	A
460	STGMETZ	DELICIOUS HN METZ	20180401	A22	g	A

461	AGRODEO	FOUR-CAL RODEO-ET	20170224	A12	g	A
462	0200HO11586	SILVERRIDGE V EINSTEIN	20180418	A22	g	A
463	0200HO11120	SIEMERS DARWIN-ET	20170206	A12	g	A
464	250HO14134	S-S-I PR RENEGADE-ET	20170326	A12	g	A
465	JSLEXELL	PEAK LEXELL	20170129	A12	g	A
466	7HO14041	OCD ZIPIT SUMMER-P-ET	20161010	A22,POC	g	A
467	0200HO07920	VILLY SILVIO	20160929	A22	g	A
468	JSGARRISON	PEAK GARRISON-ET	20180704	A22	g	A
469	TLGANDREAS	VALA YODA ANDREAS ET - P	20180501	A22,POC	g	A
470	CRVLANGLEY	PEAK LANGLEY	20170507	A22	g	A
471	GGIBAJOU	GLENHAVEN RUW BAJOU-ET (G)	20161210	A12	g	A
472	VDGMYTIME	MORNINGVIEW MY TIME	20160126		g	A
473	STGCANTOROCK	STGENETICS CANTO ROCK	20190812	A22	g	A
474	STTWISTER	MR SPRHERO TWISTER	20170213	A12	g	A
475	011HO15078	PROGENESIS ALTAEQUALITY-ET	20181029	A12	g	A
476	14HO14226	DE-SU FRAZZLD ROME 14192-ET	20170502	A22	g	A
477	011HO11944	HIGHERRANSOM ALTASITH	20160303	A12	g	A
478	011HO12342	G-DERUYTER ALTACURRY-ET	20170812	A22	g	A
479	14HO14863	PEAK KING ROYAL REY-ET	20180221	A22	g	A
480	29HO17397	MIDWOLDER MARQUIS	20160726	A22	g	A
481	7HO14455	T-SPRUCE FRAZZLD FREEDOM-ET	20170608	A22	g	A
482	011HO12180	PEAK ALTADATELINE-ET	20170504	A22	g	A
483	0200HO10765	VIEW-HOME BUFFALO	20150905	A22,BLF,CVF	g	A
484	011HO15063	CO-OP DD ALTAHOTMAIL-ET	20181219	A22	g	A
485	CRVJAPAN	DELTA JAPAN	20170226	A22	g	A
486	7HO13737	OAKFIELD MODEST EINSTEIN-ET	20160626	A12	g	A
487	14HO14785	LARS-ACRES JARED FLATBED-ET	20180516	A22	g	A
488	011HO11905	PEAK ALTAFAANTASTIC-ET	20160121	A22	g	A
489	0200HO11289	CLAYNOOK DUPLO	20170609	A12	g	A
490	POWERWAVE	WINAVIEW POWERBALL POWERWAVE	20160814	A22	g	A
491	011HO12219	PEAK ALTAZAREK-ET	20170716	A22	g	A
492	CRVJACKO	DELTA JACKO PP-RED	20171231	POS,A22,RDC	g	A
493	DOCLOK	ADLEJAMA CANBEE DOCLOK	20140527	A22,CNF	g	A
494	STGNEWTON	MR M-DUKE NEWTON	20170509	A12	g	A
495	011HO15313	PEAK ALTAZINNY-ET	20190315	A12	g	A
496	ALTAROBERT	SCHOENE-KUH ALTAROBERT-ET	20170619		g	A

497	STGMIAMI	FARNEAR MIAMI-ET	20180720		g	A
498	011HO11993	PEAK ALTABOMBAST-ET	20160528	A12	g	A
499	011HO12220	KOEPON ALTATHOR PP	20170729	A22,POS	g	A
500	011HO00594	KOEPON ALTATOP-RED	20180425	A12,VRC	g	A
501	7HO14401	REGAN-DANHOF CASCADE-ET	20171015	A12	g	A
502	14HO14449	PEAK AZTEC-ET	20170423	A22	g	A
503	TLGSUITS	COOMBOONA OCEAN SUITS 1-IMP-ET-PP	20160824	POS,RDC,A12	g	A
504	CRVJUKEBOX	DELTA JUKEBOX P	20170724	POC	g	A
505	7HO14010	S-S-I LA SANDERSON SHIEK-ET	20161229	A22	g	A
506	011HO14126	EILDON-TWEED ALTABRITISH-ET	20180816	A12	g	A
507	14HO14827	OCD RIO SPYKER-ET	20180404	A22	g	A
508	STGLEDoux	ST GEN M DUKE LEDoux	20160623		g	A
509	7HO15105	SIEMERS SOLUTION ROZY-ET	20181201	A22	g	A
510	STGSAHAB	DELICIOUS DYNASTY SAHAB	20180809	A22	g	A
511	BENDALL	RENGAW REDMAW 1102 ERASER-ET	20160725	A12	g	A
512	7HO14460	KENMORE TRIPLE CROWN-RED-ET	20170518	A12,RDC	g	A
513	DATASET	WARRAMONT MICROCHIP DATA-ET	20170201	A22	g	A
514	29HO17396	K&L BO DARWIN	20160803	A22	g	A
515	STGTAMPICO	T-GEN-AC NOBLE TAMPICO	20171125	A12	g	A
516	VDGLENRONALD	GLENABOY RONALD	20180128	A22	g	A
517	011HO12356	PEAK ALTARNR-ET	20171211	A22	g	A
518	GURUBOB	GAIN MYSTICAL GURU	20180801	A22	g	A
519	0200HO11408	PROGENESIS SCRABBLE	20180205	A22	g	A
520	14HO14129	BLUMENFELD FRAZLD BASIC-ET	20170410	A22	g	A
521	0200HO10845	MELARRY FUEL-ET	20160427	A12	g	A
522	TLGANSWER	COOMBOONA ANSWER PHEN-PP-IMP-ET	20180216	POS,A12	g	A
523	14HO07911	PEAK ACCELMALTA-ET	20160818	A12	g	A
524	STGROCKFORD	HILMAR C ROCKFORD	20170528	A11	g	A
525	REGINALD	LIGHTNING RIDGE MODESTY F501-ET	20170818	A22	g	A
526	0200HO11453	CLAYNOOK FINISHLINE	20171224	A12	g	A
527	011HO12209	PEAK ALTAHOTJOB-ET	20170428	A22	g	A
528	202HO01801	BELCANTO	20180912	A22	g	A
529	VIKHNOVAKRC	VH TOLSTRUP NOLAN NOVAKRC	20180612	A22	g	A
530	CBPOWERFUL	MR BLONDIN POWERFUL PP	20160105	A22,POS,RDC	g	A
531	0200HO10933	WESTCOAST ROUNDUP	20160913	A22	g	A
532	0200HO11387	PROGENESIS BLIZZARD	20180122	A12	g	A

533	011HO12159	PEAK ALTALIAISON-ET	20170423	A22	g	A
534	JSBELIEVE	PEAK BELIEVE-ET	20180514	A22	g	A
535	STGXAVIER	STGEN NASH XAVIER-ET	20190327	A22	g	A
536	TRAVOLTA	BUNDALONG RUBICON DETROIT-ET	20160707	A12	g	A
537	0200HO11374	WISSELVIEW WAVELENGTH	20170904	A22	g	A
538	0200HO11075	LEANINGHOUSE WEEKEND-ET	20161110	A12	g	A
539	VOMEMPHIS	VOGUE MEMPHIS	20190121	A22,POS	g	A
540	GGIGIGABYTE	GIGABYTE	20171031	A22	g	A
541	0200HO10704	PROGENESIS FERGUS	20150930	A12	g	A
542	202HO01698	KINGS-RANSOM SUPERMAX	20170112	A22	g	A
543	011HO12345	BOMAZ ALTASOHO-ET	20171012	A22	g	A
544	011HO12174	PEAK ALTAEXPLOSION-ET	20170411	A22	g	A
545	VDGGOAL	SCHILLVIEW ACHIEVER GOAL-ET	20180316	A22	g	A
546	011HO12334	PEAK ALTAINDULGE-ET	20171105	A22	g	A
547	011HO12169	PEAK ALTAEMIRATES-ET	20170219	A12	g	A
548	202HO01709	SANDY-VALLEY ETRICK	20170303	A22	g	A
549	14HO14334	MELARRY FRAZZLED FYI-ET	20170405	A22	g	A
550	0200HO10899	PROGENESIS BUTTERFLY	20160906	A22	g	A
551	29HO18642	ABS PRESLEY-PP-ET	20161211	A22,POS	g	A
552	GGIHELLAS	HELLAS	20160605		g	A
553	0200HO11186	PINE-TREE-I PURSUIT	20170803	A12	g	A
554	CBALADDIN	R DG ALADDIN-RED	20160331		g	A
555	VIKHGADE	VH GOFEET GADE	20170411	A12	g	A
556	STGRANGER	OCD CHARLEY RANGER-ET	20161231	A22	g	A
557	0200HO07925	COL CHIVAS PP	20170203	A12	g	A
558	7HO14674	K-STYLE TARINO SPARTACUS-ET	20180410	A22	g	A
559	STGTWITCH	MR FARNEAR HELIX TWITCH-ET	20170823		g	A
560	VIKHCROWN	VH HEDELUND CHARLEY CROWN	20180103	A22	g	A
561	DRPEPPER	HINDLEE JOSUPER COLADEANNE 1612-ET	20160722	A12	g	A
562	29HO18799	DENOVO 7947 GLITZ-ET	20170718	A22	g	A
563	7HO14681	PEAK CHILTON-ET	20171021	A22	g	A
564	TLGCATALYST	LIGHTNING RIDGE MODESTY CATALYST	20170813	A12	g	A
565	011HO12178	PEAK ALTAHOTHAND-ET	20170503	A22	g	A
566	011HO14118	BOMAZ YODA ALTADANGEROUS-ET	20180519	A22	g	A
567	011HO12082	BGP ALTADPORT-ET	20161028	A22	g	A
568	STRAPID	ST GEN R-HAZE RAPID - ET	20170429	A22	g	A

569	0200HO10739	PROGENESIS MONTFORT	20151213	A22	g	A
570	011HO15257	PEAK ALTANAVIGATE-ET	20181024	A12	g	A
571	GGISIMON	KNS SIMON P	20180223	A22,POC	g	A
572	011HO12165	PEAK ALTABUGGY-ET	20170218	A11	g	A
573	SUPERREY	WINAVIEW MONTEREY SUPERREY	20160826	A11	g	A
574	14HO07923	KINGEMERLING HELX DOCTOR-ET	20161230	A11	g	A
575	7HO14904	HORSENS SSI SOLUTION LON-ET	20181004	A22	g	A
576	7HO13826	MORNINGVIEW RUSTY-RED	20160221	A11,RDC	g	A
577	29HO18838	DENOVO 14427 TOKEN-ET	20170823	A11	g	A
578	011HO12146	WELCOME ALTATOPSHelf-ET	20161117	A12	g	A
579	J11CRUSH	ELMAR CRUSH-ET	20170225	A12	g	A
580	GGIKERMIT	KERMIT	20170404	A22	g	A
581	STGROCCO	FARNEAR D-WORTH ROCCO-ET	20170731	A22	g	A
582	STGIRVINE	TJR NOBLE IRVINE	20171118	A22	g	A
583	011HO12158	PEAK ALTAINGOLD-ET	20170420	A12	g	A
584	GIVEN	HINDLEE XMAS ROYALPIC 1631-ET	20160731	A22	g	A
585	COAL	COUNTRY ROAD FLAMER	20170915	A12	g	A
586	LOYAL	HINDLEE ROYALMAN LOYAL 1723-ET	20170804	A22	g	A
587	FOOTMAN	HINDLEE DOORMAN COLADREAMS 1630-ET	20160731	A22	g	A
588	JSKONRAD	PEAK KONRAD-ET	20190127	A12	g	A
589	7HO14913	AARDEMA BLACKGOLD-P-ET	20180610	A22,POC	g	A
590	29HO19256	COOKIECUTTER SKY HIPSHOT-ET	20180903	A22	g	A
591	TEMPTATION	KIRK ANDREWS PICOLA M122	20150509	A22	g	A
592	GOLDHARP	EMU BANKS GOLDHARP	20170926	A12	g	A
593	29HO17377	VORTEX LEXXI FOXX	20160218	A12	g	A
594	STGYIS	DELICIOUS CHARL YIS	20180812	A22	g	A
595	SEAGLASS	LADYS-MANOR BND SEAGLASS-ET	20161107	A12	g	A
596	STGCAPTAIN	GENOSOURCE CAPTAIN-ET	20190101	A22	g	A
597	29HO19017	SANDY-VALLEY CREAMER-ET	20180111	A22	g	A
598	STGPETE	COOMBOONA ANSWER TO PETE-IMP-ET	20180218		g	A
599	REXXP	HINDLEE POWERBALL PLANEROYAL 161-ET	20160213	POC,A22	g	A
600	011HO15195	PEAK ALTAMALSTROM-ET	20180727	A12	g	A
601	VIKHROXY	VH KIVINIEMEN RADIUM ROXY	20161018	A22	g	A
602	0200HO10776	WESTCOAST GALWAY	20151123	A22	g	A
603	0200HO11042	PROGENESIS DARTAGNAN	20170206	A22	g	A
604	0200HO11170	PROGENESIS HAMOND	20170801	A22	g	A

605	STRAPTURE	GENOSOURCE NOBLE RAPTURE-ET	20171012	A22	g	A
606	RUFFIO	WILARA VIZ K5-ET	20160803	A12	g	A
607	14HO14905	HORSENS SSI SOLUTION STAR-ET	20181015	A22	g	A
608	011HO12211	PEAK ALTAVELVET-ET	20170430	A22	g	A
609	GGIBERUM	WIL BERUM P	20180627	A22,POC	g	A
610	GGIELEGANT	ELEGANT	20180530	A22	g	A
611	011HO12237	PEAK ALTAFLADON-ET	20170611	A11	g	A
612	STGEDGE	ST GEN MT EDGE 67446-ET	20150522		g	A
613	202HO01772	WEH FRANKY	20180622	A22	g	A
614	BOOKDREAM	HINDLEE ROYALMAN BOOKDREAM 1722-ET	20170803	A12	g	A
615	29HO18999	MAPLEHURST STAMPEDE	20171003	A12	g	A
616	0200HO10892	WESTCOAST ARDOR	20160709	A22	g	A
617	0200HO11152	DE-SU HEDGEHOP-ET	20170206	A12	g	A
618	0200HO10854	SANDY-VALLEY PISTON	20160405	A22	g	A
619	0200HO11457	WALNUTLAWN BRIDGESTONE	20180104	A22	g	A
620	CONDUCTOR	CARENDA CONDUCTOR	20160926	A22	g	A
621	RHINO	MANNA FARM MCCUTCHEN 2510	20150105	A12	g	A
622	011HO12225	PEAK ALTALOU P-ET	20170601	A22,POC	g	A
623	14HO14193	MELARRY FRAZZLED WHINO-ET	20170104	A22	g	A
624	29HO17387	RELOUGH DIRECTIVE	20160617	A12	g	A
625	VIKHRAMSEY	VH RIVER RAMSEY	20170803	A12	g	A
626	7HO13832	S-S-I MARKLEY MAXWELL-P-ET	20160916	A22,POC	g	A
627	CRVFISHERMAN	DELTA FISHERMAN	20180119		g	A
628	011HO12277	PEAK ALTAMOCON-ET	20170623	A22	g	A
629	011HO12407	MATCREST ALTAACER-ET	20180301	A22	g	A
630	29HO18822	SEAGULL-BAY AMAZON-ET	20170609	A22	g	A
631	011HO12191	MELARRY ALTAKEUCHEL	20161227	A22	g	A
632	250HO14809	WINSTAR RIVERBEND-PP-ET	20180304	A22,POS	g	A
633	STGBARBATOS	LIGHTNING RIDGE BARBATOS	20180215		g	A
634	CRVDUBAIPP	DELTA DUBAI PP-RED	20180518	A22,POS,RDC	g	A
635	7HO14722	OCD TARRINO TOMMYBOY-ET	20180123	A22	g	A
636	94HO19320	WINSTAR GEMSTONE-ET	20180730	A12	g	A
637	0200HO10867	PROGENESIS KRISTOFF	20160725	A22	g	A
638	VDGPORSCHE	MISTY-MOOR PORSCHE	20170830	A22	g	A
639	STICKPP	STICK PP	20180621	A22,POS	g	A
640	011HO11981	PEAK ALTAMONTOYA-ET	20160806	A12	g	A

641	MILLENIAL	WINSTAR JUICY MILLENIAL-ET	20180611	A22	g	A
642	7HO14855	BLUMENFELD FRAZZLD FRITZ-	20180722	A22	g	A
643	29HO18534	ABS MINDWELL-ET	20160817	A22	g	A
644	0200HO10862	PROGENESIS PADAWAN	20160613	A22	g	A
645	94HO0914	ESKDALE MR AFLAME-RED-ET	20190222	A12,RDC	g	A
646	RICCARDO	GLOMAR SOPRANO RICCARDO	20140810	A12	g	A
647	KINGFAITH	CALISTER KINGTUT FC208-ET	20170830	A22	g	A
648	011HO11723	PEAK ALTATRUM PP-ET	20150404	POS	g	A
649	011HO15199	PEAK ALTASPYMASTER-ET	20180929	A12	g	A
650	CRVTEUN	CREIJLAND TEUN	20180403	A22	g	A
651	0200HO11048	PROGENESIS DUMBLEDORE	20170222	A12	g	A
652	NARDEE	GALLRAE 986 NARDOO 98-ET	20160725	A22	g	A
653	GGIBOSWELL	LIS BOSWELL	20160730	A22	g	A
654	011HO12264	PEAK ALTAABBA-ET	20170531	A22	g	A
655	ROYALCOLA	HINDLEE XMAS ROYALCOLA 1618-ET	20160726	A22	g	A
656	011HO12123	PEAK ALTASNAPCHAT-ET	20170202	A12	g	A
657	UPTEMPO	JET STAR UPTEMPO-ET	20130517		g	A
658	AGRJUDGEMENT	FARNEAR JUDGEMENT-ET	20180223		g	A
659	THUNDERBALL	HINDLEE TITANIUM ROYALCOLA 1619-ET	20160727	A22	g	A
660	0200HO11562	FAIRMONT RIDGELINE-ET	20180518	A22	g	A
661	7HO14608	S-S-I DOC ALUM	20180118	A12	g	A
662	LAUTETT	REDMAW JETT LAUTETT-ET	20161223	A12	g	A
663	VIKHBONES	VH RODA GARDEN BENZEMA BONES	20170131	A22	g	A
664	0200HO11826	CEDARWAL HANDPICK P	20181021	A22,POC	g	A
665	RAMPER	ECLIPSPEIRCE MODESTY 3645-ET	20170821	A12	g	A
666	011HO12148	NO-FLA ALTAWILLIE	20161027	A12	g	A
667	29HO0913	APRILDAY DIVINITY-RED-ET	20180623	A22,RDC	g	A
668	94HO19189	MORNINGVIEW RADIO-ET	20180430	A22	g	A
669	GGIJERED	RBB JERED	20160905	A22	g	A
670	0200HO11462	WINSTAR LUCK PP-RED-ET	20180113	A22	g	A
671	011HO12177	PEAK ALTASEVERINO-ET	20170224	A22	g	A
672	011HO15012	PEAK FRZLD ALTAROYALTON-ET	20180619	A12	g	A
673	7HO14125	T-SPRUCE FRAZZLED HUEY-ET	20170204	A22	g	A
674	011HO12358	PEAK ALTAROADY-ET	20171214	A22	g	A
675	0200HO11312	LEANINGHOUSE TUCUMCARI-ET	20170608	A22	g	A
676	011HO12293	NO-FLA ALTABUNDLE-ET	20170617	A12	g	A

677	7HO14588	OCD PINNACLE DIESEL-ET	20171209	A11	g	A
678	250HO14197	NO-FLA CAPITAL 45499-ET	20161204	A22	g	A
679	0200HO10890	LEGEND-MAKER VICTOR	20160409	A22	g	A
680	FLASHDANCE	COUNTRY ROAD FLASHBACK 4373	20150815	A12	g	A
681	14HO14061	JENNY-LOU JEDI HOUND-ET	20161008	A11	g	A
682	29HO18674	ABS CLARITY-ET	20170220	A22	g	A
683	14HO13915	NO-FLA CODE 44545-ET	20160812	A22	g	A
684	JSEXETER	PEAK EXETER	20170226	A22	g	A
685	DRAFTPICK	CARENDA ROOKIE 654	20170802	A11	g	A
686	VDGRONALD	SCARTFLESK RONALD	20180101	A22	g	A
687	CRVDELTAFAIR	DELTA FAIR PP	20161009	A11,POS	g	A
688	GGIJUNGLE	JUNGLE	20160308	A12	g	A
689	0200HO11483	PROGENESIS BOXOFFICE	20180425	A12	g	A
690	GGICASINO	CASINO	20170211	A22	g	A
691	0200HO11953	KINGS-RANSOM DIMENSION-ET	20190504	A12	g	A
692	STGEINSTEIN	STANTONS EINSTEIN-ET	20141230	A12	g	A
693	SCORPION	CO-OP DAMARIS SCORPION-ET	20160521	A22	g	A
694	29HO20006	SHG RAINSTORM RED	20181204	A12,RDC	g	A
695	NZGGREENGOV	GREENWELL GR GOVERNOR S1F	20170730	A22	g	A
696	VLADAMIR	HINDLEE TITANIUM ROYALPICO 1625-ET	20160729	A22	g	A
697	STGARISTCRAT	MR FRAZZLED ARISTOCRAT-ET	20170713	A12	g	A
698	0200HO10900	PROGENESIS FABULOUS	20160825	A12	g	A
699	011HO12122	PEAK ALTASTARJACK-ET	20170204	A12	g	A
700	JSBLASKA	COLDSPRINGS BLASKA-ET	20181210	A22	g	A
701	011HO11954	PEAK ALTADEPOT-ET	20160326	A12	g	A
702	VDGHAROLD	RIVERSIDE HAROLD SRM	20190204	A22	g	A
703	011HO12147	HIGHER RANSOM ALTASUMMIT-ET	20161202	A22	g	A
704	94HO19324	GDR-KINGS RADAR-ET	20180913	A12	g	A
705	011HO12328	PEAK ALTAINDIGO-ET	20171121	A12	g	A
706	7HO14812	KINGS-RANSOM H ELECTRIFY-ET	20180322	A22	g	A
707	7HO14160	CHERRY-LILY ZIP LUSTER-P-ET	20161116	A22,POC	g	A
708	GGIBOMBASTIC	BOMBASTIC	20140409		g	A
709	011HO12316	PEAK ALTAORINOCO-ET	20170923	A22	g	A
710	250HO14579	SIEMERS DOC HANCOCK	20170927	A22	g	A
711	250HO14465	TRENT-WAY-JS RONALD-ET	20170613	A11,RDC	g	A
712	STGHOORAH	BGP MODESTY HOORAH-ET	20161211		g	A

713	STGABOTSFORD	ST GEN NOBLE ABBOTSFORD	20171216	A22	g	A
714	STGAKON	ST GEN JETT AKON	20160913	A22	g	A
715	JSCHARGER	ENDCO CHARGER - ET	20151122	A11	g	A
716	TLGSPLENDORE	COOMBOONA MODEST SPLENDORE-IMP-ET	20170130	A12	g	A
717	29HO18553	DE-SU 13784 BRIGHTON-ET	20160918	A22	g	A
718	VDGTURLOUGH	OLCASTLETOWN TURLOUGH	20190123	A22	g	A
719	011HO12206	NO-FLA ALTARONDON-ET	20170111	A12	g	A
720	0200HO07923	WILDER MARK	20170516	A12	g	A
721	CARIBBEAN	TJR NOBLE CARIBBEAN-ET TC	20171223	A11	g	A
722	STGSTOCKTON	SAN-DAN NOBLE STOCKTON-ET	20171208		g	A
723	WESTBRIDGE	GALLRAE 983 WESTGATE 101	20160814	A22	g	A
724	NICHE	MR RUBICON NICHE-ET	20170412	A12	g	A
725	STGRESERVE	OCD KINGS RESERVE	20160916	A22	g	A
726	TLGANGLE	COOMBOONA POWERBALL ANGLE	20150819		g	A
727	011HO12370	PEAK ALTANERVE-ET	20180130	A22	g	A
728	7HO14903	S-S-I HUEY DAVOS-ET	20181025	A22	g	A
729	7HO13979	SANDY-VALLEY MD LIVEWIRE-ET	20160824	A22	g	A
730	GGIHITCHCOCK	PMH HITCHCOCK	20180707	A22	g	A
731	0200HO11324	SIEMERS HAWT-ET	20170819	A22	g	A
732	JANKEM	COUNTRY ROAD BOOKEM JANKEM-ET	20140717	A22	g	A
733	DILLYDILLY	GENOSOURCE DILLY DILLY-ET	20171012	A22	g	A
734	29HO17368	HILLHEAD BEECH	20160301	A12	g	A
735	STGNEPOLEAN	MR NOBLE NEPOLEAN	20171025		g	A
736	VDGTIERNAN	OLCASTLETOWN TIERNAN	20190125	A22	g	A
737	0200HO10906	PROGENESIS SUMMERDAY	20160914	A12	g	A
738	STGNOBLEMAN	ST GEN NOBLEMAN	20180716	A12	g	A
739	STGROUX	ST GEN FRAZZLED ROUX	20180618	A22	g	A
740	VDGROMEIO	OLCASTLETOWN ROMEO	20180209		g	A
741	REFRESHER	HINDLEE DOORMAN COLADREAM 1610-ET	20160720	A22	g	A
742	7HO14333	MELARRY FRAZZLED FUTURE-ET	20170126	A22	g	A
743	STGGOFAST	MR RI-VAL-RE GO FAST-RED-ET	20170516	A11	g	A
744	CRVHGCHUCK	HILLBRAE GAUNT CHUCK ET	20180208		g	A
745	KORBAN	RENGAW KINGBOY 9969-ET	20150706	A22	g	A
746	011HO12093	G-DERUYTER ALTANITRO-ET	20161024	A12	g	A
747	STGHIGHNOON	MR DETOUR HIGH NOON-ET	20160521		g	A
748	VDGDETAIL	KINGS-RANSOM F DETAIL	20160810		g	A

749	14HO14225	S-S-I BR JAGUAR JUDGE-ET	20170511	A22	g	A
750	0200HO11356	PROGENESIS KANSASCITY	20171221	A22	g	A
751	STGPACO	ST GEN HELIX PACO	20170510	A12	g	A
752	0200HO11644	PROGENESIS MEMBERSHIP	20181112	A22	g	A
753	14HO14464	MR STONE-FRONT REEVE-RED-ET	20170526	A12,RDC	g	A
754	VIKHBLIET	VH BOSMAN BLIET RC	20161015		g	A
755	7HO14501	OCD PARISON EDISON-ET	20171017	A22	g	A
756	7HO14439	WELCOME TRILOGY 3553-ET	20170603	A22	g	A
757	IGNORMAN	KEALFINCHEON NORMAN	20140211		g	I
758	VIKHGLASIUS	VH SKOVGAARD GALBART GLASIUS	20170901	A22	g	A
759	0200HO11310	KINGS-RANSOM DISCOVER	20170714	A12	g	A
760	GGISURROUND	SURROUND	20170427		g	A
761	TLGSEAMUS	COOMBOONA KINGBOY SEAMUS- ET	20150526		g	A
762	STGCHARL	HURTGENLEA RICHARD CHARL	20161228	A22	g	A
763	TLGMARTYR	COOMBOONA COMMANDER MARTYR	20160203	A12	g	A
764	011HO12270	PEAK ALTAMANOR-ET	20170529	A22	g	A
765	GGIFRISK	POPPE FRISK	20171208		g	A
766	29HO18907	MR FB HANSBROUGH-ET	20171013	A22	g	A
767	0200HO11287	CLAYNOOK DISCJOCKEY	20170604	A11	g	A
768	STGDYSON	MR COMMANCHE DYSON	20160813		g	A
769	VDGSALAH	HILLSDALE MO SALAH	20190201	A12	g	A
770	CAHILL	LEXVOLD SS CAHILL-ET	20160209	A22	g	A
771	ROYALE	GALLRAE 1047 ROYALBEE 108	20160907	A22	g	A
772	7HO14868	BADGER S-S-I VICTORIO-ET	20180909	A22	g	A
773	VETTLE	CARENDA VETTLE	20160213	A12	g	A
774	011HO12030	PINE-TREE ALTAMEDIAN-ET	20160505	A22	g	A
775	STGREINO	GENOSOURCE JSR REINO-ET	20160622	A12	g	A
776	0200HO11652	LEBOLD DREAMVIEW MILANO	20180625	A12	g	A
777	0200HO10992	WALNUTLAWN SIDEKICK	20160714	A22,CVF	g	A
778	011HO00584	STERK ALTABRICK	20151205	A12,POC,VRC,BLF	g	A
779	7HO14364	SANDY-VALLEY EISAKU-ET	20170623	A22	g	A
780	7HO14328	WIND-D-ACRES JILEK-PP-ET	20170422	A22,POS	g	A
781	TLGOMAN	COOMBOONA DAVINCI OMAN	20140606		g	A
782	LJCOOL	ADLEJAMA PICOLA FAROUK	20140814	A22,CVF	g	A
783	CRVOVERDRAFT	BUSY BROOK OVERDRAFT S2F	20170722	A22	g	A
784	CBACE	KILTESKIN ACE	20140125		g	I

785	STGNOCANDO	FARNEAR MDSTY NO CAN DO	20170712	A22	g	A
786	7HO14026	VATLAND METEOR-ET	20160706	A12	g	A
787	AIMITCHELL	AURORA MITCHELL 533	20161118	A12	g	A
788	14HO13738	OAKFIELD MODESTY EUREKA-ET	20160628	A12	g	A
789	STGHISTORY	LINDENRIGHT HISTORY	20161017		g	A
790	29HO17478	DENOVO AXWELL - PP	20181121	POS,A22	g	A
791	JSWOODFORD	MIDAS-TOUCH WOODFORD -ET	20170825	A22	g	A
792	0200HO11723	QUALITY LUSTER	20180404	A12	g	A
793	CRVDELSANTO	LORNFACE FREE DELSANTO-ET	20160708	A22	g	A
794	VDGANTON	BALLYKILROE ANTON SRM	20180130		g	A
795	STGSHOOTER	EDG OUTSIDERS SHOOTER	20170621	A22	g	A
796	011HO12226	PEAK ALTALANSING-ET	20170621	A22	g	A
797	JSHOTSPOT	SIEMERS HOTSPOT	20170522	A22	g	A
798	7HO14451	A-S-CANNON FRZZLD BIG AL-ET	20170426	A22	g	A
799	RUMPERT	LIGHTNING RIDGE MODESTY 6787-ET	20170818	A12	g	A
800	CBLIGHTNING	CLONDROHID BLACK LIGHTNING	20150217		g	I
801	VDGREASONS	FULLTHROTTLE REASONS	20160505		g	A
802	0200HO11077	PROGENESIS PARKAVENUE	20170327	A22	g	A
803	STGHEIDRICK	COOMBOONA EXPANDER HEIDRICK-IMP-ET	20170703		g	A
804	7HO14920	AVANT-GARDE UNIX SELECT-ET	20180630	A12	g	A
805	TLGYCHROME	HILL VALLEY YCHROME-ET	20181215		g	A
806	CBMAGNET	PARKDUV MAGNET	20120215	A22	g	I
807	GGIFIRST	FIRST	20161201	A12	g	A
808	STNOBLE	MR SPRING NOBLE-ET	20160201		g	A
809	ROYALCRUSH	ECLIPSE ROYALCRUSH	20170629		g	A
810	RORY	BLUMENFELD GDANC RORY-ET	20160929	A22	g	A
811	011HO00592	BLONDIN ALTAC-RED-ET	20170829	A12	g	A
812	NZGSUPERVISR	TAFTS GR SUPERVISOR S1F	20170719		g	A
813	0200HO11069	SIEMERS BRONZE	20161007	A11	g	A
814	J11SALON	ELMAR SALON-ET	20170728	A12	g	A
815	14HO14885	WILRA S-S-I NUGENT TED-ET	20180927	A22	g	A
816	011HO12127	PEAK ALTAOVID-ET	20161124	A12	g	A
817	GGIPALAU	PALAU	20160323		g	A
818	CRVMENTOR	DELTA MENTOR	20160405	A12,POS	g	A
819	TLGSPOKESMAN	COOMBOONA MONTANA SPOKESMAN-IMP-ET	20170201		g	A
820	011HO11838	PEAK ALTAKARMA-ET	20151007		g	A

821	GGIDAVIS	DAVIS	20160810		g	A
822	CRVTATAWAI	EDGECOMBE SB TATAWAI S1F	20160725		g	A
823	011HO12366	PEAK ALTAKISS-ET	20180101	A12	g	A
824	TLGLUTHER	COOMBOONA SATISFACTION LUTHER - IMP - ET	20140916		g	A
825	JSARISE	ENDCO ARISE - ET	20151001	A12	g	A
826	0200HO11295	CLAYNOOK MIAMI	20170216	A11	g	A
827	GGIPANAMA	COL PANAMA	20180410	A22	g	A
828	STGNORMAN	MR WINGS NORMAN	20170807	A22	g	A
829	14HO15005	T-SPRUCE HUEY CHASKA-ET	20181015	A22	g	A
830	PERTZ	CALISTER PERTINENT L 168	20170417	A12	g	A
831	14HO14085	FUSTEAD S-S-I SOLUTION-ET	20170222	A22	g	A
832	29HO17442	SCHREUR SHIMMER	20170709	A12,RDC	g	A
833	94HO18700	STONE-FRONT ARTIST-ET	20161127	A12	g	A
834	PREDICTABULL	EMU BANKS PAUL 4-ET	20150820	A11	g	A
835	IGEBONY	MONABROGUE EBONY	20170130		g	A
836	RASAPAN	REDMAW RENGAW V POORAS-ET	20160505	A12	g	A
837	GGISALENO	SALENO	20161104	A22	g	A
838	ECLBLACKWOOD	ECLIPSE BLACKWOOD ET	20171002		g	A
839	GIFTWOOD	KIRK ANDREWS PICOLA M139-ET	20151129	A22	g	A
840	14HO07888	PEAK ACCELEXCITER-ET	20160414	A22	g	A
841	011HO12280	PEAK ALTAPOSH-ET	20170627	A22	g	A
842	011HO12052	PEAK ALTAKALISPELL-ET	20160825	A22	g	A
843	JINBLACK	RENGAW JUMPON JINBLACK	20150918	A12	g	A
844	JOINER	RENGAW REDMAW JOINER-ET	20160813	A12	g	A
845	011HO12063	PEAK ALTACOWBOY-ET	20160926	A12	g	A
846	TLGSHANE	COOMBOONA MEGASIRE SHANE	20150504		g	A
847	STGIDEALIST	STGEN IDEALIST-ET	20181215		g	A
848	CBPEAKS	UMMA CUDDY PEAKS	20150316		g	I
849	94HO18518	BRENLAND DENVER	20160511	A12	g	A
850	CRVROADSTER	ALCAMENO MG ROADSTER S1F	20180707		g	A
851	IGRONALDO	OLCASTLETOWN RONALDO	20150209		g	I
852	29HO19013	BOMAZ ATOMIC-PP-ET	20171213	A22,POS	g	A
853	STGHAZE	COOKIECUTTER HAZE	20160731	A12	g	A
854	MACNUT-PP	HULSDALE B MACNUT - PP	20170217	A22,POS	g	A
855	CINCO	LARCREST JEDI CINCO-ET	20160629	A22	g	A
856	ZOLTAN	MANNA FARM MCCUTCHEN 2701-ET	20150111	A11	g	A

857	011HO12287	ZAHBULLS ALTAEDIFY	20170420	A22	g	A
858	GAMMARAY	KANDES PICOLA M117-ET	20150430	A22	g	A
859	VDGCHILE	PINE-TREE CHILE	20170123		g	A
860	VDGSKARE	KINGS-RANSOM H SKARE	20160310		g	A
861	CRVQUANTICO	MEANDER SB QUANTICO S1F	20160809	A22	g	A
862	7HO14330	SANDY-VALLEY EFFECT-ET	20170427	A22	g	A
863	VIKHMONTY	VH VILLEMAJGAARD MILFORD P MONTY	20160419	POC	g	A
864	7HO14326	HOLYLAND NEBULUS-PP	20170404	POS	g	A
865	29HO17404	K&L LZ CONAN PP RED	20161120	POS,RDC,A12	g	A
866	VDGREVEL	RASBERRY REVELATION-ET	20181115	A22	g	A
867	14HO14038	RONELEE DETOUR BOUNTY-ET	20160921	A22	g	A
868	7HO15243	WELCOME CLASSY 4078-ET	20181226	A22	g	A

conomic ABV(q)'s

Source	Indices				Production Traits									Survival		Conformation Traits			Workability		
	BPI \$	BPI Rel	HWI	TWI	ASI	Prot kg	Prot %	Milk L	Fat kg	Fat %	ASI Rel	No. Dtrs	No. Herds	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like
SEM	422	62	354	436	199	20	0.29	178	44	0.52	73	0	0	110	45	106	109	52	103	102	105
GAC	414	62	358	425	169	19	0.22	256	37	0.37	73	0	0	112	43	106	110	51	103	104	106
WWS	413	66	355	394	203	27	0.25	536	37	0.21	77	0	0	112	50	101	106	59	103	102	104
ABS	411	62	332	378	268	37	0.40	563	40	0.23	73	0	0	111	45	97	103	53	101	104	106
ABS	411	66	358	354	188	28	0.29	458	23	0.05	77	0	0	111	50	97	104	60	102	104	105
ALT	410	62	314	381	240	32	0.25	703	48	0.27	74	0	0	111	45	103	103	53	102	101	105
SEM	406	66	343	399	215	36	0.27	782	26	-0.11	76	0	0	111	49	102	107	58	104	104	106
GAC	406	63	344	374	193	25	0.20	525	41	0.27	74	0	0	111	46	102	103	54	103	104	106
SEM	405	63	323	362	240	39	0.26	954	35	-0.08	73	0	0	112	45	101	100	54	100	103	106
CRV	403	62	337	396	197	29	0.37	358	18	0.03	73	0	0	114	45	106	102	52	102	102	105
SEM	403	63	347	377	190	23	0.32	222	30	0.29	74	0	0	114	47	101	105	55	103	104	106
GAC	402	63	337	414	221	30	0.30	511	37	0.22	74	0	0	111	46	107	107	54	103	102	106
ABS	401	66	337	373	200	25	0.29	370	35	0.28	76	0	0	112	50	102	103	58	103	103	104
ABS	398	65	311	370	227	34	0.31	643	32	0.06	76	0	0	111	47	104	107	56	102	103	105
ABS	397	69	288	361	288	20	0.64	-527	55	1.12	75	25	6	108	64	102	105	70	102	102	104
GAC	397	64	322	386	223	32	0.31	600	33	0.11	75	0	0	110	48	104	104	57	103	104	106
ALT	396	61	337	393	203	25	0.19	563	49	0.35	72	0	0	110	43	106	104	51	99	104	104
ALT	395	64	332	393	212	27	0.25	494	43	0.32	74	0	0	111	49	104	108	57	103	101	104
GAC	394	66	324	359	219	34	0.34	591	24	-0.02	77	0	0	110	50	102	107	61	103	103	106
GAC	394	64	338	379	190	24	0.19	511	43	0.31	75	0	0	110	47	104	107	55	103	100	104
ABS	393	61	308	356	251	29	0.31	457	55	0.51	72	0	0	108	42	99	105	50	103	102	104
GAC	391	62	328	400	192	27	0.20	618	37	0.16	73	0	0	112	44	106	110	51	103	104	106
TLG	390	66	290	372	281	39	0.33	792	51	0.26	76	0	0	110	50	104	103	58	102	102	105
GAC	390	64	305	358	270	24	0.57	-216	45	0.78	75	0	0	105	49	100	100	56	101	103	104
ABS	389	66	318	367	205	27	0.25	519	38	0.23	76	0	0	110	51	100	106	59	102	104	105
TLG	389	66	326	386	205	23	0.33	218	36	0.39	76	0	0	109	50	102	108	59	104	103	105
GAC	389	62	324	416	182	22	0.12	573	50	0.37	73	0	0	112	44	108	109	52	103	103	106
GAC	388	67	315	374	205	27	0.38	266	24	0.18	78	0	0	109	52	104	106	62	102	103	105

ABS	388	61	334	386	192	19	0.28	141	43	0.53	72	0	0	111	43	104	107	51	101	101	104
SEM	387	65	343	376	143	20	0.19	374	23	0.10	75	0	0	113	48	105	103	57	103	103	105
GAC	386	60	329	383	206	26	0.32	323	34	0.29	72	0	0	110	42	104	108	50	103	103	105
ABS	385	62	314	357	215	23	0.33	213	43	0.49	73	0	0	109	44	101	105	53	102	102	104
SXT	384	59	299	369	231	22	0.40	29	47	0.65	71	0	0	111	40	105	104	48	102	104	106
SEM	383	62	292	382	224	18	0.35	2	55	0.79	73	0	0	110	44	104	104	53	101	103	106
SEM	383	65	313	347	218	30	0.25	605	40	0.21	75	0	0	109	48	101	105	57	101	101	104
WWS	382	60	326	361	178	29	0.13	804	34	0.00	71	0	0	113	43	103	104	50	100	102	104
ABS	381	62	310	343	211	30	0.20	710	43	0.18	73	0	0	108	43	99	105	51	103	103	104
GAC	380	60	310	356	212	34	0.30	671	24	-0.07	72	0	0	111	42	103	104	50	103	103	105
WWS	377	62	313	380	190	19	0.21	287	49	0.54	72	0	0	112	45	106	107	52	102	100	103
ABS	376	65	337	376	187	30	0.21	691	28	-0.03	76	0	0	111	49	103	108	58	101	103	105
ALT	375	59	288	367	237	27	0.31	372	50	0.50	71	0	0	112	41	104	103	49	104	102	105
ALT	374	61	296	345	231	30	0.20	701	53	0.34	72	0	0	111	43	100	101	51	103	103	105
SXT	373	62	291	382	229	26	0.37	240	40	0.42	73	0	0	110	45	107	105	53	103	102	105
GAC	373	62	321	368	179	20	0.24	290	37	0.36	73	0	0	110	46	105	109	53	103	101	104
SEM	373	64	319	356	161	19	0.25	198	29	0.30	74	0	0	112	48	103	104	56	103	103	105
WWS	372	61	299	364	232	34	0.24	804	42	0.11	72	0	0	111	43	101	104	51	101	103	105
GAC	372	64	299	374	218	28	0.36	326	32	0.26	75	0	0	110	47	106	107	56	101	104	105
ALT	372	59	283	391	215	25	0.31	313	42	0.41	71	0	0	112	40	107	108	48	101	101	105
GAC	372	60	317	344	196	34	0.29	685	18	-0.17	72	0	0	110	42	101	102	49	101	102	104
WWS	372	61	305	315	190	24	0.20	495	41	0.29	72	0	0	110	43	97	102	51	102	102	104
AGR	371	61	289	365	217	32	0.16	872	47	0.13	72	0	0	111	44	105	106	51	100	102	105
ABS	371	62	300	339	208	29	0.21	647	42	0.21	73	0	0	109	45	101	102	52	103	103	105
AGR	370	61	291	350	220	26	0.30	384	44	0.39	72	0	0	112	43	100	105	51	105	104	107
ALT	370	64	306	339	194	28	0.22	604	34	0.12	74	0	0	110	48	101	105	56	102	100	104
GGI	370	65	333	330	143	24	0.23	427	12	-0.09	75	0	0	110	49	100	103	58	102	102	104
GAC	369	68	283	358	232	22	0.49	-151	37	0.63	79	0	0	109	55	103	104	63	101	104	105
SXT	368	67	303	367	187	22	0.19	444	44	0.36	78	0	0	111	51	104	108	59	103	102	106
GAC	368	68	308	362	172	27	0.25	515	21	-0.01	78	0	0	114	54	103	109	62	104	102	106
WWS	368	63	319	346	147	25	0.17	606	18	-0.11	74	0	0	113	47	104	105	55	101	104	106
ALT	367	62	296	370	194	19	0.33	45	39	0.53	73	0	0	113	45	104	107	53	104	103	106
TLG	367	66	323	366	172	23	0.15	571	37	0.18	76	0	0	113	49	102	106	58	103	102	104
ALT	366	61	293	350	195	29	0.21	667	33	0.06	73	0	0	110	43	102	105	51	103	104	106
AGR	365	65	297	338	188	18	0.29	91	41	0.54	76	0	0	109	49	102	105	58	102	103	104
ALT	364	66	290	355	201	32	0.18	813	36	0.02	76	0	0	111	52	102	103	60	103	103	105

GAC	364	68	294	362	165	19	0.24	221	32	0.32	78	0	0	112	56	105	107	63	103	104	106
GAC	363	66	309	355	185	28	0.18	673	33	0.07	77	0	0	112	50	102	106	59	102	101	104
ALT	363	64	310	329	173	29	0.25	582	18	-0.10	74	0	0	111	46	100	101	55	102	103	105
GAC	362	71	262	353	242	27	0.48	77	33	0.43	79	27	13	109	64	105	107	68	104	104	105
SXT	362	66	281	360	220	39	0.14	1,159	38	-0.16	76	0	0	110	50	104	106	58	102	103	105
GAC	361	65	265	325	238	17	0.47	-291	50	0.91	76	0	0	106	46	102	103	55	101	101	103
WWS	361	63	297	346	193	30	0.23	649	29	0.02	74	0	0	111	46	103	107	54	103	102	105
GAC	361	67	298	307	179	22	0.37	78	20	0.24	78	0	0	108	51	97	104	62	102	100	104
ABS	360	62	284	349	240	40	0.33	838	25	-0.15	73	0	0	109	44	103	106	53	103	104	105
SEM	360	62	266	359	237	29	0.33	427	43	0.36	74	0	0	112	45	105	102	52	103	103	105
ALT	360	60	288	350	199	27	0.20	628	40	0.20	71	0	0	110	41	103	107	49	101	104	106
GGI	360	63	303	361	187	25	0.29	371	28	0.17	74	0	0	111	45	107	105	53	104	102	105
AGR	360	58	299	344	186	22	0.22	398	39	0.32	69	0	0	110	40	103	102	47	102	102	105
WWS	360	67	326	334	161	23	0.16	534	32	0.14	78	0	0	110	51	99	107	59	102	101	105
SXT	360	65	299	319	154	25	0.13	696	27	-0.05	76	0	0	111	49	98	105	56	102	102	104
SXT	359	62	289	343	199	28	0.27	506	33	0.16	73	0	0	111	45	100	107	53	103	105	106
ABS	359	65	294	312	190	24	0.24	414	36	0.27	75	0	0	110	50	100	101	58	100	102	105
GAC	359	64	295	355	182	28	0.22	629	27	0.00	75	0	0	111	46	105	104	55	104	104	105
SEM	359	65	308	375	175	24	0.22	452	30	0.16	76	0	0	114	48	106	108	57	105	103	106
AGR	358	66	279	357	199	23	0.27	311	41	0.40	77	0	0	112	51	104	106	59	103	104	106
AGR	358	61	302	342	183	20	0.26	232	37	0.40	72	0	0	112	42	102	107	50	102	103	105
VDG	358	65	307	344	159	18	0.19	297	36	0.34	76	0	0	112	49	103	102	58	102	102	104
GAC	357	63	282	351	196	28	0.31	415	25	0.11	74	0	0	111	46	106	105	55	103	102	106
SXT	357	61	307	334	159	25	0.09	772	34	0.01	72	0	0	110	43	101	103	51	103	104	105
WWS	355	66	276	303	215	31	0.31	561	30	0.09	78	0	0	109	50	96	104	59	99	103	104
ALT	355	60	279	340	206	23	0.23	396	49	0.46	71	0	0	111	40	102	104	49	100	103	104
WWS	355	65	298	319	168	26	0.16	644	29	0.02	76	0	0	110	49	99	102	57	104	103	105
GAC	355	67	297	341	158	28	0.24	573	11	-0.19	78	0	0	111	51	105	108	62	104	105	106
WWS	354	61	277	330	210	31	0.30	557	30	0.09	72	0	0	110	43	102	103	51	102	102	104
SXT	354	62	298	322	194	25	0.23	469	38	0.26	73	0	0	109	46	99	107	53	103	102	105
WWS	354	66	301	329	162	24	0.19	533	26	0.05	77	0	0	110	51	101	107	59	103	100	103
ALT	353	61	261	325	238	27	0.37	274	44	0.46	72	0	0	109	43	101	102	51	102	103	105
ABS	353	60	256	324	224	28	0.31	433	41	0.33	71	0	0	110	42	101	103	49	101	103	106
GGI	353	63	271	340	216	34	0.33	598	24	-0.03	74	0	0	109	45	103	104	53	104	103	105
WWS	353	67	295	346	192	29	0.27	548	26	0.04	78	0	0	110	51	102	105	60	104	101	105
ABS	353	63	314	317	163	21	0.20	379	33	0.24	73	0	0	109	46	97	103	55	102	101	103

ALT	352	66	310	350	151	25	0.07	794	32	-0.03	76	0	0	110	50	103	109	58	104	103	105
GGI	352	64	315	345	151	22	0.26	288	17	0.07	74	0	0	109	47	103	105	55	103	101	103
GAC	351	71	265	370	259	35	0.24	811	56	0.31	79	34	12	109	62	107	110	69	105	102	106
WWS	351	60	296	325	168	20	0.14	487	42	0.31	71	0	0	112	42	102	103	49	100	100	103
SEM	351	67	282	329	163	25	0.15	608	30	0.06	78	1	1	112	54	102	104	62	101	102	104
AGR	351	67	308	348	139	19	0.20	320	20	0.10	78	0	0	110	51	104	104	60	102	103	106
AGR	351	67	316	359	136	23	0.11	614	23	-0.05	78	0	0	111	52	108	109	60	103	101	105
AGR	350	62	256	319	243	27	0.28	458	56	0.53	73	0	0	109	45	98	105	53	103	103	105
AGR	350	65	287	345	180	27	0.22	559	28	0.06	75	0	0	111	49	105	106	57	102	101	105
SEM	350	62	298	288	172	25	0.26	414	22	0.06	73	0	0	109	46	97	100	54	101	102	104
VDG	349	65	285	334	215	21	0.36	95	42	0.55	75	0	0	107	49	101	105	57	102	102	103
ALT	349	64	275	352	214	18	0.40	-104	43	0.68	75	0	0	110	46	102	106	55	104	103	106
GAC	349	67	278	332	199	33	0.27	700	21	-0.13	78	0	0	112	52	102	103	60	104	103	106
ABS	349	62	295	336	177	22	0.27	299	29	0.24	73	0	0	112	45	102	105	53	100	103	104
CRV	349	67	288	326	163	22	0.23	355	26	0.16	78	0	0	111	52	102	102	60	102	104	105
GGI	349	63	298	333	161	25	0.16	617	26	0.00	74	0	0	113	46	103	102	54	102	102	105
ABS	348	62	257	315	242	31	0.34	473	42	0.32	73	0	0	106	44	98	103	52	102	104	106
GAC	348	63	276	334	200	38	0.23	967	18	-0.34	73	0	0	110	46	104	107	54	103	100	106
ABS	348	64	293	308	199	31	0.25	676	27	-0.02	75	0	0	109	47	98	104	56	102	100	104
WWS	348	64	296	325	197	27	0.20	605	41	0.22	74	0	0	112	48	100	104	56	99	101	104
WWS	348	61	304	304	153	24	0.20	480	20	0.00	72	0	0	112	42	98	102	50	103	103	105
ALT	347	64	271	344	216	26	0.28	409	44	0.39	75	0	0	111	46	102	103	56	102	104	106
GAC	347	67	307	315	148	11	0.37	-326	23	0.54	77	0	0	108	52	102	106	61	103	99	102
GAC	346	67	272	290	230	19	0.37	-11	53	0.77	79	0	0	106	51	97	101	59	101	100	102
ABS	346	63	288	334	182	21	0.22	354	40	0.36	74	0	0	112	47	102	106	54	102	104	106
ALT	346	65	300	317	150	25	0.15	629	23	-0.06	76	0	0	111	49	101	104	57	101	102	105
ALT	345	63	263	321	207	30	0.27	587	31	0.09	73	0	0	110	45	102	101	54	101	103	106
GGI	345	62	279	339	174	23	0.19	488	35	0.21	73	0	0	108	44	106	106	51	103	102	105
GAC	345	62	297	327	169	20	0.19	379	38	0.31	73	0	0	111	45	102	105	53	101	101	104
GAC	345	70	284	331	154	11	0.33	-227	30	0.57	79	0	0	110	60	103	101	66	100	103	104
ABS	344	66	272	348	217	25	0.24	463	50	0.43	76	0	0	111	52	105	105	60	100	103	106
GAC	344	68	260	346	183	22	0.25	322	36	0.32	79	0	0	112	54	106	105	61	103	104	105
ALT	344	66	291	320	158	25	0.19	548	22	-0.02	77	0	0	111	52	102	103	60	100	103	104
SEM	344	64	310	304	134	27	0.08	818	18	-0.24	74	0	0	110	48	100	103	56	100	102	103
ABS	343	62	272	325	201	23	0.29	294	38	0.37	73	0	0	111	45	102	104	52	103	103	105
GAC	343	66	305	330	173	22	0.19	430	37	0.27	76	0	0	111	49	99	107	58	103	102	105

AGR	342	65	253	328	230	27	0.36	269	41	0.43	75	0	0	108	49	104	103	57	101	102	104
ABS	342	66	275	359	182	26	0.18	619	35	0.13	77	0	0	110	51	106	108	60	102	104	106
WWS	342	62	279	333	177	21	0.30	178	29	0.31	73	0	0	111	44	103	103	52	103	100	103
CRV	341	64	281	305	165	22	0.29	237	21	0.16	74	0	0	112	49	100	100	58	98	102	103
WWS	341	66	300	326	157	27	0.12	776	25	-0.11	78	0	0	111	51	102	107	59	103	100	104
ALT	340	65	258	328	222	22	0.37	99	44	0.58	75	0	0	111	48	103	102	57	102	102	105
WWS	340	62	281	349	191	28	0.14	757	42	0.14	73	0	0	110	45	106	106	52	103	103	105
ABS	340	67	293	348	182	23	0.18	508	39	0.26	78	0	0	110	53	103	109	61	103	101	104
AGR	340	60	281	327	179	27	0.16	712	33	0.04	71	0	0	112	43	103	104	50	102	102	104
ALT	340	58	265	369	178	26	0.11	752	40	0.12	69	0	0	113	40	108	110	48	103	103	106
WWS	340	61	281	339	147	21	0.19	391	24	0.10	72	0	0	110	43	107	106	50	102	101	104
ALT	339	61	283	367	164	18	0.13	433	44	0.38	72	0	0	111	42	108	107	51	103	102	106
ABS	339	67	290	305	155	14	0.26	28	33	0.45	77	0	0	111	53	99	101	60	104	104	106
GAC	339	63	281	333	151	18	0.12	453	39	0.28	74	0	0	110	47	106	106	54	103	101	104
SXT	338	66	256	306	219	30	0.26	604	40	0.21	77	0	0	109	50	101	101	59	101	104	106
SXT	338	64	267	332	205	30	0.10	898	50	0.18	75	0	0	111	47	104	107	54	102	104	106
GAC	338	61	266	348	203	25	0.25	424	42	0.35	72	0	0	110	43	105	108	50	103	103	106
WWS	338	69	266	313	201	32	0.19	819	34	-0.02	78	0	0	110	57	99	104	65	103	104	106
SXT	338	69	273	333	185	31	0.14	883	33	-0.07	79	0	0	111	55	104	108	63	102	104	106
ABS	338	60	278	297	173	18	0.18	310	46	0.47	72	0	0	110	42	98	102	49	102	104	105
ALT	337	65	262	326	206	28	0.24	561	39	0.21	76	0	0	110	49	99	105	58	103	103	107
SXT	337	61	283	293	174	21	0.19	412	38	0.30	72	0	0	108	43	98	102	50	99	103	103
GGI	337	63	277	332	172	30	0.22	675	18	-0.15	74	0	0	114	47	102	104	54	103	102	104
GAC	337	66	271	361	164	27	0.18	640	24	-0.04	76	0	0	112	50	107	107	58	102	105	106
ALT	337	62	279	344	160	21	0.13	534	37	0.20	73	0	0	114	44	106	106	53	101	102	106
GGI	337	64	292	325	147	28	0.16	716	14	-0.23	75	0	0	111	48	103	108	56	101	103	104
TLG	337	62	301	314	116	13	0.11	268	30	0.27	73	0	0	111	44	102	105	51	104	101	103
AGR	336	67	257	331	201	31	0.31	564	22	-0.03	78	0	0	110	53	105	101	61	101	104	105
ALT	336	67	270	295	197	27	0.23	559	36	0.17	78	0	0	109	52	98	101	60	102	103	105
GAC	336	68	266	329	159	18	0.27	139	26	0.29	78	0	0	111	55	106	105	63	104	104	106
ABS	335	61	262	295	222	30	0.31	488	37	0.23	72	0	0	108	44	97	104	51	100	103	105
ALT	335	67	253	318	209	33	0.17	888	39	0.02	77	0	0	112	53	102	104	61	100	105	105
ALT	335	63	251	314	209	24	0.30	315	41	0.40	74	0	0	111	45	101	103	53	101	102	105
GAC	335	68	259	284	199	32	0.11	975	42	0.01	75	20	5	114	64	98	97	72	102	102	104
TLG	335	68	285	326	183	29	0.26	576	21	-0.06	77	10	4	108	57	103	101	63	100	103	104
AGR	335	62	261	361	180	33	0.06	1,094	35	-0.17	73	0	0	111	45	109	106	53	100	103	105

GAC	335	67	282	340	175	27	0.08	839	40	0.06	77	0	0	111	52	103	110	60	104	103	105
CRV	335	61	276	276	166	19	0.31	84	25	0.31	72	0	0	109	44	98	100	52	99	101	100
SEM	335	63	273	322	153	19	0.19	316	31	0.25	75	0	0	110	47	103	104	54	103	102	105
AGR	334	63	255	290	230	34	0.24	802	41	0.10	74	0	0	109	46	96	101	54	103	104	105
GAC	334	63	262	331	201	25	0.18	578	47	0.32	73	0	0	111	46	102	108	53	102	104	106
GAC	334	60	245	344	188	21	0.22	365	43	0.40	71	0	0	110	42	106	107	49	103	101	104
ALT	334	65	273	293	154	22	0.25	345	19	0.06	75	0	0	111	48	98	100	57	103	102	105
GAC	334	69	287	326	147	24	0.26	366	12	-0.06	80	0	0	111	55	104	104	64	104	102	103
GAC	333	68	250	285	233	31	0.36	456	35	0.23	79	0	0	106	54	96	102	63	99	104	105
SXT	333	67	239	332	216	21	0.23	335	58	0.63	77	0	0	109	51	104	105	60	102	102	104
ALT	333	61	267	338	189	29	0.18	725	34	0.04	72	0	0	113	44	105	108	51	105	104	106
GAC	333	66	283	322	156	32	0.10	985	18	-0.34	76	0	0	112	50	103	107	59	100	104	107
GAC	333	67	287	317	147	20	0.18	389	26	0.13	78	0	0	109	53	102	103	61	102	102	104
ALT	332	64	257	306	218	42	0.10	1,348	36	-0.31	75	0	0	111	47	101	102	56	100	104	106
ABS	332	65	257	294	198	28	0.14	762	45	0.18	76	0	0	109	48	98	101	56	101	104	106
GAC	332	60	263	320	185	23	0.14	562	47	0.34	71	0	0	109	42	101	105	49	103	103	105
ABS	332	65	276	332	183	30	0.16	787	32	-0.03	75	0	0	111	49	103	107	57	104	103	106
ABS	332	65	289	286	138	16	0.22	176	24	0.23	75	0	0	110	50	99	101	57	101	104	104
SEM	331	64	268	290	188	27	0.18	647	38	0.14	75	0	0	109	47	99	103	56	101	101	104
GAC	331	67	266	294	176	24	0.40	90	11	0.11	78	0	0	107	53	100	105	63	101	103	104
AGR	331	61	273	311	176	21	0.27	241	31	0.30	73	0	0	112	43	101	104	51	102	102	105
CRV	331	59	293	269	148	15	0.39	-214	12	0.31	69	0	0	107	43	97	98	50	99	100	100
GAC	331	62	289	290	146	24	0.13	643	23	-0.06	73	0	0	114	45	98	103	53	101	101	104
WWS	331	65	308	309	140	28	0.17	703	10	-0.29	76	0	0	110	50	102	103	58	103	101	104
TLG	331	60	289	313	127	16	0.19	209	22	0.19	71	0	0	111	43	102	105	50	102	101	103
ABS	330	61	253	298	230	32	0.25	706	44	0.20	73	0	0	109	44	98	105	51	100	102	105
AGR	330	61	252	320	228	33	0.20	828	46	0.15	73	0	0	110	42	101	105	51	103	103	105
AGR	330	64	251	330	195	31	0.18	811	33	-0.02	75	0	0	113	47	106	105	56	100	103	106
ABS	330	59	275	296	186	19	0.27	183	41	0.48	70	0	0	108	41	100	103	49	103	100	104
CRV	330	64	260	335	179	19	0.30	124	32	0.39	75	0	0	110	47	104	105	56	101	103	106
GAC	330	67	279	358	163	21	0.12	538	40	0.25	78	0	0	111	51	107	109	60	105	102	105
GAC	329	66	246	300	214	30	0.38	369	24	0.12	77	0	0	109	50	101	103	59	102	103	105
ABS	329	63	241	317	213	28	0.35	348	31	0.24	74	0	0	111	47	101	105	55	103	104	106
VDG	329	64	267	316	171	21	0.25	297	30	0.25	75	0	0	111	48	103	104	57	101	103	105
GAC	329	67	296	296	155	21	0.28	238	18	0.11	78	0	0	108	52	99	104	61	98	100	102
GGI	329	64	276	296	147	22	0.17	479	24	0.05	74	0	0	111	48	103	104	56	99	101	102

ABS	328	68	249	256	185	26	0.23	528	31	0.13	78	0	0	110	56	98	100	64	100	102	104
ABS	328	62	257	302	181	29	0.20	699	26	-0.05	73	0	0	109	44	100	105	53	102	104	106
GAC	328	64	275	306	165	20	0.40	-53	14	0.23	74	0	0	108	48	100	106	57	104	103	105
GAC	328	65	285	350	146	30	0.05	1,016	21	-0.32	75	0	0	111	51	109	110	58	102	101	105
ALT	327	65	242	276	221	28	0.31	420	39	0.30	75	0	0	107	49	94	100	57	102	103	104
SEM	327	61	263	329	173	21	0.23	327	33	0.27	72	0	0	110	43	105	107	51	102	101	104
GAC	327	66	273	305	160	14	0.30	-65	32	0.50	77	0	0	108	50	101	105	61	103	102	105
ABS	327	66	273	321	147	19	0.07	563	41	0.25	76	0	0	111	51	104	107	59	102	103	105
ABS	326	66	257	292	183	25	0.12	704	43	0.19	77	0	0	112	49	98	103	57	103	103	105
SEM	326	62	273	330	161	22	0.15	539	34	0.15	73	0	0	111	44	104	107	52	104	103	106
ALT	326	64	290	269	144	28	0.14	756	16	-0.23	74	0	0	109	47	97	101	56	99	103	104
AGR	326	66	286	345	133	24	0.05	783	27	-0.10	77	0	0	113	51	106	106	59	103	104	105
SXT	325	64	250	301	199	27	0.15	709	45	0.22	75	0	0	110	47	101	105	55	100	104	106
SXT	324	67	218	339	243	24	0.28	357	62	0.67	78	0	0	109	54	107	108	61	103	100	104
ABS	324	66	230	301	198	22	0.21	423	47	0.42	76	0	0	111	51	100	103	59	103	102	104
GAC	324	67	258	319	195	21	0.27	259	41	0.43	78	0	0	109	52	104	106	60	103	102	104
WWS	324	62	256	302	186	25	0.30	345	26	0.16	73	0	0	108	44	100	102	52	103	103	104
SEM	324	66	255	294	183	28	0.25	566	24	-0.01	77	0	0	111	49	100	104	60	101	103	105
CRV	324	62	259	294	167	30	0.24	629	13	-0.19	72	0	0	109	45	101	103	52	101	100	104
VDG	324	61	276	319	158	27	0.18	632	21	-0.09	72	0	0	112	44	104	102	51	104	103	106
GAC	323	75	300	308	114	7	0.13	11	37	0.52	86	62	2	110	64	102	103	68	102	102	105
ALT	322	64	245	290	199	29	0.21	669	36	0.11	75	0	0	109	47	100	99	56	99	103	104
GAC	322	68	257	311	180	28	0.13	766	37	0.06	78	0	0	110	55	103	105	63	103	104	106
ABS	322	64	270	311	171	27	0.16	689	29	-0.01	75	0	0	112	47	101	105	55	102	105	106
ABS	322	65	277	268	167	19	0.24	234	33	0.34	76	0	0	107	48	96	103	57	101	99	101
GAC	322	68	265	345	144	28	0.11	838	18	-0.25	79	0	0	112	52	108	106	64	101	104	107
WWS	321	66	249	277	191	31	0.28	596	21	-0.06	77	0	0	108	48	97	103	58	101	104	105
ALT	321	64	263	298	183	35	0.16	965	23	-0.27	74	0	0	111	48	99	100	56	104	103	106
GAC	321	67	258	306	181	16	0.43	-257	25	0.52	78	0	0	108	53	101	103	61	102	103	104
AGR	321	64	277	294	161	24	0.07	738	39	0.11	74	0	0	112	48	100	100	56	99	104	105
SXT	321	67	269	320	159	19	0.24	230	28	0.26	78	0	0	109	52	103	107	60	102	102	105
ABS	321	65	280	311	149	25	0.07	799	31	-0.05	76	0	0	113	48	102	101	57	101	103	105
CRV	321	67	264	323	147	18	0.14	382	35	0.27	78	0	0	110	53	104	105	60	103	103	105
WWS	321	62	277	295	104	13	0.09	284	25	0.18	73	0	0	112	45	101	107	52	103	102	105
GAC	321	65	312	278	84	9	0.15	31	14	0.19	75	0	0	109	50	99	103	57	100	101	102
SEM	320	62	259	302	159	18	0.13	402	42	0.36	73	0	0	110	46	101	103	53	100	104	105

SEM	320	64	268	303	145	20	0.11	533	33	0.15	74	0	0	112	47	102	104	55	99	102	104
GAC	320	67	285	303	144	25	0.19	542	15	-0.11	78	0	0	110	53	100	104	61	103	104	105
ALT	320	66	289	328	133	17	0.13	382	30	0.19	76	0	0	110	50	104	109	58	102	102	104
ABS	319	63	241	291	196	27	0.24	517	36	0.20	74	0	0	110	46	100	102	54	104	104	106
SXT	319	68	258	324	144	22	0.10	617	31	0.06	79	0	0	110	54	103	106	65	104	105	106
ALT	318	65	249	312	198	27	0.30	414	30	0.17	75	0	0	109	48	101	102	57	102	103	105
WWS	318	60	246	303	174	30	0.19	749	22	-0.14	71	0	0	112	43	103	103	50	102	101	105
ABS	318	64	273	301	157	16	0.22	153	35	0.41	75	0	0	108	46	99	106	55	101	101	103
ALT	318	61	273	301	145	21	0.16	448	26	0.11	72	0	0	110	43	102	104	51	102	102	104
ABS	317	66	241	254	215	31	0.22	698	41	0.16	77	0	0	109	50	93	98	58	101	102	104
CRV	317	66	272	282	172	19	0.35	17	23	0.32	76	0	0	107	51	99	100	59	101	101	102
GAC	317	67	285	279	143	29	0.18	724	8	-0.33	78	0	0	108	52	98	104	61	98	102	102
SXT	317	60	286	273	113	17	0.12	401	20	0.04	72	0	0	109	42	97	103	50	102	102	104
SEM	317	67	273	310	113	17	0.04	547	28	0.06	78	0	0	110	52	104	104	61	102	102	105
ABS	316	66	238	290	204	17	0.32	4	47	0.68	76	0	0	108	50	100	102	59	100	103	104
WWS	316	66	230	289	196	30	0.10	908	44	0.08	77	0	0	109	51	102	103	59	102	102	105
GAC	316	64	261	338	166	18	0.26	157	32	0.36	75	0	0	111	48	108	110	56	102	102	103
ABS	316	64	277	309	161	23	0.16	538	32	0.13	75	0	0	110	47	101	105	55	103	103	106
ALT	316	61	264	297	155	22	0.08	666	37	0.13	72	0	0	111	44	101	105	51	100	102	104
WWS	316	68	273	312	116	22	0.14	551	10	-0.19	78	0	0	112	55	103	105	62	99	104	106
ABS	315	60	238	334	196	17	0.29	85	47	0.62	72	0	0	110	42	106	107	50	102	103	105
GAC	315	61	242	338	171	30	0.06	1,004	34	-0.13	73	0	0	111	43	108	110	51	103	103	107
ABS	315	61	273	274	152	22	0.18	473	26	0.08	72	0	0	111	44	97	99	52	103	102	105
ALT	315	66	267	293	139	16	0.12	361	35	0.28	76	0	0	109	51	103	102	59	101	103	105
ALT	315	66	281	299	107	20	0.05	656	17	-0.15	76	0	0	110	53	103	107	60	100	103	105
ALT	314	62	243	293	202	35	0.12	1,079	37	-0.13	73	0	0	110	45	100	104	53	102	104	106
ALT	314	65	240	320	196	29	0.10	868	46	0.14	76	0	0	111	49	105	107	57	101	104	106
WWS	314	64	242	273	196	26	0.35	264	25	0.20	75	0	0	107	47	96	103	56	102	100	102
GAC	313	67	246	282	175	21	0.31	161	28	0.30	79	0	0	110	51	101	102	59	100	100	103
SEM	313	60	257	315	141	22	0.08	648	31	0.05	71	0	0	111	42	106	107	50	101	103	105
GAC	313	65	277	323	126	12	0.16	149	31	0.36	76	0	0	113	49	104	106	58	104	104	106
ABS	312	64	255	270	194	19	0.28	175	43	0.52	75	0	0	109	48	97	104	56	99	103	103
ABS	312	65	251	307	187	25	0.26	427	30	0.17	76	0	0	110	49	101	107	58	100	104	105
WWS	312	66	238	293	183	17	0.18	269	52	0.58	77	0	0	109	52	100	104	60	101	102	104
GGI	312	64	252	298	156	26	0.19	600	19	-0.10	74	0	0	109	47	102	106	56	100	103	105
AGR	312	65	246	330	149	26	0.16	646	20	-0.11	76	0	0	111	50	107	105	57	101	105	106

VDG	312	63	276	315	140	13	0.09	310	45	0.46	74	0	0	108	45	104	107	53	104	102	104
ABS	312	63	282	305	117	20	0.09	560	19	-0.06	74	0	0	109	45	104	105	54	102	102	104
ALT	311	62	217	295	226	35	0.23	840	39	0.05	73	0	0	112	45	102	102	53	100	104	106
ALT	311	65	245	266	192	31	0.17	815	32	-0.04	76	0	0	109	49	97	102	58	101	104	106
ALT	311	61	240	307	191	33	0.13	946	34	-0.10	73	0	0	109	42	105	103	50	103	103	106
GAC	311	69	260	278	183	33	0.26	701	15	-0.21	79	0	0	109	55	99	105	63	101	100	105
ABS	311	61	255	287	171	25	0.23	451	26	0.10	72	0	0	109	44	100	104	51	99	102	105
VDG	311	63	257	304	155	29	0.16	771	16	-0.24	74	0	0	109	47	105	106	54	101	101	104
AGR	311	68	253	305	147	26	0.06	854	29	-0.11	78	0	0	112	56	104	108	63	103	104	106
AGR	311	65	274	310	133	16	0.18	236	26	0.22	75	0	0	110	49	105	108	57	99	102	105
	310	70	213	365	236	30	0.32	491	42	0.30	79	0	0	110	62	110	106	66	105	104	106
ABS	310	66	224	312	198	20	0.30	143	42	0.51	77	0	0	111	50	106	106	58	103	103	105
ABS	310	68	236	290	189	31	0.27	626	21	-0.08	78	0	0	110	52	99	105	62	102	104	106
SXT	310	65	257	320	165	27	0.20	599	22	-0.05	76	0	0	112	50	105	107	60	101	103	106
TLG	310	67	267	313	160	31	0.18	796	14	-0.29	75	49	9	110	56	103	103	63	105	102	106
GAC	310	61	259	282	158	26	0.01	933	41	0.01	72	0	0	111	44	98	105	51	104	101	105
ABS	310	66	243	323	155	14	0.29	-56	30	0.47	76	0	0	109	49	105	105	58	101	102	104
GAC	310	60	254	293	154	17	0.23	189	30	0.31	71	0	0	110	43	100	106	50	102	102	105
GAC	310	64	257	260	146	24	0.19	519	18	-0.07	74	0	0	107	48	98	104	59	102	101	104
ALT	309	66	225	288	212	24	0.26	370	48	0.46	76	0	0	108	52	101	102	60	102	102	105
ABS	309	62	240	284	184	29	0.20	662	29	0.01	73	0	0	109	45	100	104	54	100	102	105
GAC	309	67	245	290	180	20	0.25	241	37	0.39	78	0	0	108	52	100	104	61	101	102	104
ALT	309	65	239	295	175	19	0.27	171	35	0.40	76	0	0	109	48	102	100	57	100	102	104
VDG	309	67	266	319	145	22	0.18	463	22	0.03	78	0	0	109	53	107	108	61	104	101	104
SXT	309	63	258	280	140	23	0.13	601	22	-0.05	74	0	0	108	46	101	106	54	102	102	104
TLG	309	65	266	306	138	20	0.20	354	18	0.05	75	0	0	111	49	104	105	58	102	103	105
TLG	309	68	273	309	119	8	0.22	-134	29	0.50	78	0	0	107	57	103	106	64	104	102	104
AGR	308	68	212	274	214	24	0.31	265	43	0.46	78	0	0	109	53	100	103	61	102	102	104
ABS	308	62	243	274	204	23	0.26	332	45	0.45	72	0	0	109	45	98	103	53	103	100	104
ABS	308	62	231	300	201	21	0.40	-16	32	0.47	73	0	0	106	45	103	105	53	102	103	105
ABS	308	65	251	291	174	29	0.18	706	26	-0.05	76	0	0	110	50	102	105	58	101	101	103
GGI	308	64	264	318	156	22	0.20	439	25	0.09	75	0	0	108	48	106	107	56	102	102	103
SEM	308	65	260	277	142	26	0.18	608	12	-0.20	76	0	0	111	50	100	103	58	101	103	106
GAC	307	65	245	289	185	30	0.16	822	32	-0.05	76	0	0	111	49	101	105	57	103	103	105
ALT	307	66	246	281	169	21	0.25	302	29	0.24	76	0	0	113	51	98	101	59	100	104	105
GAC	307	68	239	315	168	28	0.17	717	25	-0.09	79	0	0	110	56	105	102	63	104	105	106

SXT	307	63	246	296	165	22	0.10	613	42	0.23	74	0	0	110	46	102	105	53	101	104	106
WWS	307	64	255	290	134	19	0.10	505	29	0.11	74	0	0	112	48	103	104	56	102	101	105
ABS	306	65	227	306	229	30	0.21	706	51	0.31	75	0	0	109	48	103	107	56	101	103	106
SXT	306	60	230	277	176	23	0.23	418	31	0.19	71	0	0	110	43	102	103	50	101	103	106
	305	69	216	308	228	29	0.40	311	31	0.26	79	0	0	106	59	104	104	67	103	102	104
GAC	305	67	252	293	168	19	0.30	137	26	0.29	77	0	0	108	51	101	105	61	104	102	106
ALT	305	65	241	318	165	28	0.07	886	35	-0.04	75	0	0	113	49	105	108	58	103	103	106
CRV	305	61	257	291	158	16	0.31	4	26	0.37	72	0	0	108	45	102	102	53	100	102	102
SEM	305	62	249	293	139	24	0.02	865	32	-0.07	73	0	0	111	45	102	105	52	102	103	106
ABS	305	60	261	307	138	21	0.16	464	23	0.04	70	0	0	110	43	104	111	50	103	103	105
SEM	305	67	253	332	123	18	0.01	662	34	0.09	78	0	0	110	52	107	110	60	103	104	106
GAC	304	70	230	279	199	27	0.31	377	29	0.19	79	0	0	106	58	102	100	66	99	102	103
ABS	304	65	234	310	179	23	0.16	542	42	0.27	76	0	0	109	50	104	107	58	102	103	105
AGR	304	66	236	301	176	23	0.19	492	36	0.21	76	0	0	107	50	103	103	58	103	102	105
ALT	304	61	245	295	163	24	0.14	608	32	0.09	72	0	0	111	42	103	104	51	102	102	104
SXT	304	62	263	281	142	22	0.07	678	32	0.04	73	0	0	108	45	100	105	52	100	102	104
ABS	304	67	260	304	135	25	0.16	595	14	-0.17	78	0	0	111	52	104	106	61	103	103	105
SEM	304	65	269	265	122	18	0.15	361	20	0.07	76	0	0	109	48	99	102	59	101	101	104
GAC	303	70	199	289	265	26	0.45	77	53	0.71	79	0	0	103	63	104	102	68	104	102	104
GAC	303	67	224	262	221	39	0.20	1,056	32	-0.19	79	0	0	109	51	97	101	60	101	105	106
WWS	303	58	229	290	204	30	0.17	773	42	0.13	69	0	0	108	39	103	102	47	103	102	105
ABS	303	64	234	278	190	25	0.24	468	34	0.20	75	0	0	110	47	102	102	54	101	103	105
ALT	303	64	249	283	181	24	0.19	513	37	0.22	74	0	0	112	48	100	104	55	101	101	104
ALT	303	67	252	312	172	26	0.09	784	39	0.08	78	0	0	110	52	102	108	60	102	101	105
GGI	303	67	238	344	169	27	0.09	814	37	0.03	77	0	0	111	53	110	110	61	102	102	105
WWS	303	65	250	288	132	21	0.10	602	25	-0.02	75	0	0	113	49	102	105	57	100	101	104
SXT	303	63	264	305	124	20	0.05	632	29	0.03	74	0	0	110	47	103	110	54	103	101	104
ALT	302	67	247	304	153	25	0.13	676	26	-0.04	78	0	0	111	54	103	105	62	101	104	106
WWS	302	67	249	316	148	15	0.19	174	36	0.41	78	0	0	110	52	105	108	60	103	101	105
ABS	302	67	257	275	144	21	0.15	472	27	0.10	78	0	0	109	52	98	103	59	104	104	105
SEM	302	65	251	314	143	21	0.11	579	29	0.07	75	0	0	113	50	105	105	58	101	103	105
SEM	302	61	254	295	125	16	0.14	315	26	0.18	73	0	0	112	43	102	105	50	104	101	104
ALT	301	65	223	278	174	18	0.21	261	42	0.44	76	0	0	110	48	100	100	56	102	103	106
ALT	301	68	247	287	171	33	0.16	905	19	-0.28	78	0	0	109	54	99	105	63	104	103	106
ALT	301	66	251	300	138	24	0.08	741	25	-0.10	76	0	0	111	52	103	104	60	101	104	106
GGI	301	64	263	309	127	19	0.15	407	20	0.04	75	0	0	114	49	105	105	57	99	103	105

GAC	300	68	191	270	268	22	0.49	-133	55	0.88	78	0	0	105	54	100	101	62	102	102	105
GAC	300	68	191	263	263	31	0.58	13	27	0.38	79	0	0	104	54	99	99	63	100	102	102
GAC	300	68	211	264	227	34	0.30	677	33	0.06	78	14	3	104	57	100	103	63	101	102	104
ABS	300	64	216	274	218	32	0.17	856	45	0.12	75	0	0	109	47	98	104	56	102	103	105
GAC	300	59	214	316	191	24	0.15	587	47	0.32	71	0	0	111	40	107	106	48	102	103	106
ALT	300	65	242	285	177	18	0.20	269	44	0.47	75	0	0	108	49	101	102	58	100	103	104
ABS	300	67	234	252	165	20	0.37	-5	16	0.23	77	0	0	107	52	100	101	61	102	101	103
AGR	300	62	248	297	160	22	0.21	403	28	0.15	73	0	0	111	45	104	107	53	99	102	104
CRV	300	63	249	274	151	14	0.29	-48	27	0.42	73	0	0	108	46	101	102	54	100	102	103
ABS	299	67	205	246	235	27	0.21	586	60	0.51	78	0	0	110	52	94	101	60	103	102	105
VDG	299	69	244	215	206	14	0.49	-458	36	0.80	78			103*	54	92	91	64	98*	97*	96*
GAC	299	65	230	326	162	23	0.15	574	33	0.12	75	0	0	112	48	108	109	57	103	102	105
CRV	299	61	234	272	159	22	0.35	128	12	0.09	72	0	0	108	45	103	99	53	101	102	103
SXT	299	67	246	290	147	27	0.11	788	22	-0.17	78	0	0	110	52	104	103	60	101	103	105
SXT	299	67	288	226	78	10	0.11	154	13	0.09	78	0	0	107	52	97	100	60	101	100	101
GAC	298	73	181	290	295	19	0.62	-501	61	1.19	83	50	9	103	62	102	101	69	100	101	104
TLG	298	67	271	293	90	19	0.04	637	11	-0.23	78	0	0	111	53	103	104	60	102	104	105
SXT	297	63	216	275	208	27	0.26	486	40	0.28	74	0	0	109	47	99	107	54	102	101	105
SXT	297	60	226	313	190	20	0.18	370	51	0.51	70	0	0	109	43	104	108	51	100	102	105
ABS	297	63	225	259	187	23	0.23	409	37	0.28	73	0	0	109	46	98	103	54	100	104	105
TLG	297	63	236	284	144	22	0.17	483	22	0.02	74	0	0	109	46	105	107	54	103	103	105
WWS	297	61	252	287	131	30	0.10	912	8	-0.44	72	0	0	112	42	103	105	50	101	103	105
SXT	297	69	264	304	125	24	-0.01	901	27	-0.16	79	0	0	112	59	104	109	65	103	102	105
ALT	297	67	240	293	124	17	0.11	399	27	0.15	77	0	0	113	51	103	103	60	103	103	105
AGR	296	68	209	296	192	23	0.20	446	45	0.37	78	0	0	111	53	104	106	62	101	103	106
ABS	296	62	233	269	187	21	0.22	353	44	0.41	73	0	0	109	43	98	103	52	102	104	105
SXT	296	60	244	272	150	23	0.14	589	27	0.03	71	0	0	107	41	101	104	47	100	100	102
ALT	296	66	239	285	131	15	0.14	282	31	0.27	76	0	0	111	51	102	104	59	101	102	105
CRV	296	65	271	285	115	18	0.16	374	14	-0.03	75	0	0	112	50	103	103	57	101	101	102
ABS	295	66	219	273	212	27	0.29	417	38	0.30	76	0	0	109	51	100	100	60	101	103	105
SXT	295	61	221	265	188	28	0.13	780	41	0.12	72	0	0	110	45	99	102	52	103	102	106
WWS	295	64	240	268	151	26	0.12	741	24	-0.10	75	0	0	109	48	97	102	57	103	102	105
GGI	295	61	260	296	144	18	0.27	154	18	0.17	73	0	0	109	44	103	106	51	102	101	102
WWS	295	65	255	294	138	21	0.09	594	30	0.06	75	0	0	111	51	104	105	60	100	101	104
SEM	295	66	247	293	130	24	0.03	814	27	-0.11	76	0	0	112	51	107	107	59	99	103	105
TLG	295	80	263	312	113	22	-0.10	1,012	36	-0.11	92	85	13	109	62	104	109	70	102	102	105

SEM	295	63	249	298	110	22	0.06	690	15	-0.20	74	0	0	113	47	106	105	55	102	103	104
VDG	295	67	280	301	104	21	0.06	662	14	-0.20	78	0	0	110	52	103	105	60	102	103	105
GAC	294	70	221	277	207	23	0.31	248	40	0.42	80	0	0	107	59	104	104	67	97	102	103
GAC	294	61	213	308	195	26	0.22	520	39	0.24	72	0	0	109	43	103	108	51	102	102	105
CRV	294	58	232	256	192	25	0.37	186	22	0.21	68	0	0	107	42	99	97	49	100	101	103
SXT	294	67	243	325	153	13	0.07	328	56	0.60	78	0	0	112	54	107	108	61	103	104	107
ALT	294	68	235	286	152	25	0.20	530	18	-0.07	78	0	0	112	53	102	105	62	104	104	107
SEM	294	67	265	316	75	18	-0.08	828	17	-0.26	78	0	0	112	53	107	110	61	103	102	105
WWS	293	66	223	276	196	35	0.07	1,173	38	-0.17	76	0	0	109	51	102	104	59	101	103	106
ALT	293	66	236	273	189	25	0.24	454	36	0.23	76	0	0	108	52	98	105	60	103	102	105
GAC	293	62	232	293	173	35	0.08	1,136	25	-0.34	73	0	0	110	45	102	106	53	103	104	106
SEM	293	66	240	235	155	23	0.16	536	28	0.07	77	0	0	108	50	96	103	59	101	103	104
ABS	293	62	235	294	153	22	0.17	477	27	0.10	73	0	0	111	44	103	105	52	103	102	105
AGR	293	68	242	278	123	22	0.04	732	25	-0.09	78	0	0	110	55	102	105	62	103	104	106
GGI	292	66	235	307	152	24	0.10	719	31	0.01	75	0	0	111	52	106	107	59	100	102	105
WWS	292	69	238	278	150	32	0.08	1,024	19	-0.36	79	0	0	110	56	100	103	64	101	103	105
AGR	292	68	257	262	137	23	0.24	391	9	-0.11	78	0	0	110	52	99	98	61	103	103	105
ABS	292	64	242	318	137	16	0.13	343	34	0.29	74	0	0	111	48	108	108	56	102	103	106
SXT	292	59	243	296	128	20	-0.02	783	37	0.05	70	0	0	111	41	106	106	48	102	101	104
WWS	292	66	250	252	122	20	0.07	610	24	-0.03	77	0	0	110	49	98	103	58	102	101	104
GAC	292	64	257	248	103	16	0.13	342	15	0.01	75	0	0	108	48	98	103	56	102	101	103
GAC	291	68	190	274	242	31	0.25	680	52	0.34	79	0	0	106	53	102	105	64	98	99	102
GAC	291	67	224	278	194	25	0.34	267	26	0.22	78	0	0	107	52	102	105	61	102	103	104
CRV	291	58	240	265	166	23	0.27	330	22	0.11	68	0	0	108	41	99	99	49	102	99	101
ABS	291	67	222	297	160	24	0.15	592	30	0.08	78	0	0	111	52	105	107	60	102	104	106
SXT	291	62	248	252	150	24	0.20	501	18	-0.05	73	0	0	108	45	97	102	52	102	103	104
WWS	291	67	230	270	129	20	0.12	482	24	0.04	77	0	0	110	52	102	104	61	103	103	105
SXT	291	68	256	297	125	21	0.13	503	18	-0.04	78	0	0	112	54	104	106	63	103	103	106
ABS	290	74	231	259	172	30	0.17	791	23	-0.15	83	46	10	111	65	100	100	72	103	104	106
ABS	289	68	232	280	173	24	0.25	386	26	0.14	78	0	0	109	52	100	105	61	102	104	106
GAC	289	65	243	301	170	22	0.33	177	20	0.18	75	0	0	108	49	103	107	57	102	100	103
ALT	289	66	234	270	162	19	0.18	373	36	0.29	77	0	0	110	51	99	104	60	102	102	105
ABS	289	68	250	302	149	30	0.05	1,032	23	-0.30	79	0	0	109	52	105	105	62	102	102	106
SXT	289	65	235	287	148	26	0.09	798	26	-0.12	76	0	0	108	49	103	108	59	102	100	101
ABS	289	68	240	281	147	20	0.14	475	31	0.15	78	0	0	109	55	102	108	63	103	102	104
WWS	289	65	232	270	141	13	0.18	126	36	0.44	75	0	0	110	48	102	102	57	102	103	105

SEM	289	67	234	325	129	20	0.08	590	27	0.02	78	0	0	111	54	109	110	62	102	102	104
SEM	289	62	252	292	119	17	-0.01	646	37	0.13	72	0	0	111	45	103	107	52	101	103	105
SEM	288	66	227	267	174	23	0.17	530	36	0.20	76	0	0	110	52	99	105	60	103	103	105
ALT	288	66	239	281	156	24	0.15	572	28	0.05	77	0	0	109	52	101	104	60	98	103	104
GAC	288	66	220	294	152	12	0.26	-50	35	0.53	76	0	0	109	50	106	105	58	104	104	105
GAC	288	66	229	297	149	29	0.05	965	26	-0.22	77	0	0	111	51	105	108	59	103	103	105
GAC	288	66	239	264	134	25	0.08	753	22	-0.15	77	0	0	111	50	103	100	58	102	101	104
WWS	288	63	253	274	125	27	0.03	933	19	-0.30	74	0	0	110	45	101	107	54	100	101	103
GAC	287	70	216	260	198	25	0.21	520	43	0.30	80	0	0	107	57	101	104	67	100	100	103
SXT	287	63	214	247	191	27	0.17	661	40	0.17	74	0	0	108	46	98	104	54	100	102	105
ALT	287	61	213	283	171	26	0.09	805	38	0.06	72	0	0	112	43	104	102	52	102	104	106
ABS	287	60	237	255	170	21	0.16	482	40	0.28	71	0	0	108	41	98	104	49	103	102	104
ALT	287	65	239	255	156	28	0.04	936	33	-0.11	76	0	0	113	49	100	101	57	100	102	105
AGR	287	66	243	239	131	15	0.22	113	23	0.26	76	0	0	110	50	99	98	59	102	102	103
WWS	287	67	255	297	128	12	0.11	230	39	0.42	78	0	0	110	54	102	109	62	102	104	106
SXT	287	68	248	281	111	23	0.09	668	12	-0.23	79	0	0	109	55	103	106	64	102	103	105
AGR	286	63	211	277	202	30	0.21	700	37	0.10	74	0	0	111	45	100	104	54	102	103	106
ABS	286	68	233	260	165	28	0.18	669	22	-0.09	79	2	2	108	54	101	103	62	103	101	104
ALT	286	63	225	275	161	27	0.19	608	21	-0.07	73	0	0	110	46	103	101	55	102	102	105
CRV	286	61	240	265	159	23	0.26	355	19	0.05	71	0	0	108	45	102	99	52	101	102	103
WWS	286	68	224	298	158	21	0.10	579	40	0.22	78	0	0	110	55	105	109	62	101	102	105
ALT	286	67	237	285	150	28	0.11	825	22	-0.20	78	0	0	110	53	103	108	61	101	104	106
SXT	286	61	238	260	144	22	0.12	560	28	0.07	72	0	0	109	43	100	105	50	102	99	102
SXT	285	61	206	267	192	33	0.12	994	34	-0.12	72	0	0	110	43	102	106	51	100	103	106
ALT	285	64	229	284	154	19	0.17	355	34	0.27	74	0	0	110	47	105	103	56	101	102	106
ALT	285	61	235	265	152	24	0.09	732	32	0.01	72	0	0	110	44	100	105	51	101	100	103
WWS	285	61	236	263	145	29	0.12	825	16	-0.27	72	0	0	110	42	100	101	50	101	102	104
SEM	285	64	241	254	141	21	0.16	459	23	0.05	75	0	0	109	47	99	103	55	103	103	105
ABS	285	64	231	270	139	27	0.03	936	26	-0.20	75	0	0	108	46	101	106	55	102	102	105
SEM	285	60	240	286	133	28	0.00	1,036	24	-0.30	71	0	0	111	43	103	105	50	102	104	106
ALT	285	62	247	292	118	23	0.00	839	26	-0.15	72	0	0	110	45	105	108	52	101	101	104
WWS	285	67	256	299	110	22	0.05	722	17	-0.20	78	0	0	112	53	103	109	61	103	102	105
SEM	285	61	245	306	109	17	0.05	552	25	0.02	73	0	0	112	43	105	105	51	102	104	106
SEM	284	65	207	317	180	20	0.24	269	38	0.39	76	0	0	111	49	106	106	58	104	103	105
AGR	284	67	216	259	144	26	0.15	669	18	-0.16	78	0	0	108	52	102	101	61	101	101	103
SXT	283	62	216	258	183	27	0.19	638	33	0.09	72	0	0	109	44	99	103	52	102	103	105

AGR	283	64	247	265	119	28	-0.06	1,153	23	-0.37	74	0	0	109	48	102	106	57	101	101	103
SEM	282	63	222	272	169	27	0.18	658	26	-0.03	75	0	0	110	45	101	105	53	103	103	105
SEM	282	67	236	287	105	13	0.14	222	19	0.14	78	0	0	111	53	104	104	61	103	102	105
WWS	281	63	197	247	201	31	0.23	710	31	0.01	73	0	0	107	46	99	99	54	101	101	103
GAC	281	68	224	292	147	28	0.10	840	22	-0.20	78	0	0	110	55	104	109	62	102	103	105
WWS	281	65	247	289	113	23	0.04	780	17	-0.23	76	0	0	110	48	104	107	57	103	103	106
SEM	281	66	244	333	101	10	0.11	130	27	0.31	76	0	0	111	51	109	110	58	100	102	105
GAC	280	62	213	289	175	27	0.08	846	40	0.05	73	0	0	111	44	104	106	51	101	101	105
TLG	280	61	247	256	96	21	0.07	618	9	-0.26	72	0	0	111	43	101	106	51	103	103	105
CRV	279	66	198	275	196	26	0.20	594	40	0.22	77	0	0	109	51	103	107	61	103	102	105
GAC	279	67	222	287	181	26	0.27	427	25	0.09	77	0	0	109	53	103	107	61	102	102	104
VDG	279	68	226	273	127	21	0.14	505	18	-0.06	79	0	0	110	55	102	103	64	104	104	106
SXT	279	63	245	282	117	16	0.18	232	18	0.12	74	0	0	109	47	103	107	55	101	103	104
AGR	279	66	235	284	108	15	0.09	383	24	0.11	77	0	0	111	51	103	109	59	103	103	104
ALT	278	61	191	281	182	19	0.20	320	46	0.47	71	0	0	111	43	102	103	51	103	103	105
WWS	278	66	219	241	176	27	0.12	752	38	0.08	77	1	1	110	51	98	99	60	98	101	103
ALT	278	67	228	225	146	32	0.13	932	9	-0.44	78	0	0	109	51	95	101	61	102	103	105
ALT	278	67	234	264	129	26	0.07	852	17	-0.27	77	0	0	111	53	101	102	61	98	102	103
GAC	277	65	208	270	177	22	0.16	504	41	0.28	75	0	0	109	50	102	108	58	99	102	103
ABS	277	65	215	249	155	19	0.32	57	18	0.22	75	0	0	107	49	100	102	56	100	101	103
WWS	277	64	229	273	144	27	0.05	920	26	-0.19	74	0	0	112	48	104	104	56	99	104	105
ALT	277	66	210	295	142	22	0.15	523	23	0.01	77	0	0	111	50	106	108	60	102	102	106
SEM	277	68	227	285	134	19	0.03	672	37	0.12	77	10	4	111	57	103	106	65	104	101	105
ALT	277	60	242	255	131	18	0.09	500	31	0.14	71	0	0	112	42	98	101	49	101	102	105
CRV	277	64	243	279	123	19	0.18	356	15	0.00	74	0	0	105	48	103	102	56	102	101	102
WWS	277	67	246	244	121	17	0.12	404	23	0.08	77	0	0	106	52	97	102	60	103	101	102
WWS	277	62	238	261	117	26	-0.04	1,042	23	-0.30	74	0	0	110	44	102	104	52	103	103	105
ALT	277	69	237	272	113	27	0.04	901	11	-0.40	79	0	0	113	60	103	106	65	99	104	106
SEM	277	65	243	280	86	14	0.04	459	18	-0.02	76	0	0	112	50	103	109	58	102	101	105
GAC	276	69	201	232	211	36	0.35	643	16	-0.17	79	0	0	106	58	100	99	65	101	99	103
ALT	276	65	235	260	144	23	0.11	624	28	0.01	75	0	0	109	49	99	103	57	103	104	105
CRV	276	58	230	265	137	14	0.27	13	22	0.30	69	0	0	107	40	102	103	48	103	101	103
GAC	275	76	169	306	273	39	0.44	572	35	0.15	84	36	12	105	68	109	103	74	104	104	106
SXT	275	67	223	251	151	27	0.01	958	35	-0.08	78	0	0	111	52	103	107	60	101	101	105
ALT	275	60	223	268	143	17	0.18	287	29	0.24	71	0	0	109	41	102	104	49	101	104	105
ALT	275	65	224	263	138	14	0.21	104	29	0.35	76	0	0	110	48	103	102	56	101	102	104

SXT	275	61	235	275	126	19	0.02	683	33	0.06	72	0	0	111	42	103	108	50	104	102	105
ALT	275	68	231	250	118	21	0.09	600	19	-0.10	79	0	0	111	56	101	100	63	100	102	105
ALT	275	63	242	237	115	19	0.10	521	19	-0.05	73	0	0	110	45	98	103	53	101	101	103
ALT	275	66	232	269	102	20	0.01	727	20	-0.16	76	0	0	112	50	102	103	58	100	104	105
GAC	275	66	242	284	97	15	0.07	416	21	0.05	76	0	0	112	51	105	107	59	102	100	102
WWS	274	65	211	289	172	24	0.19	527	31	0.13	76	0	0	111	48	103	104	57	103	103	106
TLG	274	67	215	259	168	16	0.32	-31	31	0.47	78	0	0	107	54	102	101	60	103	100	102
CRV	274	63	215	261	165	21	0.30	209	22	0.19	73	0	0	108	46	104	99	54	101	101	103
WWS	274	65	232	274	134	27	0.01	1,003	25	-0.25	76	0	0	110	50	102	106	58	102	103	105
ALT	274	60	233	255	130	15	0.19	168	25	0.26	71	0	0	109	43	100	101	51	103	102	103
WWS	274	62	242	266	127	20	0.01	711	34	0.05	73	0	0	111	44	102	105	52	101	102	104
SXT	274	66	248	255	108	20	0.06	614	19	-0.10	77	0	0	109	52	102	108	59	103	100	103
WWS	274	62	256	269	100	16	0.07	461	19	-0.01	73	0	0	111	45	100	107	52	101	103	104
SXT	273	65	202	290	185	29	0.06	958	46	0.07	75	0	0	110	49	104	109	57	99	103	105
GAC	273	68	209	260	140	24	0.18	560	15	-0.13	79	0	0	109	55	106	103	63	102	104	105
WWS	273	64	220	275	136	24	0.01	876	32	-0.08	73	0	0	112	49	105	107	58	102	101	105
GAC	272	69	226	233	167	20	0.29	167	27	0.28	79	0	0	105	54	98	101	65	101	102	102
ABS	272	66	223	245	160	20	0.30	151	21	0.21	76	0	0	106	52	99	102	59	98	99	100
SXT	272	65	208	270	158	19	0.14	421	39	0.30	76	0	0	108	48	102	110	56	104	101	104
VDG	272	51	225	152	151	8	0.44	-563	22	0.66	61	0	0	103	34	88	88	40	98	100	98
ALT	272	65	214	284	143	19	0.13	461	31	0.16	76	0	0	110	48	104	105	57	103	104	107
GAC	272	67	230	224	132	31	0.13	900	3	-0.51	79	0	0	110	51	98	102	60	102	103	105
SEM	272	63	212	271	126	14	0.10	335	33	0.27	73	0	0	109	46	102	106	54	101	102	104
WWS	272	65	240	267	125	26	-0.07	1,103	31	-0.23	75	0	0	112	49	103	105	57	101	101	103
SEM	271	67	183	288	185	28	0.10	836	42	0.09	78	0	0	109	53	107	106	60	102	101	105
TLG	271	64	229	219	141	31	0.04	1,080	18	-0.41	75	0	0	110	47	96	102	56	101	102	106
WWS	271	67	237	253	100	11	0.02	371	33	0.25	78	0	0	112	52	100	105	61	103	103	107
SXT	271	65	251	266	99	17	0.01	588	24	-0.01	76	0	0	110	50	101	105	58	100	103	105
GAC	270	67	258	263	100	19	0.03	638	18	-0.13	77	0	0	110	53	100	105	61	104	103	104
SEM	270	64	244	276	91	18	-0.05	758	24	-0.12	74	0	0	112	48	104	109	57	101	102	106
ALT	269	66	186	292	162	23	0.13	602	34	0.12	77	0	0	110	50	108	109	60	102	101	105
WWS	269	62	220	260	120	22	0.13	550	14	-0.14	73	0	0	110	42	101	102	50	101	103	104
VIK	269	59	237	223	106	13	0.22	42	11	0.14	69	0	0	107	41	96	98	47	102	102	103
SXT	269	68	258	259	87	21	0.08	625	3	-0.35	75	33	8	111	57	101	100	65	103	103	105
SEM	269	67	265	267	37	14	-0.08	663	4	-0.35	78	0	0	114	52	102	105	61	104	104	107
SEM	268	64	202	252	174	23	0.17	518	38	0.23	75	0	0	110	47	99	107	55	102	103	105

ALT	268	66	200	265	165	26	0.16	665	28	-0.01	76	0	0	109	50	104	104	59	103	101	105
GAC	268	63	213	279	157	32	0.03	1,104	27	-0.29	74	0	0	112	46	103	108	54	101	102	106
SXT	268	61	191	234	157	25	0.04	850	39	0.03	72	0	0	110	42	99	103	50	102	103	105
GAC	268	68	217	283	151	15	0.14	268	42	0.44	79	0	0	109	56	105	107	63	104	104	106
SEM	268	65	228	248	137	16	0.22	148	24	0.26	75	0	0	109	49	99	104	57	100	102	103
SEM	268	68	234	255	120	16	0.07	454	31	0.16	78	0	0	112	55	100	105	63	103	102	104
GAC	268	60	223	304	112	20	0.07	597	19	-0.09	71	0	0	110	43	109	110	51	103	102	105
GGI	268	64	241	262	105	19	0.04	610	21	-0.07	74	0	0	113	48	103	107	57	100	101	104
SEM	268	69	234	270	96	12	0.09	293	22	0.14	79	0	0	112	58	102	106	64	104	102	105
WWS	268	67	246	241	85	22	-0.04	899	13	-0.37	77	0	0	111	52	99	105	60	98	100	103
ALT	267	65	201	237	162	21	0.17	440	34	0.22	75	0	0	108	49	99	101	57	102	104	105
ALT	267	65	209	276	159	20	0.15	430	37	0.27	76	0	0	111	49	104	101	57	103	103	105
VDG	267	63	215	271	145	13	0.15	184	41	0.48	73	0	0	105	45	103	108	54	101	101	102
ALT	267	65	203	248	143	25	0.04	845	31	-0.07	75	0	0	110	49	100	104	58	104	103	106
ALT	267	63	224	244	142	19	0.18	337	27	0.18	73	0	0	108	48	100	104	56	101	102	105
WWS	267	67	225	280	122	21	-0.01	793	31	-0.03	78	0	0	113	53	105	105	62	102	102	105
WWS	267	63	234	261	120	16	0.12	365	25	0.14	74	0	0	110	47	101	101	55	101	102	104
SEM	267	67	220	256	114	17	0.04	538	29	0.09	78	0	0	110	52	101	105	61	104	102	105
ABS	266	65	217	240	187	29	0.09	907	43	0.06	76	0	0	108	50	98	104	57	103	102	104
GGI	266	66	187	248	178	28	0.28	467	19	-0.01	76	0	0	109	50	101	103	58	102	102	103
SEM	266	64	208	277	141	21	0.11	579	29	0.07	75	0	0	112	48	103	106	56	102	104	106
SXT	266	65	225	272	96	12	0.13	200	17	0.12	75	0	0	110	48	106	106	57	99	101	103
VIK	266	64	266	235	73	7	0.15	-31	12	0.20	73	0	0	107	49	98	102	56	100	102	103
AGR	266	67	261	261	59	19	-0.05	782	5	-0.41	77	0	0	112	52	103	103	60	100	102	105
SEM	265	65	203	232	162	24	0.21	496	24	0.04	75	0	0	109	50	97	100	58	103	102	105
WWS	265	63	215	253	145	16	0.10	391	41	0.36	73	0	0	108	47	100	106	55	104	103	105
SXT	265	66	209	263	139	18	-0.03	725	49	0.26	77	0	0	110	52	103	109	60	101	102	105
VIK	265	67	221	277	131	22	0.08	678	24	-0.07	78	0	0	110	54	106	105	61	101	103	105
GAC	264	69	188	248	178	17	0.23	178	43	0.52	79	0	0	107	58	104	103	65	99	102	103
ABS	264	68	213	244	152	26	0.13	713	23	-0.11	78	0	0	109	54	99	102	63	101	104	106
WWS	264	64	222	263	124	20	0.15	446	16	-0.04	75	0	0	110	47	103	100	56	99	103	104
TLG	264	68	245	279	102	13	0.08	330	24	0.15	78	0	0	110	54	104	106	62	104	103	105
ALT	263	65	205	250	149	28	0.04	960	29	-0.17	75	0	0	110	48	100	106	58	101	102	105
ALT	263	62	230	247	134	31	-0.07	1,278	26	-0.41	73	0	0	110	45	99	103	53	103	105	106
ALT	263	68	222	254	132	29	-0.01	1,093	23	-0.34	78	0	0	110	54	99	107	62	104	103	105
AGR	263	64	223	266	120	19	0.02	653	31	0.04	74	0	0	111	49	101	107	57	105	103	106

SEM	262	68	182	259	176	23	0.27	327	27	0.19	79	0	0	107	53	102	103	63	101	102	103
ALT	262	63	199	242	170	30	0.13	862	27	-0.14	74	0	0	110	45	99	102	54	102	104	106
GGI	262	64	196	269	164	25	0.19	540	26	0.04	74	0	0	107	49	104	107	57	103	101	104
ALT	262	65	210	224	164	22	0.22	396	28	0.15	75	0	0	109	50	94	104	57	102	103	105
GAC	262	70	213	246	155	27	0.10	795	27	-0.11	80	0	0	108	60	101	103	65	102	103	104
WWS	262	66	209	237	148	18	0.10	473	40	0.28	76	2	1	109	51	98	106	58	102	101	104
WWS	262	61	209	252	146	21	0.16	467	26	0.09	72	0	0	111	43	99	105	51	100	104	105
WWS	262	62	220	243	130	16	0.20	205	22	0.19	72	0	0	108	47	103	104	54	99	102	104
ABS	262	63	229	253	114	19	0.12	458	16	-0.05	73	0	0	108	48	100	104	56	100	103	104
ALT	262	67	226	258	114	15	0.11	345	25	0.15	77	0	0	111	53	102	105	61	102	103	105
GAC	262	71	244	320	87	13	0.17	144	7	0.01	80	0	0	109	60	108	112	68	102	101	104
GGI	261	68	207	263	153	21	0.07	653	40	0.17	78	0	0	109	55	103	107	63	103	101	105
SXT	261	64	223	256	127	17	0.01	596	40	0.20	75	0	0	110	46	100	107	54	101	103	106
SXT	261	62	234	281	111	25	-0.01	940	19	-0.30	73	0	0	110	45	105	108	52	102	102	104
ALT	261	65	233	275	101	22	0.03	763	14	-0.27	75	0	0	109	49	105	107	58	101	103	105
GAC	260	70	142	241	268	26	0.46	72	53	0.71	80	0	0	104	62	104	97	67	101	100	103
GAC	260	68	166	254	227	24	0.42	68	38	0.50	78	0	0	106	55	102	102	63	101	104	105
GAC	260	70	195	234	193	11	0.53	-619	29	0.80	79	0	0	104	63	101	103	67	99	102	102
GAC	260	70	198	268	174	11	0.43	-438	31	0.71	79	0	0	108	61	101	106	67	100	104	105
GAC	260	63	182	280	167	26	0.17	623	28	0.02	74	0	0	110	45	106	106	54	103	103	106
WWS	260	62	217	236	148	27	0.04	918	31	-0.12	73	0	0	110	44	99	105	53	103	103	106
ABS	260	63	207	274	129	26	0.04	896	21	-0.25	74	0	0	111	46	106	108	54	104	104	106
GAC	259	70	170	227	261	44	0.38	897	25	-0.19	77	27	9	102	65	102	102	68	101	101	102
GAC	259	69	187	272	204	20	0.39	-28	35	0.53	79	0	0	105	56	104	105	65	102	103	103
ABS	259	65	205	227	141	18	0.22	229	24	0.20	76	0	0	105	49	99	100	57	101	99	102
SXT	259	63	223	237	107	18	-0.03	724	31	0.00	74	0	0	109	47	99	105	54	102	103	104
AGR	259	66	251	266	102	22	0.03	779	14	-0.28	76	0	0	109	50	101	107	58	101	103	105
SXT	258	58	217	239	136	18	0.06	560	36	0.18	70	0	0	107	38	98	101	45	102	102	104
ABS	258	64	213	255	135	13	0.05	391	46	0.43	75	0	0	107	47	101	107	56	104	101	104
SXT	258	63	222	232	125	30	0.03	1,066	13	-0.47	74	0	0	111	46	100	104	54	100	103	106
GAC	257	67	209	222	167	32	0.20	786	15	-0.27	75	25	7	108	58	99	100	67	103	103	105
ALT	257	60	205	229	155	20	0.17	405	33	0.22	71	0	0	107	41	99	100	50	101	101	103
VIK	257	64	207	238	139	21	0.26	257	12	0.02	74	0	0	107	48	102	103	55	101	102	104
SEM	257	65	198	242	128	13	0.22	47	25	0.34	76	0	0	109	50	101	103	58	103	103	105
SEM	257	66	218	296	115	22	0.01	821	23	-0.17	77	0	0	113	51	109	109	60	104	104	106
SEM	257	66	229	238	101	21	0.02	717	17	-0.20	76	0	0	111	51	100	105	59	100	101	104

AGR	257	63	227	248	98	23	-0.04	922	17	-0.32	73	0	0	109	46	102	105	54	102	101	103
GAC	256	70	190	196	169	17	0.28	81	34	0.44	80	0	0	107	59	96	95	66	101	101	103
WWS	256	59	196	245	161	18	0.20	286	35	0.33	70	0	0	109	41	99	103	49	101	104	105
ALT	256	66	177	304	151	14	0.14	258	43	0.47	77	0	0	110	51	109	110	61	102	102	104
GGI	256	61	207	288	110	23	0.16	559	2	-0.31	72	0	0	110	42	109	104	50	101	103	104
GGI	256	64	224	277	91	9	0.14	41	20	0.26	75	0	0	111	48	105	108	56	100	101	103
ALT	255	68	174	244	176	33	0.15	912	23	-0.24	79	0	0	109	55	101	104	64	103	104	107
SXT	255	69	189	245	142	24	0.20	496	14	-0.10	79	0	0	108	60	101	107	65	103	100	103
WWS	255	64	219	250	123	18	0.07	524	29	0.10	74	0	0	110	47	102	103	56	101	101	103
GAC	254	70	197	253	167	19	0.33	77	22	0.27	79	0	0	107	61	104	103	67	100	102	103
ABS	254	67	184	230	147	16	0.10	402	43	0.37	78	0	0	110	52	102	102	60	101	103	105
SEM	254	66	192	230	137	19	0.15	422	25	0.10	76	0	0	110	52	101	103	59	102	102	103
SEM	254	67	206	269	133	18	0.04	589	39	0.20	77	0	0	110	53	103	111	61	103	103	105
SEM	254	69	201	261	131	22	0.13	559	19	-0.07	79	0	0	109	55	103	103	64	102	104	106
SEM	254	65	226	289	95	21	0.03	710	12	-0.27	76	0	0	112	49	107	113	58	101	103	105
GAC	254	67	233	217	91	6	0.23	-233	15	0.36	76	0	0	106	52	100	104	60	102	100	101
GAC	253	77	173	228	211	39	0.23	975	23	-0.26	87	49	13	105	64	100	102	69	101	103	104
ALT	253	63	220	232	120	30	-0.04	1,177	19	-0.45	74	0	0	111	46	100	105	54	102	101	106
WWS	253	65	218	230	115	25	-0.03	998	23	-0.28	75	0	0	111	49	100	102	57	100	103	104
ABS	253	66	214	201	103	13	0.21	57	11	0.13	76	0	0	107	50	100	100	58	100	98	102
VIK	253	62	234	251	89	13	0.17	159	7	0.00	72	0	0	110	45	101	102	53	101	102	103
WWS	252	66	176	246	166	32	0.11	956	24	-0.24	76	0	0	109	50	103	104	58	101	101	105
CRV	252	62	197	229	166	20	0.31	132	24	0.26	72	0	0	107	46	99	102	54	100	100	102
ALT	252	66	204	231	162	20	0.12	518	41	0.27	76	0	0	110	52	96	105	60	101	103	105
ALT	252	64	205	226	149	20	0.05	641	41	0.20	75	0	0	106	47	98	103	56	103	101	103
ABS	252	63	205	207	139	18	0.10	476	35	0.21	73	0	0	106	45	96	103	54	101	99	101
ALT	252	64	206	229	134	23	0.01	825	34	-0.02	75	0	0	111	48	100	101	56	98	102	104
WWS	252	62	224	253	93	18	0.07	538	12	-0.16	74	0	0	111	45	103	104	53	103	103	106
SXT	251	67	202	236	150	24	0.13	624	27	0.01	77	0	0	107	51	100	102	61	102	102	106
CRV	251	57	191	219	149	18	0.22	225	27	0.25	67	0	0	106	40	98	100	46	101	100	102
WWS	251	61	209	249	142	20	0.06	639	36	0.12	72	0	0	107	44	100	107	53	103	102	106
ABS	251	66	188	279	139	20	0.17	417	23	0.07	77	0	0	106	51	108	111	61	99	101	103
SEM	251	67	204	279	124	22	0.10	626	19	-0.11	77	0	0	113	52	105	106	60	101	104	105
VDG	251	65	231	239	90	18	0.02	616	16	-0.15	75	0	0	109	49	101	105	57	99	102	103
AGR	251	64	221	216	88	16	0.01	583	19	-0.09	75	0	0	110	45	96	104	54	101	102	103
ALT	250	67	176	227	180	26	0.13	736	39	0.11	78	0	0	109	52	98	104	61	100	103	104

AGR	250	59	209	235	143	22	0.17	487	22	0.02	70	0	0	109	41	98	102	48	102	103	104
WWS	250	64	193	271	136	19	0.12	473	28	0.12	74	0	0	111	48	107	105	56	101	102	104
ABS	250	65	199	266	134	11	0.11	213	43	0.49	75	0	0	111	50	105	106	58	102	99	104
SEM	250	69	215	217	103	26	0.11	743	0	-0.46	79	0	0	108	55	100	101	64	100	103	105
ABS	250	59	231	240	74	13	0.08	330	8	-0.09	70	0	0	110	42	102	107	50	101	101	103
GAC	249	71	183	239	168	33	0.23	794	9	-0.36	80	31	12	104	60	102	106	69	102	98	101
GAC	249	69	197	212	161	25	0.02	897	43	0.07	79	0	0	107	55	98	104	66	99	100	104
ALT	249	68	209	205	132	26	0.14	689	12	-0.25	78	2	1	106	55	96	101	62	103	100	104
ALT	249	63	193	190	130	28	-0.07	1,179	30	-0.29	74	0	0	110	47	96	100	54	102	103	106
CRV	249	62	212	229	126	17	0.21	234	17	0.10	73	0	0	107	46	100	102	54	99	101	103
SEM	249	67	194	275	125	26	-0.03	1,017	28	-0.23	78	0	0	111	53	105	108	61	101	102	105
GAC	249	69	206	245	117	11	0.18	75	25	0.32	78	0	0	109	60	102	103	66	103	103	104
GGI	249	65	215	223	98	22	0.03	748	12	-0.28	76	0	0	110	50	101	105	57	99	101	103
ALT	249	66	209	257	87	13	-0.01	493	26	0.08	77	0	0	111	51	104	107	59	101	102	104
GAC	248	70	134	252	242	20	0.51	-269	44	0.80	80	0	0	105	63	107	100	68	100	100	103
ALT	248	67	206	215	143	31	0.17	831	5	-0.44	78	0	0	109	53	97	100	62	99	103	106
AGR	247	77	159	218	196	29	0.35	378	19	0.04	87	42	14	104	67	100	98	70	104	103	101
AGR	247	64	187	233	161	27	0.06	889	35	-0.05	75	0	0	108	48	100	106	55	102	103	106
GAC	247	69	193	213	146	23	0.14	569	25	0.02	79	0	0	106	57	101	102	65	101	102	104
SEM	247	62	191	234	145	27	0.06	871	26	-0.16	73	0	0	111	44	101	102	51	103	103	105
WWS	247	65	215	262	116	18	0.02	609	30	0.06	75	0	0	106	48	105	109	58	101	100	103
GAC	246	66	188	234	149	34	0.03	1,212	18	-0.49	77	0	0	112	50	102	104	59	101	102	108
VIK	246	61	211	212	127	17	0.24	151	15	0.12	71	0	0	103	47	98	99	53	101	99	100
SEM	246	63	207	265	120	16	0.11	391	26	0.13	74	0	0	111	47	104	105	55	103	102	105
GAC	246	68	213	258	116	21	0.09	618	16	-0.15	78	0	0	111	54	103	106	62	103	103	104
ALT	246	68	183	247	110	19	0.03	664	24	-0.07	78	0	0	112	56	107	104	63	100	103	105
ABS	246	59	217	232	100	13	0.15	198	15	0.10	70	0	0	109	40	100	100	48	102	102	103
ABS	246	64	222	270	94	22	-0.11	1,033	25	-0.28	75	0	0	111	47	105	109	54	103	101	104
GGI	246	64	232	286	83	16	0.06	481	10	-0.15	74	0	0	111	50	108	106	57	102	101	103
SEM	246	64	234	234	82	10	0.21	-50	6	0.12	74	0	0	110	48	101	102	56	102	102	102
ALT	245	64	183	242	161	27	0.05	901	37	-0.02	74	0	0	111	46	103	106	55	99	102	104
ALT	245	65	201	228	122	26	-0.01	992	21	-0.30	75	0	0	113	48	101	101	57	101	104	105
WWS	245	66	200	227	122	21	0.01	746	30	-0.03	76	0	0	113	51	102	102	59	101	100	104
ALT	245	65	198	236	111	15	0.09	357	26	0.15	76	0	0	110	48	101	103	57	102	104	106
SEM	245	64	211	229	85	12	0.00	444	26	0.11	74	0	0	114	48	99	105	56	102	102	106
ALT	244	64	193	261	135	24	0.03	823	30	-0.07	75	0	0	109	48	104	105	56	101	104	105

WWS	244	63	204	252	122	21	0.04	691	27	-0.04	73	0	0	110	46	101	108	55	102	101	104
WWS	244	65	208	281	99	14	0.08	362	21	0.08	75	0	0	110	50	109	109	58	100	101	103
SEM	244	69	202	287	75	10	0.14	111	9	0.06	79	0	0	110	57	110	107	63	103	101	103
GAC	243	72	159	235	214	31	0.30	578	31	0.09	81	6	2	105	62	103	100	67	104	102	103
WWS	243	68	190	243	157	31	0.13	902	17	-0.31	79	0	0	110	53	101	103	62	101	103	106
ABS	243	65	191	214	152	27	0.02	964	34	-0.10	76	0	0	110	49	96	101	57	101	103	104
WWS	243	65	180	219	140	20	0.13	500	27	0.08	75	0	0	108	48	101	101	56	98	101	103
GAC	243	67	183	246	138	20	0.04	661	37	0.13	78	0	0	108	49	102	103	60	101	101	104
GAC	243	68	192	231	136	20	0.09	553	30	0.10	78	0	0	109	54	102	103	63	101	103	106
VDG	243	51	203	81	111	3	0.42	-697	10	0.58	61	0	0	104	35	83	82	41	100	100	98
CRV	243	63	207	229	105	23	0.11	639	5	-0.32	74	0	0	109	47	103	103	55	100	101	103
GGI	243	69	209	226	92	22	-0.05	901	17	-0.31	79	0	0	111	58	102	105	64	100	101	103
SEM	243	66	249	265	28	6	-0.07	346	13	-0.02	77	0	0	110	50	105	108	60	106	103	105
GGI	242	67	203	249	134	27	0.06	863	21	-0.23	78	0	0	111	52	101	105	61	100	104	106
SEM	242	62	192	276	113	15	0.08	404	27	0.14	73	0	0	110	44	107	111	52	101	102	105
SXT	242	70	254	257	35	7	-0.05	371	13	-0.05	79	0	0	109	62	103	107	67	105	102	104
AGR	241	65	203	228	130	21	0.17	460	16	-0.06	75	0	0	110	50	100	102	57	103	102	105
ABS	241	64	198	236	111	12	0.13	178	26	0.27	75	0	0	112	47	102	105	55	101	102	104
LIC	240	51	183	121	168	14	0.52	-506	12	0.48	60	0	0	103	33	87	90	37	101	101	100
GAC	240	69	172	202	162	19	0.25	209	29	0.28	79	0	0	107	57	99	98	64	102	100	102
SXT	240	64	197	209	137	25	0.07	771	24	-0.13	75	0	0	106	48	97	103	55	98	101	102
SEM	240	67	174	258	136	30	-0.06	1,245	28	-0.36	78	0	0	112	53	106	106	61	102	102	106
ALT	240	68	199	226	135	28	0.17	706	7	-0.34	79	0	0	110	54	98	103	63	104	104	106
GAC	240	64	200	248	121	25	-0.06	1,039	28	-0.23	74	0	0	108	48	103	111	57	102	101	102
ALT	240	64	212	202	92	13	0.08	308	20	0.10	74	0	0	109	49	98	97	57	100	100	103
VDG	239	48	182	88	147	7	0.57	-875	7	0.65	57	0	0	101	30	84	84	36	100	98	97
ALT	239	65	207	211	113	18	0.07	542	23	-0.01	75	0	0	109	49	97	103	58	102	104	105
ABS	239	65	217	269	62	16	-0.11	818	17	-0.26	76	0	0	109	48	108	109	58	102	100	102
ALT	238	66	182	219	151	26	0.10	755	26	-0.08	77	0	0	111	52	99	105	60	103	102	105
GAC	238	62	207	237	124	16	0.16	287	23	0.16	74	0	0	109	45	101	104	53	102	103	105
WWS	238	66	199	250	108	21	-0.01	810	24	-0.15	76	0	0	110	50	104	107	59	102	101	104
GGI	237	67	162	257	191	44	0.15	1,343	11	-0.67	77	16	1	106	54	106	104	60	103	101	104
ALT	237	65	166	234	166	23	0.18	495	32	0.16	75	0	0	107	49	101	103	57	103	102	105
WWS	237	65	192	247	122	23	0.02	802	26	-0.12	76	0	0	105	49	104	111	59	101	101	102
WWS	237	67	212	244	89	18	0.03	605	14	-0.17	77	0	0	112	52	103	106	60	103	102	104
SXT	237	68	242	215	39	6	-0.09	405	20	0.04	78	0	0	109	55	98	107	62	105	101	104

SXT	236	64	194	211	127	20	0.03	679	31	0.04	74	0	0	106	47	99	106	54	104	100	104
SXT	236	66	195	251	123	27	-0.04	1,077	24	-0.31	76	0	0	110	50	105	106	59	103	103	107
GAC	236	70	190	240	116	19	-0.03	766	34	0.03	79	0	0	110	60	103	104	66	103	102	106
TLG	236	67	213	220	86	9	0.14	61	16	0.20	77	0	0	109	52	98	106	61	103	102	104
ABS	235	67	184	230	125	18	0.10	485	26	0.07	78	0	0	106	52	101	103	61	101	101	103
VDG	235	53	201	100	124	5	0.44	-682	13	0.61	63	0	0	100	36	87	88	43	96	97	94
ALT	235	65	198	250	104	17	0.04	577	23	-0.03	75	0	0	111	50	106	102	57	101	103	105
SEM	235	63	198	225	99	21	-0.01	776	19	-0.20	74	0	0	108	46	99	105	54	98	102	103
AGR	235	63	201	230	88	19	-0.04	796	19	-0.21	74	0	0	109	45	103	108	53	102	101	104
SXT	235	63	200	248	85	13	-0.03	539	28	0.07	74	0	0	109	45	105	108	53	101	101	103
GAC	234	69	180	194	148	21	0.32	145	9	0.05	79	0	0	105	60	100	97	65	102	103	104
AGR	234	68	193	239	120	18	0.02	638	33	0.08	78	0	0	110	56	102	106	63	103	101	105
SXT	234	68	205	208	120	17	0.11	417	25	0.10	78	0	0	109	55	97	104	63	103	101	103
TLG	234	68	190	218	108	25	0.13	652	2	-0.38	79	1	1	107	56	99	103	63	103	100	104
ALT	234	66	214	218	98	27	-0.06	1,107	13	-0.50	76	0	0	109	50	101	103	59	100	103	104
WWS	234	61	205	250	92	14	0.04	450	21	0.02	72	0	0	111	44	106	104	52	101	101	104
WWS	233	67	198	218	128	17	0.14	354	26	0.16	76	0	0	110	54	99	105	62	102	103	105
GGI	233	63	181	254	112	19	0.19	339	8	-0.09	74	0	0	110	45	105	106	53	100	104	105
SEM	233	69	197	260	90	15	0.19	178	3	-0.06	79	0	0	110	54	105	110	64	101	103	104
GAC	232	77	158	274	210	37	0.27	849	20	-0.23	87	46	14	105	64	107	111	69	102	100	104
AGR	232	62	182	219	133	21	0.05	676	32	0.05	73	0	0	107	44	101	106	51	103	101	104
ABS	232	66	180	187	129	26	0.10	779	14	-0.28	77	1	1	106	52	98	99	60	103	101	104
SXT	232	61	195	239	104	18	-0.04	737	31	-0.01	72	0	0	109	42	103	107	50	102	102	105
VDG	231	57	173	99	162	11	0.45	-472	21	0.60	67	0	0	103	41	85	88	47	97	99	97
SEM	231	66	177	265	106	19	-0.04	792	30	-0.06	76	0	0	112	50	108	107	58	101	102	106
SXT	231	61	193	244	98	21	-0.04	862	22	-0.22	72	0	0	108	43	105	108	51	101	101	104
SXT	231	64	211	204	97	20	0.01	724	18	-0.18	75	0	0	109	49	98	104	57	101	102	103
VDG	230	59	163	124	172	8	0.41	-519	38	0.87	69	0	0	102	44	89	91	51	99	99	98
GAC	230	70	171	225	165	10	0.37	-369	34	0.72	79	0	0	107	61	100	106	67	99	102	105
WWS	229	65	178	232	155	23	0.15	561	28	0.07	75	0	0	108	49	102	101	57	99	101	103
SXT	229	64	195	225	112	23	-0.05	955	27	-0.20	74	0	0	111	48	102	107	56	101	103	105
CRV	228	53	151	138	195	16	0.55	-472	20	0.59	64	0	0	101	33	91	90	39	102	102	100
GAC	228	71	164	171	156	31	0.10	947	21	-0.27	80	20	7	106	59	98	104	66	100	98	101
ALT	228	67	196	205	121	15	0.09	391	30	0.19	78	0	0	107	54	99	100	62	100	99	102
SXT	228	65	186	202	119	18	0.08	514	25	0.05	74	0	0	109	49	99	104	57	102	101	104
VDG	228	67	214	211	86	17	0.07	503	9	-0.18	79	0	0	109	50	98	107	58	99	100	103

WWS	227	64	167	226	159	26	0.07	825	35	0.00	74	0	0	109	47	101	103	56	101	103	104
SEM	227	63	159	254	154	20	0.18	398	31	0.20	74	0	0	109	46	105	105	53	102	103	106
SXT	227	64	168	213	154	14	0.14	225	46	0.52	75	0	0	110	48	99	103	56	101	102	104
SEM	227	56	170	238	116	16	-0.01	617	36	0.15	68	0	0	108	35	103	104	42	105	102	105
WWS	227	66	177	234	100	11	0.13	148	21	0.22	76	0	0	111	51	103	105	59	101	102	104
VIK	226	60	168	176	142	19	0.23	270	20	0.12	70	0	0	104	43	98	97	50	100	99	101
GAC	226	64	179	202	136	29	0.06	947	17	-0.34	74	0	0	108	47	98	105	56	102	102	105
WWS	226	64	164	243	129	10	0.13	116	39	0.50	74	0	0	110	49	105	106	57	103	101	104
IRG	226	68	208	118	127	0	0.44	-846	22	0.84	76			103*	51	86	90	59	101*	98*	98*
VIK	226	58	199	161	106	20	0.20	336	2	-0.18	67	0	0	107	40	95	96	48	99	99	99
SEM	226	66	189	242	104	16	0.02	550	28	0.07	77	0	0	112	50	103	105	59	103	103	106
GGI	226	66	187	258	80	19	-0.06	824	16	-0.27	77	0	0	111	51	107	106	59	104	103	106
TLG	226	70	202	195	77	20	-0.06	848	14	-0.33	79	32	8	108	59	99	104	65	100	98	102
SXT	226	64	207	209	77	15	-0.07	699	24	-0.08	76	0	0	106	46	99	103	53	100	102	103
TLG	225	69	148	221	156	26	0.18	589	21	-0.06	79	0	0	109	61	103	103	66	100	101	103
ALT	225	66	170	221	146	26	0.02	925	32	-0.11	76	0	0	110	50	101	102	58	100	103	105
GGI	225	63	197	230	117	16	0.19	203	16	0.11	73	0	0	107	47	102	107	55	103	100	103
ABS	225	65	180	221	115	14	-0.01	561	39	0.22	75	0	0	106	48	102	108	57	101	103	104
SEM	225	65	200	229	101	15	0.06	457	23	0.05	75	0	0	109	49	101	107	57	102	100	103
SXT	224	68	201	199	118	18	-0.11	868	46	0.14	78	0	0	110	55	99	102	63	100	103	105
VDG	224	52	185	84	115	10	0.37	-361	7	0.32	62	0	0	102	35	85	87	41	99	100	97
AGR	224	68	205	216	70	24	-0.09	1,041	7	-0.55	78	0	0	111	56	100	102	63	101	103	106
GAC	223	68	179	171	163	26	0.32	327	9	-0.07	79	0	0	105	56	95	97	63	101	102	103
WWS	223	61	169	193	153	22	0.06	690	40	0.15	72	0	0	108	43	96	103	51	102	104	106
GAC	223	70	188	197	92	5	0.18	-142	23	0.41	79	0	0	108	61	100	99	66	101	100	102
ALT	222	68	179	189	123	19	0.11	477	23	0.04	78	0	0	109	55	96	103	64	101	104	105
SXT	222	68	155	242	122	26	-0.03	1,000	25	-0.26	78	0	0	110	56	108	106	63	101	103	106
SEM	222	63	182	275	83	13	0.01	452	22	0.05	74	0	0	111	48	108	111	55	101	102	104
SEM	222	67	194	260	83	12	0.09	285	14	0.03	77	0	0	111	54	105	109	61	101	103	104
ALT	221	67	169	195	127	15	0.14	277	29	0.25	77	3	2	107	52	101	100	59	98	101	103
WWS	220	64	174	232	118	17	0.03	583	31	0.09	75	0	0	108	48	103	108	57	103	103	106
WWS	220	65	189	190	109	28	-0.11	1,238	23	-0.43	76	0	0	109	49	97	104	57	103	102	105
TLG	219	71	160	194	150	29	0.21	653	9	-0.27	79	21	6	106	59	98	102	69	99	98	100
GAC	218	77	95	172	259	29	0.42	261	45	0.49	87	49	13	102	64	97	98	70	99	100	104
CRV	218	57	151	116	194	21	0.44	-70	22	0.36	68	0	0	103	41	89	93	41	103	101	101
SXT	217	69	145	70	198	19	0.50	-299	22	0.50	77			99*	54	84	83	64	101*	98*	97*

SXT	217	68	175	222	120	16	0.12	371	25	0.13	78	0	0	111	55	101	105	63	105	103	105
WWS	217	65	164	219	118	26	0.00	961	18	-0.33	76	0	0	108	50	103	104	58	102	101	104
SXT	217	62	183	216	98	7	0.14	-11	26	0.38	73	0	0	108	46	103	105	53	103	100	102
WWS	217	67	195	189	89	12	0.05	358	22	0.10	78	0	0	108	52	97	101	61	102	102	102
AGR	217	67	196	255	74	20	0.04	651	2	-0.37	78	0	0	112	53	107	109	62	102	103	105
ABS	216	61	159	177	139	10	0.26	-153	32	0.56	72	0	0	109	44	96	97	52	102	101	104
GAC	216	67	174	217	95	17	0.00	625	23	-0.06	78	0	0	111	51	103	104	61	101	103	107
SEM	216	69	212	242	19	8	-0.11	504	8	-0.20	79	0	0	109	60	106	109	66	105	104	106
CRV	215	62	135	110	240	27	0.46	106	34	0.42	72	0	0	100	50	89	88	47	101	101	100
VDG	215	55	172	97	146	12	0.33	-208	25	0.48	64	0	0	102	38	85	88	44	101	99	97
SXT	215	65	161	202	139	15	0.08	406	42	0.36	75	0	0	110	49	99	101	57	103	102	106
ALT	215	68	167	231	125	26	0.00	973	22	-0.28	79	0	0	109	55	104	104	64	102	102	106
GAC	215	67	172	265	119	21	0.09	616	18	-0.12	77	0	0	111	52	109	112	62	102	103	105
WWS	215	64	175	202	116	14	0.04	416	36	0.26	75	0	0	109	47	99	100	56	100	102	104
GAC	215	68	188	229	111	11	0.12	164	30	0.33	78	0	0	108	56	101	107	64	102	104	104
SXT	215	71	170	124	106	-4	0.38	-890	25	0.91	79			103*	56	92	92	67	100*	99*	98*
VDG	215	65	179	216	92	8	0.07	139	30	0.34	75	0	0	110	50	104	101	58	102	103	104
SEM	215	64	189	204	56	23	-0.16	1,179	7	-0.63	74	0	0	112	48	102	104	57	99	103	105
SXT	215	67	185	255	50	10	0.01	369	9	-0.10	78	0	0	111	53	108	113	62	97	103	104
WWS	215	70	203	260	46	6	-0.03	286	17	0.07	79	0	0	110	60	107	112	66	105	102	106
TLG	214	63	184	195	124	19	0.08	562	26	0.03	73	0	0	108	46	96	103	55	103	103	105
SXT	214	71	179	128	97	8	0.33	-364	4	0.28	78			105*	58	93	92	70	100*	101*	100*
GGI	214	67	174	217	92	12	0.15	153	13	0.10	77	0	0	106	52	101	105	60	100	101	100
AGR	214	66	184	216	90	18	-0.04	732	23	-0.12	77	0	0	107	50	102	109	58	102	100	102
SXT	214	69	193	255	42	7	0.10	67	0	-0.05	79	0	0	109	57	106	110	66	102	102	105
AGR	213	65	157	213	142	20	0.06	630	37	0.15	75	0	0	109	48	100	104	56	102	103	105
ALT	213	65	210	238	34	13	-0.10	667	7	-0.31	75	0	0	112	49	106	106	57	99	104	105
LIC	212	51	168	83	169	14	0.46	-372	18	0.49	61	0	0	103	34	84	88	35	103	101	102
SEM	212	66	180	236	64	14	0.08	361	1	-0.20	76	0	0	107	51	107	108	58	103	101	105
GAC	212	71	219	282	32	7	0.01	244	5	-0.09	80	0	0	110	61	110	112	69	103	103	104
WWS	211	61	176	200	112	21	-0.05	876	30	-0.10	72	0	0	110	44	98	105	52	102	102	105
ALT	211	66	171	207	89	21	0.05	672	8	-0.30	77	0	0	111	50	99	104	58	102	103	105
GGI	211	66	187	208	81	21	0.01	764	6	-0.38	76	0	0	108	50	102	101	58	101	102	104
CRV	211	59	203	193	67	15	0.06	425	4	-0.20	69	0	0	108	43	99	102	50	99	100	102
TLG	210	67	195	228	65	8	0.04	228	18	0.12	78	0	0	111	52	103	106	61	104	102	106
ALT	210	68	203	202	58	14	-0.07	658	15	-0.20	79	0	0	110	56	98	106	63	102	103	105

GGI	210	66	204	230	54	7	0.01	237	17	0.10	76	0	0	109	51	104	108	58	103	100	103
CRV	209	56	137	70	213	19	0.54	-363	26	0.61	66	0	0	100	40	84	87	39	101	100	99
ALT	209	66	152	201	149	31	0.07	993	20	-0.32	77	0	0	108	50	97	105	59	102	102	104
TLG	209	72	172	236	118	19	0.17	376	14	-0.03	82	5	1	108	63	107	104	67	103	100	103
GAC	208	68	165	209	112	24	0.04	823	15	-0.30	78	0	0	109	55	103	104	62	102	101	104
SEM	208	65	146	261	109	16	0.05	513	27	0.07	76	0	0	112	51	108	111	58	102	102	105
GGI	208	64	164	232	103	22	0.10	606	7	-0.27	75	0	0	108	47	105	106	55	102	101	104
AGR	208	64	160	208	82	13	-0.03	551	26	0.04	75	0	0	110	49	104	106	57	103	102	106
WWS	207	62	171	195	96	15	0.00	554	27	0.04	73	0	0	111	45	100	100	53	101	101	104
GAC	206	69	150	215	132	13	0.18	130	31	0.37	79	0	0	107	56	104	105	66	100	101	104
WWS	206	64	161	199	113	23	-0.07	1,007	29	-0.20	75	0	0	110	48	99	105	56	101	103	105
ABS	206	65	178	211	90	21	-0.06	914	18	-0.30	76	0	0	111	49	100	105	58	100	103	105
ABS	206	69	166	232	52	13	0.03	433	3	-0.22	79	0	0	109	55	104	108	65	101	102	104
GAC	204	70	146	212	140	22	0.21	401	16	-0.02	80	0	0	106	59	106	100	65	101	102	104
IRG	204	53	155	103	125	14	0.38	-208	3	0.17	63	0	0	99	37	90	93	43	99	98	97
GAC	204	70	174	213	96	15	0.07	424	18	0.00	80	1	1	107	59	105	109	66	101	101	104
GGI	203	64	167	205	112	24	0.14	612	4	-0.32	75	0	0	105	48	104	103	55	102	101	102
SXT	203	69	190	259	30	1	0.06	-81	9	0.17	79	0	0	107	57	108	113	66	101	103	105
GAC	201	69	113	183	225	16	0.50	-395	43	0.87	76	22	8	104	62	99	102	68	101	102	103
WWS	201	68	147	189	146	27	0.01	969	32	-0.14	78	0	0	109	52	99	103	61	101	102	105
ALT	201	66	185	186	87	21	-0.06	886	17	-0.30	76	0	0	109	50	99	104	59	103	102	104
ALT	201	66	178	161	68	16	-0.09	758	19	-0.20	77	0	0	109	50	93	102	59	103	101	105
GAC	200	71	156	184	181	26	0.30	382	21	0.07	81	7	5	102	59	100	101	66	100	103	103
GAC	200	70	141	164	142	10	0.28	-188	31	0.56	80	0	0	106	63	97	99	67	99	102	103
ALT	200	64	173	210	92	25	-0.09	1,107	15	-0.47	74	0	0	111	50	103	106	57	100	100	102
TLG	200	69	152	162	88	2	0.15	-227	29	0.56	76	45	8	110	59	99	99	66	100	103	105
SXT	199	63	156	190	110	20	0.01	722	24	-0.10	74	0	0	106	45	99	102	53	99	102	104
SXT	199	68	169	99	105	9	0.33	-330	7	0.30	77			102*	51	89	87	61	97*	99*	98*
ABS	199	69	168	247	59	14	-0.03	584	11	-0.20	79	0	0	110	59	107	112	66	101	104	106
CRV	198	51	140	105	159	14	0.42	-299	18	0.44	62	0	0	100	30	91	92	35	101	101	99
IRG	198	68	155	30	125	12	0.41	-360	4	0.28	76			103*	53	80	80	66	100*	101*	98*
ABS	198	63	177	179	96	23	-0.16	1,170	28	-0.31	73	0	0	110	46	99	103	54	102	102	105
SXT	198	65	164	194	95	23	0.02	799	10	-0.34	75	0	0	108	50	100	104	58	102	103	104
AGR	198	66	180	211	85	18	0.01	625	14	-0.18	76	0	0	109	50	103	106	58	101	99	103
AGR	198	67	153	205	80	22	-0.02	870	7	-0.44	78	0	0	108	53	105	104	62	103	103	104
GAC	196	73	132	224	136	30	0.05	997	17	-0.36	81	26	8	106	65	108	108	72	102	102	106

ALT	196	64	165	180	101	20	-0.09	897	31	-0.11	75	0	0	108	48	97	104	56	102	102	105
GAC	195	71	124	162	185	14	0.36	-170	38	0.65	79	37	11	103	64	99	99	68	100	98	101
VDG	195	62	159	210	111	26	0.04	891	11	-0.39	73	0	0	108	43	103	103	50	102	102	105
VDG	195	66	169	203	85	9	0.10	130	21	0.22	76	0	0	109	50	103	104	58	98	102	103
CRV	194	57	123	95	208	21	0.49	-175	24	0.45	67	0	0	100	41	89	89	42	100	101	101
WWS	193	65	162	218	87	21	-0.10	974	21	-0.29	75	0	0	111	48	106	105	56	102	102	105
VIK	192	63	139	183	137	14	0.24	54	25	0.33	73	0	0	106	47	100	100	55	101#	100#	101#
WWS	192	63	147	182	104	19	0.01	681	24	-0.08	73	0	0	108	46	101	101	54	102	102	104
ABS	192	62	177	166	65	9	0.21	-79	-3	0.00	72	0	0	109	47	97	100	54	101	100	102
VDG	192	63	177	237	29	5	0.00	186	7	-0.02	74	0	0	111	45	107	108	53	102	103	105
WWS	191	65	161	203	85	15	-0.01	563	22	-0.03	75	0	0	109	51	105	105	58	99	100	103
WWS	191	63	176	197	37	8	0.02	273	4	-0.11	74	0	0	110	46	101	105	54	102	103	105



Rel	Daughter Fertility		Cell Count		Feed Saved		Calving Ease	
	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	Calving Ease	Rel
57	113	43	168	64	-25	29	102	59
57	114	41	176	63	-32	29	100	57
62	112	51	172	69	48	32	100#	75
57	106	43	161	64	73	30	104	63
61	114	47	181	69	57	33	105	76
57	113	42	162	64	-112	30	104	59
61	107	50	175	68	36	32	102	65
57	115	44	166	65	13	30	103	60
58	110	45	177	65	-12	30	102	57
57	112	43	164	63	12	29	104	61
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58	109	43	156	64	37	30	102	65
62	113	50	166	68	16	32	102	97
58	112	47	159	68	-95	31	105	75
73	107	63	132	68	-50	36	104	88
60	107	45	162	66	-11	31	102	63
55	110	42	180	63	48	29	102	58
60	108	50	167	67	28	31	103#	70
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53	108	40	153	62	-10	29	103	57
57	109	42	165	63	-31	29	102	57
62	104	51	150	68	-44	32	104	70
60	107	47	134	66	76	31	101	65
62	111	51	164	69	-28	32	104#	72
61	110	50	154	68	21	32	101	64
56	110	41	171	63	-61	29	103	58
63	109	50	175	69	-34	33	103	81

54	111	40	171	63	58	29	104	57
60	115	47	182	67	22	31	103	61
54	108	39	149	62	65	28	103	62
56	111	42	159	64	4	29	105	63
52	107	37	163	60	-41	28	102	59
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55	113	41	145	64	-18	29	103	58
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56	109	44	176	63	-24	29	101	58
62	108	49	165	68	127	32	103	77
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55	107	41	168	63	-6	29	102	58
57	104	44	168	64	-35	29	103	65
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53	107	39	170	60	-137	28	102	57
54	111	39	163	62	71	28	101	65
55	114	41	161	63	-22	29	102	57
55	108	42	168	63	-89	29	103	58
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56	106	42	158	63	-42	29	103	58
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61	117	48	174	68	65	32	101	61
66	105	55	162	70	-44	33	101	96
62	111	51	150	69	-41	32	103	64
65	111	54	157	71	-47	33	102#	74
57	116	49	163	66	-24	31	106#	71
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61	109	51	167	68	68	32	101	70
56	111	41	159	63	-76	29	103	58
58	112	49	161	68	-35	32	105	96
63	108	52	170	68	-55	32	104#	72

67	112	55	168	70	-119	33	102	70
62	109	50	171	69	34	32	99	92
58	112	45	168	66	30	31	104	58
72	105	63	142	72	-129	34	101	84
61	106	51	167	68	-82	32	104	89
55	109	45	143	68	-84	31	103	62
57	109	46	152	65	-20	30	105#	64
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57	105	42	128	63	7	30	101	67
57	103	43	167	64	-91	29	102	60
53	110	39	157	61	-60	28	104	56
57	110	43	148	65	25	30	101	58
53	110	39	174	59	13	27	102	56
62	110	51	177	69	107	32	104	88
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63	107	50	169	69	-97	32	102	68
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55	112	41	160	62	10	29	103	63
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59	113	47	156	68	-9	31	104	64
63	110	48	164	69	-64	33	105	73
55	109	41	149	62	-47	29	101	56
57	107	45	161	64	43	30	103	57
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52	111	40	177	62	2	28	103	57
65	113	53	172	69	-110	33	102	91
63	112	52	175	70	18	32	104	67
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57	103	44	163	64	-84	30	105	59
61	110	49	151	67	-35	31	103#	77
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64	107	51	159	70	-40	32	101	87
57	110	44	164	64	27	30	103	63
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57	108	49	170	67	82	31	103#	71
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66	116	52	136	69	67	33	103	85
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70	112	59	189	71	-41	34	99	71
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53	115	41	154	63	-86	28	103#	64
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67	106	58	162	71	-53	34	98#	78
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66	107	58	165	70	77	33	103	79
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56	112	44	171	64	32	30	103	58
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63	109	52	146	69	44	33	103#	72
64	103	52	160	70	-28	33	103#	74
56	105	43	148	63	-33	29	104	57
64	106	52	154	70	-93	33	104#	66
69	112	60	142	71	-38	34	103	69
58	105	55	93	65	82	27	104#	73
45	114	41	106	57	122	26	105	46
58	100	50	156	67	-54	31	104#	69
67	103	56	147	70	-77	34	105#	78
63	100	52	140	69	-75	33	101#	71
57	102	48	183	67	-6	31	99#	71
65	100	55	146	70	45	34	102	67
52	118	69	120	84	13	36	102*	54
61	107	51	145	67	-37	32	104#	71
60	110	48	176	67	-97	31	104#	74
64	108	52	172	69	-149	33	102	68
68	106	60	150	72	-35	34	100	70
57	103	44	135	65	61	30	104	60
49	113	78	138	85	42	37	102	69
64	107	53	163	69	-81	32	105#	79
61	106#	60	148	66	-46	31	102#	77
69	105	58	183	71	-91	34	102	71
59	102	48	139	67	-76	31	103	91
60	107	49	182	67	18	31	103	64
49	112	38	105	53	173	23	102#	59
62	108	51	153	68	-110	32	99#	71
69	107	61	141	72	64	35	100	72
55	104	43	142	63	-19	29	101	55
62	106	49	152	69	-94	32	103#	74
61	107	50	148	68	9	32	102#	73
55	111	44	152	61	81	28	104	51
64	105	53	154	70	13	33	102	70
66	108	58	151	71	45	33	104#	71

62	108	51	143	68	50	31	104#	72
54	110	47	84	59	97	24	101#	70
62	100	50	148	69	-82	32	103	63
71	102	64	136	74	5	34	102	76
64	104	56	140	71	-65	33	102	68
61	101	49	159	68	-224	31	100#	76
59	102	46	157	67	-97	31	103	65
58	107	47	150	67	-172	31	105#	66
56	107	44	158	64	-30	30	104	59
69	102	56	142	70	-90	34	102	77
57	101	49	167	67	-84	31	102#	74
61	103	49	176	68	-22	32	104#	73
67	107	57	189	71	-187	34	101	87
68	103	58	129	71	-66	34	101	79
43	120	39	97	55	10	26	103	39
69	102	59	146	72	-31	35	105	86
60	104	50	142	66	-3	30	102#	74
67	107	58	157	70	-71	34	100	68
73	93	61	118	69	-51	35	98	85
65	99	54	150	71	-61	33	101#	65
61	107	50	133	68	54	32	102#	70
62	109	50	155	69	-24	32	103#	76
71	96	59	121	72	119	34	101	82
72	104	63	144	71	-49	34	97	80
60	104	51	159	67	-21	31	103#	70
69	108	60	166	68	-104	34	103	84
57	106	43	158	64	-58	30	104	60
44	113	66	152	81	117	34	102*	46
69	104	60	166	70	-135	34	99	83
46	111	32	94	53	44	23	100	50
43	115	70	133	84	114	36	102*	57
56	105	46	133	65	38	30	103	61
59	103	50	156	68	-44	31	103	60
62	104	51	147	68	35	32	102#	73
65	106	53	152	69	-161	33	103	90
74	98	64	140	71	-173	37	101	85

60	102	48	155	67	-13	31	103#	72
73	99	62	124	70	-26	35	99	89
56	102	43	140	64	-16	29	100	58
61	105	51	159	68	7	31	100#	65
55	106	48	84	60	78	25	101#	73
57	100	49	171	67	-58	31	103#	73
70	101	48	139	65	-28	30	101#	74
57	104	46	129	65	-81	30	103#	66
59	108	47	162	64	58	30	102#	72
56	108	44	154	65	-79	30	104	61
62	105	51	146	67	-42	32	101#	72
58	106	44	182	65	-40	30	102	64

Good Bulls Guide for Holstein - Health Weighted Index (HWI)

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Indices	
							HWI	HWI Rel
1	0200HO10777	WESTCOAST PERSEUS	A22,CVF,BLF	g	I	SEM	392	64
2	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	366	72
3	7HO13696	SSI SCENARIO LORD	A22	g	I	GAC	332	61
4	14HO7748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	325	67
5	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	321	66
6	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	320	60
7	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	308	62
8	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	302	73
9	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	300	64
10	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	299	66
11	7HO12571	DE-SU HEINZ 12342	A12,BLF,CVF,DPF	g	I	WWS	298	68
12	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	297	64
13	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	294	79
14	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	292	73
15	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	289	73
16	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	288	64
17	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	287	65
18	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	286	69
19	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	285	75
20	0200HO10755	WESTCOAST GALAHAD	A11,BLF,CVF	g	I	SEM	284	65
21	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	283	69
22	29HO17334	WILDER HAMLET	A22	g	I	ABS	282	63
23	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	281	78
24	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	281	73
25	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	281	62
26	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	280	66
27	GGIPALETTI	PALETTI PP	A12,POS	g	I	GAC	279	62
28	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	279	67

29	07HO12978	LEANINGHOUSE HELIX 22137	A22	g	I	GAC	278	61
30	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	277	75
31	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	277	74
32	JSCOLD	ERNEST ANTHONY COLD P	A22,POC	g	I	GAC	276	64
33	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	275	67
34	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	275	63
35	0200HO10383	LADYS-MANOR LUXUS	A12,BLF,CVF	g	I	SEM	274	71
36	GGIBRENTANO	BRENTANO	A22	g	I	GAC	274	67
37	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	273	66
38	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,POC	g	I	ABS	273	65
39	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	273	71
40	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	273	67
41	0200HO10660	STANTONS ADORABLE	CVF,BLF,A12	g	I	SEM	272	67
42	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	271	67
43	7HO12814	SEAGULL-BAY TRUE PP	POS,A22	g	I	WWS	271	63
44	29HO17344	GIN AMOUR	A22	g	I	ABS	271	66
45	29HO18527	SANDY-VALLEY RORDAN-ET	A12	g	I	ABS	267	60
46	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	267	64
47	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	266	64
48	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	266	70
49	0200HO10610	WESTCOAST WINDMILL	A22,BLF,CVF	g	I	SEM	265	69
50	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	265	81
51	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	265	73
52	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	263	62
53	011HO11631	PEAK ALTAPainter	A11,BLF,CVF,DPF	g	I	ALT	263	75
54	14HO07848	PEAK ACCELENHANCE	A12	g	I	WWS	262	63
55	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	262	65
56	GGISEMINO	SEMINO	A22	g	I	GAC	261	65
57	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	261	66
58	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	260	67
59	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	260	68
60	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	259	67
61	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	258	67
62	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	257	75
63	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	257	69
64	7HO13551	S-S-I HEINZ AMAZING	A22	g	I	WWS	257	62

65	011HO11778	BOMAZ ALTAROBSON	A22,CVF,BLF,DPF	g	I	ALT	256	65
66	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,BLF,CVF	g	I	SEM	256	68
67	NZGBBVECTR	BUSY BROOK WTP VECTOR S3F	A11	g	I	LIC	255	61
68	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	255	62
69	POINTP	POINT P	POC	g	I	AGR	254	68
70	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	254	66
71	94HO0895	MR ANSLY ADDICTION-P-ET	A12,POC	g	A	ABS	254	75
72	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	252	63
73	JSPOWERBALL	VIEW-HOME POWERBALL P ET	POC,A22	g	A	GAC	252	82
74	CRVEASTON	PEAK EASTON	A22	g	I	CRV	251	65
75	STGDELTAETA	ST GEN DELTA-ETA 67481-ET	A22	g	I	SXT	251	62
76	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,RDC	g	I	ABS	251	67
77	VIKHNERD	VH NUGGET NERD RC	RDC,A22	g	I	VIK	251	65
78	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	251	62
79	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,BLF,A22	g	I	CRV	251	70
80	CBEVOLVE	ENDCO EVOLVE		g	I	SXT	250	62
81	29HO18110	IHG ABS JERICHO-ET	A22	g	I	ABS	249	66
82	011HO11827	PEAK ALTAMIGHTY P-ET	A12,POC	g	I	ALT	249	63
83	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	249	68
84	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	248	71
85	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	248	65
86	7HO12876	RI-VAL-RE POWER TOOL-P	POC,A12	g	I	WWS	248	66
87	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	248	64
88	14HO07801	AOT HAROLDO	A22	g	I	WWS	247	67
89	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	247	76
90	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	247	70
91	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	246	66
92	0200HO10229	VELTHUIS B FORCE	A22,CVF,BLF	g	I	SEM	246	66
93	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	246	69
94	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	246	62
95	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	245	69
96	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	245	71
97	7HO13693	S-S-I FRANCHISE BENZ-ET	A22	g	I	WWS	244	59
98	CLASHP	ANDERSTRUP CLASH	A22,POC	g	I	GAC	243	67
99	07HO12951	SIEMERS MODESTY HAIL-ET	A22	g	I	GAC	243	62
100	7HO12898	OCD SUPERSPRING	A22	g	I	WWS	242	66

101	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,BLF,CVF,DPF	g	I	ALT	242	71
102	011HO11829	PEAK ALTAVault P-ET	A12	g	I	ALT	242	64
103	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	242	63
104	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	242	65
105	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	241	68
106	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	241	74
107	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	241	70
108	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	241	68
109	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	241	65
110	VIKHROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	241	66
111	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	241	65
112	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	240	66
113	GGICOVER	COVER	A22	g	I	GGI	240	69
114	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	240	83
115	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,A11	g	A	ABS	240	76
116	29HO18296	ABS ACHIEVER-ET	A22	g	I	ABS	239	66
117	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	238	68
118	011HO11682	PEAK ALTAfUNKY	A22,CNF,BLF	g	I	ALT	237	68
119	29HO18066	ABS DANNER-P-ET	A22,POC	g	I	ABS	237	63
120	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	237	65
121	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	237	67
122	OUTLAST	REGANCREST OUTLAST PP-ET	POS,A12	g	I	GAC	236	65
123	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	236	65
124	7HO12993	COOKIECUTTER HUMBLENKIND-ET	A22	g	I	WWS	236	62
125	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	235	63
126	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	234	69
127	GGISINGER	SINGER		g	I	GGI	234	67
128	CBCOSUPREME	ENDCO SUPREME		g	I	SXT	234	61
129	29HO17500	DG CHARLEY	A12	g	I	ABS	234	68
130	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	233	70
131	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	233	68
132	MASNAH	PURNIM MVP MASNAH-ET	A22	g	A	GAC	232	70
133	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	232	67
134	7HO12095	DE-SU MALLINGER 11384	A22,BLF,CNF,CVF	g	A	WWS	232	78
135	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	232	70
136	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	232	67

137	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,RDC	g	I	CRV	232	71
138	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	231	72
139	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,CVF,BLF	g	I	SEM	231	65
140	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	231	67
141	CBDREAMER	WILTOR DREAMER		g	A	SXT	230	76
142	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	230	84
143	14HO07303	LE-O-LA MOGUL GAMBLER	A22,BLF,CNF,CVF	g	A	WWS	230	79
144	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	229	66
145	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	229	63
146	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	229	62
147	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	229	66
148	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	228	69
149	0200HO10366	BENNER BARDO	BLF,CVF,A22	g	A	SEM	228	79
150	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	228	70
151	14HO07811	PEAK ACCELREOWN	A22	g	I	WWS	228	67
152	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	228	65
153	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	228	62
154	7HO13559	S-S-I HOTSHOT SNAZZY-ET	A11	g	I	WWS	228	60
155	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	227	64
156	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	227	69
157	GGIBORN	WIL BORN RDC PO	A22,RDC,CVF	g	I	GGI	227	59
158	0200HO10220	LEOTHE DARK VADOR	A22,CVF,BLF	g	A	SEM	226	70
159	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	226	65
160	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	226	69
161	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	226	64
162	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	225	72
163	011HO11720	PEAK ALTAFLYWHEEL	A11,BLF,CVF	g	I	ALT	225	71
164	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	225	74
165	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	225	71
166	29HO18202	ABS MOONWIND-P-ET	POC,A22	g	I	ABS	224	62
167	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	224	65
168	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	224	69
169	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	224	70
170	0200HO10588	SANDY-VALLEY APACHE-P	A22,POC,CVF,BLF	g	I	SEM	223	62
171	29HO18285	PINE-TREE SPLENDID-P-ET	A22,POC,RDC	g	I	ABS	223	63
172	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	223	81

173	MAINSTREET	GLOMAR WALLSTREET	CNF,CVF,A22	g	A	GAC	223	80
174	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	223	69
175	29HO18510	ABS ELDRIDGE-ET	A12	g	I	ABS	222	59
176	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	222	61
177	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	222	60
178	NZGBOMAXIMA	BOTHWELL WT MAXIMA S2F	A12	g	I	LIC	222	63
179	011HO00582	SCHREUR ALTAUP	A22,BLF,CVF,DPF	g	I	ALT	222	64
180	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	222	70
181	CBBILL	COGENT BILL		g	I	SXT	221	68
182	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	221	70
183	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	221	67
184	0200HO06530	EDG SKATEBOARD	A22,BLF,CVF	g	I	SEM	221	68
185	0200HO10222	LINDENRIGHT MEGAWATT	BLF,CVF,A22	g	I	SEM	221	69
186	VIKHSTORM	VH SPRITE STORM		g	I	VIK	221	66
187	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	221	66
188	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	221	67
189	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	220	65
190	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	220	63
191	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	219	67
192	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	219	64
193	29HO18589	TRIPLECROWN PONTIFF-ET	A12	g	I	ABS	219	60
194	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	219	65
195	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	219	70
196	CBMRGREY	PEAK MR GREY		g	I	SXT	219	71
197	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	219	65
198	GGIFERRARI	FERRARI		g	I	GGI	219	68
199	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	218	79
200	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	218	71
201	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	218	68
202	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	218	66
203	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	218	66
204	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	218	64
205	CRVPAISLE	PEAK TANGO PAISLEY		g	I	CRV	218	68
206	STGCHANCE	EDG DELTA-CHANCE-ET		g	I	SXT	217	62
207	7HO13907	CLEAR-ECHO JED JARED 745-ET	A12	g	I	WWS	217	62
208	CBLOTTACCLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	217	72

209	NZGMAIREGOLD	MAIRE FI GOLDDIGGER	A12	g	I	LIC	216	63
210	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	216	62
211	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	216	67
212	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	216	65
213	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	215	71
214	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	215	62
215	011HO11531	BOMAZ ALTASABRE	A22,CVF,BLF,DPF	g	I	ALT	214	66
216	VERMOUTH	CARENDA VERMOUTH 394	A22	g	A	GAC	214	71
217	7HO12212	DE-SU SS HONEYBEE 11569	A22,BLF,CNF,CVF	g	A	WWS	214	81
218	0200HO10411	CLAYNOOK DEALMAKER	A12,BLF,CVF	g	I	SEM	214	67
219	7HO13647	S-S-I FERDINAND BIGHIT P-ET	A22,POC	g	I	WWS	213	60
220	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	213	64
221	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	213	67
222	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	213	66
223	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	212	80
224	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	212	78
225	011HO11821	PEAK ALTAFOREVER	A12,BLF,CVF	g	I	ALT	212	67
226	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	212	70
227	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	212	67
228	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	211	70
229	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	211	67
230	7HO13740	PROGENESIS MODEST ROLAN 512	A11	g	I	WWS	211	61
231	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	211	84
232	CRV Farrell	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	211	69
233	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	211	84
234	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	211	68
235	GGIAPPEAL	APPEAL	BLC,CNC,CVC,XIC	g	I	GGI	211	67
236	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	210	78
237	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	210	67
238	CRVREMINDER	WD REMINDER		g	I	CRV	210	68
239	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	209	69
240	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	209	69
241	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	209	67
242	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	208	64
243	011HO11999	PEAK ALTANAMATH-ET	A12	g	I	ALT	208	59
244	7HO13827	WILRA HANGT HARVARD 1098-ET	A22	g	I	WWS	208	61

245	OHGFAMOUS	FAMOUS - ET	BLF,CVF,A12	g	I	AGR	208	70
246	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,BLF,DPF	g	A	ALT	207	76
247	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	207	71
248	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	207	72
249	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	207	75
250	ZEPHIR	BLUMENFELD DAMARIS ZEPHIR - ET	A12	g	I	AGR	206	59
251	AVENGER	CO-OP AVENGER	A12	g	I	AGR	206	68
252	NZGMEANDWING	MEANDER SB WINGMAN-ET S3F	A12	g	I	LIC	205	63
253	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	205	71
254	0200HO10598	CALBRETT SOLSTICE	A22,BLF,CVF	g	I	SEM	205	62
255	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	205	73
256	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	204	62
257	011HO11762	BUTLERVIEW ALTARINGER		g	I	ALT	204	62
258	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	204	79
259	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,POC	g	I	ABS	204	69
260	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	204	83
261	14HO07770	AOT SILVER HELIX		g	I	WWS	203	70
262	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	203	66
263	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	203	62
264	CRVSTYLE	AMBZED FREE STYLE ET S2F		g	I	CRV	202	63
265	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	202	64
266	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	201	76
267	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	201	63
268	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	201	65
269	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	201	63
270	011HO11939	ALTAMELVIN		g	I	ALT	200	62
271	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	200	66
272	GGIMONARCH	MONARCH		g	I	GGI	200	67
273	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	200	63
274	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	200	68
275	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	199	82
276	NZGWELLFORAY	GREENWELL SB FORAY-ET	A22	g	I	LIC	199	63
277	STGJOLT	FARNEAR TBR DELTA-JOLT-ET		g	I	SXT	199	62
278	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	199	63
279	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	199	66
280	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	199	62

281	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	199	75
282	29HO18545	CAL-ROY-AL YODA-ET	A12	g	I	ABS	198	61
283	CRVDUFFY	LORNFACE MAC DUFFY-OC S3F	A22	g	I	CRV	198	61
284	GGIBASEMENT	BASEMENT	A22	g	I	GAC	198	68
285	29HO18508	ABS JOHNSTOWN-ET	A12	g	I	ABS	198	60
286	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	198	61
287	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	197	62
288	29HO17364	SAHARA COMPONENT KING	A12	g	I	ABS	197	62
289	CRVOMAH	BUSY BROOK OMAH-ET-OC S2F	A22	g	I	CRV	197	61
290	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	197	68
291	011HO11813	PEAK ALTATOOTHOT	A12,BLF,CVF	g	I	ALT	196	69
292	011HO11478	DE-SU ALTALEAF	A11,BLF,CVF	g	I	ALT	196	72
293	011HO11725	PEAK ALTAAMULET	A22,BLF,CVF	g	I	ALT	196	68
294	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	195	65
295	7HO13680	S-S-I LA JEDI RISEN STAR-ET	A22	g	I	WWS	195	62
296	CRVCUPIDO	DELTA CUPIDO	A12,CVF	g	I	CRV	195	68
297	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	195	82
298	GGISANTA	SANTACLUS		g	I	GGI	195	66
299	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	195	67
300	7HO12600	BACON-HILL PETY MODESTY	DPF,A12,BLF,CNF	g	I	WWS	195	68
301	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	194	61
302	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	193	79
303	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	193	73
304	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,BLF	g	A	ALT	193	81
305	0200HO10857	STANTONS GALORE	A12	g	I	SEM	192	65
306	011HO11463	T-SPRUCE ALTAARN	BLF,CVF,DPF	g	A	ALT	192	75
307	011HO11608	DF ALTAPARISIAN	A12,BLF,CVF	g	I	ALT	192	70
308	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	192	66
309	STGREVIVAL	VOGUE REVIVAL-RED-ET	RDC	g	I	SXT	192	58
310	0200HO06617	BOLDI V ACTOR		g	I	SEM	192	69
311	011HO11745	MELARRY ALTASNAPSHOT-ET	A11	g	I	ALT	192	67
312	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	191	66
313	0200HO10569	IHG GEOGRAPHY-ET	A22,BLF,CVF	g	A	SEM	191	75
314	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	191	61
315	0200HO10794	PROGENESIS BENJAMIN	A12	g	I	SEM	191	60
316	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	191	72

317	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	191	70
318	0200HO02942	SILVERRIDGE ALBUM	BLF,CVF,A22	g	I	SEM	191	70
319	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,CNF,CVF	g	A	GAC	191	82
320	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,POC	g	I	AGR	190	66
321	14HO07872	CLEAR-ECHO MODIFY-ET	A22	g	I	WWS	190	61
322	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	190	63
323	011HO11767	RAKEN ALTACONCORD	A12	g	I	ALT	189	62
324	0200HO10038	SANDY-VALLEY EMERO	A22,BLF,CVF	g	A	SEM	189	74
325	14HO07842	FLY-HIGHER BAYO MAYO	A22	g	I	WWS	189	61
326	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	189	70
327	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	189	77
328	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	188	78
329	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	188	70
330	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	188	64
331	CRVASTRO	DELTA ASTRO	CVF,BLF	g	A	CRV	188	83
332	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	188	63
333	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	188	65
334	011HO11900	IHG MAXIMUS		g	I	ALT	187	63
335	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	187	63
336	29HO17947	ABS ROWDY	A11	g	I	ABS	187	67
337	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	187	63
338	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	187	69
339	7HO12773	LARCREST KENOSHA		g	I	WWS	187	69
340	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	186	64
341	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,CVF	g	A	ALT	186	84
342	NZGBANDITO	ARKAN RAN BANDITO S3F	A12	g	I	LIC	185	60
343	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,CVF,BLF	g	A	ABS	185	79
344	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	185	66
345	0200HO06480	VAL-BISSON DOORMAN	BLF,CVF,A22	g	A	SEM	185	84
346	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	185	66
347	29HO17318	ABS POLDARK-PP	A22,POS,RDC	g	A	ABS	185	68
348	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	183	69
349	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	183	67
350	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	183	72
351	011HO11630	PEAK ALTAMORENO	A22,BLF,CVF	g	I	ALT	182	67
352	NZGDIMANDATE	DICKSONS BG MANDATE S1F	A22,BLF,CNF,CVF	g	I	LIC	182	59

353	CBLEGO	VOGUE LEGO		g	I	SXT	182	65
354	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	182	64
355	0200HO07450	AMIGHETTI NUMERO UNO	BLF,CVF,A12	g	A	SEM	182	85
356	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	181	84
357	NZGGOLANCE	GORDONS AM LANCELOT S3F	A11,BLF,CNF,CVF	g	I	LIC	181	63
358	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	181	71
359	GGIFERRO	FERRO	BLC,CNC,CVC,XIC	g	I	GGI	181	67
360	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	181	63
361	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	181	63
362	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	180	65
363	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	179	66
364	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	179	68
365	29HO17339	GLAMOUR BOGHILL CARLITO-ET	A12	g	I	ABS	178	65
366	0200HO02870	MR LOOKOUT P ENFORCER	BLF,CVF,A22	g	A	SEM	178	78
367	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	178	64
368	GGIPOPSTAR	VEKIS POPSTAR	POC,RDC,A22	g	I	GGI	177	67
369	NZGMAIRGAUNT	MAIRE IG GAUNTLET-ET	A22	g	I	LIC	176	61
370	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	176	65
371	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	175	80
372	NZGCYCLONE	PAALVASTS MT CYCLONE S2F	A11,BLF,CNF,CVF	g	I	LIC	175	60
373	011HO11707	PEAK LC ALTACORDIAL	A22,BLF,CVF	g	I	ALT	175	68
374	CRVPHONIC	ROYSON JUSTICE PHONIC	A22	g	I	CRV	175	63
375	GGISILVESTRE	SILVESTRE	BLC,CNC,CVC,XIC	g	I	GGI	175	66
376	14HO07328	COASTAL-VIEW MOOKIE	A22,BLF,CVF,DPF	g	A	WWS	174	83
377	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	174	65
378	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	173	78
379	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	173	82
380	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	173	61
381	MCAPPLE	CHILDERS COVE ANNIEDALE MCAPPLE-IMP-ET	CVC	g	A	AGR	172	77
382	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	172	65
383	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	172	76
384	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,POC	g	A	ABS	172	72
385	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	171	84
386	NZGBACKDROP	ARKAN MGH BACKDROP-ET S2F	A12,BLF,CNF,CVF	g	I	LIC	171	61
387	POLLPOWER	KEILAGLEN POWERBALL THEENFORCER-ET	POC,A22	g	A	GAC	171	70
388	CRVRUSKIE	BALANTIS B RUSKIEBEAR S3F		g	I	CRV	170	61

389	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	169	65
390	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	168	71
391	7HO12945	MELARRY MODESTY FIRST-ET	A12	g	I	WWS	168	61
392	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	167	68
393	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	166	85
394	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	166	85
395	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	165	67
396	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	165	63
397	CRVFINDER	BOUW FINDER		g	I	CRV	164	70
398	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	164	75
399	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	164	74
400	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	163	70
401	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	163	66
402	NZGTAFTANIUM	TAFTS WT TITANIUM	CVF,A22,BLF	g	I	LIC	163	63
403	NZGOVERTIME	WERDERS DE OVERTIME S1F	A22,BLF,CNF,CVF	g	I	LIC	162	59
404	CRVDUKE	AMBZED PAALVAST DUKE S1F		g	I	CRV	162	57
405	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	162	79
406	7HO12165	BACON-HILL MONTROSS	A22,BLF,CVF,DPF	g	I	WWS	162	71
407	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,CVF,DPF	g	A	ALT	161	77
408	CRVLENNAN	AMBZED GRAND LENNAN S1F		g	I	CRV	161	58
409	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	159	75
410	COGENTTWIST	COGENT TWIST	A22,CVF,BLF	g	A	SXT	159	85
411	CRVADIOS	AMBZED BROPHYS ADIOS	A22	g	I	CRV	158	60
412	OHGBOSS	BOSS		g	A	AGR	157	79
413	RENEGADE	CO-OP RENEGADE - ET	A12	g	I	AGR	156	68
414	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	154	66
415	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	154	64
416	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	153	68
417	250HO01131	DELABERGE SALT	A22	g	A	WWS	152	83
418	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	150	83
419	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	150	70
420	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	149	67
421	NZGSWEETAS	WESTEDGE VHR SWEET AS S2F	A22	g	I	LIC	148	62
422	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	147	80
423	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	144	70
424	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	144	69

425	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	144	85
426	NEWSLANG	ADLEJAMA DIMAGGIO JARGON-ET	A22	g	A	GAC	144	67
427	CRVMCLAREN	WOODCOTE H MCLAREN ET S3F		g	I	CRV	143	61
428	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	142	63
429	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	141	84
430	CRVGERONIMO	MAIRE MINT GERONIMO	A22	g	I	CRV	140	64
431	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,DPF	g	A	GAC	132	86
432	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,BLF,CVF	g	A	SEM	132	85
433	RAZ	CARENDA RAZ	A22	g	A	GAC	128	69
434	IGRONNIE	CASTLEBLAGH RONNIE		g	I	IRG	127	65
435	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,A22,CNF,BLF	g	A	LIC	114	78
436	NZGNAUTEXCEL	WHINLEA NAUT EXCEL	CVF,A12,CNF,BLF	g	I	LIC	102	68

Production Traits					Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved		Calving Ease	
ASI	ASI Rel	No. Dtrs	No. Herds	No. Dtrs 1st Cntry	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	Calving Ease	Rel
218	75			202	109*	61	100	108	72	102	103	105	77	113	63	190	80	79	37	106*	97
202	83			2,365	111*	68	105	108	79	104	103	105	82	108	81	162	86	114	40	101	79
193	79			140	111*	52	96*	106*	61	103*	102*	105*	60	116	51	149	76	32	32	105	75
124	75			652	112*	70	108	108	81	102	103	105	83	108	69	204	84	3	40	103*	94
125	80			251	111*	60	99	104	72	104*	104*	106*	65	114	64	162	79	89	38	102	74
223	75			116	111*	58	102*	103*	64	102*	104*	107*	67	109	55	175	72	17	34	105*	93
201	78			42	113*	58	99*	103*	64	102*	102*	105*	68	113*	58	143	72	47	34	103	71
341	97			1,158	110*	62	102	105	65	103*	101*	105*	70	107	75	115	88	-59	35	102*	98
154	75			88	108*	65	97*	102*	73	102*	101*	102*	73	112	67	188	69	38	39	102	68
157	80			720	111*	60	100	107	68	102*	101*	103*	66	109	71	157	82	125	36	103	68
24	77			2,819	109*	68	100	107	78	103	102	102	78	119	80	176	84	72	39	103	68
107	80			144	114*	59	104*	106*	65	101*	105*	107*	68	113	59	173	80	20	34	103	75
99	96	168	27		111	73	109	112	87	105	102	104	87	107	85	175	93	8	44	101	94
195	89			17,059	112*	73	109	112	75	104	102	106	81	104	82	151	89	-17	39	104*	92
100	89	52	19		112	68	105#	107#	77	104#	101#	107#	78	110#	79	169	89	56	39	103	97
126	79			235	108*	57	97	102	67	103*	103*	105*	63	111	57	144	79	180	36	103	75
257	80			297	110*	61	102	102	70	101*	104*	106*	66	108	63	150	79	-76	37	101	67
234	89			126	111*	62	101*	105*	70	102*	102*	105*	70	105	61	170	85	-46	36	103*	97
189	95			4,328	109*	67	100	105	77	101	102	104	80	108	81	152	81	91	40	104*	95
169	80			160	110*	59	107	104	71	103	102	104	73	112*	53	163	80	-97	37	103	76
172	80			2,302	110*	69	102	107	75	103*	102*	105*	72	104	80	176	83	39	38	104	73
173	75			146	110*	63	109	107	72	101	104	106	69	105	64	188	74	-76	38	104	75
170	96	242	45		113	70	106	102	87	101	105	107	83	108	74	184	95	-111	44	103	96
131	88	56	21		112	71	107	105	79	104#	105#	106#	80	109#	78	171	89	-68	40	102	96
108	75			171	112*	59	108	110	65	102*	102*	105*	67	103	62	182	77	118	34	104	74
95	80			631	111*	61	105	103	70	100*	103*	104*	65	111	71	184	81	36	37	104*	90
151	77			74	108*	57	96	106	68	102*	100*	103*	63	107*	53	158	74	128	36	100*	89
114	81			342	113*	64	104	106	74	100*	104*	105*	68	109	70	161	83	80	38	103	70

149	79			93	110*	53	103*	107*	60	102*	101*	105*	63	108	52	177	75	-10	32	103	77
152	93	147	34		112	68	107#	109#	75	103#	101#	105#	81	108#	79	164	92	-63	38	101	98
95	90	69	20		110	66	107	105	79	104	104	105	76	111	75	165	84	17	41	102	86
146	80			84	110*	59	109	109	70	104	100	104	70	113	52	128	79	-38	36	101	77
127	80			102	109*	62	101	101	74	103	101	104	75	112	67	177	79	-16	38	105	67
90	79			95	109*	57	103*	105*	64	103*	102*	104*	66	116	62	157	78	-15	33	102	71
145	88			125	112*	62	109	110	73	102	98	105	75	109	70	149	87	9	38	101*	85
101	75			2,523	109*	69	107	104	77	105	102	103	83	104	82	177	82	95	38	103	79
218	74			3,191	106*	62	97	95	71	96	102	101	79	109	77	139	81	180	38	103	70
155	80			427	110*	58	92	94	67	104*	101*	103*	66	115	64	143	80	92	36	105	69
133	83			698	109*	70	101	110	79	102	101	103	78	107	79	150	86	109	40	101*	84
124	77			347	108*	61	100	99	74	97	101	100	78	112	75	171	83	160	38	104	77
137	75			155	113*	67	110	107	79	102	103	106	81	107	72	173	81	-87	40	103	79
159	76			3,157	111*	60	99	104	74	104	103	103	81	106	75	156	80	44	37	103	83
169	75			639	110*	59	93	100	66	102*	102*	104*	64	109	71	154	77	88	35	102*	89
160	80			191	108*	64	99	106	74	103	100	104	72	110*	58	136	76	76	39	104	71
153	78			38	111*	52	103*	102*	60	103*	103*	105*	63	108*	53	166	72	19	32	106	67
115	75			4,659	109*	62	101	104	70	103*	100*	104*	63	109	78	156	79	134	36	105	73
161	79			103	109*	58	105	104	68	102*	104*	105*	65	106	55	180	76	-57	36	102	75
99	81			4,082	108*	68	102	102	75	99	101	101	80	117	81	148	85	54	39	102*	94
158	81			691	111*	64	110	110	77	94	102	105	81	103	75	212	83	-6	39	103*	93
117	98	561	93		109	89	103	100	86	101	101	104	90	110	93	191	97	15	43	102	99
101	89	50	17		108	70	98#	108#	78	101#	103#	105#	80	108#	82	164	89	93	40	103	92
154	75			193	109*	60	105	109	64	101*	99*	102*	69	107	61	177	75	-16	33	101*	91
132	91			1,459	112*	68	109	109	79	104	102	106	83	108	84	153	90	-43	40	105*	92
165	75			156	108*	63	100*	100*	75	100*	100*	103*	69	105	61	204	71	23	39	103*	92
91	74			2,751	108*	59	103	103	73	102	103	102	81	116	73	143	76	-7	37	102	81
194	79			92	109*	62	110	109	73	106	101	106	73	106	63	143	75	-72	37	102*	94
197	78			665	109*	63	103	103	73	101*	103*	105*	66	104	70	162	82	35	38	104*	91
203	75			1,981	110*	66	104	109	77	102	103	104	77	102	78	137	82	20	39	103*	92
140	81			383	111*	62	112	113	75	104	104	105	75	103	66	168	83	-107	39	103*	95
112	80			946	107*	62	105	107	73	103*	102*	103*	65	111	69	153	82	17	38	102	77
172	80			405	113*	63	110	106	73	100*	105*	106*	67	103	68	173	81	-57	38	102	71
126	91			1,837	113*	70	102	103	78	103	102	105	79	107*	85	169	91	-16	40	105	75
95	81			1,813	111*	65	104	103	75	98	104	104	81	111	77	163	84	62	39	104	83
70	78			275	109*	53	101	108	63	100*	104*	104*	62	112	54	170	78	40	34	102	72

190	75			1,241	110*	62	104	102	75	101	102	106	74	109	71	169	81	-99	39	102*	92
177	80			120	106*	62	103	105	74	103	102	105	79	106	70	172	81	-30	38	103*	86
213	75			100	104*	47	93	89	62	104	104	102	72	117	50	107	78	24	35	103	71
98	79			123	107*	56	101	106	66	100*	98*	102*	63	113	52	157	75	111	35	106	76
148	80			173	107*	65	100	103	76	103	102	105	78	107	68	146	80	81	38	104	68
111	80			566	109*	62	100	104	69	100*	104*	105*	64	113	71	137	82	85	36	103	73
56	90	55	20		109	78	102#	107#	79	104#	102#	103#	82	107	89	178	90	131	40	102	86
220	75			76	106*	60	106	107	68	100*	102*	103*	69	104	70	145	77	1	36	102	73
202	96	167	36		108	85	96	101	91	103	101	105	91	106	92	126	95	86	45	102	98
148	79			72	112*	60	105	103	70	102*	103*	104*	70	106*	62	176	78	-62	37	104*	83
162	79			115	109*	54	102*	106*	61	102*	102*	104*	63	104	54	157	76	54	33	103	71
123	80			131	108*	61	95	100	72	102	101	101	65	115	69	155	82	36	38	101	69
169	78			406	104*	58	97	102	70	102	101	102	75	110	65	127	78	157	37	104	73
104	76			174	109*	56	103	102	66	100*	104*	104*	55	113	57	164	76	7	35	104	66
103	80			3,508	106*	68	99	96	76	102	99	100	82	112	81	168	84	115	38	103	81
155	79			35	106*	57	100	103	65	103	102	103	65	107*	55	148*	70	32	35	103*	86
184	75			937	110*	64	104	107	75	104	105	106	76	105	77	149	83	-65	38	104	80
209	79			69	112*	57	101*	103*	65	103*	103*	106*	68	102	58	148	75	-2	34	103	78
114	78			4,509	109*	61	101	99	74	105	101	102	80	108	79	141	83	138	38	103	75
194	89	51	16		111	66	103#	107#	77	102#	103#	106#	77	101	62	181#	87	-99	39	103	93
133	75			503	109*	64	97	102	74	99*	101*	103*	72	110	73	172	81	59	38	105*	86
118	80			312	112*	60	99	104	69	102*	103*	105*	69	107	67	146	80	96	36	103	71
101	79			178	108*	57	105	108	67	104*	101*	103*	64	103	57	162	78	93	36	104	70
177	80			456	109*	61	100	105	72	100*	101*	104*	66	107	69	157	82	-16	38	104	76
134	95	139	18		111	67	107#	108#	74	101#	103#	105#	78	104	82	170	94	9	38	104	88
121	81			1,642	111*	67	109	109	79	104	102	105	82	104	80	159	84	-35	40	100	75
218	80			225	110*	63	99	107	71	102*	104*	106*	69	104	66	172	79	-148	37	103	73
182	80			136	107*	63	100	104	72	101*	100*	104*	66	107	66	146	79	35	37	104	72
81	81			1,622	114*	65	100	103	75	97	103	105	77	111	78	195	84	-32	38	106*	88
80	73			233	110*	55	100	102	68	98	103	102	72	113	65	155	73	98	35	104	76
90	81			298	108*	69	105	104	77	103	101	103	76	108	72	165	83	40	40	103	73
56	82			1,576	110*	70	103	103	79	102	100	102	82	108	80	170	84	159	39	102	78
137	76			32	108*	48	99*	103*	56	103*	102*	105*	60	110*	51	140	70	29	31	104	79
166	80			1,160	109*	62	101	104	72	102	100	103	78	108	70	137	82	14	37	103	72
141	79			84	109*	54	100*	106*	63	103*	103*	105*	64	107*	55	139	74	47	33	104	79
180	80			442	109*	62	102	103	71	100*	103*	105*	67	110	65	160	80	-84	37	104*	89

196	82			1,739	108*	67	97	100	79	99	104	105	80	106	81	168	86	1	40	102*	90
188	80			136	109*	57	99*	101*	65	102*	101*	104*	68	105	61	158	77	2	34	103	71
92	80			312	108*	54	97*	105*	62	102*	100*	102*	64	112	58	144	79	89	33	102	75
78	75			346	110*	66	101	105	75	102	100	104	75	107	72	166	79	120	38	102*	89
180	80			2,207	110*	64	105	105	74	101*	103*	105*	67	110	76	138	83	-125	38	103	76
189	90	69	19		107	68	102	107	80	99	103	105	78	104	71	165	86	-41	41	102	87
188	88			714	110*	67	104	107	66	102*	105*	107*	72	107	77	128	87	-32	35	103*	87
156	80			3,151	108*	62	98	99	72	102*	100*	103*	67	111	77	149	82	55	37	103	74
124	80			181	110*	60	96	100	70	103*	104*	106*	66	111	58	149	78	15	37	104	74
120	75			2,421	107*	60	98	102	73	102	101	102	80	111	76	150	82	59	38	103*	91
86	79			80	110*	62	103	104	72	104*	103*	106*	67	106	58	173	79	28	37	103	73
163	80			208	111*	61	105	112	72	104*	103*	105*	66	103	63	151	79	-73	37	104	72
131	81			888	111*	68	103	106	77	100	103	105	80	105	77	172	82	9	39	104	79
105	98	396	66		112	92	104	102	93	98	105	107	91	108	97	179	98	8	45	104	99
99	91	70	17		111	75	105	108	88	105#	103#	105#	76	108#	82	144	89	2	44	103	95
173	81			398	103*	59	98	105	72	101*	99*	101*	59	105	67	158	82	51	37	103	80
152	75			13,763	110*	71	100	106	78	102	103	105	78	105	83	131	84	52	40	103	77
115	81			119	110*	64	106	109	74	103	102	105	74	108	71	146	82	-63	38	103	77
163	75			532	106*	59	95	100	69	100*	100*	103*	65	107	68	151	78	96	37	105	75
82	75			2,207	110*	65	104	110	74	103*	100*	104*	67	109	77	141	76	50	38	104	73
40	75			5,323	110*	71	106	107	74	104	104	103	82	110	83	151	84	49	38	103*	90
131	79			80	107*	60	97	99	71	101	100	104	69	109	62	149	76	93	37	104	74
86	75			682	112*	65	101	100	74	102	103	105	74	110	69	172	80	14	38	103*	89
100	79			49	109*	57	97*	103*	65	102*	101*	104*	66	109*	57	151	73	105	34	105	74
160	79			129	109*	57	101	102	66	101*	101*	104*	64	111	55	157	77	-86	35	103	74
180	78			4,842	108*	69	103	106	80	101	102	105	79	105	81	137	86	30	40	104	79
163	80			366	111*	63	105	104	73	97	102	104	73	102	71	186	81	-18	38	105	76
153	78			51	108*	54	100	106	65	100	102	104	62	103*	49	162*	67	31	36	101	77
91	75			880	109*	70	101	103	80	98	103	106	82	108	78	177	84	76	41	104	75
210	88	55	18		106	63	105	100	69	99	101	102	73	108	69	157	83	-85	36	105	87
83	80			117	110*	63	105	106	75	100	103	102	77	106	72	186	82	-6	39	102	79
330	89	99	17		107	65	103	107	73	104	106	108	74	99	61	109	83	-143	38	102	97
241	75			509	109*	64	114	114	75	103	101	105	82	101	78	139	83	-203	38	103	77
209	99	719	18		108	65	107#	110#	69	102	101	104	74	103	96	114	98	15	36	103	94
101	81			552	109*	65	111	111	79	99	101	104	82	104	73	184	85	-55	40	102	77
92	77			633	111*	66	106	107	75	102	104	105	75	107	77	165	84	-24	38	104	77

39	82			592	113*	69	100	102	80	101	103	104	82	113	80	156	86	104	40	104	81
169	87			1,577	109*	69	98	99	75	103	105	103	75	103	81	176	89	-11	38	102*	87
108	75			308	107*	63	97	101	75	102*	102*	105*	62	107	70	172	83	112	38	101*	82
68	82			340	108*	62	102	100	71	99*	100*	101*	64	111	70	168	83	86	38	103	72
85	93	99	17		112	73	106#	105#	80	101#	103#	104#	83	111#	82	180	92	-144	40	102	90
140	99	522	75		109	93	97	99	93	101	101	103	95	110	97	159	98	29	45	103	98
96	99	950	38		109	90	108#	113#	78	102#	103#	105#	83	103	97	161	99	18	38	102	97
140	80			270	111*	61	107	104	70	98*	103*	105*	68	106	66	169	79	-33	37	101	77
148	78			175	108*	57	98	99	68	101*	104*	105*	62	105	58	169	77	17	36	99	73
75	79			70	111*	57	104*	103*	63	99*	104*	106*	65	109	56	178	74	-15	33	103	65
72	75			3,664	105*	67	97	98	73	99	100	99	80	113	78	163	81	174	38	102*	88
138	81			920	109*	63	103	106	75	102	102	104	77	105	75	164	84	-35	39	102	81
156	97	299	59		108	69	100	108	80	103	100	104	85	103	88	143	97	19	41	100	97
117	84			3,170	106*	66	104	100	77	100*	100*	102*	69	111	77	162	86	20	39	105	75
103	77			1,342	112*	64	107	111	75	103	101	105	73	106	75	135	83	12	39	103*	95
69	76			306	109*	58	106	105	71	99	103	103	76	114	67	148	80	12	36	102	76
77	79			129	110*	55	102*	107*	62	98*	103*	104*	64	111	56	153	76	59	33	103	76
60	76			119	111*	50	96	99	61	100*	102*	104*	56	112	53	169	74	75	34	105	69
136	79			193	110*	58	102	103	67	101*	103*	104*	66	108	57	143	78	-5	36	104	77
149	81			321	107*	65	99	101	75	104	102	104	70	106	75	145	84	76	39	102	77
126	74			21	108*	51	100	99	60	102*	100*	103*	60	107*	50	171	71	48	33	102	75
160	91	88	17		108	60	101#	100#	69	101	98	102	65	108#	63	157	88	-27	36	102	95
121	77			364	108*	59	99	98	72	103	103	103	77	111	69	139	77	35	37	103	77
132	79			5,294	104*	66	103	105	75	102	100	101	80	106	79	155	83	65	39	104	72
86	75			81	109*	64	106	113	75	99	99	103	75	108	64	169	74	-14	38	101	67
243	90	72	25		107	67	103	97	79	103	104	106	78	105	60	148	84	-145	41	105	85
173	82			1,181	106*	68	97	104	79	100	102	104	80	108	81	154	86	0	40	102	81
148	90	105	20		108	72	99#	100#	77	99#	103#	103#	82	104#	82	164	88	99	39	100	97
84	82			517	109*	69	108	109	79	99	103	105	82	105	79	181	86	7	40	102*	94
219	75			126	108*	59	104	109	67	101*	103*	105*	67	103	59	117	75	-51	36	102*	87
136	79			422	108*	60	107	104	72	101*	103*	104*	63	105	62	170	80	-58	37	101	73
108	77			798	114*	67	107	108	78	103	105	106	82	104	79	166	84	-68	40	103	80
119	78			1,725	109*	70	95	97	80	103	103	105	83	109	84	150	86	97	41	104	80
146	75			75	107*	58	105*	107*	69	104*	101*	104*	68	108	57	125	74	-54	36	102*	84
145	75			182	110*	64	112	109	73	104	104	105	71	103	60	130	76	-66	38	100*	87
148	96	147	41		110	86	107	109	89	102	104	105	90	101	93	154	95	-46	44	102	95

139	97	212	60		103	80	106	109	85	103	97	100	89	104	90	149	95	52	43	98	96
102	75			1,249	106*	71	98	103	80	103	102	103	82	106	83	160	85	120	40	102*	91
190	76			12	110*	51	100*	101*	59	102*	104*	107*	63	107*	51	143	68	-98	32	104	71
142	75			51	110*	60	102	104	67	100*	103*	104*	68	108	55	163	70	-101	35	103	67
172	75			86	108*	56	98*	102*	64	100*	102*	104*	65	106	56	150	73	11	34	102*	85
174	77			5,220	102*	53	97	95	62	100	101	99	72	110	59	112	85	174	35	103	71
132	75			120	108*	63	101	103	70	101*	101*	103*	67	103	69	155	80	78	37	101*	86
117	82			526	108*	64	102	107	76	100	102	105	79	107	76	141	85	64	39	104	80
169	75			2,027	106*	70	104	99	80	100	100	102	83	105	81	186	81	-58	40	103	75
140	80			3,063	108*	66	98	103	77	102	102	104	78	108	79	171	84	-106	40	100*	91
121	80			216	112*	68	108	109	74	102*	102*	105*	72	108	72	147	80	-123	38	103*	94
110	76			746	105*	69	101	102	77	105	101	103	80	108	81	150	84	22	40	98	76
89	75			1,356	108*	70	102	107	81	102	102	105	84	112	83	133	84	6	41	102*	85
121	75			2,614	105*	66	103	102	72	100	101	100	80	105	78	149	81	122	38	102	73
81	75			1,253	109*	67	102	105	73	102*	100*	102*	69	105	80	192	84	42	38	99	75
45	78			674	111*	61	105	102	75	101	102	103	80	112	71	165	81	-4	38	101	79
154	81			102	109*	56	98*	103*	64	104*	102*	105*	67	106	70	144	81	-11	34	103	79
4	75			101	110*	60	108	107	72	102	101	100	77	115*	54	151	80	15	37	103*	80
171	79			1,579	110*	67	101	103	71	103*	102*	105*	71	109	78	138	82	-84	37	103	77
187	78			400	107*	60	102	105	69	101*	102*	104*	61	104	65	140	80	-50	37	101	71
176	77			41	108*	51	103*	105*	59	103*	104*	106*	63	103*	51	146	71	-47	32	103	73
138	80			262	110*	59	99*	102*	66	102*	103*	105*	68	107	68	152	81	-32	34	104	77
124	81			1,038	110*	69	102	107	79	103	102	105	81	107	76	132	84	-10	40	102	78
97	84			500	110*	67	99	99	78	101	103	103	75	113	78	145	86	-6	40	104	76
96	81			99	112*	62	100	104	69	103	102	104	69	108	59	165	78	-16	36	101	77
27	75			11,569	109*	73	102	103	79	103	102	101	82	107	83	158	83	132	40	100	77
231	93	99	25		104	74	101	103	86	102	102	101	89	104	86	143	92	-70	43	103	96
172	90	81	15		108	62	102#	104#	65	102	102	105	72	108#	76	143	88	-71	35	103	94
172	80			697	112*	66	99	106	73	103*	103*	105*	71	104	73	138	82	-31	38	104*	91
135	79			684	109*	61	99	98	72	102*	103*	105*	66	104	68	174	81	-1	37	103	76
111	80			294	111*	62	107	108	71	103*	102*	105*	65	106	67	133	80	-31	37	101	74
106	79			84	107*	61	99	105	70	102*	100*	103*	66	107	59	154	75	70	37	103	66
60	81			1,079	110*	65	99	104	77	103*	102*	104*	64	112	77	122	85	104	39	104	74
191	79			78	110*	53	103*	106*	61	103*	102*	105*	63	104*	53	151	75	-107	33	102	73
132	79			50	109*	54	98*	102*	63	101*	103*	105*	65	108*	55	167	72	-50	33	102	74
52	90	89	25		110	65	106#	107#	76	103#	103#	105#	77	110#	64	150	88	-42	39	104	95

234	77			104	102*	51	101	96	64	104	103	102	73	108	55	96	80	29	36	101	72
128	80			159	110*	53	98*	101*	63	104*	104*	106*	65	106	55	162	77	-23	33	103*	87
132	80			736	109*	60	106	105	71	102*	103*	105*	67	101	71	164	82	39	37	103	75
112	79			260	108*	60	102	105	71	103*	102*	105*	64	104	63	157	79	19	37	103	74
190	82			2,953	106*	69	106	107	79	98	100	102	82	102	83	162	86	-65	40	103	80
146	78			92	109*	57	100*	102*	63	103*	101*	104*	66	109	54	151	75	-78	33	102	74
98	75			1,053	109*	68	109	102	73	101	101	102	75	107	81	194	84	-109	38	102*	93
197	88	53	18		102	67	97	105	76	103	99	100	74	98	69	143	83	144	40	100	86
117	99	496	25		111	77	103	107	84	100#	103#	106#	82	106	94	162	98	-69	42	102	94
41	75			375	108*	65	105	113	77	101	102	105	79	105	73	167	80	34	39	101*	95
163	77			31	111*	52	107*	106*	60	103*	102*	105*	60	110*	52	114	71	-139	32	103*	92
123	80			154	111*	54	102*	100*	63	101*	102*	102*	67	107	61	161	79	-23	33	104*	92
120	80			527	105*	63	101	105	71	104*	101*	105*	65	104	77	140	84	60	37	104	76
73	82	41	20		107	64	102	102	69	102	103	103	73	109	64	154	76	58	35	98	86
265	98	505	33		106	74	100	102	84	100	102	105	82	106	84	121	97	-117	43	102	97
230	94	131	28		107	71	102	106	85	94	97	102	84	105	78	179	91	-145	43	99	93
165	75			308	112*	65	104	107	76	102	103	105	78	105	75	138	82	-105	39	103	80
166	89	68	21		104	64	102	105	66	101	100	103	83	104	71	143	83	25	35	104	87
134	81			689	108*	60	103	101	71	100*	105*	105*	66	109	72	151	82	-59	37	103	75
222	87	55	18		108	68	104	98	75	102	103	104	79	101	67	132	80	22	39	99	87
157	79			386	107*	62	112	111	76	100	100	100	74	105	63	143	82	-143	39	101*	97
154	78			72	108*	52	102*	106*	60	103*	102*	104*	63	105*	53	139	73	-51	33	102	74
172	99	868	117		107	96	97	106	95	103	102	104	96	104	98	133	99	40	46	102	98
123	81			1,272	109*	64	105	108	74	101	101	103	78	108	77	138	84	-41	38	102	75
83	99	576	89		110	93	106	108	92	102	103	106	95	104	97	158	98	-25	45	102	99
76	75			457	110*	69	102	106	79	103	101	103	82	109	79	150	83	-4	39	103	80
69	81			348	109*	63	105	104	73	102	101	104	76	106	72	178	81	0	38	100	77
155	91	61	19		111	83	106	109	87	100#	102#	107#	83	99	90	166	91	-20	43	102	86
149	80			2,628	110*	63	93	94	72	102*	102*	105*	63	106	76	161	83	58	37	103	68
87	80			146	106*	63	98	102	74	94	100	101	79	107	74	175	82	141	38	103	76
106	81			5,786	112*	65	102	101	76	98*	103*	105*	68	102	79	189	84	54	39	102	79
81	81			703	108*	68	104	107	76	102	102	102	75	107	78	141	83	28	39	104	76
30	77			2,136	108*	60	100	99	72	98	99	102	80	112	75	161	81	165	38	104	71
184	80			147	111*	61	101*	104*	67	102*	103*	105*	70	106	62	140	77	-93	34	103	78
194	77			26	110*	50	98*	104*	59	101*	102*	106*	62	105*	51	139	69	-76	32	105	74
124	78			73	110*	52	103*	103*	60	100*	102*	105*	62	109	51	161	74	-67	32	104	73

125	81			1,073	107*	69	103	102	78	100	101	102	81	106	80	141	86	73	39	102	78
179	94	122	24		110	68	112#	110#	76	102#	101#	103#	83	105	90	131	93	-242	39	100	92
180	81			696	108*	69	104	104	80	104	100	103	83	101	80	146	84	-13	40	103	76
57	91	77	21		107	67	106	108	71	99	104	104	76	106	74	173	87	0	38	102	86
40	95	135	21		108	67	104#	106#	72	102	103	105	72	108	89	160	93	55	37	101	95
118	78			22	109*	50	98*	103*	58	100*	104*	106*	61	107*	50	165	70	17	32	105	72
16	75			5,105	111*	71	99	101	80	101	103	102	81	115	83	167	85	17	40	102*	91
164	76			600	101*	48	93	99	63	101	102	101	74	111	53	118	83	113	36	103	72
75	83			686	111*	68	110	110	80	101	102	104	83	105	76	170	86	-115	40	101*	95
117	75			96	108*	61	100	104	70	100*	98*	102*	67	108	59	153	74	40	37	102	65
75	86			852	107*	76	102	104	80	101	101	103	79	105*	85	159	88	106	41	100	75
109	80			77	109*	57	100*	110*	64	103*	102*	105*	65	106	54	160	75	-101	33	102	75
65	75			138	109*	58	105*	107*	66	100	101	102	70	110	61	176	74	-103	34	101	66
76	93	89	25		112	81	104	107	90	102#	103#	106#	83	108	91	130	93	24	44	104	95
87	81			572	110*	67	97	101	76	103	102	104	77	105	77	158	83	99	39	100	78
99	99	1,328	93		111	88	103	107	89	100	97	101	90	107	98	127	99	98	44	103	99
214	80			2,867	110*	70	102	105	79	102	102	105	78	104	81	134	84	-125	40	103	80
213	75			446	108*	62	96	98	75	102	103	105	77	103	72	142	81	-59	39	103*	95
126	75			127	108*	59	101*	104*	65	101*	101*	103*	69	103	65	186	77	-36	34	100*	88
203	76			120	99*	52	89	89	64	102	101	98	76	112	54	121	78	108	36	102	61
111	75			929	109*	59	99	103	68	99*	104*	105*	63	106	71	155	80	46	36	101*	95
163	93	114	20		109	70	105	106	82	102	102	104	87	101	74	149	89	-28	42	102	92
100	79			89	112*	57	103*	106*	64	102*	103*	107*	66	105	57	162	75	-38	33	99*	87
116	75			2,652	108*	65	99	103	71	99*	100*	103*	72	106	77	166	82	21	36	102	74
116	79			56	109*	60	99*	104*	65	104*	102*	104*	69	105	57	144	73	50	34	102	72
149	78			106	108*	54	102*	103*	62	103*	103*	105*	65	104*	56	144	75	-45	33	104	73
136	80			209	111*	55	103*	107*	63	104	102	105	75	104	69	140	82	-44	33	101	75
107	80			358	107*	62	102	105	72	101	104	105	72	108	71	136	81	-4	37	103	76
35	75			118	109*	64	100*	104*	68	102*	102*	104*	73	111	69	162	74	14	35	102	65
12	81			515	112*	64	109	111	75	101	100	104	71	106	70	187	82	-46	39	101	76
243	98	296	42		106	93	104	103	89	101	98	100	93	100	97	142	97	-76	44	103	97
188	77			1,723	101*	49	102	99	63	102	101	100	75	106	56	113	84	58	36	101	71
125	79			121	109*	53	100*	104*	61	103*	102*	104*	63	103*	53	167	75	-35	33	104	72
68	80			135	108*	55	99*	100*	61	100*	101*	102*	63	113	63	160	80	-20	33	101*	91
97	80			451	108*	60	104	106	69	101*	101*	105*	68	105	66	159	80	-7	36	104	77
90	79			76	109*	55	100*	106*	62	102*	103*	105*	62	106	54	153	75	0	33	104	72

77	94	182	26		106	68	96	110	83	104	101	103	74	108	61	136	90	63	42	105	98
228	78			49	109*	52	97*	101*	62	103*	105*	107*	64	95*	53	154	72	-13	33	102	79
185	76			94	102*	51	99	94	60	102	101	100	67	109	53	107	79	58	34	102	71
159	80			265	109*	65	102	100	73	100	100	103	76	105	73	143	81	14	38	103*	89
160	76			16	109*	52	102*	103*	60	102*	102*	105*	60	101*	54	161	69	-5	32	104	73
134	78			25	110*	57	103*	108*	64	103*	102*	106*	65	101*	58	155	70	-35	33	103	71
131	75			87	110*	62	108	108	67	103*	102*	105*	71	102	60	164	72	-120	36	104*	87
167	80			43	103*	56	96	101	66	100	102	101	66	106*	54	153*	70	20	35	100	65
227	74			99	99*	49	93	93	62	100	96	99	73	106	50	109	78	208	35	101	70
95	78			4,674	106*	68	96	99	74	100	100	101	81	111	80	135	82	118	38	105	73
138	81			410	111*	62	109	110	77	104	103	105	79	105	73	143	84	-197	40	102	76
170	89			2,483	106*	69	102	101	74	101*	102*	102*	73	102	79	170	88	-115	38	103*	87
115	75			1,093	114*	66	106	107	78	100	102	105	80	103	80	156	83	-48	40	102	80
151	77			179	109*	58	98	99	70	98	102	103	74	103	66	168	75	-40	36	104	80
135	79			73	110*	54	100*	101*	62	100*	103*	105*	64	106*	55	165	73	-69	33	102	74
97	75			5,114	113*	69	103	102	77	97	102	104	83	107	82	163	84	-38	38	101	80
103	97	234	40		106	91	107	104	91	100	103	105	93	105	95	157	96	-13	45	101	96
93	80			150	110*	61	102	102	72	99	103	105	71	106	66	175	78	-32	37	104	78
9	75			5,328	109*	67	100	100	76	102	100	99	76	113	80	181	82	25	39	105*	94
79	75			14,075	108*	71	99	104	79	103	102	103	84	105	84	127	85	171	40	104	81
160	78			46	108*	55	98*	102*	64	104*	104*	106*	66	104*	56	150	70	-67	33	102	65
209	96	160	26		103	87	95#	99#	80	98	100	100	89	107	95	137	95	-42	40	103	97
57	91			439	111*	68	107	107	73	103	103	105	71	106*	87	154	90	-88	38	101*	81
47	97	216	44		111	86	104	111	90	102	103	106	88	105	94	159	96	-32	44	102	98
87	80			163	111*	59	109	105	69	105	102	104	72	107*	56	152	78	-139	37	103	79
110	91	77	15		109	72	101#	104#	79	102#	99#	103#	74	109	88	145#	90	-30	40	101	92
107	81			658	107*	68	100	105	77	102	103	104	78	108	81	147	85	-37	40	103	79
106	80			1,345	108*	59	100	102	64	101*	103*	104*	64	103	75	173	83	10	34	104	75
73	76			27	108*	49	98*	102*	57	100*	102*	104*	60	111*	50	162	69	-15	31	104	69
57	81			162	107*	66	99	102	76	103	103	103	78	107	73	163	81	9	39	101	73
61	80			960	113*	61	103	105	73	98*	103*	104*	66	105	73	165	82	3	38	104	76
140	81			76	109*	61	104*	105*	71	103*	101*	103*	71	105	61	151	76	-108	37	103*	90
141	96	214	37		111	62	105#	105#	64	104	102	105	76	102	87	140	95	-68	34	101	96
128	75			92	109*	58	98*	100*	65	99*	102*	104*	68	108	61	158	73	-64	34	102*	86
135	77			54	106*	50	101*	102*	59	102*	101*	103*	62	103*	51	159	72	18	32	101	73
113	87			919	108*	70	99	102	74	104*	103*	105*	75	105	78	142	87	31	38	102*	95

86	80			1,850	107*	67	103	102	77	102	99	99	83	109	81	134	84	47	38	102	80
67	77			3,803	108*	74	101	103	81	99	101	103	84	109	85	172	85	3	41	104*	96
100	98	470	67		105	76	97	99	90	104	103	104	93	96	92	165	97	178	45	103	98
136	80			495	108*	57	99*	103*	66	101	102	104	70	106	69	143	82	-46	34	104*	92
111	78			80	106*	52	95*	102*	61	102*	101*	103*	62	109*	52	150	74	-19	33	102*	94
100	80			103	108*	57	101*	100*	63	100*	101*	102*	66	112	58	140	77	16	33	105	74
142	78			159	109*	53	104*	104*	60	102*	104*	105*	63	105	57	162	76	-143	32	100	74
125	95	132	21		109	66	103#	105#	65	104	104	106	72	104	87	157	93	-126	35	102	92
133	78			64	109*	52	101*	105*	59	101*	102*	105*	64	102	54	153	74	12	32	102*	91
117	81			4,761	109*	69	94	98	77	101	104	105	77	112	82	117	85	66	39	105*	92
40	98	432	51		109	64	105	112	76	103	102	105	74	105	84	171	97	-113	40	101	98
182	98	334	56		109	70	96#	97#	67	100	103	106	88	107	91	142	97	-80	35	102	97
172	82			1,811	109*	67	107	110	79	103	99	102	80	104	79	131	85	-124	40	100	78
148	79			163	109*	57	103	103	67	102*	102*	104*	65	101	57	156	77	-67	36	104	73
125	99	569	79		106	95	105	101	89	101	100	103	96	109	98	118	98	-46	44	100	97
113	78			79	107*	57	100	101	67	102*	104*	105*	63	103*	54	160	75	39	36	104	75
91	80			189	106*	60	105	108	71	100*	102*	104*	65	105	61	148	78	14	37	101	75
175	75			134	107*	61	99*	104*	71	102*	102*	104*	67	102	59	161	75	-99	37	103	67
140	78			91	108*	58	99	102	67	99*	102*	104*	64	108	58	141	76	-38	36	102	69
152	80			804	109*	65	102	100	71	100*	103*	105*	68	104	75	146	82	6	37	104	76
48	75			556	111*	58	101*	103*	65	102*	102*	103*	72	109	69	178	78	-88	34	103	66
72	81			674	112*	67	108	106	77	97	104	104	79	104	77	181	84	-45	39	105	78
50	81			1,531	110*	67	114	112	75	97	99	102	78	107	76	166	83	-64	37	98*	87
148	79			247	108*	57	99	103	67	102*	100*	104*	63	103	62	151	79	-29	36	103	77
92	99	590	99		108	95	107	102	93	103	105	106	95	104	98	170	98	-96	46	101	97
197	74			104	99*	43	89	87	61	101	101	100	72	111	44	126	79	102	35	103	71
140	95	124	49		105	87	98	100	83	103	101	102	88	108	92	145	93	-66	42	101	93
116	77			1,457	108*	60	102	98	74	101	98	100	80	111	72	152	76	-82	37	104	81
94	99	483	113		110	95	107	109	97	95	103	107	92	103	98	189	98	-54	47	102	98
118	79			258	109*	60	102	106	73	103	101	104	76	101*	55	144	80	23	38	103	75
100	90	93	17		104	54	98	100	65	102	101	102	68	111	53	145	85	15	35	102	97
147	80			411	110*	64	105	107	76	100	101	104	77	100	74	151	83	-36	39	100	76
89	79			381	108*	62	104	107	74	101	101	103	78	101	70	155	77	37	37	103	81
75	88	47	17		106	69	101#	98#	74	102#	100#	101#	80	112	80	113	87	98	38	104	95
182	75			1,898	108*	66	110	112	76	96	100	103	82	100	83	141	82	-103	39	102*	89
130	71			341	100*	41	93	93	60	98	101	99	70	114	48	122	79	125	35	104	71

107	79			78	109*	63	100	102	68	101	99	103	73	105*	63	152	74	2	35	103	74
81	80			277	111*	58	100*	101*	63	101*	103*	104*	67	107	66	152	80	-28	33	105	70
62	99	1,218	212		108	98	101	104	98	105	102	105	96	108	99	148	99	-34	47	101	99
154	99	568	119		111	95	109	109	94	104	103	106	96	99	98	162	98	-176	46	100	98
196	76			2,334	100*	49	88	86	64	101	100	99	76	111	53	105	84	138	36	100	69
110	89	53	16		110	64	105#	105#	71	95	104	105	69	106#	70	153	88	-53	37	103	86
88	78			806	108*	62	105	104	74	101	102	103	77	105	74	129	81	37	38	103	77
101	78			186	105*	57	96	104	68	103*	101*	104*	61	103	56	141	77	104	36	104	73
88	79			65	109*	60	102*	108*	66	103*	101*	104*	68	103	55	140	74	69	35	99	73
181	80	37	15		107	64	104	103	68	99	100	100	74	104	64	154	75	-129	35	100	85
148	80			362	108*	61	100	101	73	101*	102*	104*	66	106	68	156	80	-102	38	102	73
138	77			4,501	108*	66	103	101	75	100	104	104	78	101	80	146	83	-14	38	99	76
175	81			177	108*	62	100	101	73	103	102	105	71	106*	60	125	76	-87	38	103	73
131	96	158	29		107	73	102#	99#	78	102#	100#	103#	81	112	92	127	95	-125	40	103	97
105	78			27	110*	63	106*	108*	69	100*	100*	103*	71	107*	64	155	72	-124	35	102	75
96	78			822	109*	62	101	102	73	103	101	104	74	104	73	145	81	11	38	104	74
179	75			456	102*	46	103	95	62	103	103	101	71	109	49	95	83	-38	35	100	73
75	81			120	110*	56	102*	106*	62	103	102	104	72	106	67	156	80	-66	33	101	74
190	96	213	28		110	77	101	102	91	99#	103#	108#	80	101	91	159	96	-122	45	104	97
150	73			112	101*	46	89	89	62	104	102	100	74	115	46	94	78	93	35	104	53
111	81			255	110*	62	104	106	70	100	100	104	74	106	76	142	85	-58	36	98*	91
151	76			3,960	101*	52	88	90	62	102	101	98	74	110	57	103	85	196	36	104	71
86	80			216	108*	63	103	106	73	103	100	105	74	107	68	135	79	-39	38	102	76
177	99	509	62		108	94	103	103	89	101	100	104	88	103	97	130	98	-55	44	102	99
110	80			365	110*	61	102	106	71	102*	101*	104*	65	106	61	147	80	-111	37	105*	92
130	94	105	42		104	85	115	105	82	103	100	103	86	102	91	140	91	-142	42	101	89
127	98	416	32		109	86	106	109	90	102#	102#	105#	82	102	95	151	98	-105	44	104	94
113	73			165	106*	50	97	96	60	98	98	100	69	107	66	161	70	59	34	102	70
134	94	119	30		105	78	112	111	83	98	99	102	75	106	88	133	92	-111	42	99	93
145	79			242	106*	60	99	104	70	104*	103*	105*	66	105	61	133	79	-91	37	105	79
140	93	89	24		106	80	98	106	78	105	104	107	80	104	88	109	91	15	40	102	90
94	91	74	22		110	65	102#	103#	69	102#	103#	102#	65	104	83	136	90	8	36	103	89
194	99	818	118		105	86	99	99	95	98	103	103	96	108	96	144	99	-118	46	102	99
169	73			195	102*	47	84	86	62	101	102	101	73	114	51	104	78	132	35	103	71
122	91	83	20		103	60	94	104	70	103	101	104	74	106	54	120	87	53	37	100	91
193	76			113	100*	48	97	94	61	102	102	99	68	106	51	90	77	72	34	101	73

165	75			230	104*	66	101	102	71	99	100	102	75	100	79	154	79	-25	35	103	72
147	82			3,547	108*	69	101	104	77	102	104	108	81	99	82	135	85	-41	39	102*	93
120	78			39	106*	53	99*	105*	62	103*	101*	103*	63	104	54	122	72	48	33	101	74
204	85	48	15		105	65	100	103	69	102	101	104	75	98	65	140	78	-39	36	101	84
191	99	2,133	235		108	98	108	109	97	103	105	106	98	99	99	123	99	-173	47	103	100
160	99	1,519	186		106	89	103	100	98	97	101	101	98	106	98	155	99	-86	47	101	99
114	80			763	108*	63	103	105	72	98*	99*	102*	69	105	70	168	81	-101	37	101	77
127	78			147	106*	57	98	105	68	103*	102*	105*	62	106	55	94	76	36	36	104	74
99	81			3,921	108*	68	101	99	79	100	101	103	84	104	81	178	84	-55	39	102	83
82	95	140	35		108	66	102#	106#	74	100#	100#	102#	75	106	86	156	93	-48	38	102	93
61	93	120	21		109	67	102	103	74	104	101	104	72	107	81	147	91	-36	39	101	98
114	81			995	109*	67	100	103	78	97	102	103	81	106	80	153	86	-69	40	102	79
141	78			443	104*	60	93	102	73	93	100	101	78	102	70	170	76	61	37	105	82
109	77			1,892	102*	51	103	97	61	103	100	99	71	110	58	118	84	41	35	102	68
190	71			110	98*	43	89	90	61	102	101	100	73	109	42	74	75	201	35	100	69
176	71			59	99*	44	92	92	58	103	101	99	65	110	43	63	72	171	33	103	52
116	94	113	28		107	84	104	109	86	101#	100#	104#	84	103	92	129	93	-39	43	100	97
130	79			18,871	109*	73	108	108	81	102	102	107	81	101	86	112	87	-25	41	103	86
180	95	123	17		107	72	95#	96#	80	101#	100#	102#	73	103	91	133	94	-13	40	105	92
164	70			119	99*	41	84	84	60	101	100	97	73	111	45	121	74	127	35	104	52
187	93	108	38		106	68	104	102	80	95	104	105	82	103	72	156	89	-118	41	102	89
148	99	1,016	151		108	97	102	96	95	102	104	106	98	102	99	145	99	-91	46	101	99
131	75			165	101*	45	93	93	60	100	100	99	68	112	45	96	80	97	34	103	71
193	97	224	37		105	84	94#	104#	76	100	100	103	91	103	94	126	96	-47	38	101	96
102	75			2,725	108*	70	104	104	79	104	102	105	82	105	83	121	84	-84	39	101*	88
142	75			617	108*	64	103	99	78	102	102	105	71	102	73	129	85	-28	40	103	79
54	75			264	106*	60	100	97	71	102	101	100	69	114	70	159	79	-135	38	103	65
146	78			5,958	108*	68	106	104	74	97	104	106	79	105	82	144	85	-169	38	101	79
107	99	731	60		110	88	108	110	92	102	101	105	89	103	95	146	98	-124	45	103	98
145	97	259	51		110	91	105	102	92	99	103	105	93	103	95	145	97	-127	45	103	98
113	80			505	104*	71	101	100	78	102	98	99	83	105	83	131	84	-10	39	102	81
115	80			343	110*	62	109	109	75	99	100	106	74	101	60	171	81	-193	39	103*	96
235	75			112	98*	51	82	83	62	103	101	102	75	107	52	92	79	167	35	101	72
121	95	146	27		107	73	101	98	88	102	101	105	89	106	86	139	94	-81	44	103	95
155	81			5,235	105*	69	99	96	76	100	100	99	83	107	81	140	84	-128	38	102	81
156	76			1,802	110*	68	108	104	80	100	103	106	83	99	82	154	86	-159	40	101	79

138	99	422	60		111	97	98	97	97	99	105	107	97	103	98	154	98	-92	47	103	99
140	83	38	16		103	64	98	100	69	101	106	106	72	97	64	142	75	-21	36	103	83
149	74			100	102*	49	92	93	64	101	102	100	73	109	49	95	76	66	36	102	58
98	79			36	110*	57	99	103	68	99	103	105	67	105*	57	165	72	-168	36	102	67
115	99	344	90		108	96	102	106	97	103	103	105	95	102	98	151	98	-154	47	100	98
189	79			284	101*	55	96	92	66	102	103	102	72	104	55	105	83	39	36	101	75
219	100	3,581	374		103	99	104	98	99	101	101	103	99	99	99	120	99	-118	47	101	100
154	99	976	85		104	98	100	98	96	100	100	104	96	106	99	121	99	-72	47	103	98
102	86	58	17		109	63	110	103	73	103	103	106	72	104	61	131	81	-218	38	100	88
149	81			2,036	103*	56	92	92	65	101*	99*	99*	55	112	69	97	85	-28	36	104*	74
224	97	277	22		105	66	101#	92#	72	103#	103#	103#	80	105	93	88	96	-195	38	103	93
229	81			825	99*	61	90	86	65	97	98	96	76	109	79	86	88	30	36	102	73

Good Bulls Guide for Holstein - Type Weighted Index (TWI)

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Indices	
							TWI	TWI Rel
1	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	432	77
2	0200HO10777	WESTCOAST PERSEUS	A22,CVF,BLF	g	I	SEM	413	69
3	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	402	71
4	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	393	80
5	14H07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	385	72
6	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	380	78
7	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	375	66
8	0200HO10660	STANTONS ADORABLE	CVF,BLF,A12	g	I	SEM	370	72
9	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	370	73
10	GGISEMINO	SEMINO	A22	g	I	GAC	369	71
11	29HO17334	WILDER HAMLET	A22	g	I	ABS	365	68
12	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	359	79
13	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	358	86
14	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	355	72
15	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	354	86
16	0200HO10610	WESTCOAST WINDMILL	A22,BLF,CVF	g	I	SEM	354	75
17	JSCOLD	ERNEST ANTHONY COLD P	A22,POC	g	I	GAC	353	70
18	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	349	78
19	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	348	71
20	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	346	76
21	MASNAH	PURNIM MVP MASNAH-ET	A22	g	A	GAC	345	77
22	0200HO10755	WESTCOAST GALAHAD	A11,BLF,CVF	g	I	SEM	344	71
23	0200HO10383	LADYS-MANOR LUXUS	A12,BLF,CVF	g	I	SEM	340	76
24	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,BLF,DPF	g	A	ALT	340	82
25	011HO11778	BOMAZ ALTAROBSON	A22,CVF,BLF,DPF	g	I	ALT	338	70
26	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	338	67
27	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	337	80
28	7HO13696	SSI SCENARIO LORD	A22	g	I	GAC	336	67

29	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	333	80
30	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	332	81
31	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	331	69
32	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	330	68
33	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	329	68
34	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	329	81
35	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	329	70
36	011HO11631	PEAK ALTAPAINTER	A11,BLF,CVF,DPF	g	I	ALT	329	80
37	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	327	72
38	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,BLF,CVF	g	I	SEM	326	73
39	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	325	74
40	07HO12978	LEANINGHOUSE HELIX 22137	A22	g	I	GAC	325	67
41	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	325	71
42	29HO18285	PINE-TREE SPLENDID-P-ET	A22,POC,RDC	g	I	ABS	324	69
43	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	323	78
44	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	323	75
45	29HO18110	IHG ABS JERICHO-ET	A22	g	I	ABS	320	71
46	GGIBRENTANO	BRENTANO	A22	g	I	GAC	320	71
47	011HO11813	PEAK ALTATOOTHOT	A12,BLF,CVF	g	I	ALT	320	75
48	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	319	71
49	CRVEASTON	PEAK EASTON	A22	g	I	CRV	316	70
50	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	315	71
51	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	315	73
52	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	313	71
53	14HO07303	LE-O-LA MOGUL GAMBLER	A22,BLF,CNF,CVF	g	A	WWS	312	85
54	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	310	71
55	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	310	73
56	7HO12095	DE-SU MALLINGER 11384	A22,BLF,CNF,CVF	g	A	WWS	310	83
57	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	310	91
58	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	309	67
59	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	308	73
60	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	308	75
61	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	306	76
62	011HO11827	PEAK ALTAMIGHTY P-ET	A12,POC	g	I	ALT	306	69
63	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	304	80
64	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	304	73

65	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	303	88
66	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	303	72
67	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	303	71
68	29HO18202	ABS MOONWIND-P-ET	POC,A22	g	I	ABS	302	67
69	14HO07848	PEAK ACCELENHANCE	A12	g	I	WWS	301	69
70	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,A11	g	A	ABS	300	83
71	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	299	79
72	29HO18527	SANDY-VALLEY RORDAN-ET	A12	g	I	ABS	299	66
73	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	298	69
74	STGDELTAETA	ST GEN DELTA-ETA 67481-ET	A22	g	I	SXT	296	68
75	CBBILL	COGENT BILL		g	I	SXT	296	72
76	011HO11821	PEAK ALTAFOREVER	A12,BLF,CVF	g	I	ALT	296	71
77	CBDREAMER	WILTOR DREAMER		g	A	SXT	296	82
78	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	296	87
79	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	296	84
80	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	295	89
81	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	294	76
82	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	294	80
83	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	294	71
84	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	293	72
85	STGCHANCE	EDG DELTA-CHANCE-ET		g	I	SXT	293	68
86	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	293	77
87	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	293	84
88	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	292	69
89	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	292	73
90	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	291	71
91	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	291	74
92	7HO13647	S-S-I FERDINAND BIGHIT P-ET	A22,POC	g	I	WWS	291	66
93	011HO11630	PEAK ALTAMORENO	A22,BLF,CVF	g	I	ALT	291	71
94	GGISINGER	SINGER		g	I	GGI	290	72
95	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	290	74
96	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	289	77
97	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	288	72
98	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	288	87
99	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	288	67
100	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	287	69

101	GGICOVER	COVER	A22	g	I	GGI	287	74
102	29HO18589	TRIPLECROWN PONTIFF-ET	A12	g	I	ABS	286	65
103	0200HO10857	STANTONS GALORE	A12	g	I	SEM	286	70
104	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	285	76
105	011HO11682	PEAK ALTAFUNKY	A22,CNF,BLF	g	I	ALT	284	73
106	CLASHP	ANDERSTRUP CLASH	A22,POC	g	I	GAC	283	73
107	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	283	75
108	7HO12898	OCD SUPERSPRING	A22	g	I	WWS	282	71
109	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	282	72
110	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	281	91
111	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	280	76
112	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	279	70
113	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	279	67
114	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	279	76
115	0200HO10588	SANDY-VALLEY APACHE-P	A22,POC,CVF,BLF	g	I	SEM	279	68
116	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	279	83
117	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	279	74
118	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	278	85
119	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	278	76
120	GGIPALETTI	PALETTI PP	A12,POS	g	I	GAC	277	68
121	CBEVOLVE	ENDCO EVOLVE		g	I	SXT	277	68
122	14HO07801	AOT HAROLDO	A22	g	I	WWS	276	72
123	94HO0895	MR ANSLY ADDICTION-P-ET	A12,POC	g	A	ABS	276	80
124	011HO11829	PEAK ALTAVault P-ET	A12	g	I	ALT	275	69
125	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	275	93
126	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	274	71
127	NZGMAIREGOLD	MAIRE FI GOLDDIGGER	A12	g	I	LIC	274	69
128	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	274	70
129	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	274	77
130	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	274	66
131	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	274	71
132	29HO18510	ABS ELDRIDGE-ET	A12	g	I	ABS	273	65
133	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	273	77
134	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	273	90
135	011HO11531	BOMAZ ALTASABRE	A22,CVF,BLF,DPF	g	I	ALT	273	70
136	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	273	71

137	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	272	75
138	MCAPPLE	CHILDERS COVE ANNIE DALE MCAPPLE-IMP-ET	CVC	g	A	AGR	272	84
139	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	271	72
140	7HO12773	LARCREST KENOSHA		g	I	WWS	271	74
141	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	270	69
142	07HO12951	SIEMERS MODESTY HAIL-ET	A22	g	I	GAC	270	68
143	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	270	88
144	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	269	70
145	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	269	72
146	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,BLF,CVF,DPF	g	I	ALT	268	76
147	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	268	69
148	CBCOSUPREME	ENDCO SUPREME		g	I	SXT	267	67
149	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	267	74
150	29HO17344	GIN AMOUR	A22	g	I	ABS	266	72
151	29HO18296	ABS ACHIEVER-ET	A22	g	I	ABS	266	72
152	14HO07770	AOT SILVER HELIX		g	I	WWS	266	75
153	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	266	75
154	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	266	71
155	14HO07811	PEAK ACCELREKNOWN	A22	g	I	WWS	266	72
156	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,CVF	g	A	ALT	266	91
157	0200HO06480	VAL-BISSON DOORMAN	BLF,CVF,A22	g	A	SEM	266	92
158	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	265	68
159	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	265	73
160	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	265	75
161	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	264	85
162	011HO11767	RAKEN ALTA CONCORD	A12	g	I	ALT	264	67
163	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	264	68
164	250HO01131	DELABERGE SALT	A22	g	A	WWS	264	90
165	POINTP	POINT P	POC	g	I	AGR	263	73
166	7HO13693	S-S-I FRANCHISE BENZ-ET	A22	g	I	WWS	263	64
167	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	263	76
168	JSPowerBALL	VIEW-HOME POWERBALL P ET	POC,A22	g	A	GAC	262	89
169	011HO11478	DE-SU ALTALEAF	A11,BLF,CVF	g	I	ALT	262	78
170	CRVFARRELL	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	262	74
171	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	262	70
172	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	262	79

173	0200HO10229	VELTHUIS B FORCE	A22,CVF,BLF	g	I	SEM	261	71
174	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	261	74
175	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	261	69
176	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	261	72
177	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	260	73
178	011HO11725	PEAK ALTAAMULET	A22,BLF,CVF	g	I	ALT	260	72
179	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	260	89
180	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	259	72
181	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	259	75
182	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	258	72
183	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	258	74
184	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	258	70
185	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	258	71
186	14HO07328	COASTAL-VIEW MOOKIE	A22,BLF,CVF,DPF	g	A	WWS	258	89
187	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	257	70
188	MAINSTREET	GLOMAR WALLSTREET	CNF,CVF,A22	g	A	GAC	257	87
189	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	257	70
190	29HO18545	CAL-ROY-AL YODA-ET	A12	g	I	ABS	256	67
191	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	256	74
192	7HO13740	PROGENESIS MODEST ROLAN 512	A11	g	I	WWS	256	67
193	7HO13551	S-S-I HEINZ AMAZING	A22	g	I	WWS	255	68
194	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	255	71
195	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	254	73
196	7HO12876	RI-VAL-RE POWER TOOL-P	POC,A12	g	I	WWS	254	71
197	0200HO06530	EDG SKATEBOARD	A22,BLF,CVF	g	I	SEM	254	73
198	011HO00582	SCHREUR ALTAUP	A22,BLF,CVF,DPF	g	I	ALT	254	69
199	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	254	67
200	7HO12571	DE-SU HEINZ 12342	A12,BLF,CVF,DPF	g	I	WWS	253	73
201	GGIAPPEAL	APPEAL	BLC,CNC,CVC,XIC	g	I	GGI	253	73
202	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	252	75
203	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	252	70
204	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,BLF	g	A	ALT	252	88
205	0200HO10366	BENNER BARDO	BLF,CVF,A22	g	A	SEM	251	86
206	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	251	68
207	011HO11939	ALTAMELVIN		g	I	ALT	251	68
208	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	251	68

209	CBLOTTACLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	251	78
210	7HO12814	SEAGULL-BAY TRUE PP	POS,A22	g	I	WWS	250	68
211	0200HO10220	LEOTHE DARK VADOR	A22,CVF,BLF	g	A	SEM	250	76
212	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	250	72
213	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	249	79
214	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	249	69
215	0200HO10569	IHG GEOGRAPHY-ET	A22,BLF,CVF	g	A	SEM	249	81
216	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	248	77
217	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	248	79
218	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	247	68
219	011HO11900	IHG MAXIMUS		g	I	ALT	247	68
220	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	247	86
221	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	247	69
222	VIKROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	246	71
223	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	246	72
224	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	245	72
225	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	245	69
226	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	245	70
227	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	245	74
228	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	245	73
229	011HO11999	PEAK ALTANAMATH-ET	A12	g	I	ALT	244	65
230	GGIBORN	WIL BORN RDC PO	A22,RDC,CVF	g	I	GGI	244	64
231	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	244	87
232	011HO11762	BUTLERVIEW ALTARINGER		g	I	ALT	244	67
233	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	244	75
234	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	243	71
235	7HO13827	WILRA HANGT HARVARD 1098-ET	A22	g	I	WWS	243	66
236	7HO12212	DE-SU SS HONEYBEE 11569	A22,BLF,CNF,CVF	g	A	WWS	242	87
237	GGIBASEMENT	BASEMENT	A22	g	I	GAC	242	73
238	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	242	71
239	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	241	76
240	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	241	71
241	011HO11720	PEAK ALTAFLYWHEEL	A11,BLF,CVF	g	I	ALT	240	76
242	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	240	72
243	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	240	71
244	29HO18508	ABS JOHNSTOWN-ET	A12	g	I	ABS	239	65

245	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	239	73
246	0200HO10411	CLAYNOOK DEALMAKER	A12,BLF,CVF	g	I	SEM	239	71
247	NZGBBVECTR	BUSY BROOK WTP VECTOR S3F	A11	g	I	LIC	238	66
248	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	238	71
249	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	238	66
250	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	238	67
251	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	238	70
252	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	237	80
253	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,POC	g	I	ABS	236	71
254	29HO17500	DG CHARLEY	A12	g	I	ABS	236	73
255	OHGFAMOUS	FAMOUS - ET	BLF,CVF,A12	g	I	AGR	236	76
256	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	235	71
257	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	235	73
258	GGISANTA	SANTACLUS		g	I	GGI	235	71
259	VIKHNERD	VH NUGGET NERD RC	RDC,A22	g	I	VIK	234	70
260	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	234	70
261	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	234	70
262	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	234	68
263	GGIMONARCH	MONARCH		g	I	GGI	234	72
264	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	234	84
265	7HO12165	BACON-HILL MONTROSS	A22,BLF,CVF,DPF	g	I	WWS	234	76
266	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	233	91
267	7HO13907	CLEAR-ECHO JED JARED 745-ET	A12	g	I	WWS	233	68
268	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	233	92
269	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	233	67
270	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	233	67
271	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	233	71
272	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,RDC	g	I	ABS	232	72
273	29HO17339	GLAMOUR BOGHILL CARLITO-ET	A12	g	I	ABS	232	71
274	0200HO10038	SANDY-VALLEY EMERO	A22,BLF,CVF	g	A	SEM	232	80
275	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	232	68
276	CRVASTRO	DELTA ASTRO	CVF,BLF	g	A	CRV	232	90
277	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	232	74
278	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	232	73
279	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	231	73
280	VIKHSTORM	VH SPRITE STORM		g	I	VIK	231	71

281	14HO07842	FLY-HIGHER BAYO MAYO	A22	g	I	WWS	231	67
282	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	230	68
283	NZGWELLFORAY	GREENWELL SB FORAY-ET	A22	g	I	LIC	230	69
284	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	230	75
285	STGJOLT	FARNEAR TBR DELTA-JOLT-ET		g	I	SXT	230	68
286	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	230	72
287	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	230	81
288	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	229	73
289	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	229	82
290	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	228	69
291	7HO13680	S-S-I LA JEDI RISEN STAR-ET	A22	g	I	WWS	228	68
292	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	228	71
293	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	227	70
294	0200HO10222	LINDENRIGHT MEGAWATT	BLF,CVF,A22	g	I	SEM	227	73
295	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	227	73
296	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	227	69
297	CRVCUPIDO	DELTA CUPIDO	A12,CVF	g	I	CRV	227	72
298	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	226	71
299	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,BLF,A22	g	I	CRV	226	75
300	29HO18066	ABS DANNER-P-ET	A22,POC	g	I	ABS	224	68
301	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	224	74
302	VERMOUTH	CARENDA VERMOUTH 394	A22	g	A	GAC	223	78
303	7HO12993	COOKIECUTTER HUMBLINKIND-ET	A22	g	I	WWS	222	68
304	29HO17947	ABS ROWDY	A11	g	I	ABS	222	72
305	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	222	72
306	0200HO10794	PROGENESIS BENJAMIN	A12	g	I	SEM	222	66
307	011HO11707	PEAK LC ALTACORDIAL	A22,BLF,CVF	g	I	ALT	222	73
308	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	222	85
309	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	221	70
310	OUTLAST	REGANCREST OUTLAST PP-ET	POS,A12	g	I	GAC	220	70
311	GGISILVESTRE	SILVESTRE	BLC,CNC,CVC,XIC	g	I	GGI	220	72
312	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	219	70
313	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	219	71
314	RAZ	CARENDA RAZ	A22	g	A	GAC	219	75
315	NZGMAIRGAUNT	MAIRE IG GAUNTLET-ET	A22	g	I	LIC	218	66
316	GGIFERRO	FERRO	BLC,CNC,CVC,XIC	g	I	GGI	218	72

317	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	217	70
318	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	217	68
319	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	217	79
320	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	216	71
321	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	216	76
322	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	216	70
323	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	216	72
324	011HO11463	T-SPRUCE ALTAARN	BLF,CVF,DPF	g	A	ALT	215	81
325	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	215	72
326	CRVDUFFY	LORNFACE MAC DUFFY-OC S3F	A22	g	I	CRV	214	67
327	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	214	72
328	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	214	77
329	CRVFINDER	BOUW FINDER		g	I	CRV	214	75
330	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,CVF,BLF	g	I	SEM	213	70
331	ZEPHIR	BLUMENFELD DAMARIS ZEPHIR - ET	A12	g	I	AGR	213	65
332	0200HO10598	CALBRETT SOLSTICE	A22,BLF,CVF	g	I	SEM	213	68
333	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	213	72
334	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	213	68
335	CBMRGREY	PEAK MR GREY		g	I	SXT	211	76
336	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	211	69
337	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	210	90
338	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	210	72
339	NZGBOMAXIMA	BOTHWELL WT MAXIMA S2F	A12	g	I	LIC	209	69
340	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	209	93
341	011HO11608	DF ALTAPARISIAN	A12,BLF,CVF	g	I	ALT	209	75
342	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	209	68
343	GGIPOPSTAR	VEKIS POPSTAR	POC,RDC,A22	g	I	GGI	209	72
344	CBLEGO	VOGUE LEGO		g	I	SXT	208	70
345	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	207	67
346	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,POC	g	I	AGR	207	71
347	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,DPF	g	A	GAC	207	93
348	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	207	90
349	GGIFERRARI	FERRARI		g	I	GGI	207	72
350	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	206	70
351	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,RDC	g	I	CRV	206	76
352	COGENTTWIST	COGENT TWIST	A22,CVF,BLF	g	A	SXT	206	92

353	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	206	81
354	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,POC	g	A	ABS	205	78
355	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	204	71
356	011HO11745	MELARRY ALTASNAPSHOT-ET	A11	g	I	ALT	204	72
357	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	203	69
358	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	203	75
359	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	203	92
360	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	201	83
361	29HO17364	SAHARA COMPONENT KING	A12	g	I	ABS	200	68
362	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	200	78
363	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	200	75
364	CRVREMINDER	WD REMINDER		g	I	CRV	199	73
365	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	199	82
366	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	199	71
367	RENEGADE	CO-OP RENEGADE - ET	A12	g	I	AGR	199	72
368	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	197	81
369	7HO12600	BACON-HILL PETY MODESTY	DPF,A12,BLF,CNF	g	I	WWS	197	72
370	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,CVF,BLF	g	A	ABS	196	86
371	7HO13559	S-S-I HOTSHOT SNAZZY-ET	A11	g	I	WWS	196	66
372	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,POC	g	I	ABS	196	74
373	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	196	68
374	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	195	70
375	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	194	85
376	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	193	69
377	0200HO06617	BOLDI V ACTOR		g	I	SEM	193	74
378	0200HO07450	AMIGHETTI NUMERO UNO	BLF,CVF,A12	g	A	SEM	192	93
379	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	191	72
380	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	191	71
381	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	191	87
382	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	190	92
383	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	190	69
384	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,A22,CNF,BLF	g	A	LIC	190	84
385	CRVPAISLE	PEAK TANGO PAISLEY		g	I	CRV	188	74
386	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	188	69
387	0200HO02942	SILVERRIDGE ALBUM	BLF,CVF,A22	g	I	SEM	188	75
388	7HO12945	MELARRY MODESTY FIRST-ET	A12	g	I	WWS	188	67

389	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	187	68
390	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	186	75
391	29HO17318	ABS POLDARK-PP	A22,POS,RDC	g	A	ABS	185	75
392	NZGTAFTANIUM	TAFTS WT TITANIUM	CVF,A22,BLF	g	I	LIC	185	68
393	14HO07872	CLEAR-ECHO MODIFY-ET	A22	g	I	WWS	184	67
394	STGREVIVAL	VOGUE REVIVAL-RED-ET	RDC	g	I	SXT	183	64
395	AVENGER	CO-OP AVENGER	A12	g	I	AGR	182	73
396	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	182	69
397	0200HO02870	MR LOOKOUT P ENFORCER	BLF,CVF,A22	g	A	SEM	180	83
398	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	180	69
399	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	178	78
400	NZGMEANDWING	MEANDER SB WINGMAN-ET S3F	A12	g	I	LIC	177	68
401	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	177	82
402	CRVOMAH	BUSY BROOK OMAH-ET-OC S2F	A22	g	I	CRV	175	66
403	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	172	75
404	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,CNF,CVF	g	A	GAC	172	90
405	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	172	69
406	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	171	65
407	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	171	72
408	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	170	73
409	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,BLF,CVF	g	A	SEM	170	92
410	OHGBOSS	BOSS		g	A	AGR	169	85
411	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	169	75
412	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,CVF,DPF	g	A	ALT	168	83
413	CRVRUSKIE	BALANTIS B RUSKIEBEAR S3F		g	I	CRV	165	66
414	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	165	71
415	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	162	92
416	NEWSLANG	ADLEJAMA DIMAGGIO JARGON-ET	A22	g	A	GAC	158	73
417	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	156	71
418	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	148	69
419	CRVSTYLE	AMBZED FREE STYLE ET S2F		g	I	CRV	147	68
420	CRVGERONIMO	MAIRE MINT GERONIMO	A22	g	I	CRV	147	70
421	NZGBANDITO	ARKAN RAN BANDITO S3F	A12	g	I	LIC	146	66
422	POLLPOWER	KEILAGLEN POWERBALL THEENFORCER-ET	POC,A22	g	A	GAC	146	77
423	NZGDIMANDATE	DICKSONS BG MANDATE S1F	A22,BLF,CNF,CVF	g	I	LIC	141	64
424	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	139	75

425	NZGGOLANCE	GORDONS AM LANCELOT S3F	A11,BLF,CNF,CVF	g	I	LIC	136	68
426	CRVDUKE	AMBZED PAALVAST DUKE S1F		g	I	CRV	119	63
427	CRVADIOS	AMBZED BROPHYS ADIOS	A22	g	I	CRV	119	66
428	NZGCYCLONE	PAALVASTS MT CYCLONE S2F	A11,BLF,CNF,CVF	g	I	LIC	113	66
429	CRVMCLAREN	WOODCOTE H MCLAREN ET S3F		g	I	CRV	113	66
430	CRVPHONIC	ROYSON JUSTICE PHONIC	A22	g	I	CRV	107	69
431	NZGOVERTIME	WERDERS DE OVERTIME S1F	A22,BLF,CNF,CVF	g	I	LIC	106	64
432	IGRONNIE	CASTLEBLAGH RONNIE		g	I	IRG	101	70
433	NZGBACKDROP	ARKAN MGH BACKDROP-ET S2F	A12,BLF,CNF,CVF	g	I	LIC	91	66
434	CRVLENNAN	AMBZED GRAND LENNAN S1F		g	I	CRV	89	63
435	NZGNAUTEXCEL	WHINLEA NAUT EXCEL	CVF,A12,CNF,BLF	g	I	LIC	86	73
436	NZGSWEETAS	WESTEDGE VHR SWEET AS S2F	A22	g	I	LIC	82	67

Production Traits					Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved		Calving Ease	
ASI	ASI Rel	No. Dtrs	No. Herds	No. Dtrs 1st Cntry	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel	Calving Ease	Rel
202	83			2,365	111*	68	105	108	79	104	103	105	82	108	81	162	86	114	40	101	79
218	75			202	109*	61	100	108	72	102	103	105	77	113	63	190	80	79	37	106*	97
241	75			509	109*	64	114	114	75	103	101	105	82	101	78	139	83	-203	38	103	77
341	97			1,158	110*	62	102	105	65	103*	101*	105*	70	107	75	115	88	-59	35	102*	98
124	75			652	112*	70	108	108	81	102	103	105	83	108	69	204	84	3	40	103*	94
195	89			17,059	112*	73	109	112	75	104	102	106	81	104	82	151	89	-17	39	104*	92
223	75			116	111*	58	102*	103*	64	102*	104*	107*	67	109	55	175	72	17	34	105*	93
137	75			155	113*	67	110	107	79	102	103	106	81	107	72	173	81	-87	40	103	79
140	81			383	111*	62	112	113	75	104	104	105	75	103	66	168	83	-107	39	103*	95
194	79			92	109*	62	110	109	73	106	101	106	73	106	63	143	75	-72	37	102*	94
173	75			146	110*	63	109	107	72	101	104	106	69	105	64	188	74	-76	38	104	75
131	88	56	21		112	71	107	105	79	104#	105#	106#	80	109#	78	171	89	-68	40	102	96
170	96	242	45		113	70	106	102	87	101	105	107	83	108	74	184	95	-111	44	103	96
172	80			405	113*	63	110	106	73	100*	105*	106*	67	103	68	173	81	-57	38	102	71
99	96	168	27		111	73	109	112	87	105	102	104	87	107	85	175	93	8	44	101	94
158	81			691	111*	64	110	110	77	94	102	105	81	103	75	212	83	-6	39	103*	93
146	80			84	110*	59	109	109	70	104	100	104	70	113	52	128	79	-38	36	101	77
194	89	51	16		111	66	103#	107#	77	102#	103#	106#	77	101	62	181#	87	-99	39	103	93
257	80			297	110*	61	102	102	70	101*	104*	106*	66	108	63	150	79	-76	37	101	67
234	89			126	111*	62	101*	105*	70	102*	102*	105*	70	105	61	170	85	-46	36	103*	97
330	89	99	17		107	65	103	107	73	104	106	108	74	99	61	109	83	-143	38	102	97
169	80			160	110*	59	107	104	71	103	102	104	73	112*	53	163	80	-97	37	103	76
145	88			125	112*	62	109	110	73	102	98	105	75	109	70	149	87	9	38	101*	85
179	94	122	24		110	68	112#	110#	76	102#	101#	103#	83	105	90	131	93	-242	39	100	92
190	75			1,241	110*	62	104	102	75	101	102	106	74	109	71	169	81	-99	39	102*	92
108	75			171	112*	59	108	110	65	102*	102*	105*	67	103	62	182	77	118	34	104	74
152	93	147	34		112	68	107#	109#	75	103#	101#	105#	81	108#	79	164	92	-63	38	101	98
193	79			140	111*	52	96*	106*	61	103*	102*	105*	60	116	51	149	76	32	32	105	75

95	90	69	20		110	66	107	105	79	104	104	105	76	111	75	165	84	17	41	102	86
134	95	139	18		111	67	107#	108#	74	101#	103#	105#	78	104	82	170	94	9	38	104	88
161	79			103	109*	58	105	104	68	102*	104*	105*	65	106	55	180	76	-57	36	102	75
220	75			76	106*	60	106	107	68	100*	102*	103*	69	104	70	145	77	1	36	102	73
201	78			42	113*	58	99*	103*	64	102*	102*	105*	68	113*	58	143	72	47	34	103	71
189	95			4,328	109*	67	100	105	77	101	102	104	80	108	81	152	81	91	40	104*	95
107	80			144	114*	59	104*	106*	65	101*	105*	107*	68	113	59	173	80	20	34	103	75
132	91			1,459	112*	68	109	109	79	104	102	106	83	108	84	153	90	-43	40	105*	92
157	80			720	111*	60	100	107	68	102*	101*	103*	66	109	71	157	82	125	36	103	68
177	80			120	106*	62	103	105	74	103	102	105	79	106	70	172	81	-30	38	103*	86
172	80			2,302	110*	69	102	107	75	103*	102*	105*	72	104	80	176	83	39	38	104	73
149	79			93	110*	53	103*	107*	60	102*	101*	105*	63	108	52	177	75	-10	32	103	77
203	75			1,981	110*	66	104	109	77	102	103	104	77	102	78	137	82	20	39	103*	92
145	75			182	110*	64	112	109	73	104	104	105	71	103	60	130	76	-66	38	100*	87
100	89	52	19		112	68	105#	107#	77	104#	101#	107#	78	110#	79	169	89	56	39	103	97
121	81			1,642	111*	67	109	109	79	104	102	105	82	104	80	159	84	-35	40	100	75
184	75			937	110*	64	104	107	75	104	105	106	76	105	77	149	83	-65	38	104	80
101	75			2,523	109*	69	107	104	77	105	102	103	83	104	82	177	82	95	38	103	79
138	81			410	111*	62	109	110	77	104	103	105	79	105	73	143	84	-197	40	102	76
163	80			208	111*	61	105	112	72	104*	103*	105*	66	103	63	151	79	-73	37	104	72
148	79			72	112*	60	105	103	70	102*	103*	104*	70	106*	62	176	78	-62	37	104*	83
125	80			251	111*	60	99	104	72	104*	104*	106*	65	114	64	162	79	89	38	102	74
157	79			386	107*	62	112	111	76	100	100	100	74	105	63	143	82	-143	39	101*	97
197	78			665	109*	63	103	103	73	101*	103*	105*	66	104	70	162	82	35	38	104*	91
96	99	950	38		109	90	108#	113#	78	102#	103#	105#	83	103	97	161	99	18	38	102	97
218	80			225	110*	63	99	107	71	102*	104*	106*	69	104	66	172	79	-148	37	103	73
180	80			2,207	110*	64	105	105	74	101*	103*	105*	67	110	76	138	83	-125	38	103	76
209	99	719	18		108	65	107#	110#	69	102	101	104	74	103	96	114	98	15	36	103	94
154	99	568	119		111	95	109	109	94	104	103	106	96	99	98	162	98	-176	46	100	98
154	75			193	109*	60	105	109	64	101*	99*	102*	69	107	61	177	75	-16	33	101*	91
121	80			216	112*	68	108	109	74	102*	102*	105*	72	108	72	147	80	-123	38	103*	94
101	81			552	109*	65	111	111	79	99	101	104	82	104	73	184	85	-55	40	102	77
210	88	55	18		106	63	105	100	69	99	101	102	73	108	69	157	83	-85	36	105	87
209	79			69	112*	57	101*	103*	65	103*	103*	106*	68	102	58	148	75	-2	34	103	78
189	90	69	19		107	68	102	107	80	99	103	105	78	104	71	165	86	-41	41	102	87
114	81			342	113*	64	104	106	74	100*	104*	105*	68	109	70	161	83	80	38	103	70

117	98	561	93		109	89	103	100	86	101	101	104	90	110	93	191	97	15	43	102	99
112	80			946	107*	62	105	107	73	103*	102*	103*	65	111	69	153	82	17	38	102	77
136	79			422	108*	60	107	104	72	101*	103*	104*	63	105	62	170	80	-58	37	101	73
219	75			126	108*	59	104	109	67	101*	103*	105*	67	103	59	117	75	-51	36	102*	87
165	75			156	108*	63	100*	100*	75	100*	100*	103*	69	105	61	204	71	23	39	103*	92
99	91	70	17		111	75	105	108	88	105#	103#	105#	76	108#	82	144	89	2	44	103	95
243	90	72	25		107	67	103	97	79	103	104	106	78	105	60	148	84	-145	41	105	85
153	78			38	111*	52	103*	102*	60	103*	103*	105*	63	108*	53	166	72	19	32	106	67
154	75			88	108*	65	97*	102*	73	102*	101*	102*	73	112	67	188	69	38	39	102	68
162	79			115	109*	54	102*	106*	61	102*	102*	104*	63	104	54	157	76	54	33	103	71
169	75			2,027	106*	70	104	99	80	100	100	102	83	105	81	186	81	-58	40	103	75
165	75			308	112*	65	104	107	76	102	103	105	78	105	75	138	82	-105	39	103	80
85	93	99	17		112	73	106#	105#	80	101#	103#	104#	83	111#	82	180	92	-144	40	102	90
148	96	147	41		110	86	107	109	89	102	104	105	90	101	93	154	95	-46	44	102	95
155	91	61	19		111	83	106	109	87	100#	102#	107#	83	99	90	166	91	-20	43	102	86
243	98	296	42		106	93	104	103	89	101	98	100	93	100	97	142	97	-76	44	103	97
188	88			714	110*	67	104	107	66	102*	105*	107*	72	107	77	128	87	-32	35	103*	87
126	91			1,837	113*	70	102	103	78	103	102	105	79	107*	85	169	91	-16	40	105	75
140	80			270	111*	61	107	104	70	98*	103*	105*	68	106	66	169	79	-33	37	101	77
95	80			631	111*	61	105	103	70	100*	103*	104*	65	111	71	184	81	36	37	104*	90
191	79			78	110*	53	103*	106*	61	103*	102*	105*	63	104*	53	151	75	-107	33	102	73
75	83			686	111*	68	110	110	80	101	102	104	83	105	76	170	86	-115	40	101*	95
130	94	105	42		104	85	115	105	82	103	100	103	86	102	91	140	91	-142	42	101	89
101	79			178	108*	57	105	108	67	104*	101*	103*	64	103	57	162	78	93	36	104	70
108	77			798	114*	67	107	108	78	103	105	106	82	104	79	166	84	-68	40	103	80
159	76			3,157	111*	60	99	104	74	104	103	103	81	106	75	156	80	44	37	103	83
180	78			4,842	108*	69	103	106	80	101	102	105	79	105	81	137	86	30	40	104	79
163	77			31	111*	52	107*	106*	60	103*	102*	105*	60	110*	52	114	71	-139	32	103*	92
182	75			1,898	108*	66	110	112	76	96	100	103	82	100	83	141	82	-103	39	102*	89
163	80			366	111*	63	105	104	73	97	102	104	73	102	71	186	81	-18	38	105	76
90	81			298	108*	69	105	104	77	103	101	103	76	108	72	165	83	40	40	103	73
84	82			517	109*	69	108	109	79	99	103	105	82	105	79	181	86	7	40	102*	94
127	80			102	109*	62	101	101	74	103	101	104	75	112	67	177	79	-16	38	105	67
265	98	505	33		106	74	100	102	84	100	102	105	82	106	84	121	97	-117	43	102	97
131	75			87	110*	62	108	108	67	103*	102*	105*	71	102	60	164	72	-120	36	104*	87
90	79			95	109*	57	103*	105*	64	103*	102*	104*	66	116	62	157	78	-15	33	102	71

131	81			888	111*	68	103	106	77	100	103	105	80	105	77	172	82	9	39	104	79
176	77			41	108*	51	103*	105*	59	103*	104*	106*	63	103*	51	146	71	-47	32	103	73
87	80			163	111*	59	109	105	69	105	102	104	72	107*	56	152	78	-139	37	103	79
133	83			698	109*	70	101	110	79	102	101	103	78	107	79	150	86	109	40	101*	84
115	81			119	110*	64	106	109	74	103	102	105	74	108	71	146	82	-63	38	103	77
166	80			1,160	109*	62	101	104	72	102	100	103	78	108	70	137	82	14	37	103	72
95	81			1,813	111*	65	104	103	75	98	104	104	81	111	77	163	84	62	39	104	83
180	80			442	109*	62	102	103	71	100*	103*	105*	67	110	65	160	80	-84	37	104*	89
92	77			633	111*	66	106	107	75	102	104	105	75	107	77	165	84	-24	38	104	77
83	99	576	89		110	93	106	108	92	102	103	106	95	104	97	158	98	-25	45	102	99
172	82			1,811	109*	67	107	110	79	103	99	102	80	104	79	131	85	-124	40	100	78
91	74			2,751	108*	59	103	103	73	102	103	102	81	116	73	143	76	-7	37	102	81
104	76			174	109*	56	103	102	66	100*	104*	104*	55	113	57	164	76	7	35	104	66
190	82			2,953	106*	69	106	107	79	98	100	102	82	102	83	162	86	-65	40	103	80
146	75			75	107*	58	105*	107*	69	104*	101*	104*	68	108	57	125	74	-54	36	102*	84
163	93	114	20		109	70	105	106	82	102	102	104	87	101	74	149	89	-28	42	102	92
83	80			117	110*	63	105	106	75	100	103	102	77	106	72	186	82	-6	39	102	79
231	93	99	25		104	74	101	103	86	102	102	101	89	104	86	143	92	-70	43	103	96
180	81			696	108*	69	104	104	80	104	100	103	83	101	80	146	84	-13	40	103	76
151	77			74	108*	57	96	106	68	102*	100*	103*	63	107*	53	158	74	128	36	100*	89
155	79			35	106*	57	100	103	65	103	102	103	65	107*	55	148*	70	32	35	103*	86
177	80			456	109*	61	100	105	72	100*	101*	104*	66	107	69	157	82	-16	38	104	76
56	90	55	20		109	78	102#	107#	79	104#	102#	103#	82	107	89	178	90	131	40	102	86
188	80			136	109*	57	99*	101*	65	102*	101*	104*	68	105	61	158	77	2	34	103	71
191	99	2,133	235		108	98	108	109	97	103	105	106	98	99	99	123	99	-173	47	103	100
218	74			3,191	106*	62	97	95	71	96	102	101	79	109	77	139	81	180	38	103	70
234	77			104	102*	51	101	96	64	104	103	102	73	108	55	96	80	29	36	101	72
187	78			400	107*	60	102	105	69	101*	102*	104*	61	104	65	140	80	-50	37	101	71
172	90	81	15		108	62	102#	104#	65	102	102	105	72	108#	76	143	88	-71	35	103	94
142	75			51	110*	60	102	104	67	100*	103*	104*	68	108	55	163	70	-101	35	103	67
40	75			5,323	110*	71	106	107	74	104	104	103	82	110	83	151	84	49	38	103*	90
190	76			12	110*	51	100*	101*	59	102*	104*	107*	63	107*	51	143	68	-98	32	104	71
222	87	55	18		108	68	104	98	75	102	103	104	79	101	67	132	80	22	39	99	87
105	98	396	66		112	92	104	102	93	98	105	107	91	108	97	179	98	8	45	104	99
98	75			1,053	109*	68	109	102	73	101	101	102	75	107	81	194	84	-109	38	102*	93
111	80			294	111*	62	107	108	71	103*	102*	105*	65	106	67	133	80	-31	37	101	74

99	81			4,082	108*	68	102	102	75	99	101	101	80	117	81	148	85	54	39	102*	94
134	94	119	30		105	78	112	111	83	98	99	102	75	106	88	133	92	-111	42	99	93
132	80			736	109*	60	106	105	71	102*	103*	105*	67	101	71	164	82	39	37	103	75
50	81			1,531	110*	67	114	112	75	97	99	102	78	107	76	166	83	-64	37	98*	87
160	79			129	109*	57	101	102	66	101*	101*	104*	64	111	55	157	77	-86	35	103	74
141	79			84	109*	54	100*	106*	63	103*	103*	105*	64	107*	55	139	74	47	33	104	79
127	98	416	32		109	86	106	109	90	102#	102#	105#	82	102	95	151	98	-105	44	104	94
126	79			235	108*	57	97	102	67	103*	103*	105*	63	111	57	144	79	180	36	103	75
152	75			13,763	110*	71	100	106	78	102	103	105	78	105	83	131	84	52	40	103	77
196	82			1,739	108*	67	97	100	79	99	104	105	80	106	81	168	86	1	40	102*	90
86	75			81	109*	64	106	113	75	99	99	103	75	108	64	169	74	-14	38	101	67
153	78			51	108*	54	100	106	65	100	102	104	62	103*	49	162*	67	31	36	101	77
147	80			411	110*	64	105	107	76	100	101	104	77	100	74	151	83	-36	39	100	76
160	80			191	108*	64	99	106	74	103	100	104	72	110*	58	136	76	76	39	104	71
173	81			398	103*	59	98	105	72	101*	99*	101*	59	105	67	158	82	51	37	103	80
214	80			2,867	110*	70	102	105	79	102	102	105	78	104	81	134	84	-125	40	103	80
138	81			920	109*	63	103	106	75	102	102	104	77	105	75	164	84	-35	39	102	81
86	79			80	110*	62	103	104	72	104*	103*	106*	67	106	58	173	79	28	37	103	73
103	77			1,342	112*	64	107	111	75	103	101	105	73	106	75	135	83	12	39	103*	95
92	99	590	99		108	95	107	102	93	103	105	106	95	104	98	170	98	-96	46	101	97
94	99	483	113		110	95	107	109	97	95	103	107	92	103	98	189	98	-54	47	102	98
115	75			4,659	109*	62	101	104	70	103*	100*	104*	63	109	78	156	79	134	36	105	73
114	78			4,509	109*	61	101	99	74	105	101	102	80	108	79	141	83	138	38	103	75
124	81			1,038	110*	69	102	107	79	103	102	105	81	107	76	132	84	-10	40	102	78
230	94	131	28		107	71	102	106	85	94	97	102	84	105	78	179	91	-145	43	99	93
142	78			159	109*	53	104*	104*	60	102*	104*	105*	63	105	57	162	76	-143	32	100	74
75	79			70	111*	57	104*	103*	63	99*	104*	106*	65	109	56	178	74	-15	33	103	65
107	99	731	60		110	88	108	110	92	102	101	105	89	103	95	146	98	-124	45	103	98
148	80			173	107*	65	100	103	76	103	102	105	78	107	68	146	80	81	38	104	68
137	76			32	108*	48	99*	103*	56	103*	102*	105*	60	110*	51	140	70	29	31	104	79
166	89	68	21		104	64	102	105	66	101	100	103	83	104	71	143	83	25	35	104	87
202	96	167	36		108	85	96	101	91	103	101	105	91	106	92	126	95	86	45	102	98
170	89			2,483	106*	69	102	101	74	101*	102*	102*	73	102	79	170	88	-115	38	103*	87
123	81			1,272	109*	64	105	108	74	101	101	103	78	108	77	138	84	-41	38	102	75
82	75			2,207	110*	65	104	110	74	103*	100*	104*	67	109	77	141	76	50	38	104	73
57	91			439	111*	68	107	107	73	103	103	105	71	106*	87	154	90	-88	38	101*	81

182	80			136	107*	63	100	104	72	101*	100*	104*	66	107	66	146	79	35	37	104	72
81	81			1,622	114*	65	100	103	75	97	103	105	77	111	78	195	84	-32	38	106*	88
136	79			193	110*	58	102	103	67	101*	103*	104*	66	108	57	143	78	-5	36	104	77
115	80			343	110*	62	109	109	75	99	100	106	74	101	60	171	81	-193	39	103*	96
140	81			76	109*	61	104*	105*	71	103*	101*	103*	71	105	61	151	76	-108	37	103*	90
115	75			1,093	114*	66	106	107	78	100	102	105	80	103	80	156	83	-48	40	102	80
103	97	234	40		106	91	107	104	91	100	103	105	93	105	95	157	96	-13	45	101	96
124	77			347	108*	61	100	99	74	97	101	100	78	112	75	171	83	160	38	104	77
140	80			3,063	108*	66	98	103	77	102	102	104	78	108	79	171	84	-106	40	100*	91
171	79			1,579	110*	67	101	103	71	103*	102*	105*	71	109	78	138	82	-84	37	103	77
132	79			5,294	104*	66	103	105	75	102	100	101	80	106	79	155	83	65	39	104	72
69	76			306	109*	58	106	105	71	99	103	103	76	114	67	148	80	12	36	102	76
136	80			209	111*	55	103*	107*	63	104	102	105	75	104	69	140	82	-44	33	101	75
177	99	509	62		108	94	103	103	89	101	100	104	88	103	97	130	98	-55	44	102	99
184	80			147	111*	61	101*	104*	67	102*	103*	105*	70	106	62	140	77	-93	34	103	78
139	97	212	60		103	80	106	109	85	103	97	100	89	104	90	149	95	52	43	98	96
81	75			1,253	109*	67	102	105	73	102*	100*	102*	69	105	80	192	84	42	38	99	75
228	78			49	109*	52	97*	101*	62	103*	105*	107*	64	95*	53	154	72	-13	33	102	79
149	81			321	107*	65	99	101	75	104	102	104	70	106	75	145	84	76	39	102	77
154	78			72	108*	52	102*	106*	60	103*	102*	104*	63	105*	53	139	73	-51	33	102	74
70	78			275	109*	53	101	108	63	100*	104*	104*	62	112	54	170	78	40	34	102	72
112	79			260	108*	60	102	105	71	103*	102*	105*	64	104	63	157	79	19	37	103	74
172	80			697	112*	66	99	106	73	103*	103*	105*	71	104	73	138	82	-31	38	104*	91
118	80			312	112*	60	99	104	69	102*	103*	105*	69	107	67	146	80	96	36	103	71
110	76			746	105*	69	101	102	77	105	101	103	80	108	81	150	84	22	40	98	76
132	75			120	108*	63	101	103	70	101*	101*	103*	67	103	69	155	80	78	37	101*	86
134	78			25	110*	57	103*	108*	64	103*	102*	106*	65	101*	58	155	70	-35	33	103	71
24	77			2,819	109*	68	100	107	78	103	102	102	78	119	80	176	84	72	39	103	68
69	81			348	109*	63	105	104	73	102	101	104	76	106	72	178	81	0	38	100	77
117	84			3,170	106*	66	104	100	77	100*	100*	102*	69	111	77	162	86	20	39	105	75
86	75			682	112*	65	101	100	74	102	103	105	74	110	69	172	80	14	38	103*	89
47	97	216	44		111	86	104	111	90	102	103	106	88	105	94	159	96	-32	44	102	98
156	97	299	59		108	69	100	108	80	103	100	104	85	103	88	143	97	19	41	100	97
98	79			123	107*	56	101	106	66	100*	98*	102*	63	113	52	157	75	111	35	106	76
149	78			106	108*	54	102*	103*	62	103*	103*	105*	65	104*	56	144	75	-45	33	104	73
100	79			89	112*	57	103*	106*	64	102*	103*	107*	66	105	57	162	75	-38	33	99*	87

52	90	89	25		110	65	106#	107#	76	103#	103#	105#	77	110#	64	150	88	-42	39	104	95
169	75			639	110*	59	93	100	66	102*	102*	104*	64	109	71	154	77	88	35	102*	89
160	91	88	17		108	60	101#	100#	69	101	98	102	65	108#	63	157	88	-27	36	102	95
134	81			689	108*	60	103	101	71	100*	105*	105*	66	109	72	151	82	-59	37	103	75
101	89	50	17		108	70	98#	108#	78	101#	103#	105#	80	108#	82	164	89	93	40	103	92
148	78			175	108*	57	98	99	68	101*	104*	105*	62	105	58	169	77	17	36	99	73
141	96	214	37		111	62	105#	105#	64	104	102	105	76	102	87	140	95	-68	34	101	96
169	87			1,577	109*	69	98	99	75	103	105	103	75	103	81	176	89	-11	38	102*	87
57	91	77	21		107	67	106	108	71	99	104	104	76	106	74	173	87	0	38	102	86
146	78			92	109*	57	100*	102*	63	103*	101*	104*	66	109	54	151	75	-78	33	102	74
175	75			134	107*	61	99*	104*	71	102*	102*	104*	67	102	59	161	75	-99	37	103	67
76	93	89	25		112	81	104	107	90	102#	103#	106#	83	108	91	130	93	24	44	104	95
4	75			101	110*	60	108	107	72	102	101	100	77	115*	54	151	80	15	37	103*	80
120	75			2,421	107*	60	98	102	73	102	101	102	80	111	76	150	82	59	38	103*	91
181	80	37	15		107	64	104	103	68	99	100	100	74	104	64	154	75	-129	35	100	85
111	80			566	109*	62	100	104	69	100*	104*	105*	64	113	71	137	82	85	36	103	73
123	80			154	111*	54	102*	100*	63	101*	102*	102*	67	107	61	161	79	-23	33	104*	92
148	79			163	109*	57	103	103	67	102*	102*	104*	65	101	57	156	77	-67	36	104	73
81	81			703	108*	68	104	107	76	102	102	102	75	107	78	141	83	28	39	104	76
12	81			515	112*	64	109	111	75	101	100	104	71	106	70	187	82	-46	39	101	76
194	77			26	110*	50	98*	104*	59	101*	102*	106*	62	105*	51	139	69	-76	32	105	74
126	74			21	108*	51	100	99	60	102*	100*	103*	60	107*	50	171	71	48	33	102	75
190	96	213	28		110	77	101	102	91	99#	103#	108#	80	101	91	159	96	-122	45	104	97
65	75			138	109*	58	105*	107*	66	100	101	102	70	110	61	176	74	-103	34	101	66
72	81			674	112*	67	108	106	77	97	104	104	79	104	77	181	84	-45	39	105	78
154	81			102	109*	56	98*	103*	64	104*	102*	105*	67	106	70	144	81	-11	34	103	79
124	78			73	110*	52	103*	103*	60	100*	102*	105*	62	109	51	161	74	-67	32	104	73
117	99	496	25		111	77	103	107	84	100#	103#	106#	82	106	94	162	98	-69	42	102	94
159	80			265	109*	65	102	100	73	100	100	103	76	105	73	143	81	14	38	103*	89
118	79			258	109*	60	102	106	73	103	101	104	76	101*	55	144	80	23	38	103	75
56	82			1,576	110*	70	103	103	79	102	100	102	82	108	80	170	84	159	39	102	78
91	80			189	106*	60	105	108	71	100*	102*	104*	65	105	61	148	78	14	37	101	75
173	82			1,181	106*	68	97	104	79	100	102	104	80	108	81	154	86	0	40	102	81
135	79			684	109*	61	99	98	72	102*	103*	105*	66	104	68	174	81	-1	37	103	76
96	81			99	112*	62	100	104	69	103	102	104	69	108	59	165	78	-16	36	101	77
160	76			16	109*	52	102*	103*	60	102*	102*	105*	60	101*	54	161	69	-5	32	104	73

156	76			1,802	110*	68	108	104	80	100	103	106	83	99	82	154	86	-159	40	101	79
41	75			375	108*	65	105	113	77	101	102	105	79	105	73	167	80	34	39	101*	95
213	75			100	104*	47	93	89	62	104	104	102	72	117	50	107	78	24	35	103	71
213	75			446	108*	62	96	98	75	102	103	105	77	103	72	142	81	-59	39	103*	95
172	75			86	108*	56	98*	102*	64	100*	102*	104*	65	106	56	150	73	11	34	102*	85
160	78			46	108*	55	98*	102*	64	104*	104*	106*	66	104*	56	150	70	-67	33	102	65
78	75			346	110*	66	101	105	75	102	100	104	75	107	72	166	79	120	38	102*	89
148	90	105	20		108	72	99#	100#	77	99#	103#	103#	82	104#	82	164	88	99	39	100	97
155	80			427	110*	58	92	94	67	104*	101*	103*	66	115	64	143	80	92	36	105	69
91	75			880	109*	70	101	103	80	98	103	106	82	108	78	177	84	76	41	104	75
125	81			1,073	107*	69	103	102	78	100	101	102	81	106	80	141	86	73	39	102	78
138	80			262	110*	59	99*	102*	66	102*	103*	105*	68	107	68	152	81	-32	34	104	77
68	82			340	108*	62	102	100	71	99*	100*	101*	64	111	70	168	83	86	38	103	72
93	80			150	110*	61	102	102	72	99	103	105	71	106	66	175	78	-32	37	104	78
169	78			406	104*	58	97	102	70	102	101	102	75	110	65	127	78	157	37	104	73
133	75			503	109*	64	97	102	74	99*	101*	103*	72	110	73	172	81	59	38	105*	86
151	77			179	109*	58	98	99	70	98	102	103	74	103	66	168	75	-40	36	104	80
109	80			77	109*	57	100*	110*	64	103*	102*	105*	65	106	54	160	75	-101	33	102	75
107	80			358	107*	62	102	105	72	101	104	105	72	108	71	136	81	-4	37	103	76
40	98	432	51		109	64	105	112	76	103	102	105	74	105	84	171	97	-113	40	101	98
130	79			18,871	109*	73	108	108	81	102	102	107	81	101	86	112	87	-25	41	103	86
140	99	522	75		109	93	97	99	93	101	101	103	95	110	97	159	98	29	45	103	98
132	79			50	109*	54	98*	102*	63	101*	103*	105*	65	108*	55	167	72	-50	33	102	74
172	99	868	117		107	96	97	106	95	103	102	104	96	104	98	133	99	40	46	102	98
80	73			233	110*	55	100	102	68	98	103	102	72	113	65	155	73	98	35	104	76
126	75			127	108*	59	101*	104*	65	101*	101*	103*	69	103	65	186	77	-36	34	100*	88
106	80			1,345	108*	59	100	102	64	101*	103*	104*	64	103	75	173	83	10	34	104	75
123	80			131	108*	61	95	100	72	102	101	101	65	115	69	155	82	36	38	101	69
175	81			177	108*	62	100	101	73	103	102	105	71	106*	60	125	76	-87	38	103	73
125	95	132	21		109	66	103#	105#	65	104	104	106	72	104	87	157	93	-126	35	102	92
77	79			129	110*	55	102*	107*	62	98*	103*	104*	64	111	56	153	76	59	33	103	76
125	99	569	79		106	95	105	101	89	101	100	103	96	109	98	118	98	-46	44	100	97
106	81			5,786	112*	65	102	101	76	98*	103*	105*	68	102	79	189	84	54	39	102	79
146	78			5,958	108*	68	106	104	74	97	104	106	79	105	82	144	85	-169	38	101	79
156	80			3,151	108*	62	98	99	72	102*	100*	103*	67	111	77	149	82	55	37	103	74
121	75			2,614	105*	66	103	102	72	100	101	100	80	105	78	149	81	122	38	102	73

133	78			64	109*	52	101*	105*	59	101*	102*	105*	64	102	54	153	74	12	32	102*	91
128	80			159	110*	53	98*	101*	63	104*	104*	106*	65	106	55	162	77	-23	33	103*	87
188	77			1,723	101*	49	102	99	63	102	101	100	75	106	56	113	84	58	36	101	71
117	82			526	108*	64	102	107	76	100	102	105	79	107	76	141	85	64	39	104	80
125	79			121	109*	53	100*	104*	61	103*	102*	104*	63	103*	53	167	75	-35	33	104	72
45	78			674	111*	61	105	102	75	101	102	103	80	112	71	165	81	-4	38	101	79
40	95	135	21		108	67	104#	106#	72	102	103	105	72	108	89	160	93	55	37	101	95
120	80			527	105*	63	101	105	71	104*	101*	105*	65	104	77	140	84	60	37	104	76
187	93	108	38		106	68	104	102	80	95	104	105	82	103	72	156	89	-118	41	102	89
92	80			312	108*	54	97*	105*	62	102*	100*	102*	64	112	58	144	79	89	33	102	75
135	79			73	110*	54	100*	101*	62	100*	103*	105*	64	106*	55	165	73	-69	33	102	74
97	80			451	108*	60	104	106	69	101*	101*	105*	68	105	66	159	80	-7	36	104	77
121	77			364	108*	59	99	98	72	103	103	103	77	111	69	139	77	35	37	103	77
89	75			1,356	108*	70	102	107	81	102	102	105	84	112	83	133	84	6	41	102*	85
102	75			1,249	106*	71	98	103	80	103	102	103	82	106	83	160	85	120	40	102*	91
116	79			56	109*	60	99*	104*	65	104*	102*	104*	69	105	57	144	73	50	34	102	72
97	75			5,114	113*	69	103	102	77	97	102	104	83	107	82	163	84	-38	38	101	80
124	80			181	110*	60	96	100	70	103*	104*	106*	66	111	58	149	78	15	37	104	74
103	80			3,508	106*	68	99	96	76	102	99	100	82	112	81	168	84	115	38	103	81
163	75			532	106*	59	95	100	69	100*	100*	103*	65	107	68	151	78	96	37	105	75
204	85	48	15		105	65	100	103	69	102	101	104	75	98	65	140	78	-39	36	101	84
197	88	53	18		102	67	97	105	76	103	99	100	74	98	69	143	83	144	40	100	86
100	79			49	109*	57	97*	103*	65	102*	101*	104*	66	109*	57	151	73	105	34	105	74
152	80			804	109*	65	102	100	71	100*	103*	105*	68	104	75	146	82	6	37	104	76
76	75			457	110*	69	102	106	79	103	101	103	82	109	79	150	83	-4	39	103	80
135	77			54	106*	50	101*	102*	59	102*	101*	103*	62	103*	51	159	72	18	32	101	73
111	81			255	110*	62	104	106	70	100	100	104	74	106	76	142	85	-58	36	98*	91
116	94	113	28		107	84	104	109	86	101#	100#	104#	84	103	92	129	93	-39	43	100	97
105	78			27	110*	63	106*	108*	69	100*	100*	103*	71	107*	64	155	72	-124	35	102	75
131	79			80	107*	60	97	99	71	101	100	104	69	109	62	149	76	93	37	104	74
86	80			216	108*	63	103	106	73	103	100	105	74	107	68	135	79	-39	38	102	76
148	79			247	108*	57	99	103	67	102*	100*	104*	63	103	62	151	79	-29	36	103	77
116	77			1,457	108*	60	102	98	74	101	98	100	80	111	72	152	76	-82	37	104	81
102	86	58	17		109	63	110	103	73	103	103	106	72	104	61	131	81	-218	38	100	88
179	75			456	102*	46	103	95	62	103	103	101	71	109	49	95	83	-38	35	100	73
88	78			806	108*	62	105	104	74	101	102	103	77	105	74	129	81	37	38	103	77

106	79			84	107*	61	99	105	70	102*	100*	103*	66	107	59	154	75	70	37	103	66
113	78			79	107*	57	100	101	67	102*	104*	105*	63	103*	54	160	75	39	36	104	75
75	86			852	107*	76	102	104	80	101	101	103	79	105*	85	159	88	106	41	100	75
110	80			365	110*	61	102	106	71	102*	101*	104*	65	106	61	147	80	-111	37	105*	92
147	82			3,547	108*	69	101	104	77	102	104	108	81	99	82	135	85	-41	39	102*	93
75	81			120	110*	56	102*	106*	62	103	102	104	72	106	67	156	80	-66	33	101	74
89	79			381	108*	62	104	107	74	101	101	103	78	101	70	155	77	37	37	103	81
110	91	77	15		109	72	101#	104#	79	102#	99#	103#	74	109	88	145#	90	-30	40	101	92
138	77			4,501	108*	66	103	101	75	100	104	104	78	101	80	146	83	-14	38	99	76
185	76			94	102*	51	99	94	60	102	101	100	67	109	53	107	79	58	34	102	71
148	80			362	108*	61	100	101	73	101*	102*	104*	66	106	68	156	80	-102	38	102	73
110	89	53	16		110	64	105#	105#	71	95	104	105	69	106#	70	153	88	-53	37	103	86
99	81			3,921	108*	68	101	99	79	100	101	103	84	104	81	178	84	-55	39	102	83
108	75			308	107*	63	97	101	75	102*	102*	105*	62	107	70	172	83	112	38	101*	82
118	78			22	109*	50	98*	103*	58	100*	104*	106*	61	107*	50	165	70	17	32	105	72
117	75			96	108*	61	100	104	70	100*	98*	102*	67	108	59	153	74	40	37	102	65
73	82	41	20		107	64	102	102	69	102	103	103	73	109	64	154	76	58	35	98	86
90	79			76	109*	55	100*	106*	62	102*	103*	105*	62	106	54	153	75	0	33	104	72
97	84			500	110*	67	99	99	78	101	103	103	75	113	78	145	86	-6	40	104	76
88	79			65	109*	60	102*	108*	66	103*	101*	104*	68	103	55	140	74	69	35	99	73
99	99	1,328	93		111	88	103	107	89	100	97	101	90	107	98	127	99	98	44	103	99
114	80			763	108*	63	103	105	72	98*	99*	102*	69	105	70	168	81	-101	37	101	77
174	77			5,220	102*	53	97	95	62	100	101	99	72	110	59	112	85	174	35	103	71
160	99	1,519	186		106	89	103	100	98	97	101	101	98	106	98	155	99	-86	47	101	99
107	81			658	107*	68	100	105	77	102	103	104	78	108	81	147	85	-37	40	103	79
111	75			929	109*	59	99	103	68	99*	104*	105*	63	106	71	155	80	46	36	101*	95
96	78			822	109*	62	101	102	73	103	101	104	74	104	73	145	81	11	38	104	74
107	79			78	109*	63	100	102	68	101	99	103	73	105*	63	152	74	2	35	103	74
128	75			92	109*	58	98*	100*	65	99*	102*	104*	68	108	61	158	73	-64	34	102*	86
136	80			495	108*	57	99*	103*	66	101	102	104	70	106	69	143	82	-46	34	104*	92
219	100	3,581	374		103	99	104	98	99	101	101	103	99	99	99	120	99	-118	47	101	100
145	97	259	51		110	91	105	102	92	99	103	105	93	103	95	145	97	-127	45	103	98
27	75			11,569	109*	73	102	103	79	103	102	101	82	107	83	158	83	132	40	100	77
116	75			2,652	108*	65	99	103	71	99*	100*	103*	72	106	77	166	82	21	36	102	74
39	82			592	113*	69	100	102	80	101	103	104	82	113	80	156	86	104	40	104	81
148	99	1,016	151		108	97	102	96	95	102	104	106	98	102	99	145	99	-91	46	101	99

61	93	120	21		109	67	102	103	74	104	101	104	72	107	81	147	91	-36	39	101	98
94	91	74	22		110	65	102#	103#	69	102#	103#	102#	65	104	83	136	90	8	36	103	89
145	79			242	106*	60	99	104	70	104*	103*	105*	66	105	61	133	79	-91	37	105	79
61	80			960	113*	61	103	105	73	98*	103*	104*	66	105	73	165	82	3	38	104	76
165	75			230	104*	66	101	102	71	99	100	102	75	100	79	154	79	-25	35	103	72
86	80			1,850	107*	67	103	102	77	102	99	99	83	109	81	134	84	47	38	102	80
115	99	344	90		108	96	102	106	97	103	103	105	95	102	98	151	98	-154	47	100	98
182	98	334	56		109	70	96#	97#	67	100	103	106	88	107	91	142	97	-80	35	102	97
167	80			43	103*	56	96	101	66	100	102	101	66	106*	54	153*	70	20	35	100	65
113	87			919	108*	70	99	102	74	104*	103*	105*	75	105	78	142	87	31	38	102*	95
114	81			995	109*	67	100	103	78	97	102	103	81	106	80	153	86	-69	40	102	79
87	80			146	106*	63	98	102	74	94	100	101	79	107	74	175	82	141	38	103	76
77	94	182	26		106	68	96	110	83	104	101	103	74	108	61	136	90	63	42	105	98
142	75			617	108*	64	103	99	78	102	102	105	71	102	73	129	85	-28	40	103	79
102	75			2,725	108*	70	104	104	79	104	102	105	82	105	83	121	84	-84	39	101*	88
82	95	140	35		108	66	102#	106#	74	100#	100#	102#	75	106	86	156	93	-48	38	102	93
79	75			14,075	108*	71	99	104	79	103	102	103	84	105	84	127	85	171	40	104	81
140	95	124	49		105	87	98	100	83	103	101	102	88	108	92	145	93	-66	42	101	93
60	76			119	111*	50	96	99	61	100*	102*	104*	56	112	53	169	74	75	34	105	69
87	81			572	110*	67	97	101	76	103	102	104	77	105	77	158	83	99	39	100	78
48	75			556	111*	58	101*	103*	65	102*	102*	103*	72	109	69	178	78	-88	34	103	66
81	80			277	111*	58	100*	101*	63	101*	103*	104*	67	107	66	152	80	-28	33	105	70
209	96	160	26		103	87	95#	99#	80	98	100	100	89	107	95	137	95	-42	40	103	97
68	80			135	108*	55	99*	100*	61	100*	101*	102*	63	113	63	160	80	-20	33	101*	91
57	81			162	107*	66	99	102	76	103	103	103	78	107	73	163	81	9	39	101	73
62	99	1,218	212		108	98	101	104	98	105	102	105	96	108	99	148	99	-34	47	101	99
149	80			2,628	110*	63	93	94	72	102*	102*	105*	63	106	76	161	83	58	37	103	68
72	75			3,664	105*	67	97	98	73	99	100	99	80	113	78	163	81	174	38	102*	88
121	95	146	27		107	73	101	98	88	102	101	105	89	106	86	139	94	-81	44	103	95
194	99	818	118		105	86	99	99	95	98	103	103	96	108	96	144	99	-118	46	102	99
140	78			91	108*	58	99	102	67	99*	102*	104*	64	108	58	141	76	-38	36	102	69
224	97	277	22		105	66	101#	92#	72	103#	103#	103#	80	105	93	88	96	-195	38	103	93
60	81			1,079	110*	65	99	104	77	103*	102*	104*	64	112	77	122	85	104	39	104	74
100	80			103	108*	57	101*	100*	63	100*	101*	102*	66	112	58	140	77	16	33	105	74
67	77			3,803	108*	74	101	103	81	99	101	103	84	109	85	172	85	3	41	104*	96
120	78			39	106*	53	99*	105*	62	103*	101*	103*	63	104	54	122	72	48	33	101	74

35	75			118	109*	64	100*	104*	68	102*	102*	104*	73	111	69	162	74	14	35	102	65
119	78			1,725	109*	70	95	97	80	103	103	105	83	109	84	150	86	97	41	104	80
100	90	93	17		104	54	98	100	65	102	101	102	68	111	53	145	85	15	35	102	97
109	77			1,892	102*	51	103	97	61	103	100	99	71	110	58	118	84	41	35	102	68
111	78			80	106*	52	95*	102*	61	102*	101*	103*	62	109*	52	150	74	-19	33	102*	94
73	76			27	108*	49	98*	102*	57	100*	102*	104*	60	111*	50	162	69	-15	31	104	69
16	75			5,105	111*	71	99	101	80	101	103	102	81	115	83	167	85	17	40	102*	91
127	78			147	106*	57	98	105	68	103*	102*	105*	62	106	55	94	76	36	36	104	74
131	96	158	29		107	73	102#	99#	78	102#	100#	103#	81	112	92	127	95	-125	40	103	97
101	78			186	105*	57	96	104	68	103*	101*	104*	61	103	56	141	77	104	36	104	73
75	88	47	17		106	69	101#	98#	74	102#	100#	101#	80	112	80	113	87	98	38	104	95
164	76			600	101*	48	93	99	63	101	102	101	74	111	53	118	83	113	36	103	72
140	93	89	24		106	80	98	106	78	105	104	107	80	104	88	109	91	15	40	102	90
227	74			99	99*	49	93	93	62	100	96	99	73	106	50	109	78	208	35	101	70
155	81			5,235	105*	69	99	96	76	100	100	99	83	107	81	140	84	-128	38	102	81
100	98	470	67		105	76	97	99	90	104	103	104	93	96	92	165	97	178	45	103	98
98	79			36	110*	57	99	103	68	99	103	105	67	105*	57	165	72	-168	36	102	67
113	73			165	106*	50	97	96	60	98	98	100	69	107	66	161	70	59	34	102	70
30	77			2,136	108*	60	100	99	72	98	99	102	80	112	75	161	81	165	38	104	71
95	78			4,674	106*	68	96	99	74	100	100	101	81	111	80	135	82	118	38	105	73
154	99	976	85		104	98	100	98	96	100	100	104	96	106	99	121	99	-72	47	103	98
193	97	224	37		105	84	94#	104#	76	100	100	103	91	103	94	126	96	-47	38	101	96
113	80			505	104*	71	101	100	78	102	98	99	83	105	83	131	84	-10	39	102	81
180	95	123	17		107	72	95#	96#	80	101#	100#	102#	73	103	91	133	94	-13	40	105	92
193	76			113	100*	48	97	94	61	102	102	99	68	106	51	90	77	72	34	101	73
9	75			5,328	109*	67	100	100	76	102	100	99	76	113	80	181	82	25	39	105*	94
138	99	422	60		111	97	98	97	97	99	105	107	97	103	98	154	98	-92	47	103	99
140	83	38	16		103	64	98	100	69	101	106	106	72	97	64	142	75	-21	36	103	83
141	78			443	104*	60	93	102	73	93	100	101	78	102	70	170	76	61	37	105	82
54	75			264	106*	60	100	97	71	102	101	100	69	114	70	159	79	-135	38	103	65
203	76			120	99*	52	89	89	64	102	101	98	76	112	54	121	78	108	36	102	61
189	79			284	101*	55	96	92	66	102	103	102	72	104	55	105	83	39	36	101	75
197	74			104	99*	43	89	87	61	101	101	100	72	111	44	126	79	102	35	103	71
122	91	83	20		103	60	94	104	70	103	101	104	74	106	54	120	87	53	37	100	91
130	71			341	100*	41	93	93	60	98	101	99	70	114	48	122	79	125	35	104	71
117	81			4,761	109*	69	94	98	77	101	104	105	77	112	82	117	85	66	39	105*	92

196	76		2,334	100*	49	88	86	64	101	100	99	76	111	53	105	84	138	36	100	69
176	71		59	99*	44	92	92	58	103	101	99	65	110	43	63	72	171	33	103	52
131	75		165	101*	45	93	93	60	100	100	99	68	112	45	96	80	97	34	103	71
150	73		112	101*	46	89	89	62	104	102	100	74	115	46	94	78	93	35	104	53
149	74		100	102*	49	92	93	64	101	102	100	73	109	49	95	76	66	36	102	58
151	76		3,960	101*	52	88	90	62	102	101	98	74	110	57	103	85	196	36	104	71
190	71		110	98*	43	89	90	61	102	101	100	73	109	42	74	75	201	35	100	69
149	81		2,036	103*	56	92	92	65	101*	99*	99*	55	112	69	97	85	-28	36	104*	74
169	73		195	102*	47	84	86	62	101	102	101	73	114	51	104	78	132	35	103	71
164	70		119	99*	41	84	84	60	101	100	97	73	111	45	121	74	127	35	104	52
229	81		825	99*	61	90	86	65	97	98	96	76	109	79	86	88	30	36	102	73
235	75		112	98*	51	82	83	62	103	101	102	75	107	52	92	79	167	35	101	72

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Indi	
							BPI \$	BPI Rel
1	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	354	86
2	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	332	80
3	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	321	88
4	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	317	87
5	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	309	86
6	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	307	81
7	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	305	85
8	JSPowerBALL	VIEW-HOME POWERBALL P ET	POC,,A2,2	g	A	GAC	305	89
9	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	304	81
10	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	303	89
11	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	289	90
12	0200HO10366	BENNER BARDO	BLF,,CV,F,A,22	g	A	SEM	275	87
13	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	275	91
14	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	273	88
15	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	271	91
16	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	260	92
17	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	259	84
18	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	258	92
19	MAINSTREET	GLOMAR WALLSTREET	CNF,,CV,F,A,22	g	A	GAC	257	88
20	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	253	92
21	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	252	93
22	14HO07328	COASTAL-VIEW MOOKIE	A22,,BL,F,C,VF,	g	A	WWS	243	90
23	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	243	87
24	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	238	83
25	CRVASTRO	DELTA ASTRO	CVF,,BL,F	g	A	CRV	238	91
26	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	236	86
27	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	236	91
28	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	235	93

29	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	231	90
30	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	230	92
31	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,,DP,F	g	A	GAC	227	93
32	COGENTTWIST	COGENT TWIST	A22,,CV,F,B,LF	g	A	SXT	227	92
33	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	221	92
34	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	214	90
35	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	213	84
36	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	213	91
37	0200HO07450	AMIGHETTI NUMERO UNO	BLF,,CV,F,A,12	g	A	SEM	206	93
38	250HO01131	DELABERGE SALT	A22	g	A	WWS	204	91
39	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,,BL,F	g	A	ALT	204	89
40	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	203	92
41	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	198	87
42	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	198	92
43	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,,CN,F,C,VF	g	A	GAC	198	90
44	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,,BL,F,C,VF	g	A	SEM	194	92

oven

ces		Production Traits									Survival		Conformation Traits			Workability				Daughter Fertility		Ce Cou
HWI	TWI	ASI	Prot kg	Prot %	Milk L	Fat kg	Fat %	ASI Rel	No. Dtrs	No. Herds	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC
281	358	170	26	0.23	513	24	0.03	96	242	45	113	70	106	102	87	101	105	107	83	108	74	184
225	299	243	36	0.29	762	40	0.10	90	72	25	107	67	103	97	79	103	104	106	78	105	60	148
212	288	265	31	0.48	208	40	0.45	98	505	33	106	74	100	102	84	100	102	105	82	106	84	121
294	354	99	19	0.04	635	17	-0.15	96	168	27	111	73	109	112	87	105	102	104	87	107	85	175
218	278	231	24	0.51	-109	30	0.50	93	99	25	104	74	101	103	86	102	102	101	89	104	86	143
241	304	189	32	0.36	502	8	-0.20	90	69	19	107	68	102	107	80	99	103	105	78	104	71	165
212	264	230	38	0.06	1,289	53	-0.02	94	131	28	107	71	102	106	85	94	97	102	84	105	78	179
252	262	202	43	0.28	1,052	4	-0.58	96	167	36	108	85	96	101	91	103	101	105	91	106	92	126
277	333	95	4	0.10	-36	35	0.53	90	69	20	110	66	107	105	79	104	104	105	76	111	75	165
265	303	117	18	0.14	380	18	0.03	98	561	93	109	89	103	100	86	101	101	104	90	110	93	191
199	295	243	45	0.26	1,148	27	-0.31	98	296	42	106	93	104	103	89	101	98	100	93	100	97	142
228	251	156	14	0.26	20	34	0.47	97	299	59	108	69	100	108	80	103	100	104	85	103	88	143
230	233	140	18	0.26	169	18	0.16	99	522	75	109	93	97	99	93	101	101	103	95	110	97	159
223	296	148	26	0.15	685	19	-0.14	96	147	41	110	86	107	109	89	102	104	105	90	101	93	154
240	273	105	29	0.04	1,000	2	-0.59	98	396	66	112	92	104	102	93	98	105	107	91	108	97	179
211	233	172	27	0.22	564	23	-0.01	99	868	117	107	96	97	106	95	103	102	104	96	104	98	133
201	279	163	15	0.27	6	35	0.50	93	114	20	109	70	105	106	82	102	102	104	87	101	74	149
171	190	194	21	0.34	95	35	0.44	99	818	118	105	86	99	99	95	98	103	103	96	108	96	144
223	257	139	20	0.14	469	26	0.09	97	212	60	103	80	106	109	85	103	97	100	89	104	90	149
181	310	154	27	0.08	841	29	-0.10	99	568	119	111	95	109	109	94	104	103	106	96	99	98	162
166	275	191	22	0.28	259	36	0.36	99	2,133	235	108	98	108	109	97	103	105	106	98	99	99	123
174	258	177	12	0.20	63	55	0.75	99	509	62	108	94	103	103	89	101	100	104	88	103	97	130
185	196	140	22	0.25	327	12	-0.03	95	124	49	105	87	98	100	83	103	101	102	88	108	92	145
159	229	187	28	0.15	749	38	0.09	93	108	38	106	68	104	102	80	95	104	105	82	103	72	156
188	232	125	14	0.22	95	20	0.23	99	569	79	106	95	105	101	89	101	100	103	96	109	98	118
173	293	130	19	0.23	274	13	0.01	94	105	42	104	85	115	105	82	103	100	103	86	102	91	140
211	281	83	16	-0.06	696	24	-0.08	99	576	89	110	93	106	108	92	102	103	106	95	104	97	158
166	209	160	19	0.29	133	23	0.26	99	1,519	186	106	89	103	100	98	97	101	101	98	106	98	155

195	260	103	13	0.18	143	15	0.13	97	234	40	106	91	107	104	91	100	103	105	93	105	95	157
186	266	92	17	0.09	447	11	-0.11	99	590	99	108	95	107	102	93	103	105	106	95	104	98	170
132	207	219	25	0.33	262	41	0.43	100	3,581	374	103	99	104	98	99	101	101	103	99	99	99	120
159	206	148	15	0.18	202	36	0.40	99	1,016	151	108	97	102	96	95	102	104	106	98	102	99	145
185	266	94	8	0.23	-144	12	0.27	99	483	113	110	95	107	109	97	95	103	107	92	103	98	189
150	207	145	28	-0.07	1,176	38	-0.18	97	259	51	110	91	105	102	92	99	103	105	93	103	95	145
172	177	140	20	0.11	528	30	0.10	93	89	24	106	80	98	106	78	105	104	107	80	104	88	109
204	210	99	28	-0.20	1,425	28	-0.47	99	1,328	93	111	88	103	107	89	100	97	101	90	107	98	127
182	192	62	0	0.05	-99	28	0.47	99	1,218	212	108	98	101	104	98	105	102	105	96	108	99	148
152	264	107	5	0.31	-433	16	0.50	99	731	60	110	88	108	110	92	102	101	105	89	103	95	146
193	252	47	12	-0.03	499	7	-0.21	97	216	44	111	86	104	111	90	102	103	106	88	105	94	159
144	162	138	28	-0.06	1,134	34	-0.21	99	422	60	111	97	98	97	97	99	105	107	97	103	98	154
147	191	121	28	0.04	972	13	-0.41	95	146	27	107	73	101	98	88	102	101	105	89	106	86	139
141	203	115	20	0.05	643	23	-0.07	99	344	90	108	96	102	106	97	103	103	105	95	102	98	151
191	172	100	14	0.02	474	29	0.13	98	470	67	105	76	97	99	90	104	103	104	93	96	92	165
132	170	154	29	0.06	960	27	-0.20	99	976	85	104	98	100	98	96	100	100	104	96	106	99	121

All Int	Feed Saved		Calving Ease	
	Rel Feed Saved	Rel	Calving Ease	Rel
95	-111	44	103	96
84	-145	41	105	85
97	-117	43	102	97
93	8	44	101	94
92	-70	43	103	96
86	-41	41	102	87
91	-145	43	99	93
95	86	45	102	98
84	17	41	102	86
97	15	43	102	99
97	-76	44	103	97
97	19	41	100	97
98	29	45	103	98
95	-46	44	102	95
98	8	45	104	99
99	40	46	102	98
89	-28	42	102	92
99	-118	46	102	99
95	52	43	98	96
98	-176	46	100	98
99	-173	47	103	100
98	-55	44	102	99
93	-66	42	101	93
89	-118	41	102	89
98	-46	44	100	97
91	-142	42	101	89
98	-25	45	102	99
99	-86	47	101	99

96	-13	45	101	96
98	-96	46	101	97
99	-118	47	101	100
99	-91	46	101	99
98	-54	47	102	98
97	-127	45	103	98
91	15	40	102	90
99	98	44	103	99
99	-34	47	101	99
98	-124	45	103	98
96	-32	44	102	98
98	-92	47	103	99
94	-81	44	103	95
98	-154	47	100	98
97	178	45	103	98
99	-72	47	103	98

Good Bulls Guide for Holstein - Type

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Cor
							Over Type
1	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	115
2	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	114
3	7HO12773	LARCREST KENOSHA		g	I	WWS	114
4	MCAPPLE	CHILDERS COVE ANNIEDALE MCAPPLE-IMP-ET	CVC	g	A	AGR	112
5	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	112
6	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,,BL,F,D,PF	g	A	ALT	112#
7	29HO18285	PINE-TREE SPLENDID-P-ET	A22,,PO,C,R,DC	g	I	ABS	112
8	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	112
9	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	111
10	0200HO10660	STANTONS ADORABLE	CVF,,BL,F,A,12	g	I	SEM	110
11	011HO11630	PEAK ALTAMORENO	A22,,BL,F,C,VF	g	I	ALT	110
12	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	110
13	GGISEMINO	SEMINO	A22	g	I	GAC	110
14	0200HO10610	WESTCOAST WINDMILL	A22,,BL,F,C,VF	g	I	SEM	110
15	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	110
16	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	109
17	0200HO10383	LADYS-MANOR LUXUS	A12,,BL,F,C,VF	g	I	SEM	109
18	29HO17334	WILDER HAMLET	A22	g	I	ABS	109
19	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	109
20	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	109
21	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	109
22	0200HO10857	STANTONS GALORE	A12	g	I	SEM	109
23	JSCOLD	ERNEST ANTHONY COLD P	A22,,PO,C	g	I	GAC	109
24	011HO11813	PEAK ALTATOOTHOT	A12,,BL,F,C,VF	g	I	ALT	109
25	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	109
26	011HO11531	BOMAZ ALTASABRE	A22,,CV,F,B,LF,	g	I	ALT	109
27	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	109
28	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	109

29	250HO01131	DELABERGE SALT	A22	g	A	WWS	108
30	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	108
31	14HO7748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	108
32	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	108
33	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	108
34	7HO12165	BACON-HILL MONTROSS	A22,,BL,F,C,VF,	g	I	WWS	108
35	14HO07303	LE-O-LA MOGUL GAMBLER	A22,,BL,F,C,NF,	g	A	WWS	108#
36	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	108
37	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	108
38	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	108
39	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	108
40	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	108
41	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	107#
42	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	107
43	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	107
44	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	107#
45	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	107
46	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	107
47	7HO12095	DE-SU MALLINGER 11384	A22,,BL,F,C,NF,	g	A	WWS	107#
48	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	107
49	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	107
50	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	107
51	GGIBRENTANO	BRENTANO	A22	g	I	GAC	107
52	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	107
53	0200HO10755	WESTCOAST GALAHAD	A11,,BL,F,C,VF	g	I	SEM	107
54	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	107
55	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	107
56	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	107
57	14HO07811	PEAK ACCELRENOWN	A22	g	I	WWS	107
58	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	107
59	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	106
60	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	106
61	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	106
62	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	106
63	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	106
64	CBLOTTACLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	106#

65	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	106
66	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	106
67	MAINSTREET	GLOMAR WALLSTREET	CNF,,CV,F,A,22	g	A	GAC	106
68	CBDREAMER	WILTOR DREAMER		g	A	SXT	106#
69	011HO11725	PEAK ALTAAMULET	A22,,BL,F,C,VF	g	I	ALT	106
70	011HO11682	PEAK ALTAFUNKY	A22,,CN,F,B,LF	g	I	ALT	106
71	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	106
72	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	106
73	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	106
74	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	106
75	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	106



Information		Survival		Indices			
Traits		Survival	Rel	BPI	BPI	HWI	TWI
Mam	Type			\$	Rel		
Syst	Rel						
105	82	104	85	236	86	173	293
114	75	109*	64	335	72	232	402
112	75	110*	67	204	76	187	271
111	83	105	78	231	85	172	272
111	76	107*	62	274	73	211	315
110#	76	110	68	295	85	207	340
109	73	110*	64	273	69	223	324
113	75	111*	62	313	74	260	370
111	79	109*	65	265	76	232	308
107	79	113*	67	325	72	272	370
112	76	108*	66	249	72	182	291
110	80	111*	68	239	78	205	293
109	73	109*	62	334	72	261	369
110	77	111*	64	312	75	265	354
106	73	113*	63	319	73	258	355
109	94	111	95	253	92	181	310
110	73	112*	62	315	78	274	340
107	72	110*	63	347	69	282	365
109	79	111*	67	286	76	247	323
109	79	112*	68	309	82	263	329
112	75	112*	73	351	80	292	380
105	69	111*	59	240	71	192	286
109	70	110*	59	324	71	276	353
110	77	111*	62	268	75	196	320
109	75	110*	62	209	73	149	261
102	73	109*	68	261	71	214	273
112	87	111	73	317	87	294	354
111	75	112*	64	199	74	200	245

110	92	110	88	204	91	152	264
109	74	112*	68	273	74	221	308
108	81	112*	70	364	72	325	385
109	97	108	98	252	93	166	275
108	67	110*	62	255	68	197	288
108	81	109*	73	200	76	162	234
113#	78	109	90	247	88	230	312
107	72	110*	60	216	69	220	247
104	80	110*	68	215	74	144	239
110	65	112*	59	296	68	281	338
106	77	112*	67	211	75	187	244
109	79	109*	69	248	77	225	289
109#	75	112	68	332	83	277	337
105	79	112	71	331	81	281	359
108	71	111*	62	252	72	218	273
108#	74	111	67	289	84	247	332
110	79	109*	67	259	76	188	280
104	72	108*	60	275	72	224	303
110#	69	108	65	291	87	232	310
104	70	111*	61	278	72	229	294
105	79	110	66	304	81	277	333
108	78	114*	67	262	74	224	292
104	77	109*	69	294	72	274	320
109	97	110	95	221	92	185	266
104	71	110*	59	354	72	284	344
102	93	108	95	230	92	186	266
104	91	106	91	231	90	195	260
109	89	110	86	273	88	223	296
111	75	112*	64	252	73	228	266
107	73	111*	68	219	81	193	262
108	92	110	93	236	91	211	281
105	71	109*	60	250	73	216	271
109	87	111	83	260	85	210	296
104	74	108*	68	222	74	153	232
107	74	110*	71	236	72	237	274
107#	76	110	65	231	80	217	251

113	75	109*	64	245	69	226	268
107	68	106*	60	326	69	252	330
109	85	103	80	257	88	223	257
105#	80	112	73	276	84	230	296
107	78	114*	66	233	72	196	260
109	74	110*	64	279	74	237	284
109	90	109	86	228	89	173	270
107	79	106*	69	283	77	215	279
105	71	109*	58	248	71	228	258
107	75	111*	66	260	73	232	282
102	87	113	70	354	86	281	358

Good Bulls Guide for Holstein - Production

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	ASI	Prot kg
1	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	341	33
2	MASNAH	PURNIM MVP MASNAH-ET	A22	g	A	GAC	330	34
3	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	265	31
4	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	257	34
5	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	243	45
6	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	243	36
7	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	241	30
8	NZGSWEETAS	WESTEDGE VHR SWEET AS S2F	A22	g	I	LIC	235	19
9	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	234	42
10	NZGMAIREGOLD	MAIRE FI GOLDDIGGER	A12	g	I	LIC	234	31
11	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	231	24
12	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	230	38
13	NZGNAUTEXCEL	WHINLEA NAUT EXCEL	CVF,,A1,2,C,NF,	g	I	LIC	229	16
14	29HO18545	CAL-ROY-AL YODA-ET	A12	g	I	ABS	228	36
15	CRVOMAH	BUSY BROOK OMAH-ET-OC S2F	A22	g	I	CRV	227	32
16	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,,A2,2,C,NF,	g	A	LIC	224	32
17	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	223	37
18	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	222	31
19	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	220	22
20	29HO18202	ABS MOONWIND-P-ET	POC,,A2,2	g	I	ABS	219	34
21	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,,DP,F	g	A	GAC	219	25
22	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	218	32
23	0200HO10777	WESTCOAST PERSEUS	A22,,CV,F,B,LF	g	I	SEM	218	29
24	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	218	25
25	14HO07770	AOT SILVER HELIX		g	I	WWS	214	33
26	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	213	31
27	NZGBBVECTR	BUSY BROOK WTP VECTOR S3F	A11	g	I	LIC	213	22
28	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	210	25

29	011HO11827	PEAK ALTAMIGHTY P-ET	A12,,PO,C	g	I	ALT	209	36
30	7HO12095	DE-SU MALLINGER 11384	A22,,BL,F,C,NF,	g	A	WWS	209	32
31	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	209	29
32	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	204	27
33	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	203	31
34	CRVSTYLE	AMBZED FREE STYLE ET S2F		g	I	CRV	203	17
35	JSPOWERBALL	VIEW-HOME POWERBALL P ET	POC,,A2,2	g	A	GAC	202	43
36	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	202	28
37	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	201	28
38	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	197	38
39	VERMOUTH	CARENDA VERMOUTH 394	A22	g	A	GAC	197	18
40	NZGBANDITO	ARKAN RAN BANDITO S3F	A12	g	I	LIC	197	14
41	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,,BL,F,C,VF,	g	I	ALT	196	29
42	NZGGOLANCE	GORDONS AM LANCELOT S3F	A11,,BL,F,C,NF,	g	I	LIC	196	18
43	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	195	28
44	011HO11999	PEAK ALTANAMATH-ET	A12	g	I	ALT	194	33
45	GGISEMINO	SEMINO	A22	g	I	GAC	194	21
46	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	194	21
47	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	194	11
48	OHGBOSS	BOSS		g	A	AGR	193	31
49	CRVRUSKIE	BALANTIS B RUSKIEBEAR S3F		g	I	CRV	193	23
50	7HO13696	SSI SCENARIO LORD	A22	g	I	GAC	193	21
51	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	191	22
52	STGCHANCE	EDG DELTA-CHANCE-ET		g	I	SXT	191	21
53	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	190	49
54	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	190	40
55	29HO18510	ABS ELDRIDGE-ET	A12	g	I	ABS	190	31
56	011HO11778	BOMAZ ALTAROBSON	A22,,CV,F,B,LF,	g	I	ALT	190	18
57	NZGOVERTIME	WERDERS DE OVERTIME S1F	A22,,BL,F,C,NF,	g	I	LIC	190	13
58	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	189	32
59	CRVGERONIMO	MAIRE MINT GERONIMO	A22	g	I	CRV	189	27
60	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	189	26
61	011HO11829	PEAK ALTAVault P-ET	A12	g	I	ALT	188	31
62	NZGWELLFORAY	GREENWELL SB FORAY-ET	A22	g	I	LIC	188	30
63	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	188	26
64	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	187	29

65	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	187	28
66	CRVDUFFY	LORNFACE MAC DUFFY-OC S3F	A22	g	I	CRV	185	27
67	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	184	27
68	29HO18110	IHG ABS JERICO-ET	A22	g	I	ABS	184	22
69	011HO11630	PEAK ALTAMORENO	A22,,BL,F,C,VF	g	I	ALT	182	33
70	0200HO10229	VELTHUIS B FORCE	A22,,CV,F,B,LF	g	I	SEM	182	32
71	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	182	32
72	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	181	21
73	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	180	31
74	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,,CV,F,D,PF	g	A	ALT	180	27
75	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	180	23
76	7HO12898	OCD SUPERSRING	A22	g	I	WWS	180	23
77	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	180	23
78	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,,BL,F,D,PF	g	A	ALT	179	35
79	NZGMAIRGAUNT	MAIRE IG GAUNTLET-ET	A22	g	I	LIC	179	31
80	14HO07801	AOT HAROLDO	A22	g	I	WWS	177	23
81	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,,BL,F,C,VF	g	I	SEM	177	14
82	14HO07328	COASTAL-VIEW MOOKIE	A22,,BL,F,C,VF,	g	A	WWS	177	12
83	29HO18589	TRIPLECROWN PONTIFF-ET	A12	g	I	ABS	176	27
84	CRVDUKE	AMBZED PAALVAST DUKE S1F		g	I	CRV	176	23
85	011HO11900	IHG MAXIMUS		g	I	ALT	175	21
86	29HO17339	GLAMOUR BOGHILL CARLITO-ET	A12	g	I	ABS	175	11
87	NZGBOMAXIMA	BOTHWELL WT MAXIMA S2F	A12	g	I	LIC	174	11
88	29HO17334	WILDER HAMLET	A22	g	I	ABS	173	28
89	011HO11720	PEAK ALTAFLYWHEEL	A11,,BL,F,C,VF	g	I	ALT	173	25
90	29HO18296	ABS ACHIEVER-ET	A22	g	I	ABS	173	15
91	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	172	36
92	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	172	34
93	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	172	30
94	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	172	27
95	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	172	20
96	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	172	20
97	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	172	13
98	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	171	22
99	011HO11478	DE-SU ALTALEAF	A11,,BL,F,C,VF	g	I	ALT	170	36
100	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	170	26

101	7HO12814	SEAGULL-BAY TRUE PP	POS,,A2,2	g	I	WWS	169	34
102	0200HO10755	WESTCOAST GALAHAD	A11,,BL,F,C,VF	g	I	SEM	169	22
103	CBBILL	COGENT BILL		g	I	SXT	169	17
104	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	169	16
105	VIKHNERD	VH NUGGET NERD RC	RDC,,A2,2	g	I	VIK	169	10
106	NZGBACKDROP	ARKAN MGH BACKDROP-ET S2F	A12,,BL,F,C,NF,	g	I	LIC	169	10
107	29HO17364	SAHARA COMPONENT KING	A12	g	I	ABS	167	23
108	CLASHP	ANDERSTRUP CLASH	A22,,PO,C	g	I	GAC	166	30
109	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	166	20
110	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	165	31
111	14HO07848	PEAK ACCELENHANCE	A12	g	I	WWS	165	23
112	011HO11821	PEAK ALTAFOREVER	A12,,BL,F,C,VF	g	I	ALT	165	23
113	NZGMEANDWING	MEANDER SB WINGMAN-ET S3F	A12	g	I	LIC	164	14
114	CRVLENNAN	AMBZED GRAND LENNAN S1F		g	I	CRV	164	5
115	GGISINGER	SINGER		g	I	GGI	163	35
116	29HO18066	ABS DANNER-P-ET	A22,,PO,C	g	I	ABS	163	33
117	7HO13647	S-S-I FERDINAND BIGHIT P-ET	A22,,PO,C	g	I	WWS	163	31
118	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	163	19
119	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	163	15
120	STGDELTAETA	ST GEN DELTA-ETA 67481-ET	A22	g	I	SXT	162	17
121	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	161	24
122	29HO17344	GIN AMOUR	A22	g	I	ABS	160	36
123	29HO18508	ABS JOHNSTOWN-ET	A12	g	I	ABS	160	26
124	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	160	25
125	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	160	19
126	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	160	19
127	0200HO10220	LEOTHE DARK VADOR	A22,,CV,F,B,LF	g	A	SEM	160	18
128	GGIBASEMENT	BASEMENT	A22	g	I	GAC	159	25
129	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	159	24
130	0200HO10610	WESTCOAST WINDMILL	A22,,BL,F,C,VF	g	I	SEM	158	27
131	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	157	33
132	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	157	17
133	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	156	26
134	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	156	26
135	0200HO10366	BENNER BARDO	BLF,,CV,F,A,22	g	A	SEM	156	14
136	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,,PO,C	g	I	ABS	155	26

137	CBEVOLVE	ENDCO EVOLVE		g	I	SXT	155	22
138	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	155	21
139	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	155	15
140	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,,BL,F,C,VF	g	A	SEM	154	29
141	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	154	28
142	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	154	27
143	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	154	24
144	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	154	17
145	7HO13740	PROGENESIS MODEST ROLAN 512	A11	g	I	WWS	154	17
146	CBCOSUPREME	ENDCO SUPREME		g	I	SXT	153	23
147	29HO18527	SANDY-VALLEY RORDAN-ET	A12	g	I	ABS	153	12
148	29HO17947	ABS ROWDY	A11	g	I	ABS	152	28
149	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	152	21
150	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	152	18
151	GGIPALETTI	PALETTI PP	A12,,PO,S	g	I	GAC	151	27
152	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	151	21
153	CRVPHONIC	ROYSON JUSTICE PHONIC	A22	g	I	CRV	151	9
154	NZGCYCLONE	PAALVASTS MT CYCLONE S2F	A11,,BL,F,C,NF,	g	I	LIC	150	4
155	011HO11939	ALTAMELVIN		g	I	ALT	149	36
156	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	149	24
157	CRVMCLAREN	WOODCOTE H MCLAREN ET S3F		g	I	CRV	149	22
158	07HO12978	LEANINGHOUSE HELIX 22137	A22	g	I	GAC	149	20
159	IGRONNIE	CASTLEBLAGH RONNIE		g	I	IRG	149	9
160	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	149	6
161	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	148	34
162	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	148	31
163	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	148	29
164	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	148	28
165	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	148	26
166	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	148	25
167	POINTP	POINT P	POC	g	I	AGR	148	22
168	CRVEASTON	PEAK EASTON	A22	g	I	CRV	148	15
169	COGENTTWIST	COGENT TWIST	A22,,CV,F,B,LF	g	A	SXT	148	15
170	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	147	35
171	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	147	22
172	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	146	33

173	JSCOLD	ERNEST ANTHONY COLD P	A22,,PO,C	g	I	GAC	146	26
174	0200HO10588	SANDY-VALLEY APACHE-P	A22,,PO,C,C,VF,	g	I	SEM	146	20
175	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	146	19
176	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	145	28
177	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	145	28
178	29HO18285	PINE-TREE SPLENDID-P-ET	A22,,PO,C,R,DC	g	I	ABS	145	26
179	0200HO10383	LADYS-MANOR LUXUS	A12,,BL,F,C,VF	g	I	SEM	145	16
180	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	142	26
181	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	142	23
182	011HO11767	RAKEN ALTACONCORD	A12	g	I	ALT	142	7
183	07HO12951	SIEMERS MODESTY HAIL-ET	A22	g	I	GAC	141	21
184	0200HO10569	IHG GEOGRAPHY-ET	A22,,BL,F,C,VF	g	A	SEM	141	21
185	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	141	14
186	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	140	26
187	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	140	25
188	NEWSLANG	ADLEJAMA DIMAGGIO JARGON-ET	A22	g	A	GAC	140	25
189	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	140	22
190	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	140	22
191	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	140	20
192	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	140	20
193	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	140	18
194	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	140	6
195	MAINSTREET	GLOMAR WALLSTREET	CNF,,CV,F,A,22	g	A	GAC	139	20
196	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	138	31
197	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	138	28
198	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	138	28
199	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	138	19
200	011HO11813	PEAK ALTATOOHOT	A12,,BL,F,C,VF	g	I	ALT	138	14
201	0200HO10660	STANTONS ADORABLE	CVF,,BL,F,A,12	g	I	SEM	137	26
202	7HO13693	S-S-I FRANCHISE BENZ-ET	A22	g	I	WWS	137	23
203	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,,PO,C	g	I	AGR	136	32
204	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	136	24
205	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	136	19
206	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	136	14
207	7HO13680	S-S-I LA JEDI RISEN STAR-ET	A22	g	I	WWS	135	26
208	0200HO10794	PROGENESIS BENJAMIN	A12	g	I	SEM	135	23

209	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	135	22
210	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	134	28
211	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	134	25
212	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	134	13
213	MCAPPLE	CHILDERS COVE ANNIEDALE MCAPPLE-IMP-ET	CVC	g	A	AGR	134	3
214	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	133	25
215	14HO07842	FLY-HIGHER BAYO MAYO	A22	g	I	WWS	133	23
216	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	133	14
217	7HO13907	CLEAR-ECHO JED JARED 745-ET	A12	g	I	WWS	132	27
218	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	132	21
219	011HO00582	SCHREUR ALTAUP	A22,,BL,F,C,VF,	g	I	ALT	132	20
220	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	132	19
221	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	132	9
222	0200HO02870	MR LOOKOUT P ENFORCER	BLF,,CV,F,A,22	g	A	SEM	131	31
223	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	131	28
224	OUTLAST	REGANCREST OUTLAST PP-ET	POS,,A1,2	g	I	GAC	131	26
225	GGICOVER	COVER	A22	g	I	GGI	131	18
226	CRVADIOS	AMBZED BROPHYS ADIOS	A22	g	I	CRV	131	16
227	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	131	15
228	7HO12165	BACON-HILL MONTROSS	A22,,BL,F,C,VF,	g	I	WWS	130	36
229	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	130	19
230	NZGDIMANDATE	DICKSONS BG MANDATE S1F	A22,,BL,F,C,NF,	g	I	LIC	130	1
231	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	128	30
232	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	128	15
233	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	127	18
234	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	127	12
235	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	127	9
236	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	126	26
237	GGIBORN	WIL BORN RDC PO	A22,,RD,C,C,VF	g	I	GGI	126	13
238	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	126	12
239	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	126	12
240	OHGFAMOUS	FAMOUS - ET	BLF,,CV,F,A,12	g	I	AGR	125	24
241	STGJOLT	FARNEAR TBR DELTA-JOLT-ET		g	I	SXT	125	17
242	0200HO10038	SANDY-VALLEY EMERO	A22,,BL,F,C,VF	g	A	SEM	125	16
243	CRVASTRO	DELTA ASTRO	CVF,,BL,F	g	A	CRV	125	14
244	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	125	9

245	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	124	26
246	7HO13827	WILRA HANGT HARVARD 1098-ET	A22	g	I	WWS	124	18
247	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	124	17
248	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	124	14
249	14H07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	124	7
250	CRV Farrell	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	123	24
251	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	123	24
252	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,,RD,C	g	I	ABS	123	18
253	POLLPOWER	KEILAGLEN POWERBALL THEENFORCER-ET	POC,,A2,2	g	A	GAC	122	19
254	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	121	28
255	VIKHSTORM	VH SPRITE STORM		g	I	VIK	121	26
256	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	121	22
257	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	121	20
258	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	121	18
259	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	120	31
260	7HO12945	MELARRY MODESTY FIRST-ET	A12	g	I	WWS	120	18
261	VIKHROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	120	15
262	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	119	21
263	7HO12876	RI-VAL-RE POWER TOOL-P	POC,,A1,2	g	I	WWS	118	26
264	ZEPHIR	BLUMENFELD DAMARIS ZEPHIR - ET	A12	g	I	AGR	118	25
265	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	118	14
266	7HO12212	DE-SU SS HONEYBEE 11569	A22,,BL,F,C,NF,	g	A	WWS	117	30
267	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	117	29
268	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	117	24
269	0200HO10598	CALBRETT SOLSTICE	A22,,BL,F,C,VF	g	I	SEM	117	21
270	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	117	18
271	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	117	12
272	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	116	26
273	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	116	18
274	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	116	13
275	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	116	12
276	011HO11725	PEAK ALTAAMULET	A22,,BL,F,C,VF	g	I	ALT	115	26
277	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	115	23
278	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	115	20
279	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	115	18
280	011HO11682	PEAK ALTA FUNKY	A22,,CN,F,B,LF	g	I	ALT	115	15

281	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	114	28
282	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	114	27
283	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	114	12
284	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	114	9
285	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	113	18
286	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	113	15
287	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	113	14
288	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	113	8
289	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	112	23
290	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	112	16
291	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	111	29
292	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	111	24
293	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	111	21
294	14HO07872	CLEAR-ECHO MODIFY-ET	A22	g	I	WWS	111	20
295	011HO11707	PEAK LC ALTACORDIAL	A22,,BL,F,C,VF	g	I	ALT	111	18
296	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	110	29
297	011HO11463	T-SPRUCE ALTAARN	BLF,,CV,F,D,PF	g	A	ALT	110	14
298	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	110	14
299	0200HO06530	EDG SKATEBOARD	A22,,BL,F,C,VF	g	I	SEM	110	5
300	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	109	14
301	NZGTAFTANIUM	TAFTS WT TITANIUM	CVF,,A2,2,B,LF	g	I	LIC	109	13
302	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,,CV,F,B,LF	g	I	SEM	108	25
303	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	108	25
304	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	108	3
305	GGIMONARCH	MONARCH		g	I	GGI	107	18
306	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	107	18
307	011HO11608	DF ALTAPARISIAN	A12,,BL,F,C,VF	g	I	ALT	107	15
308	CBLEGO	VOGUE LEGO		g	I	SXT	107	10
309	250HO01131	DELABERGE SALT	A22	g	A	WWS	107	5
310	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	106	23
311	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	106	17
312	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	106	16
313	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	105	29
314	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	105	28
315	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	104	17
316	14HO07811	PEAK ACCELRENOWN	A22	g	I	WWS	103	17

317	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	103	13
318	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,,BL,F,A,22	g	I	CRV	103	12
319	RAZ	CARENDA RAZ	A22	g	A	GAC	102	21
320	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	102	16
321	RENEGADE	CO-OP RENEGADE - ET	A12	g	I	AGR	102	13
322	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	101	20
323	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	101	17
324	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	101	17
325	GGIBRENTANO	BRENTANO	A22	g	I	GAC	101	10
326	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	101	9
327	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	100	17
328	7HO12993	COOKIECUTTER HUMBLENKIND-ET	A22	g	I	WWS	100	17
329	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,,CN,F,C,VF	g	A	GAC	100	14
330	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	100	11
331	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	100	11
332	29HO17318	ABS POLDARK-PP	A22,,PO,S,R,DC	g	A	ABS	100	8
333	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	99	28
334	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	99	19
335	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	99	9
336	CRVFINDER	BOUW FINDER		g	I	CRV	99	7
337	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,,A1,1	g	A	ABS	99	3
338	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	98	30
339	011HO11531	BOMAZ ALTASABRE	A22,,CV,F,B,LF,	g	I	ALT	98	21
340	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	98	17
341	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	97	23
342	CRVCUPIDO	DELTA CUPIDO	A12,,CV,F	g	I	CRV	97	20
343	CBMRGREY	PEAK MR GREY		g	I	SXT	97	16
344	GGIPOPSTAR	VEKIS POPSTAR	POC,,RD,C,A,22	g	I	GGI	96	25
345	14HO07303	LE-O-LA MOGUL GAMBLER	A22,,BL,F,C,NF,	g	A	WWS	96	25
346	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	96	14
347	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	95	21
348	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	95	16
349	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	95	14
350	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	95	4
351	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,,PO,C	g	A	ABS	94	12
352	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	94	8

353	GGISANTA	SANTACL AUS		g	I	GGI	93	24
354	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	92	21
355	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	92	17
356	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	92	17
357	29HO17500	DG CHARLEY	A12	g	I	ABS	91	25
358	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	91	17
359	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	91	13
360	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	90	18
361	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	90	13
362	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	90	5
363	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	89	17
364	0200HO10222	LINDENRIGHT MEGAWATT	BLF,,CV,F,A,22	g	I	SEM	89	13
365	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	88	20
366	GGIFERRO	FERRO	BLC,,CN,C,C,VC,	g	I	GGI	88	18
367	CRVREMINDER	WD REMINDER		g	I	CRV	87	17
368	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,,PO,C	g	I	ABS	87	11
369	0200HO10857	STANTONS GALORE	A12	g	I	SEM	87	7
370	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	86	23
371	GGISILVESTRE	SILVESTRE	BLC,,CN,C,C,VC,	g	I	GGI	86	15
372	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	86	11
373	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	86	9
374	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	86	7
375	CBDREAMER	WILTOR DREAMER		g	A	SXT	85	11
376	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	84	12
377	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	83	22
378	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	83	16
379	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	82	20
380	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	82	9
381	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	81	21
382	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	81	17
383	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	81	16
384	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	81	13
385	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	80	12
386	7HO12600	BACON-HILL PETY MODESTY	DPF,,A1,2,B,LF,	g	I	WWS	79	9
387	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	78	1
388	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	77	20

389	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	77	12
390	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	76	10
391	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	76	9
392	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	75	19
393	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	75	14
394	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	75	13
395	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	75	9
396	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	75	6
397	STGREVIVAL	VOGUE REVIVAL-RED-ET	RDC	g	I	SXT	73	10
398	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	73	1
399	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	72	22
400	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	72	1
401	7HO13551	S-S-I HEINZ AMAZING	A22	g	I	WWS	70	18



Production Traits					Feed Saved		Indices			
Prot %	Milk L	Fat kg	Fat %	Rel	Feed Saved	Rel	BPI \$	BPI Rel	HWI	TWI
0.51	234	75	0.93	97	-59	35	428	83	302	393
0.68	-80	50	0.77	89	-143	38	366	78	232	345
0.48	208	40	0.45	98	-117	43	321	88	212	288
0.28	713	51	0.3	80	-76	37	385	72	287	348
0.26	1148	27	-0.31	98	-76	44	289	90	199	295
0.29	762	40	0.1	90	-145	41	332	80	225	299
0.25	602	53	0.4	75	-203	38	335	72	232	402
0.58	-435	35	0.77	75	167	35	220	68	148	82
0.2	1173	33	-0.25	89	-46	36	367	77	286	346
0.38	412	33	0.22	77	29	36	296	69	216	274
0.51	-109	30	0.5	93	-70	43	309	86	218	278
0.06	1289	53	-0.02	94	-145	43	305	85	212	264
0.74	-858	18	0.79	81	30	36	193	74	102	86
0.2	949	41	0.01	78	-13	33	276	68	198	256
0.47	259	18	0.1	74	208	35	250	67	197	175
0.46	295	16	0.05	97	-195	38	226	86	114	190
0.23	908	34	-0.07	75	17	34	391	66	320	375
0.52	129	11	0.08	87	22	39	287	78	211	273
0.5	-175	30	0.54	75	1	36	326	69	252	330
0.35	551	23	-0.01	75	-51	36	301	68	224	302
0.33	262	41	0.43	100	-118	47	227	93	132	207
0.25	687	38	0.12	80	-148	37	337	72	246	310
0.39	308	27	0.2	75	79	37	451	70	392	413
0.49	-40	24	0.37	74	180	38	327	71	273	274
0.03	1171	56	0.09	80	-125	40	288	76	203	266
0.07	1001	57	0.2	75	-59	39	283	71	203	238
0.45	-59	30	0.47	75	24	35	335	67	255	238
0.44	73	24	0.3	88	-85	36	320	78	233	306

0.24	863	27	-0.14	79	-2	34	317	70	249	306
-0.04	1263	64	0.15	99	15	36	291	87	232	310
0.33	412	29	0.17	96	-42	40	272	88	193	194
0.36	282	26	0.2	85	-39	36	242	75	167	224
0.15	855	42	0.08	75	20	39	319	72	260	325
0.46	-283	34	0.66	76	108	36	267	69	202	147
0.28	1052	4	-0.58	96	86	45	305	89	252	262
0.26	533	34	0.16	83	114	40	413	78	366	432
0.3	441	30	0.16	78	47	34	369	69	308	329
0.21	1012	18	-0.36	78	35	38	320	72	261	313
0.4	-125	34	0.57	88	144	40	260	78	214	223
0.59	-631	20	0.68	74	102	35	251	66	185	146
0.2	698	35	0.07	82	1	40	308	77	242	268
0.51	-339	22	0.52	76	138	36	241	69	181	136
0.03	1008	55	0.18	89	-17	39	351	80	292	380
0.12	969	36	-0.08	77	-76	32	281	66	208	244
0.32	152	36	0.43	79	-72	37	334	72	261	369
0.34	95	35	0.44	99	-118	46	258	92	171	190
0.45	-460	39	0.84	89	-99	39	328	79	248	349
0.34	495	14	-0.1	97	-47	38	228	88	157	169
0.38	109	24	0.28	76	72	34	231	67	170	165
0.24	330	44	0.43	79	32	32	390	68	332	336
0.28	259	36	0.36	99	-173	47	252	93	166	275
0.11	576	56	0.46	79	-107	33	293	69	217	293
0.12	1564	5	-0.89	96	-122	45	252	88	175	244
0.17	1141	16	-0.47	82	-65	40	283	77	215	279
0.19	777	29	-0.06	76	-98	32	300	66	222	273
0.38	-65	32	0.5	75	-99	39	337	71	256	338
0.54	-599	24	0.71	71	201	35	209	64	162	106
0.36	502	8	-0.2	90	-41	41	307	81	241	304
0.19	632	37	0.15	79	39	36	204	71	140	147
0.21	549	37	0.2	95	91	40	333	84	285	329
0.21	741	26	-0.08	80	2	34	305	70	242	275
0.39	339	9	-0.09	77	58	36	256	70	199	230
0.29	388	28	0.16	88	-32	35	306	78	241	294
0.13	834	37	0.03	78	-50	37	286	71	219	274

0.15	749	38	0.09	93	-118	41	238	83	159	229
0.47	66	4	0.02	76	58	34	259	68	198	214
0.15	709	38	0.12	80	-93	34	281	71	208	257
0.2	440	40	0.31	75	-65	38	317	71	249	320
0.03	1168	39	-0.15	75	-103	39	249	72	182	291
0.25	694	16	-0.19	80	35	37	299	72	246	261
0.18	842	25	-0.16	98	-80	35	263	87	188	201
0.34	100	27	0.32	80	-129	35	261	72	180	246
0.3	553	12	-0.17	81	-13	40	267	77	207	278
0.22	579	29	0.06	95	-13	40	227	85	161	168
0.21	444	36	0.25	80	-125	38	318	74	241	310
0.27	325	30	0.24	80	-84	37	315	72	242	282
0.27	323	30	0.24	78	30	40	288	74	234	291
0.1	1096	26	-0.3	94	-242	39	295	85	207	340
0.24	661	18	-0.14	75	-38	35	246	67	176	218
0.26	321	29	0.23	80	-16	38	307	73	247	276
0.34	-144	36	0.61	80	-30	38	320	74	256	326
0.2	63	55	0.75	99	-55	44	243	90	174	258
0.2	623	27	0.01	77	-47	32	283	67	219	286
0.34	166	21	0.2	71	171	33	204	63	162	119
0.23	320	36	0.32	75	-99	37	259	68	187	247
0.35	-296	40	0.76	81	-87	38	253	72	178	232
0.44	-467	30	0.72	77	174	35	263	70	222	209
0.18	685	27	-0.03	75	-76	38	347	69	282	365
0.19	540	31	0.11	82	0	40	281	77	225	240
0.15	253	54	0.62	81	51	37	288	73	239	266
0.14	1070	15	-0.44	80	-57	38	319	73	258	355
0.04	1175	31	-0.28	75	11	34	275	67	222	238
0.15	826	26	-0.14	80	-31	38	275	74	218	254
0.22	564	23	-0.01	99	40	46	260	92	211	233
0.2	369	38	0.32	82	-124	40	259	76	188	280
0.21	341	38	0.34	80	39	38	332	75	283	325
0.15	175	56	0.71	90	-71	35	286	79	218	274
0.17	482	37	0.23	79	-84	37	288	73	219	258
0	1312	31	-0.37	89	-115	38	267	80	196	262
0.23	513	24	0.03	96	-111	44	354	86	281	358

0.12	1011	21	-0.32	75	88	35	313	69	271	250
0.32	194	20	0.17	80	-97	37	354	72	284	344
0.38	-106	22	0.38	75	-58	40	291	73	221	296
0.21	184	43	0.5	87	-11	38	292	79	231	248
0.3	-197	43	0.74	78	157	37	287	71	251	234
0.56	-728	16	0.67	73	132	35	224	66	171	91
0.25	363	25	0.13	80	20	35	250	69	197	200
0.25	608	11	-0.21	80	14	37	295	74	243	283
0.25	259	28	0.25	89	25	35	263	79	212	263
0.11	941	25	-0.22	75	-25	35	226	70	169	203
0.12	605	38	0.17	75	23	39	314	69	262	301
0.1	647	40	0.19	75	-105	39	278	72	212	296
0.44	-332	17	0.45	76	113	36	249	69	205	177
0.46	-707	31	0.88	70	127	35	214	63	161	89
0.07	1167	20	-0.44	80	-18	38	287	73	234	290
0.12	998	17	-0.36	75	96	37	276	69	237	224
0.05	1042	31	-0.2	77	-139	32	282	67	213	291
0.13	448	44	0.36	80	-73	37	298	72	240	319
0.27	6	35	0.5	93	-28	42	259	84	201	279
0.19	238	39	0.42	79	54	33	295	69	251	296
0.14	617	31	0.07	79	-57	36	326	70	266	331
0.14	1052	10	-0.51	80	76	39	308	72	271	266
0.03	911	39	0	76	-5	32	249	66	198	239
0.28	375	13	-0.04	79	-86	35	301	70	235	270
0.28	161	24	0.24	78	-67	33	259	68	194	238
0.29	133	23	0.26	99	-86	47	235	93	166	209
0.31	43	24	0.32	91	-27	36	286	78	226	250
0.25	440	16	-0.04	80	14	38	250	74	198	242
0.26	361	18	0.04	76	44	37	317	72	271	291
0.16	689	22	-0.1	81	-6	39	312	75	265	354
-0.07	1372	36	-0.33	79	-143	39	274	73	211	315
0.27	81	28	0.36	80	125	36	331	73	299	327
0	969	40	-0.01	80	55	37	285	74	241	231
-0.03	1013	43	0	76	-159	40	215	74	144	239
0.26	20	34	0.47	97	19	41	275	87	228	251
0.23	502	16	-0.08	80	92	36	317	72	273	236

0.33	191	11	0.04	79	32	35	297	69	250	277
0.23	343	24	0.13	81	-128	38	219	76	144	172
0.06	445	53	0.49	91	-20	43	260	85	210	296
0.06	960	27	-0.2	99	-72	47	194	92	132	170
0.07	903	27	-0.16	75	-16	33	310	68	263	309
0.08	841	29	-0.1	99	-176	46	253	92	181	310
0.3	300	10	-0.03	81	-11	34	273	72	220	243
0.22	201	31	0.32	75	38	39	346	69	300	298
0.11	397	44	0.39	78	-51	33	267	68	211	256
0.17	503	26	0.07	78	31	36	277	68	234	267
0.29	-104	32	0.53	78	19	32	317	67	267	299
-0.02	1088	36	-0.15	80	6	37	235	73	187	222
0.19	416	26	0.12	93	-63	38	332	83	277	337
0.08	518	44	0.32	75	52	40	277	73	238	269
0.14	722	21	-0.14	77	128	36	307	69	279	277
0.17	456	28	0.12	77	-40	36	252	71	195	234
0.46	-575	18	0.61	76	196	36	209	69	175	107
0.4	-627	33	0.87	73	93	35	224	66	175	113
0.13	1078	4	-0.61	78	-45	33	252	69	200	251
0.14	596	25	0	80	58	37	255	73	210	191
0.34	128	7	0.03	74	66	36	191	67	143	113
0.17	399	28	0.16	79	-10	32	326	68	278	325
0.33	-302	30	0.62	81	-28	36	191	72	127	101
0.44	-632	25	0.75	81	76	39	271	75	227	256
0.08	1094	13	-0.48	79	-67	36	243	70	188	245
-0.02	1211	29	-0.33	80	-102	38	240	73	179	214
0.12	821	18	-0.25	78	17	36	276	70	229	249
0.19	684	11	-0.27	90	99	39	260	81	225	237
0.15	685	19	-0.14	96	-46	44	273	88	223	296
0.07	791	29	-0.06	79	-29	36	237	71	186	219
0.2	421	22	0.06	80	81	38	291	74	254	263
0.18	203	35	0.38	79	-62	37	309	71	251	316
0.18	202	36	0.4	99	-91	46	227	92	159	206
-0.01	1324	21	-0.51	82	-41	39	218	77	168	216
0.11	613	31	0.06	80	-36	39	232	75	183	267
0.04	1123	19	-0.42	78	-169	38	222	74	153	232

0.2	586	13	-0.18	80	-38	36	324	71	276	353
0.27	218	17	0.11	75	-54	36	277	68	223	279
0.17	395	29	0.18	78	-78	33	275	69	215	247
-0.07	1176	38	-0.18	97	-127	45	214	90	150	207
0.07	906	24	-0.22	79	-91	37	230	71	172	204
0.01	965	33	-0.12	75	-66	38	273	69	223	324
0.1	387	42	0.36	88	9	38	315	78	274	340
0.06	854	26	-0.16	75	-28	40	205	71	154	199
0.1	639	28	0.01	75	-101	35	282	67	222	274
0.14	-28	52	0.76	78	-143	32	257	69	189	264
0.16	480	23	0.04	79	47	33	280	69	243	270
0.04	678	37	0.12	96	-68	34	244	84	191	249
0.26	28	25	0.35	78	61	37	203	72	163	156
-0.01	990	33	-0.14	78	-38	36	236	70	187	190
0.12	704	20	-0.14	80	-33	37	278	72	229	294
0.23	476	8	-0.18	83	-21	36	195	74	144	158
0.01	800	37	0.04	81	-107	39	313	74	260	370
0.25	327	12	-0.03	95	-66	42	243	87	185	196
0.13	514	28	0.09	80	-106	40	282	76	221	259
0.11	528	30	0.1	93	15	40	213	84	172	177
0.26	169	18	0.16	99	29	45	275	91	230	233
0.16	-99	50	0.78	81	-108	37	254	73	191	260
0.14	469	26	0.09	97	52	43	257	88	223	257
0.08	990	14	-0.41	80	-32	34	267	72	219	235
-0.07	1188	33	-0.25	77	-14	38	224	73	179	215
-0.06	1134	34	-0.21	99	-92	47	203	92	144	162
0.13	445	30	0.16	81	-35	39	276	75	228	266
0.28	-15	20	0.3	81	-197	40	268	75	196	320
0.09	806	20	-0.21	75	-87	40	325	72	272	370
0.16	560	17	-0.09	76	29	31	284	66	244	263
0.13	939	5	-0.51	80	-46	34	239	72	190	207
0.12	664	19	-0.14	79	-58	37	275	72	224	303
0.09	548	32	0.12	80	-44	33	248	73	200	258
0.13	266	37	0.37	79	-5	36	272	70	227	261
0.11	748	17	-0.21	79	-69	33	249	69	195	228
0.13	602	20	-0.09	77	18	32	233	67	191	222

0.09	630	26	-0.01	79	-1	37	264	72	218	240
-0.05	1151	30	-0.28	81	-59	37	262	73	212	250
0.01	903	30	-0.13	78	-35	33	241	68	198	254
0.35	-216	13	0.32	95	9	38	289	84	247	332
0.32	-513	35	0.82	94	-111	42	231	85	172	272
0.09	762	19	-0.2	75	59	38	282	71	248	234
0.11	616	22	-0.07	78	12	32	228	68	189	231
0.19	152	27	0.3	83	109	40	296	77	273	285
0.09	818	15	-0.29	79	-50	33	266	69	217	233
0.02	768	34	0.01	80	39	37	250	73	216	271
0.17	416	18	0.01	75	78	37	253	69	222	254
0.24	232	14	0.06	91	-43	40	309	82	263	329
0.31	-272	23	0.5	79	65	39	260	75	226	258
0.12	894	5	-0.48	96	-125	40	240	86	178	180
0.1	831	13	-0.33	88	-68	40	331	81	281	359
0.14	704	11	-0.27	79	93	37	266	71	236	220
0.08	510	31	0.14	81	9	39	279	75	240	287
0.3	-13	13	0.19	75	97	34	195	66	158	119
0.1	353	36	0.3	75	-120	36	255	68	197	288
-0.09	1516	17	-0.68	79	-25	41	200	76	162	234
0.23	274	13	0.01	94	-142	42	236	86	173	293
0.5	-961	17	0.84	71	125	35	219	65	182	141
0.03	1054	15	-0.43	80	-23	33	260	70	216	230
0.12	334	31	0.24	75	-64	34	244	67	191	207
0.02	621	37	0.15	78	36	36	198	70	165	182
0.2	35	28	0.38	98	-105	44	228	89	173	270
0.22	-83	30	0.48	80	-16	38	321	73	275	288
0.16	628	7	-0.29	79	180	36	302	70	288	269
0.26	-26	18	0.27	74	48	33	265	65	227	244
0.05	356	42	0.38	75	-36	34	248	68	203	233
0.21	57	25	0.33	91	-16	40	302	82	257	294
0.14	625	11	-0.22	81	73	39	237	76	208	236
0.04	546	36	0.18	79	-35	33	244	69	199	230
0.14	343	25	0.16	95	-126	35	247	83	189	232
0.22	95	20	0.23	99	-46	44	238	91	188	232
0.15	55	37	0.51	80	89	38	350	72	321	315

0.15	660	6	-0.32	80	15	37	280	71	241	226
0.1	472	26	0.09	78	-67	32	258	68	208	243
0.23	171	15	0.11	77	160	38	293	73	273	259
0.21	101	22	0.26	81	-10	40	259	76	219	265
0.2	-108	34	0.56	75	3	40	364	72	325	385
0	899	24	-0.2	81	-41	38	251	75	211	262
0	881	25	-0.18	80	-23	33	255	71	213	245
0.19	303	15	0.03	80	36	38	289	73	251	232
0.21	274	12	0	91	53	37	202	78	171	146
0.04	972	13	-0.41	95	-81	44	198	87	147	191
0.12	720	9	-0.31	75	122	38	241	71	221	231
0.05	746	22	-0.14	81	-35	40	286	76	247	323
0.04	652	28	0.01	80	-123	38	273	74	221	308
0.17	319	16	0.04	77	35	37	263	71	226	227
-0.01	1181	11	-0.56	80	60	37	238	74	213	229
0.06	551	29	0.07	78	48	33	197	68	168	188
0.21	168	17	0.14	75	59	38	273	72	241	246
0.06	681	21	-0.11	78	97	41	251	75	224	186
0.12	732	5	-0.38	80	96	36	269	72	248	254
0.03	863	17	-0.28	78	17	32	239	67	206	213
0.16	226	23	0.19	79	23	38	218	72	185	242
-0.12	1351	26	-0.46	99	-69	42	255	89	214	242
-0.07	1222	20	-0.46	81	66	39	217	76	189	139
0.13	641	8	-0.27	82	64	39	246	76	222	230
0.05	701	22	-0.11	75	40	37	234	68	205	213
0.14	380	18	0.03	98	15	43	303	89	265	303
0.28	-112	13	0.26	84	20	39	268	76	228	252
0.17	626	-1	-0.39	77	-82	37	237	72	185	219
0.06	535	26	0.05	94	-39	43	201	86	162	222
-0.04	546	47	0.34	75	21	36	234	71	201	206
0.2	51	21	0.27	79	50	34	232	69	201	227
-0.12	1187	31	-0.29	75	-48	40	233	72	196	260
0.1	650	13	-0.21	80	-193	39	209	73	149	261
0.05	643	23	-0.07	99	-154	47	198	92	141	203
0.12	422	19	0.02	75	134	36	283	70	267	265
0.06	448	31	0.18	81	-63	38	279	74	237	284

-0.09	1208	23	-0.41	80	-101	37	212	73	165	210
0.06	888	8	-0.44	81	80	38	299	74	279	304
0.29	-140	11	0.24	78	138	38	271	74	249	265
0.23	-115	22	0.38	81	-69	40	212	76	163	200
0.2	266	10	-0.03	73	59	34	206	67	173	171
0.21	134	14	0.12	80	-10	39	191	76	150	169
0.03	454	34	0.22	87	31	38	223	79	191	200
0.1	120	37	0.47	78	39	36	221	69	188	217
-0.04	940	26	-0.21	79	19	37	246	71	216	255
0.29	24	2	0.01	80	17	38	291	73	259	303
0.05	956	5	-0.52	80	85	36	274	73	254	245
-0.08	1058	27	-0.26	80	-31	37	252	72	218	273
0.04	706	20	-0.15	75	46	36	229	69	202	209
0.07	599	19	-0.09	78	-19	33	228	68	190	184
0.08	508	22	0	81	-58	36	217	74	175	222
0.1	885	-3	-0.58	89	-53	37	221	79	181	214
0.14	265	20	0.13	91	-30	40	232	83	192	215
-0.01	537	38	0.22	80	-111	37	223	72	174	216
0.1	-17	42	0.62	76	22	40	255	73	221	254
0.03	458	32	0.18	80	-101	33	249	69	204	234
0.45	-383	-12	0.06	77	41	35	200	69	163	185
0.02	893	13	-0.36	75	112	38	248	70	231	213
-0.11	1149	27	-0.31	77	-68	40	262	74	224	292
0.25	-367	27	0.62	75	118	34	296	68	281	338
0.11	448	16	-0.04	80	-4	37	233	73	200	234
0.14	377	13	-0.04	80	20	34	327	71	297	329
0.08	411	24	0.1	81	-37	40	231	76	192	209
0.12	145	29	0.33	79	2	35	218	71	182	208
0.31	-433	16	0.5	99	-124	45	204	91	152	264
-0.1	1054	28	-0.24	81	54	39	233	75	209	232
0.02	594	27	0.03	79	70	37	240	71	218	217
0.12	355	16	0.02	80	10	34	225	73	192	233
0.04	1000	2	-0.59	98	8	45	271	91	240	273
-0.14	1325	24	-0.47	78	-124	35	222	70	178	221
0.19	267	6	-0.08	76	7	35	284	68	251	279
-0.06	739	34	0.04	77	12	39	252	73	228	266

0.18	143	15	0.13	97	-13	45	231	90	195	260
0.27	-92	7	0.16	80	115	38	274	76	251	226
-0.07	921	26	-0.19	86	-218	38	191	76	128	219
0.18	222	9	0	75	120	40	238	73	223	227
-0.04	538	38	0.22	75	-84	39	200	73	156	199
-0.04	833	24	-0.17	81	-55	40	265	76	232	308
0	613	27	0.01	89	93	40	278	81	265	249
0.12	377	14	-0.03	78	104	36	197	70	181	180
0.31	-233	6	0.23	75	95	38	294	72	274	320
0.13	88	25	0.31	79	93	36	263	70	248	292
0.07	498	17	-0.06	80	16	33	220	70	190	188
0.09	439	17	-0.03	79	105	34	252	69	236	222
0.02	474	29	0.13	98	178	45	198	90	191	172
0.08	243	27	0.24	89	56	39	310	80	289	323
0.03	359	33	0.26	79	-38	33	237	69	201	251
0.14	15	27	0.38	90	15	35	218	77	185	185
-0.2	1425	28	-0.47	99	98	44	213	91	204	210
0.04	635	17	-0.15	96	8	44	317	87	294	354
0.29	-245	8	0.27	81	54	39	293	76	266	272
0.21	-135	19	0.36	81	-55	39	209	76	164	214
0.17	-231	31	0.59	91	2	44	270	83	240	300
-0.16	1446	18	-0.63	79	-168	36	194	70	142	172
0.07	662	9	-0.27	75	-109	38	261	71	214	273
0.03	581	21	-0.05	79	111	35	267	69	255	251
-0.14	1141	28	-0.29	80	-7	36	225	72	199	228
0.18	385	-2	-0.26	75	-38	38	232	73	195	227
0.09	428	15	-0.05	84	-6	40	253	77	219	211
0.15	629	-7	-0.49	78	11	38	206	73	177	209
-0.14	1185	25	-0.37	99	18	38	247	88	230	312
0.05	410	23	0.07	81	-16	36	251	72	219	240
0.12	526	3	-0.29	81	62	39	277	76	257	283
0.07	465	16	-0.06	80	36	37	304	73	280	293
0.1	333	16	0.03	78	118	38	213	74	197	170
0.1	-36	35	0.53	90	17	41	304	81	277	333
0.21	7	8	0.12	91	8	36	202	81	172	205
0.23	-144	12	0.27	99	-54	47	221	92	185	266

0.04	822	3	-0.46	80	-32	37	227	72	195	235
-0.06	893	21	-0.25	77	-24	38	260	73	232	282
0.1	428	10	-0.12	80	89	33	256	70	242	228
0.09	447	11	-0.11	99	-96	46	230	92	186	266
-0.03	1008	9	-0.49	75	76	41	248	73	234	236
0.23	187	-5	-0.19	74	-7	37	293	71	262	279
-0.01	511	28	0.09	80	14	37	211	71	188	241
0.02	619	16	-0.15	79	0	33	224	69	199	213
0.11	281	15	0.05	79	-15	33	304	70	275	287
0.13	-69	28	0.45	81	40	40	268	75	245	290
0.03	565	16	-0.12	79	37	37	202	73	183	216
0.1	287	14	0.03	75	6	41	246	73	221	227
0.04	668	8	-0.29	79	69	35	194	70	181	211
0.05	551	12	-0.17	78	37	38	202	73	181	218
0.1	426	8	-0.15	80	141	38	217	74	210	199
0.08	245	20	0.14	81	99	39	218	75	204	196
0.1	43	25	0.34	80	-139	37	240	71	192	286
-0.08	1023	15	-0.41	75	-14	38	245	69	226	268
0	539	22	-0.01	80	-39	38	205	73	175	220
0.07	290	20	0.11	79	28	37	263	71	241	266
0.01	335	31	0.24	75	14	38	263	70	236	252
0.28	-266	4	0.23	80	47	38	214	76	191	203
-0.01	430	28	0.14	93	-144	40	276	84	230	296
0.16	120	8	0.04	82	7	40	248	77	225	289
-0.03	861	10	-0.39	80	-6	39	256	74	233	279
-0.06	696	24	-0.08	99	-25	45	236	91	211	281
-0.1	955	20	-0.3	75	50	38	248	70	237	262
0.08	160	21	0.21	95	-48	38	195	84	164	197
0.01	747	7	-0.36	81	-32	38	274	75	246	261
-0.06	750	22	-0.14	81	28	39	226	75	209	245
0.09	429	6	-0.18	75	42	38	238	71	221	257
0.07	358	15	-0.01	80	-28	33	212	71	182	195
0.16	125	5	0	73	98	35	258	68	246	233
0.04	253	23	0.18	75	171	40	194	73	195	197
0.16	-292	24	0.53	75	120	38	250	70	242	238
-0.01	756	9	-0.33	79	59	33	239	69	228	232

0.13	205	7	-0.02	94	63	42	209	82	199	199
0.1	192	13	0.08	93	24	44	222	86	204	247
0.12	99	13	0.13	75	-4	39	234	73	211	222
-0.02	753	9	-0.33	83	-115	40	239	78	205	293
-0.05	609	22	-0.06	79	-15	33	253	69	229	264
0.11	268	7	-0.07	88	98	38	195	80	183	178
0.11	119	13	0.12	81	-66	33	208	72	176	216
0.12	-31	19	0.29	86	106	41	213	80	205	217
-0.03	439	25	0.1	76	-15	31	217	65	192	183
0.28	-492	8	0.42	82	58	35	231	73	213	213
-0.14	1081	16	-0.43	81	-45	39	211	75	187	244
0.23	-411	13	0.44	75	174	38	232	71	229	191
0.01	642	6	-0.31	78	40	34	268	69	257	255

Good Bulls Guide for Holstein - Longevity

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Surviv
							Survival
1	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	114*
2	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	114*
3	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	114*
4	011HO11725	PEAK ALTAAMULET	A22,,BL,F,C,VF	g	I	ALT	114*
5	0200HO10660	STANTONS ADORABLE	CVF,,BL,F,A,12	g	I	SEM	113*
6	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,,RD,C	g	I	CRV	113*
7	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	113*
8	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	113*
9	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	113
10	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	113*
11	011HO11745	MELARRY ALTASNAPSHOT-ET	A11	g	I	ALT	113*
12	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	113*
13	CRVCUPIDO	DELTA CUPIDO	A12,,CV,F	g	I	CRV	113*
14	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	112
15	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	112*
16	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	112
17	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	112*
18	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	112
19	011HO11821	PEAK ALTAFOREVER	A12,,BL,F,C,VF	g	I	ALT	112*
20	CRVEASTON	PEAK EASTON	A22	g	I	CRV	112*
21	14HO07811	PEAK ACCELREOWN	A22	g	I	WWS	112*
22	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	112*
23	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	112*
24	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	112
25	0200HO10383	LADYS-MANOR LUXUS	A12,,BL,F,C,VF	g	I	SEM	112*
26	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	112*
27	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	112*
28	011HO11827	PEAK ALTAMIGHTY P-ET	A12,,PO,C	g	I	ALT	112*

29	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	112
30	7HO12876	RI-VAL-RE POWER TOOL-P	POC,,A1,2	g	I	WWS	112*
31	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	112*
32	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	112*
33	CBDREAMER	WILTOR DREAMER		g	A	SXT	112
34	14H07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	112*
35	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	112*
36	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	112*
37	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	112*
38	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,,A1,1	g	A	ABS	111
39	011HO11813	PEAK ALTATOOHOT	A12,,BL,F,C,VF	g	I	ALT	111*
40	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	111*
41	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	111*
42	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	111
43	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	111*
44	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	111
45	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	111*
46	7HO12212	DE-SU SS HONEYBEE 11569	A22,,BL,F,C,NF,	g	A	WWS	111
47	GGISINGER	SINGER		g	I	GGI	111*
48	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	111*
49	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	111*
50	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	111*
51	0200HO10857	STANTONS GALORE	A12	g	I	SEM	111*
52	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	111*
53	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	111*
54	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	111*
55	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	111*
56	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	111*
57	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	111*
58	0200HO10610	WESTCOAST WINDMILL	A22,,BL,F,C,VF	g	I	SEM	111*
59	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	111
60	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	111
61	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	111*
62	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	111*
63	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	111*
64	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	111*

65	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	111
66	0200HO10569	IHG GEOGRAPHY-ET	A22,,BL,F,C,VF	g	A	SEM	111
67	AVENGER	CO-OP AVENGER	A12	g	I	AGR	111*
68	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	111*
69	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	111*
70	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	111
71	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	111*
72	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	111*
73	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	111*
74	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,,BL,F	g	A	ALT	111
75	GGICOVER	COVER	A22	g	I	GGI	111*
76	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	111
77	CBMRGREY	PEAK MR GREY		g	I	SXT	110*
78	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	110*
79	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	110*
80	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	110
81	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	110*
82	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	110*
83	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	110*
84	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	110*
85	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	110*
86	29HO17334	WILDER HAMLET	A22	g	I	ABS	110*
87	29HO18285	PINE-TREE SPLENDID-P-ET	A22,,PO,C,R,DC	g	I	ABS	110*
88	JSCOLD	ERNEST ANTHONY COLD P	A22,,PO,C	g	I	GAC	110*
89	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	110*
90	7HO12814	SEAGULL-BAY TRUE PP	POS,,A2,2	g	I	WWS	110*
91	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,,BL,F,D,PF	g	A	ALT	110
92	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	110*
93	CRVPAISLE	PEAK TANGO PAISLEY		g	I	CRV	110*
94	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	110*
95	CBLOTTACCLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	110
96	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	110*
97	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	110*
98	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	110*
99	011HO11707	PEAK LC ALTACORDIAL	A22,,BL,F,C,VF	g	I	ALT	110*
100	29HO18110	IHG ABS JERICHO-ET	A22	g	I	ABS	110*

101	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,,PO,C	g	A	ABS	110
102	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	110*
103	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	110
104	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	110*
105	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	110*
106	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	110*
107	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	110*
108	011HO11682	PEAK ALTAFUNKY	A22,,CN,F,B,LF	g	I	ALT	110*
109	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	110*
110	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	110*
111	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	110*
112	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	110*
113	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	110*
114	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	110*
115	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	110*
116	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	110
117	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	110
118	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	110
119	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	110*
120	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	110*
121	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	110*
122	250HO01131	DELABERGE SALT	A22	g	A	WWS	110
123	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	110*
124	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	110*
125	0200HO10755	WESTCOAST GALAHAD	A11,,BL,F,C,VF	g	I	SEM	110*
126	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,,PO,C	g	I	ABS	110*
127	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	110*
128	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	110
129	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	110*
130	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,,PO,C	g	I	ABS	110*
131	14HO07770	AOT SILVER HELIX		g	I	WWS	110*
132	011HO11778	BOMAZ ALTAROBSON	A22,,CV,F,B,LF,	g	I	ALT	110*
133	7HO12773	LARCREST KENOSHA		g	I	WWS	110*
134	GGISANTA	SANTACLUS		g	I	GGI	110*
135	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	110
136	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	110*

137	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	110*
138	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	109*
139	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	109*
140	011HO11463	T-SPRUCE ALTAARN	BLF,,CV,F,D,PF	g	A	ALT	109
141	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	109*
142	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	109*
143	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	109*
144	29HO17947	ABS ROWDY	A11	g	I	ABS	109*
145	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	109*
146	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	109
147	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	109*
148	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	109
149	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	109*
150	14HO07801	AOT HAROLDO	A22	g	I	WWS	109*
151	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	109*
152	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	109
153	CBLEGO	VOGUE LEGO		g	I	SXT	109*
154	GGIAPPEAL	APPEAL	BLC,,CN,C,C,VC,	g	I	GGI	109*
155	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	109*
156	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	109*
157	7HO12571	DE-SU HEINZ 12342	A12,,BL,F,C,VF,	g	I	WWS	109*
158	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	109*
159	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	109
160	7HO12898	OCD SUPERSPRING	A22	g	I	WWS	109*
161	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	109*
162	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	109*
163	GGIBRENTANO	BRENTANO	A22	g	I	GAC	109*
164	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	109*
165	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	109*
166	7HO12165	BACON-HILL MONTROSS	A22,,BL,F,C,VF,	g	I	WWS	109*
167	CRVFARRELL	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	109*
168	011HO11531	BOMAZ ALTASABRE	A22,,CV,F,B,LF,	g	I	ALT	109*
169	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	109
170	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	109
171	0200HO10038	SANDY-VALLEY EMERO	A22,,BL,F,C,VF	g	A	SEM	109
172	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	109*

173	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	109*
174	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	109*
175	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	109*
176	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	109*
177	011HO11762	BUTLERVIEW ALTARINGER		g	I	ALT	109*
178	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	109*
179	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	109*
180	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	109*
181	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	109*
182	011HO11829	PEAK ALTAVAULT P-ET	A12	g	I	ALT	109*
183	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	109*
184	GGIPOPSTAR	VEKIS POPSTAR	POC,,RD,C,A,22	g	I	GGI	109*
185	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	109*
186	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	109*
187	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	109*
188	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	109
189	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	109*
190	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	109*
191	0200HO10777	WESTCOAST PERSEUS	A22,,CV,F,B,LF	g	I	SEM	109*
192	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	109*
193	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	109*
194	CLASHP	ANDERSTRUP CLASH	A22,,PO,C	g	I	GAC	109*
195	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	109*
196	GGIFERRARI	FERRARI		g	I	GGI	109*
197	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	109*
198	GGISEMINO	SEMINO	A22	g	I	GAC	109*
199	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	109*
200	GGIBASEMENT	BASEMENT	A22	g	I	GAC	109*
201	RAZ	CARENDA RAZ	A22	g	A	GAC	109
202	7HO12993	COOKIECUTTER HUMBLENKIND-ET	A22	g	I	WWS	109*
203	94HO0895	MR ANSLY ADDICTION-P-ET	A12,,PO,C	g	A	ABS	109
204	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	109*
205	14HO07303	LE-O-LA MOGUL GAMBLER	A22,,BL,F,C,NF,	g	A	WWS	109
206	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	109*
207	29HO17500	DG CHARLEY	A12	g	I	ABS	109*
208	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	109*

209	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	109*
210	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	109*
211	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	108
212	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	108
213	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	108*
214	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	108*
215	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	108*
216	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	108*
217	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	108*
218	7HO12600	BACON-HILL PETY MODESTY	DPF,,A1,2,B,LF,	g	I	WWS	108*
219	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	108*
220	CRVFINDER	BOUW FINDER		g	I	CRV	108*
221	011HO00582	SCHREUR ALTAUP	A22,,BL,F,C,VF,	g	I	ALT	108*
222	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	108*
223	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	108*
224	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,,PO,C	g	I	AGR	108*
225	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	108*
226	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	108*
227	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	108*
228	0200HO02942	SILVERRIDGE ALBUM	BLF,,CV,F,A,22	g	I	SEM	108*
229	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	108
230	GGIFERRO	FERRO	BLC,,CN,C,C,VC,	g	I	GGI	108*
231	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	108*
232	29HO17344	GIN AMOUR	A22	g	I	ABS	108*
233	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	108*
234	0200HO10598	CALBRETT SOLSTICE	A22,,BL,F,C,VF	g	I	SEM	108*
235	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,,BL,F,C,VF,	g	I	ALT	108*
236	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	108*
237	0200HO10366	BENNER BARDO	BLF,,CV,F,A,22	g	A	SEM	108
238	29HO18202	ABS MOONWIND-P-ET	POC,,A2,2	g	I	ABS	108*
239	7HO12095	DE-SU MALLINGER 11384	A22,,BL,F,C,NF,	g	A	WWS	108
240	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	108*
241	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	108*
242	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	108*
243	GGIPALETTI	PALETTI PP	A12,,PO,S	g	I	GAC	108*
244	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	108*

245	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	108*
246	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	108*
247	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	108*
248	14HO07328	COASTAL-VIEW MOOKIE	A22,,BL,F,C,VF,	g	A	WWS	108
249	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	108*
250	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,,RD,C	g	I	ABS	108*
251	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	108*
252	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	108*
253	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	108*
254	RENEGADE	CO-OP RENEGADE - ET	A12	g	I	AGR	108*
255	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	108*
256	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	108*
257	011HO11630	PEAK ALTAMORENO	A22,,BL,F,C,VF	g	I	ALT	108*
258	0200HO10222	LINDENRIGHT MEGAWATT	BLF,,CV,F,A,22	g	I	SEM	108*
259	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	108*
260	0200HO10220	LEOTHE DARK VADOR	A22,,CV,F,B,LF	g	A	SEM	108
261	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	108
262	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	108*
263	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	108*
264	COGENTTWIST	COGENT TWIST	A22,,CV,F,B,LF	g	A	SXT	108
265	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	108
266	29HO17339	GLAMOUR BOGHILL CARLITO-ET	A12	g	I	ABS	108*
267	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	108*
268	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	108*
269	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	108*
270	0200HO10411	CLAYNOOK DEALMAKER	A12,,BL,F,C,VF	g	I	SEM	108*
271	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	108
272	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	108
273	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	108
274	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	108
275	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	108*
276	GGISILVESTRE	SILVESTRE	BLC,,CN,C,C,VC,	g	I	GGI	108*
277	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	108*
278	14HO07848	PEAK ACCELENHANCE	A12	g	I	WWS	108*
279	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	108*
280	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	108*

281	0200HO07450	AMIGHETTI NUMERO UNO	BLF,,CV,F,A,12	g	A	SEM	108
282	JSPowerball	VIEW-HOME POWERBALL P ET	POC,,A2,2	g	A	GAC	108
283	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	108*
284	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	108*
285	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	108*
286	GGIMONARCH	MONARCH		g	I	GGI	107*
287	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	107
288	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	107
289	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	107*
290	OUTLAST	REGANCREST OUTLAST PP-ET	POS,,A1,2	g	I	GAC	107*
291	MASNAH	PURNIM MVP MASNAH-ET	A22	g	A	GAC	107
292	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	107*
293	0200HO02870	MR LOOKOUT P ENFORCER	BLF,,CV,F,A,22	g	A	SEM	107
294	POINTP	POINT P	POC	g	I	AGR	107*
295	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,,CV,F,B,LF	g	I	SEM	107*
296	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	107
297	011HO11608	DF ALTAPARISIAN	A12,,BL,F,C,VF	g	I	ALT	107*
298	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	107*
299	0200HO06617	BOLDI V ACTOR		g	I	SEM	107*
300	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	107*
301	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	107
302	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	107*
303	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	107
304	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,,CV,F,D,PF	g	A	ALT	107
305	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	107*
306	011HO11900	IHG MAXIMUS		g	I	ALT	107*
307	0200HO10588	SANDY-VALLEY APACHE-P	A22,,PO,C,C,VF,	g	I	SEM	107*
308	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	107
309	OHGFAMOUS	FAMOUS - ET	BLF,,CV,F,A,12	g	I	AGR	107*
310	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	107
311	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	107
312	VIKROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	107*
313	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	107*
314	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	107*
315	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	107
316	0200HO10229	VELTHUIS B FORCE	A22,,CV,F,B,LF	g	I	SEM	107*

317	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	107*
318	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	106
319	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	106*
320	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	106*
321	011HO11720	PEAK ALTAFLYWHEEL	A11,,BL,F,C,VF	g	I	ALT	106*
322	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,,BL,F,C,VF	g	I	SEM	106*
323	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	106
324	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	106
325	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	106
326	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,,BL,F,A,22	g	I	CRV	106*
327	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	106*
328	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	106*
329	CBBILL	COGENT BILL		g	I	SXT	106*
330	CBEVOLVE	ENDCO EVOLVE		g	I	SXT	106*
331	CRVASTRO	DELTA ASTRO	CVF,,BL,F	g	A	CRV	106
332	29HO18066	ABS DANNER-P-ET	A22,,PO,C	g	I	ABS	106*
333	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	106
334	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	106*
335	011HO11478	DE-SU ALTALEAF	A11,,BL,F,C,VF	g	I	ALT	106*
336	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	106*
337	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	106*
338	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	106
339	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	106*
340	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	106
341	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	106*
342	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	106
343	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	106*
344	CRVREMINDER	WD REMINDER		g	I	CRV	106*
345	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	106
346	VIKHSTORM	VH SPRITE STORM		g	I	VIK	105*
347	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	105*
348	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	105*
349	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	105
350	0200HO06530	EDG SKATEBOARD	A22,,BL,F,C,VF	g	I	SEM	105*
351	MCAPPLE	CHILDERS COVE ANNIE DALE MCAPPLE-IMP-ET	CVC	g	A	AGR	105
352	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,,CN,F,C,VF	g	A	GAC	105

353	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	105
354	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	105*
355	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,,A2,2,C,NF,	g	A	LIC	105
356	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	105*
357	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	105
358	OHGBOSS	BOSS		g	A	AGR	105
359	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	104
360	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	104*
361	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	104*
362	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	104
363	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,,BL,F,C,VF	g	A	SEM	104
364	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	104*
365	VIKHNERD	VH NUGGET NERD RC	RDC,,A2,2	g	I	VIK	104*
366	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	104*
367	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	104

al	Residual Survival		Daughter Fertility		Workability		Conformation Traits			Indices				
	Rel	Residual Survival	Rel	Dtr Fert	Rel	Temp	Rel	Over Type	Mam Syst	Type Rel	BPI \$	BPI Rel	HWI	TWI
59		103*	65	113	59	105*	68	104*	106*	65	327	71	297	329
65		105*	72	111	78	103	77	100	103	75	274	75	246	261
67		107*	73	104	79	105	82	107	108	78	262	74	224	292
66		108*	72	103	80	102	80	106	107	78	233	72	196	260
67		100*	71	107	72	103	81	110	107	79	325	72	272	370
69		109*	75	113	80	103	82	100	102	80	230	77	232	206
70		104*	78	107*	85	102	79	102	103	78	302	82	257	294
63		109*	68	103	68	105*	67	110	106	73	319	73	258	355
70		100	76	108	74	105	83	106	102	87	354	86	281	358
64		108*	69	109	70	104*	68	104	106	74	299	74	279	304
61		111*	67	105	73	103*	66	103	105	73	204	73	192	204
58		104*	62	113*	58	102*	68	99*	103*	64	369	69	308	329
69		107*	74	107	82	102	83	103	102	77	232	73	195	227
68		101	77	108#	79	101#	81	107#	109#	75	332	83	277	337
68		103*	77	108	84	102	83	109	109	79	309	82	263	329
92		104	93	108	97	105	91	104	102	93	271	91	240	273
62		105*	66	108	59	102	69	100	104	69	251	72	219	240
71		101	77	109#	78	105#	80	107	105	79	331	81	281	359
65		105*	70	105	75	103	78	104	107	76	278	72	212	296
60		104*	65	106*	62	103*	70	105	103	70	309	71	251	316
64		104*	70	106	75	101	73	107	111	75	252	73	228	266
57		105*	62	105	57	103*	66	103*	106*	64	237	69	201	251
65		105*	69	110	69	103	74	101	100	74	263	70	236	252
68		101	75	110#	79	101#	78	105#	107#	77	310	80	289	323
62		102*	70	109	70	98	75	109	110	73	315	78	274	340
68		102*	72	108	72	102*	72	108	109	74	273	74	221	308
59		105*	64	103	62	102*	67	108	110	65	296	68	281	338
57		105*	63	102	58	103*	68	101*	103*	65	317	70	249	306

81	103	85	108	91	103#	83	104	107	90	222	86	204	247
60	106*	66	107	67	103*	69	99	104	69	269	72	248	254
66	106*	71	104	73	103*	71	99	106	73	275	74	218	254
65	111*	71	102	79	103*	68	102	101	76	233	75	209	232
73	98	80	111#	82	103#	83	106#	105#	80	276	84	230	296
70	95*	73	108	69	103	83	108	108	81	364	72	325	385
64	103*	69	106	70	100	71	109	111	75	199	74	200	245
67	107*	73	104	77	104	79	108	106	77	211	75	187	244
73	103*	78	104	82	102	81	109	112	75	351	80	292	380
75	103	80	108#	82	103#	76	105	108	88	270	83	240	300
62	101*	68	105	73	103	79	109	110	77	268	75	196	320
62	102*	66	103	66	104	75	112	113	75	313	74	260	370
60	103*	67	109	71	101*	66	100	107	68	331	73	299	327
88	106	92	107	98	97	90	103	107	89	213	91	204	210
61	104*	67	111	71	103*	65	105	103	70	304	73	280	293
73	104	80	107	85	102	87	109	112	87	317	87	294	354
65	105*	71	111	77	104	81	104	103	75	277	76	257	283
77	104	85	106	94	103#	82	103	107	84	255	89	214	242
63	106*	69	102	71	102	73	105	104	73	287	73	234	290
60	100*	65	114	64	104*	65	99	104	72	350	72	321	315
61	103*	67	112	71	102	80	105	102	75	235	73	221	230
68	99*	77	106*	87	103	71	107	107	73	219	81	193	262
59	101*	64	107*	56	102	72	109	105	69	240	71	192	286
58	104*	65	109	69	102*	72	101*	103*	65	213	69	187	196
57	101*	62	109	56	104*	65	104*	103*	63	253	69	229	264
58	104*	65	107	66	103*	67	100*	101*	63	212	71	182	195
61	106*	67	106	66	103*	68	107	104	70	278	72	229	294
62	103*	68	105	61	102*	70	101*	105*	70	367	77	286	346
61	105*	66	103	63	103*	66	105	112	72	298	72	240	319
64	107*	71	103	75	102	81	110	110	77	312	75	265	354
83	105	86	99	90	102#	83	106	109	87	260	85	210	296
95	104	96	99	98	103	96	109	109	94	253	92	181	310
58	103*	62	109	55	104*	67	102*	103*	64	391	66	320	375
68	97*	75	108	81	103	82	105	108	79	413	78	366	432
68	97*	74	105	76	102	83	110	110	80	239	78	205	293
55	106*	64	104	69	102	75	103*	107*	63	248	73	200	258

97	108	97	103	98	105	97	98	97	97	203	92	144	162
62	106	75	102	87	102	76	105#	105#	64	244	84	191	249
71	105*	76	115	83	103	81	99	101	80	209	73	206	182
66	102*	71	107	77	104	75	106	107	75	260	73	232	282
67	98*	73	104	80	102	82	109	109	79	286	76	247	323
66	101	71	101	62	103#	77	103#	107#	77	328	79	248	349
60	108*	67	106	75	103	81	99	104	74	317	72	271	291
62	103*	67	106	67	102*	65	107	108	71	252	72	218	273
61	105*	66	106	62	103*	70	101*	104*	67	281	71	208	257
86	99	89	105	94	103	88	104	111	90	204	89	193	252
68	103*	73	105	77	103	80	103	106	77	279	75	240	287
67	102	77	104	82	103#	78	107#	108#	74	289	84	247	332
67	102*	73	113	78	103	75	99	99	78	253	77	219	211
69	104*	73	109	79	101	82	102	106	79	234	73	211	222
67	104*	74	107	77	105*	72	104	107	66	306	78	241	294
95	101	95	103	98	103	92	107	109	97	221	92	185	266
60	103*	63	115*	54	101	77	108	107	72	216	69	220	247
55	104*	61	111	56	103*	64	102*	107*	62	239	69	228	232
69	101*	74	107	76	102	81	102	107	79	259	76	219	265
62	102*	66	106	58	103*	67	103	104	72	263	71	241	266
63	108*	69	106	76	102*	63	93	94	72	255	73	210	191
63	102*	66	105	64	104	69	109	107	72	347	69	282	365
64	99*	66	103	60	104	71	112	109	73	273	69	223	324
59	98*	63	113	52	100	70	109	109	70	324	71	276	353
64	101*	70	110	76	103*	67	105	105	74	318	74	241	310
59	103*	65	109	71	102*	64	93	100	66	313	69	271	250
68	98	78	105	90	101#	83	112#	110#	76	295	85	207	340
64	107*	70	100	74	101	77	105	107	76	232	75	183	267
65	104*	71	112	77	102*	64	99	104	77	220	74	218	188
71	101*	76	110	83	104	82	106	107	74	236	72	237	274
65	95	71	110#	64	103#	77	106#	107#	76	231	80	217	251
65	102*	70	109	77	100*	67	104	110	74	248	70	237	262
70	105*	75	108	80	100	82	103	103	79	239	77	245	241
58	104*	63	108	57	103*	66	102	103	67	272	70	227	261
62	104*	70	106	76	100	74	104	106	70	217	74	175	222
64	106*	70	105	77	105	76	104	107	75	317	71	249	320

65	107	75	104	83	103#	65	102#	103#	69	202	81	172	205
62	102*	65	102	60	102*	71	108	108	67	255	68	197	288
86	104	89	101	93	104	90	107	109	89	273	88	223	296
57	104*	62	101*	58	102*	65	103*	108*	64	241	68	198	254
60	103*	64	111	58	104*	66	96	100	70	280	71	241	226
67	105*	72	109	78	102*	71	101	103	71	288	73	219	258
60	100*	63	108	55	103*	68	102	104	67	282	67	222	274
64	100*	69	108	71	102	74	106	109	74	279	74	237	284
61	104*	65	106	61	101*	65	102	106	71	223	72	174	216
71	103*	76	105	83	103	78	100	106	78	277	73	238	269
63	104*	67	104	66	104*	69	99	107	71	337	72	246	310
61	103*	66	108	63	104*	66	102	102	70	385	72	287	348
59	104*	66	107	68	103*	68	99*	102*	66	267	72	219	235
66	103*	70	107	72	100	75	101	105	75	250	70	242	238
62	105*	72	107	75	101*	70	102	105	65	428	83	302	393
93	97	95	104	97	103	95	106	108	92	236	91	211	281
91	107	93	103	95	103	93	105	102	92	214	90	150	207
77	103	84	101	91	103#	80	101	102	91	252	88	175	244
63	103*	66	107*	64	100*	71	106*	108*	69	222	70	178	221
63	102*	69	106	72	103	77	105	106	75	256	74	233	279
69	103*	74	104	80	102*	72	102	107	75	332	75	283	325
88	104	91	103	95	101	89	108	110	92	204	91	152	264
66	104*	71	102	78	103	77	104	109	77	319	72	260	325
57	102*	61	105*	57	103	67	99	103	68	194	70	142	172
59	98*	63	112*	53	102	73	107	104	71	354	72	284	344
58	103*	65	115	64	101*	66	92	94	67	317	72	273	236
55	105*	61	113	65	103	72	100	102	68	258	68	246	233
66	97	72	111	75	104	76	107	105	79	304	81	277	333
56	103*	64	106	67	102	72	102*	106*	62	208	72	176	216
67	105*	72	105	77	102	77	97	101	76	218	75	204	196
70	105*	75	104	81	102	78	102	105	79	288	76	203	266
62	102*	67	109	71	102	74	104	102	75	337	71	256	338
67	99*	73	107	76	99	78	114	112	75	204	76	187	271
61	104*	66	106	66	103	71	102	102	72	227	72	195	235
64	104	71	106#	70	104	69	105#	105#	71	221	79	181	214
62	98*	66	101	60	100	74	109	109	75	209	73	149	261

68	107*	74	99	82	103	83	108	104	80	215	74	144	239
62	104*	68	113	71	104*	64	100	104	69	274	73	254	245
69	108*	75	112	82	104	77	94	98	77	217	76	189	139
72	105	80	109	88	99#	74	101#	104#	79	232	83	192	215
60	103*	65	107	61	99*	69	105	109	64	310	68	263	309
58	100*	62	106	55	104*	65	105	104	68	326	70	266	331
61	103*	66	105	61	101*	71	104*	105*	71	254	73	191	260
65	109*	71	104	75	103*	68	102	100	71	235	73	187	222
60	110*	67	101	71	103*	67	106	105	71	250	73	216	271
70	109	76	101	74	102	87	105	106	82	259	84	201	279
56	100*	60	113	57	104*	55	103	102	66	284	68	251	279
93	101	95	110	97	101	95	97	99	93	275	91	230	233
67	103*	74	108	81	102	80	100	105	77	333	84	285	329
61	103*	67	107	69	101*	66	100	105	72	307	73	247	276
55	101*	60	106	54	103*	62	100*	106*	62	224	69	199	213
86	102	89	102	95	102#	82	106	109	90	228	89	173	270
63	102*	67	105*	63	99	73	100	102	68	218	71	182	208
63	100*	69	106	72	101	76	105	104	73	231	74	211	253
61	105*	66	104	68	103*	66	99	98	72	264	72	218	240
58	101*	64	103	66	102	74	98	99	70	252	71	195	234
68	97*	74	119	80	102	78	100	107	78	289	74	298	253
57	101*	62	111	55	101*	64	101	102	66	301	70	235	270
89	98	91	110	93	101	90	103	100	86	303	89	265	303
62	102*	67	110	65	103*	67	102	103	71	315	72	242	282
57	101*	62	106	54	102*	65	100*	110*	64	249	69	204	234
60	103*	63	105	57	102*	69	99*	104*	65	232	69	201	227
69	100*	74	104	82	102	83	107	104	77	294	72	274	320
63	107*	68	104	70	103*	66	103	103	73	320	72	261	313
57	102*	62	101	57	102*	65	103	103	67	243	70	188	245
73	105*	78	101	86	102	81	108	108	81	200	76	162	234
64	103*	71	108	77	101	78	105	108	74	251	75	211	262
68	101*	74	107	81	101	75	109	102	73	261	71	214	273
67	100	76	107	81	101	72	102	103	74	192	82	164	206
64	95	76	105	84	102	74	105	112	76	207	86	189	234
66	102	77	104	87	104	72	103#	105#	65	247	83	189	232
64	100*	70	101	78	101	82	114	114	75	335	72	232	402

60	102*	64	101*	55	101	76	102	106	73	218	72	185	242
58	100*	64	114	67	103	76	106	105	71	248	71	228	258
67	105*	72	113	80	100	76	100	100	76	195	72	195	165
64	105*	69	110	73	101*	72	97	102	74	282	71	248	234
58	98*	63	110	61	101	70	105*	107*	66	235	68	204	244
70	106*	76	109	84	103	83	95	97	80	251	75	224	186
64	103*	67	108	64	99	75	106	113	75	245	69	226	268
70	102*	76	107	79	101	78	101	110	79	296	77	273	285
56	103*	65	106	70	102*	67	98*	103*	64	273	72	220	243
57	103*	63	105	61	101*	68	99*	101*	65	305	70	242	275
63	102*	70	105	75	102	77	103	106	75	276	75	228	266
62	104*	68	104	73	101	74	101	102	73	206	73	177	209
69	109*	76	103	81	105	75	98	99	75	292	79	231	248
64	99*	68	111	69	102*	73	100*	104*	68	205	69	200	187
61	106*	68	108	79	101	80	101	99	74	271	74	249	265
70	102	81	107	91	103	88	96#	97#	67	263	87	188	201
65	99*	71	104	73	101	82	111	111	79	265	76	232	308
57	96*	63	116	62	102*	66	103*	105*	64	304	70	275	287
61	97*	66	113	63	103	77	100	108	72	451	70	392	413
62	99*	67	112	67	101	75	101	101	74	321	73	275	288
57	101*	62	109	54	101*	66	100*	102*	63	275	69	215	247
62	100*	68	108	70	100	78	101	104	72	295	74	243	283
58	100*	63	108	61	102*	68	98*	100*	65	244	67	191	207
73	101*	76	107	83	102	82	102	103	79	205	73	219	207
67	102*	73	106	80	102	81	100	103	78	212	76	163	200
62	102*	66	106	63	101	73	110	109	73	334	72	261	369
69	101*	75	105	79	103	82	108	109	79	248	77	225	289
65	103*	70	105	73	100	76	102	100	73	250	74	198	242
63	101	68	104	61	103	72	110	103	73	191	76	128	219
57	100*	62	109*	57	101*	66	97*	103*	65	252	69	236	222
78	100	83	107	89	102#	82	102#	107#	79	251	82	254	276
67	106*	73	104	79	99	80	107	110	79	259	76	188	280
90	99	89	103	97	103#	83	108#	113#	78	247	88	230	312
62	105*	68	109	78	100*	63	101	104	70	283	70	267	265
70	101*	75	108	78	103	82	101	103	80	248	73	234	236
59	106*	65	106	71	104*	63	99	103	68	229	69	202	209

67	104*	73	105	80	100*	69	102	105	73	238	71	221	257
60	103*	64	103	55	101*	68	102*	108*	66	194	70	181	211
70	99	78	108#	82	103#	80	98#	108#	78	278	81	265	249
62	104	71	108#	76	102	72	102#	104#	65	286	79	218	274
66	100*	73	108	79	102	78	98	103	77	282	76	221	259
64	103*	71	107	76	102	79	102	107	76	246	76	222	230
63	104*	69	105	70	99*	69	103	105	72	212	73	165	210
57	102*	61	105	58	104*	62	98	99	68	276	70	229	249
60	99*	64	105	62	103*	63	107	104	72	275	72	224	303
71	105*	76	105	84	102	84	99	104	79	194	73	195	197
60	100*	64	104	63	102*	64	102	105	71	246	71	216	255
68	103*	74	104	81	101	84	101	99	79	209	76	164	214
63	101*	68	103	69	101*	67	101	103	70	253	69	222	254
62	106*	67	103	72	103	77	96	98	75	283	71	203	238
65	100*	67	112	67	101*	73	97*	102*	73	346	69	300	298
57	103*	65	106	69	102	70	99*	103*	66	239	72	190	207
56	102*	60	106	56	102*	65	98*	102*	64	275	67	222	238
57	103*	62	112	58	101*	66	101*	100*	63	220	70	190	188
62	100*	68	111	70	100*	64	102	100	71	241	74	231	235
74	101*	78	109	85	101	84	101	103	81	211	75	191	188
66	101	76	106	86	100#	75	102#	106#	74	195	84	164	197
62	102*	69	105	74	102	77	105	104	74	202	73	181	218
69	100*	75	99	82	104	81	101	104	77	218	77	168	216
64	100*	67	110*	58	100	72	99	106	74	308	72	271	266
59	96*	65	116	73	103	81	103	103	73	293	71	262	279
61	106*	64	108	59	98*	67	100	104	70	234	68	205	213
67	107*	73	106	81	104	80	97	100	79	308	77	242	268
60	103*	66	105	66	101*	68	104	106	69	225	72	199	228
69	102	79	103	88	100	85	100	108	80	275	87	228	251
59	100*	63	103	59	103*	67	104	109	67	301	68	224	302
65	105	79	103	96	101	74	107#	110#	69	291	87	232	310
59	103*	64	103	65	101*	69	101*	104*	65	248	68	203	233
57	106*	63	103	62	100*	63	99	103	67	237	71	186	219
62	104*	67	101	70	101	78	104	107	74	202	73	183	216
57	101*	61	107*	53	100*	63	96	106	68	307	69	279	277
61	105*	68	112	75	101	78	100	99	74	293	73	273	259

60	101*	66	112	75	99	80	100	99	72	196	73	209	171
60	105*	67	109	72	105*	66	103	101	71	262	73	212	250
68	102*	73	107	78	102	75	104	107	76	226	75	209	245
94	101	94	103	97	100	88	103	103	89	243	90	174	258
68	98*	73	117	81	101	80	102	102	75	293	76	266	272
61	104*	67	115	69	101	65	95	100	72	289	73	251	232
55	99*	63	113	63	101*	63	99*	100*	61	226	71	199	193
57	100*	62	111	57	103*	63	97	102	67	302	70	288	269
58	106*	63	108	58	102*	64	99	102	67	236	70	187	190
70	99*	75	105	83	102	82	104	104	79	200	73	156	199
68	101*	74	105	82	104	79	106	104	74	222	74	153	232
66	103*	72	101	80	104	78	103	101	75	224	73	179	215
66	103*	72	100	83	100	82	110	112	76	249	72	182	291
70	98*	75	112	83	102	84	102	107	81	246	73	221	227
62	106*	69	111	77	100*	67	98	99	72	285	74	241	231
60	101	68	108#	63	98	65	101#	100#	69	286	78	226	250
67	100	77	108	89	103	72	104#	106#	72	208	84	207	230
70	102*	76	105	78	103*	75	99	102	74	223	79	191	200
59	103*	67	103	75	103*	64	100	102	64	225	73	192	233
97	102	98	102	99	104	98	102	96	95	227	92	159	206
68	104	73	101	67	103	79	104	98	75	287	78	211	273
62	103*	66	106*	60	102	71	100	101	73	253	72	178	232
60	103*	65	111	72	98	80	102	98	74	237	72	185	219
69	96*	73	108	72	101	76	105	104	77	268	75	245	290
65	103*	71	106	77	100*	72	99	103	71	234	71	201	206
65	97*	70	105	73	102	79	105	113	77	211	72	214	239
95	98	96	104	98	105	95	107	102	93	230	92	186	266
72	105	78	104#	82	103#	82	99#	100#	77	260	81	225	237
96	99	96	102	98	103	95	102	106	97	198	92	141	203
98	103	98	99	99	105	98	108	109	97	252	93	166	275
55	103*	60	104*	56	104*	66	98*	102*	64	259	68	194	238
63	101*	68	107	68	100	74	103	106	73	205	73	175	220
61	108*	66	106	68	102*	66	100	101	73	240	73	179	214
63	99*	65	105	61	100*	69	100*	100*	75	314	69	262	301
57	97*	62	103	57	101*	64	105	108	67	263	70	248	292
59	103*	64	111	69	103	77	99	98	72	263	71	226	227

98	98	98	108	99	102	96	101	104	98	206	93	182	192
85	99	89	106	92	101	91	96	101	91	305	89	252	262
69	101*	74	105	81	102	79	103	106	80	288	74	234	291
64	105*	69	102	73	102	71	103	99	78	205	71	154	199
69	104*	74	101	80	100	83	104	104	80	267	77	207	278
62	100*	68	108	71	104	72	102	105	72	233	73	200	234
67	98	74	106	74	104	76	106	108	71	219	81	207	248
84	100	86	103	92	100#	84	104	109	86	201	86	162	222
62	98*	67	111	69	102*	65	105	107	73	291	73	259	303
60	100*	64	109	62	100	69	97	99	71	266	71	236	220
65	105	70	99	61	106	74	103	107	73	366	78	232	345
56	102*	60	113	52	98*	63	101	106	66	267	69	255	251
73	97	82	112	92	100#	81	102#	99#	78	240	86	178	180
65	98*	70	107	68	102	78	100	103	76	291	74	254	263
63	106*	68	107	70	102*	62	97	101	75	248	70	231	213
68	99	74	104	71	103	78	102	107	80	307	81	241	304
68	100*	74	108	81	103	78	100	105	77	231	76	192	209
61	101*	65	107	59	100*	66	99	105	70	240	71	218	217
66	96*	72	107	73	103	78	99	102	76	209	75	192	193
65	103*	71	106	75	102	70	99	101	75	271	75	227	256
67	104	71	105	60	104	78	103	97	79	332	80	225	299
76	101*	80	105*	85	101	79	102	104	80	213	80	205	217
71	105	77	105	78	97	84	102	106	85	305	85	212	264
72	107	81	103	91	100#	73	95#	96#	80	227	85	161	168
67	104*	73	109	81	99	83	103	102	77	214	76	191	203
61	101*	64	102	59	102*	67	99*	104*	71	259	68	187	247
58	95*	62	108	57	101*	68	105*	107*	69	277	68	223	279
73	102	80	106	86	101	89	101	98	88	198	87	147	191
69	102*	75	106	80	101	81	103	102	78	237	76	208	236
96	100	97	104	98	102	96	97	106	95	260	92	211	233
64	100	68	104	64	100	74	104	103	68	261	72	180	246
60	103*	66	111	76	101	80	98	102	73	273	72	241	246
62	98*	65	105	63	100	74	112	111	76	274	73	211	315
60	99*	65	104	65	102*	61	102	105	69	286	71	219	274
64	100	68	109	64	103	73	102	102	69	231	73	213	213
63	100*	68	107	66	100*	66	100	104	72	299	72	246	261

57	104*	61	103*	54	104*	63	100	101	67	221	69	188	217
69	102	76	112	80	100#	80	101#	98#	74	195	80	183	178
71	102*	76	106	83	102	82	98	103	80	238	73	223	227
60	103*	66	104	70	102*	69	106	107	68	326	69	252	330
68	103*	74	108	81	102	80	97	104	79	281	77	225	240
62	98*	68	106	70	102	79	103	105	74	320	74	256	326
91	96	92	105	95	103	93	107	104	91	231	90	195	260
80	103	84	104	88	104	80	98	106	78	213	84	172	177
68	102	73	108	61	101	74	96	110	83	209	82	199	199
68	100*	74	112	81	99	82	99	96	76	274	76	251	226
66	97*	72	111	77	100*	69	104	100	77	268	76	228	252
62	100*	68	109	77	102	79	97	95	71	327	71	273	274
70	98*	74	105	81	100	83	104	99	80	291	73	221	296
57	96*	61	107*	55	102	65	100	103	65	297	69	250	277
95	96	96	109	98	100	96	105	101	89	238	91	188	232
59	99*	65	107	68	100*	65	95	100	69	276	69	237	224
74	99	82	106	84	102	82	100	102	84	321	88	212	288
60	101*	65	105	61	103*	66	99	104	70	230	71	172	204
69	98*	76	102	79	102*	73	102	101	74	267	80	196	262
69	100*	75	102	83	100	82	106	107	79	283	77	215	279
57	101*	61	106	55	102*	62	98	105	68	198	70	165	182
89	103	94	106	98	101	98	103	100	98	235	93	166	209
60	97*	64	105	61	102*	65	105	108	71	211	71	188	241
68	102	74	103	72	104	82	104	102	80	238	83	159	229
60	100*	66	114	70	101	69	100	97	71	192	70	154	148
63	97	70	108	69	101	73	105	100	69	320	78	233	306
68	103*	73	111	80	100	81	96	99	74	213	74	197	170
63	102*	69	107	74	100	79	98	102	74	217	74	210	199
93	101	94	100	97	98	93	104	103	89	289	90	199	295
66	100*	71	105	78	101	80	103	102	72	241	71	221	231
67	102*	71	113	78	100	80	97	98	73	232	71	229	191
57	102*	61	103	56	101*	61	96	104	68	197	70	181	180
65	103	70	98	65	101	75	100	103	69	242	75	167	224
69	95*	74	108	81	101	80	101	102	77	255	73	221	254
78	96	83	106	88	99	75	112	111	83	231	85	172	272
76	103	84	96	92	103	93	97	99	90	198	90	191	172

87	98	89	108	92	101	88	98	100	83	243	87	185	196
69	101*	74	107	81	100	83	99	96	76	219	76	144	172
66	106	77	105	93	103#	80	101#	92#	72	226	86	114	190
63	98*	70	104	77	101*	65	101	105	71	238	74	213	229
86	103	92	108	96	103	96	99	99	95	258	92	171	190
84	103	88	103	94	100	91	94#	104#	76	228	88	157	169
64	99	72	104	71	100	83	102	105	66	263	79	212	263
60	102*	66	102	70	100	78	93	102	73	203	72	163	156
66	102*	72	100	79	100	75	101	102	71	226	70	169	203
74	104	81	104	86	102	89	101	103	86	309	86	218	278
98	99	97	106	99	100	96	100	98	96	194	92	132	170
66	100*	72	106	79	100	80	103	105	75	260	75	226	258
58	103*	63	110	65	101	75	97	102	70	287	71	251	234
71	99*	76	105	83	98	83	101	100	78	191	76	150	169
85	92	87	102	91	100	86	115	105	82	236	86	173	293

Good Bulls Guide for Holstein - Mastitis Resistance

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Cell Count	
							CC	Rel
1	0200HO10610	WESTCOAST WINDMILL	A22,,BL,F,C,VF	g	I	SEM	212	83
2	14HO07848	PEAK ACELENHANCE	A12	g	I	WWS	204	71
3	14H07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	204	84
4	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	195	84
5	011HO11531	BOMAZ ALTASABRE	A22,,CV,F,B,LF,	g	I	ALT	194	84
6	LOTTIEDA	ROCKING-P GRAF LOTTIE DA-ET		g	I	AGR	192	84
7	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	191	97
8	0200HO10777	WESTCOAST PERSEUS	A22,,CV,F,B,LF	g	I	SEM	190	80
9	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	189	98
10	7HO12788	MELARRY JOSUPER FRAZZLED	A22	g	I	WWS	189	84
11	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	188	69
12	29HO17334	WILDER HAMLET	A22	g	I	ABS	188	74
13	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	187	82
14	0200HO10296	PROGENESIS DOC	A22	g	I	SEM	186	77
15	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	186	82
16	GGISINGER	SINGER		g	I	GGI	186	81
17	CBBILL	COGENT BILL		g	I	SXT	186	81
18	0200HO10641	WESTCOAST RANDALL	A12	g	I	SEM	184	85
19	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	184	95
20	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	184	81
21	AGRONAUT	MR RUBI AGRONAUT 73287		g	I	AGR	182	77
22	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	181	82
23	CBPRIZIM	DUPASQUIER PRIZIM	A22	g	A	SXT	181#	87
24	BENTLEY	EDG DOOR BENTLEY 8386-ET	A12	g	I	AGR	181	86
25	JSSALVATORE	MR. SALVATORE - ET	A11	g	I	GAC	181	84
26	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	180	76
27	CBDREAMER	WILTOR DREAMER		g	A	SXT	180	92
28	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	179	98

29	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	179	91
30	94HO0895	MR ANSLY ADDICTION-P-ET	A12,,PO,C	g	A	ABS	178	90
31	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	178	74
32	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	178	78
33	GGIAPPEAL	APPEAL	BLC,,CN,C,C,VC,	g	I	GGI	178	81
34	CRVFINDER	BOUW FINDER		g	I	CRV	178	84
35	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	177	79
36	GGIBRENTANO	BRENTANO	A22	g	I	GAC	177	82
37	07HO12978	LEANINGHOUSE HELIX 22137	A22	g	I	GAC	177	75
38	29HO17500	DG CHARLEY	A12	g	I	ABS	177	84
39	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	177	75
40	011HO11762	BUTLerview ALTARINGER		g	I	ALT	176	74
41	7HO12571	DE-SU HEINZ 12342	A12,,BL,F,C,VF,	g	I	WWS	176	84
42	DELISHDION	MR MOGUL DION 15008 - ET		g	I	AGR	176	83
43	29HO18018	SEAGULL-BAY JO DANCER-ET	A11	g	I	ABS	176	89
44	CRVEASTON	PEAK EASTON	A22	g	I	CRV	176	78
45	GGISANTA	SANTACLUS		g	I	GGI	175	78
46	CRVREMINDER	WD REMINDER		g	I	CRV	175	82
47	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	175	93
48	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	175	72
49	011HO11803	PEAK ALTAEXTRA-ET	A22	g	I	ALT	174	81
50	CRAMADEUS	BOMAZ EMRLD AMADEUS		g	I	AGR	173	83
51	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	173	87
52	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	173	79
53	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	173	80
54	7HO12724	T-SPRUCE SUPRSHT WIGGINS	A22	g	I	WWS	173	81
55	0200HO10660	STANTONS ADORABLE	CVF,,BL,F,A,12	g	I	SEM	173	81
56	29HO18136	DE-SU 12925 KEENAN	A11	g	I	ABS	172	79
57	GGICOVER	COVER	A22	g	I	GGI	172	82
58	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	172	81
59	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,,BL,F,C,VF	g	I	SEM	172	81
60	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	172	80
61	0200HO02942	SILVERRIDGE ALBUM	BLF,,CV,F,A,22	g	I	SEM	172	85
62	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,,CV,F,B,LF	g	I	SEM	172	83
63	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	171	89
64	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	171	83

65	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	171	97
66	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	171	84
67	GGIBORN	WIL BORN RDC PO	A22,,RD,C,C,VF	g	I	GGI	171	71
68	250HO12975	SANDY-VALLEY J PHARO-ET	A22	g	I	WWS	171	81
69	7HO13551	S-S-I HEINZ AMAZING	A22	g	I	WWS	170	78
70	011HO11478	DE-SU ALTALEAF	A11,,BL,F,C,VF	g	I	ALT	170	88
71	14HO07800	AOT SILVER HITEST 5945	A22	g	I	WWS	170	85
72	CRVEMPIRE	WEELDER EMPIRE	A22	g	I	CRV	170	76
73	7HO12942	BLUMENFELD JEDI RESOLVE-ET	A11	g	I	WWS	170	80
74	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	170	94
75	STCHIEF	STANTONS CHIEF-ET		g	I	AGR	170	86
76	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	170	84
77	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	170	98
78	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	169	89
79	7HO13559	S-S-I HOTSHOT SNAZZY-ET	A11	g	I	WWS	169	74
80	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	169	79
81	011HO11778	BOMAZ ALTAROBSON	A22,,CV,F,B,LF,	g	I	ALT	169	81
82	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	169	74
83	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	169	91
84	7HO12941	BLUMENFELD JEDI REASON-ET	A12	g	I	WWS	169	77
85	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,,BL,F,C,VF,	g	I	ALT	168	86
86	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,,BL,F,A,22	g	I	CRV	168	84
87	DELTALAMBDA	FARNEAR DELTA LAMBDA-ET	A12	g	I	AGR	168	83
88	ROZWELL	SIEMERS KINGBOY ROZWELL-ET		g	I	WWS	168	81
89	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	168	83
90	CRVENDURE	WEELDER ENDURANCE		g	I	CRV	168	75
91	STGJOLT	FARNEAR TBR DELTA-JOLT-ET		g	I	SXT	167	75
92	7HO13907	CLEAR-ECHO JED JARED 745-ET	A12	g	I	WWS	167	72
93	AVENGER	CO-OP AVENGER	A12	g	I	AGR	167	85
94	0200HO10411	CLAYNOOK DEALMAKER	A12,,BL,F,C,VF	g	I	SEM	167	80
95	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	166	91
96	0200HO10549	SILVERRIDGE V EUGENIO	A22	g	I	SEM	166	84
97	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	166	79
98	7HO12773	LARCREST KENOSHA		g	I	WWS	166	83
99	29HO18527	SANDY-VALLEY RORDAN-ET	A12	g	I	ABS	166	72
100	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	166	82

101	CBTIMBER	ALEXERIN HIGH OCTANE TIMBER		g	I	SXT	165	72
102	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	165	81
103	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	165	84
104	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	165	83
105	7HO13680	S-S-I LA JEDI RISEN STAR-ET	A22	g	I	WWS	165	73
106	011HO11745	MELARRY ALTASNAPSHOT-ET	A11	g	I	ALT	165	82
107	ZEPHIR	BLUMENFELD DAMARIS ZEPHIR - ET	A12	g	I	AGR	165	70
108	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,,CN,F,C,VF	g	A	GAC	165	97
109	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	165	86
110	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	165	78
111	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	165	84
112	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	164	88
113	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	164	92
114	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	164	76
115	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	164	89
116	011HO11826	PEAK ALTALOBELLO	A12	g	I	ALT	164	84
117	7HO12837	OCD JOSUPER ZAMBONI	A22	g	I	WWS	164	82
118	29HO18339	MATCREST CHAMBER-ET	A12	g	I	ABS	164	72
119	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	163	84
120	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	163	81
121	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	163	70
122	0200HO06617	BOLDI V ACTOR		g	I	SEM	163	81
123	CRVCUPIDO	DELTA CUPIDO	A12,,CV,F	g	I	CRV	163	84
124	0200HO10755	WESTCOAST GALAHAD	A11,,BL,F,C,VF	g	I	SEM	163	80
125	7HO12212	DE-SU SS HONEYBEE 11569	A22,,BL,F,C,NF,	g	A	WWS	162	98
126	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	162	86
127	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	162	74
128	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	162	77
129	29HO18294	ABS MOONGLOW-ET	A12	g	I	ABS	162	82
130	STGREVIVAL	VOGUE REVIVAL-RED-ET	RDC	g	I	SXT	162	69
131	7HO12949	SIEMERS MODESTY M-BOOM-ET		g	I	WWS	162	78
132	STGRUBIFIRE	ST GEN RUBI-FIRE 61432-ET		g	I	SXT	162	75
133	TABASCO	WEIGELINE JACEY TABASCO-ET	A22	g	I	AGR	162	86
134	011HO11767	RAKEN ALTACONCORD	A12	g	I	ALT	162	76
135	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	162	79
136	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	162	86

137	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	162	98
138	29HO18508	ABS JOHNSTOWN-ET	A12	g	I	ABS	161	69
139	011HO11900	IHG MAXIMUS		g	I	ALT	161	75
140	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	161	81
141	14HO07303	LE-O-LA MOGUL GAMBLER	A22,,BL,F,C,NF,	g	A	WWS	161	99
142	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	161	83
143	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	161	70
144	7HO13827	WILRA HANGT HARVARD 1098-ET	A22	g	I	WWS	161	74
145	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	161	83
146	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	161	79
147	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	160	93
148	7HO12898	OCD SUPERSRING	A22	g	I	WWS	160	80
149	0200HO10852	SANDY-VALLEY ICARUS	A22	g	I	SEM	160	75
150	STGNIGHTSKY	MR SPRING NIGHT -ET	A22	g	I	SXT	160	75
151	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	160	85
152	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	160	80
153	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,,BL,F	g	A	ALT	159	96
154	TETHRA	CO-OP AARDEMA TETHRA-ET	A22	g	I	AGR	159	80
155	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	159	98
156	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	159	96
157	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	159	79
158	250HO12879	MAPEL WOOD LIGHT MY FIRE	A12	g	I	WWS	159	84
159	29HO16700	LADYS-MANOR LAMAR-ET	A12	g	I	ABS	159	88
160	0200HO10794	PROGENESIS BENJAMIN	A12	g	I	SEM	159	72
161	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	158	73
162	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	158	98
163	GGIPALETTI	PALETTI PP	A12,,PO,S	g	I	GAC	158	74
164	011HO11829	PEAK ALTAVAUULT P-ET	A12	g	I	ALT	158	77
165	29HO18296	ABS ACHIEVER-ET	A22	g	I	ABS	158	82
166	GGIFERRARI	FERRARI		g	I	GGI	158	83
167	29HO18035	BOMAZ HOLOGRAM-P-ET	A12,,PO,C	g	I	ABS	158	83
168	7HO13598	S-S-I MODESTY PINNACLE-ET	A11	g	I	WWS	157	79
169	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	157	77
170	STGDELTAETA	ST GEN DELTA-ETA 67481-ET	A22	g	I	SXT	157	76
171	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	157	96
172	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	157	83

173	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	157	82
174	14HO07801	AOT HAROLDO	A22	g	I	WWS	157	82
175	0200HO10220	LEOTHE DARK VADOR	A22,,CV,F,B,LF	g	A	SEM	157	88
176	7HO13866	OCD FRANCHISE RIO-ET	A22	g	I	WWS	157	75
177	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	157	78
178	0200HO10038	SANDY-VALLEY EMERO	A22,,BL,F,C,VF	g	A	SEM	157	93
179	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,,RD,C	g	I	CRV	156	86
180	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	156	93
181	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	156	79
182	011HO11725	PEAK ALTAAMULET	A22,,BL,F,C,VF	g	I	ALT	156	83
183	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	156	80
184	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	156	80
185	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	156	89
186	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	156	80
187	14HO13603	S-S-I JEDI JABARI-ET	A12	g	I	WWS	156	77
188	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	155	73
189	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	155	80
190	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,,RD,C	g	I	ABS	155	82
191	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	155	99
192	STGDOIT	MR KB DO IT 54947	A22	g	I	AGR	155	72
193	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	155	83
194	STGNIGHTHAWK	MR SPRING NIGHTHAWK-ET	A12	g	I	SXT	155	70
195	CRVESPERANTO	WEELDER ESPERANTO	A22	g	I	CRV	155	77
196	011HO00582	SCHREUR ALTAUP	A22,,BL,F,C,VF,	g	I	ALT	155	80
197	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	154	98
198	7HO12814	SEAGULL-BAY TRUE PP	POS,,A2,2	g	I	WWS	154	77
199	250HO13267	S-S-I MONTROSS DUKE		g	I	WWS	154	86
200	FOMO	BUNDALONG HALOGEN PRINCE	A12	g	A	GAC	154	76
201	011HO11720	PEAK ALTAFLYWHEEL	A11,,BL,F,C,VF	g	I	ALT	154	86
202	29HO18545	CAL-ROY-AL YODA-ET	A12	g	I	ABS	154	72
203	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	154	75
204	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	154	90
205	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	154	95
206	CRVESTEFANO	ETAZON STEFANO	A12	g	I	CRV	154	79
207	DEREK	WARRAMONT KINGBOY DEREK-ET	A22	g	A	GAC	154	75
208	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	153	86

209	0200HO10598	CALBRETT SOLSTICE	A22,,BL,F,C,VF	g	I	SEM	153	74
210	14HO07842	FLY-HIGHER BAYO MAYO	A22	g	I	WWS	153	74
211	14HO07851	AOT JUMP HODOR	A22	g	I	WWS	153	75
212	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	153	76
213	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	153	88
214	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	153	82
215	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	153	90
216	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	152	81
217	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	152	80
218	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	152	76
219	CBLEGO	VOGUE LEGO		g	I	SXT	152	74
220	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	152	81
221	0200HO10857	STANTONS GALORE	A12	g	I	SEM	152	78
222	STGBETA	FARNEAR DELTA-BETA 241-ET		g	I	SXT	151	79
223	29HO18343	ABS MEDLEY-ET	A22	g	I	ABS	151	79
224	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	151	98
225	7HO12993	COOKIECUTTER HUMBLENKIND-ET	A22	g	I	WWS	151	73
226	AIAPPLEPIE	APPLE PIE RED	RDC	g	I	SXT	151	80
227	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	151	89
228	29HO18066	ABS DANNER-P-ET	A22,,PO,C	g	I	ABS	151	78
229	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	151	84
230	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	151	82
231	STGCHANCE	EDG DELTA-CHANCE-ET		g	I	SXT	151	75
232	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	151	98
233	29HO18161	MR SEAGULL-BAY SANDAL-ET	A12	g	I	ABS	151	76
234	GATLIN	MAPLEHURST SLVR GATLIN-ET		g	I	AGR	151	75
235	CRMAGNUS	WET TUFFENUFF MAGNUS		g	I	AGR	151	83
236	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	150	86
237	VIKROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	150	82
238	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	150	83
239	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	150	73
240	29HO18492	MORNINGVIEW 267 MONROE-ET	A22	g	I	ABS	150	70
241	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	150	79
242	0200HO06530	EDG SKATEBOARD	A22,,BL,F,C,VF	g	I	SEM	150	84
243	CBLOTTACCLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	150	88
244	14HO07872	CLEAR-ECHO MODIFY-ET	A22	g	I	WWS	150	74

245	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	150	86
246	29HO18110	IHG ABS JERICO-ET	A22	g	I	ABS	149	83
247	MAINSTREET	GLOMAR WALLSTREET	CNF,,CV,F,A,22	g	A	GAC	149	95
248	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	149	78
249	OUTLAST	REGANCREST OUTLAST PP-ET	POS,,A1,2	g	I	GAC	149	76
250	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	149	89
251	VIKHSTORM	VH SPRITE STORM		g	I	VIK	149	81
252	7HO13696	SSI SCENARIO LORD	A22	g	I	GAC	149	76
253	0200HO10383	LADYS-MANOR LUXUS	A12,,BL,F,C,VF	g	I	SEM	149	87
254	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	149	82
255	0200HO07450	AMIGHETTI NUMERO UNO	BLF,,CV,F,A,12	g	A	SEM	148	99
256	7HO12999	WELCOME-TEL BRENNAN 3158-ET	A11	g	I	WWS	148	78
257	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	148	85
258	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	148	80
259	011HO11827	PEAK ALTAMIGHTY P-ET	A12,,PO,C	g	I	ALT	148	75
260	GILES	WILARA JOSUPER JO-ET	A22	g	A	GAC	148	84
261	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	147	80
262	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	147	80
263	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	147	91
264	011HO11608	DF ALTAPARISIAN	A12,,BL,F,C,VF	g	I	ALT	147	85
265	011HO11682	PEAK ALTAFUNKY	A22,,CN,F,B,LF	g	I	ALT	146	82
266	0200HO10229	VELTHUIS B FORCE	A22,,CV,F,B,LF	g	I	SEM	146	79
267	29HO18589	TRIPLECROWN PONTIFF-ET	A12	g	I	ABS	146	71
268	7HO12876	RI-VAL-RE POWER TOOL-P	POC,,A1,2	g	I	WWS	146	80
269	29HO17947	ABS ROWDY	A11	g	I	ABS	146	82
270	POINTP	POINT P	POC	g	I	AGR	146	80
271	29HO17709	DE-SU 12147 ALLSTAR-ET	A22	g	I	ABS	146	84
272	GGIFIREMAN	GGI - FIREMAN	RDC	g	I	GGI	146	83
273	250HO01131	DELABERGE SALT	A22	g	A	WWS	146	98
274	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	145	93
275	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	145	97
276	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	145	84
277	CBMRGREY	PEAK MR GREY		g	I	SXT	145	86
278	AIBLOOPER	DG ALBERO BLOOPER	A22	g	I	SXT	145	77
279	COGENTTWIST	COGENT TWIST	A22,,CV,F,B,LF	g	A	SXT	145	99
280	GGIPOPSTAR	VEKIS POPSTAR	POC,,RD,C,A,22	g	I	GGI	145	81

281	011HO11463	T-SPRUCE ALTAARN	BLF,,CV,F,D,PF	g	A	ALT	145#	90
282	29HO17318	ABS POLDARK-PP	A22,,PO,S,R,DC	g	A	ABS	145	85
283	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	144	79
284	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	144	79
285	29HO18287	SPRUCE-HAVEN MORDY-ET	A12	g	I	ABS	144	73
286	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	144	99
287	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	144	81
288	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,,A1,1	g	A	ABS	144	89
289	0200HO10708	PROGENESIS AVATAR	A22	g	I	SEM	144	80
290	7HO13035	S-S-I SUPERSIRE MODESTO-ET	A12	g	I	GAC	144	85
291	011HO11939	ALTAMELVIN		g	I	ALT	144	75
292	VERMOUTH	CARENDA VERMOUTH 394	A22	g	A	GAC	143	83
293	011HO11813	PEAK ALTATOOHOT	A12,,BL,F,C,VF	g	I	ALT	143	84
294	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	143	92
295	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,,PO,C	g	I	AGR	143	82
296	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	143	76
297	GGISEMINO	SEMINO	A22	g	I	GAC	143	75
298	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,,PO,C	g	I	ABS	143	80
299	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	143	88
300	29HO18510	ABS ELDRIDGE-ET	A12	g	I	ABS	143	68
301	250HO12961	WOODCREST KING DOC	A12	g	I	WWS	143	82
302	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	143	78
303	0200HO10366	BENNER BARDO	BLF,,CV,F,A,22	g	A	SEM	143	97
304	0200HO10779	PROGENESIS COSMIC	A22	g	I	SEM	143	72
305	GOLDMILL	PURNIM MILLARD BIOGOLDMILL	A12	g	A	GAC	143	83
306	GGIBASEMENT	BASEMENT	A22	g	I	GAC	143	81
307	29HO18208	DE-SU 13050 SPECTRE-ET	A22	g	I	ABS	142	81
308	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	142	97
309	RUSSIAN	EDG UNO RUSSIAN-ET	A12	g	I	AGR	142	87
310	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	142	97
311	NEWSLANG	ADLEJAMA DIMAGGIO JARGON-ET	A22	g	A	GAC	142	75
312	011HO11707	PEAK LC ALTACORDIAL	A22,,BL,F,C,VF	g	I	ALT	142	85
313	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	141	85
314	011HO11630	PEAK ALTAMORENO	A22,,BL,F,C,VF	g	I	ALT	141	82
315	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	141	76
316	7HO13628	S-S-I MODESTY PIZAZZ-ET	A11	g	I	WWS	141	77

317	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	141	83
318	OHGFAMOUS	FAMOUS - ET	BLF,,CV,F,A,12	g	I	AGR	141	86
319	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	141	76
320	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	141	83
321	7HO13244	S-S-I GREENWAY CREED-ET	A22	g	I	GAC	140	80
322	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	140	91
323	7HO13693	S-S-I FRANCHISE BENZ-ET	A22	g	I	WWS	140	70
324	29HO18238	MORNINGVIEW MUSCATINE-ET	A12	g	I	ABS	140	82
325	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	140	77
326	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	140	84
327	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	140	77
328	0200HO10569	IHG GEOGRAPHY-ET	A22,,BL,F,C,VF	g	A	SEM	140	95
329	CANJAM	CALISTER CANJAM 143-ET	A22	g	A	GAC	140	78
330	011HO11652	WESSELCREST ALTALAMBEAU-ET		g	I	ALT	140	84
331	94HO18466	OCD MONTEREY ZION-ET	A12	g	I	ABS	140	74
332	7HO13740	PROGENESIS MODEST ROLAN 512	A11	g	I	WWS	139	73
333	07HO12951	SIEMERS MODESTY HAIL-ET	A22	g	I	GAC	139	74
334	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	139	81
335	011HO11999	PEAK ALTANAMATH-ET	A12	g	I	ALT	139	69
336	CRVHOTLINE	PEAK HOTLINE	A22	g	I	CRV	139	83
337	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	139	94
338	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	139	77
339	011HO11821	PEAK ALTAFOREVER	A12,,BL,F,C,VF	g	I	ALT	138	82
340	CRVFARRELL	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	138	84
341	14HO07798	AOT MONTEREY HAMMERTIME	A12	g	I	WWS	138	82
342	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	138	83
343	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	138	82
344	CLASHP	ANDERSTRUP CLASH	A22,,PO,C	g	I	GAC	137	82
345	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	137	95
346	GATEDANCER	TRIPLECROWN GATEDANCER - ET	A22	g	I	AGR	137	82
347	7HO12602	COOKIECUTTER HANG-TIME	A22	g	I	WWS	137	86
348	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	137	82
349	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	136	90
350	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,,PO,C	g	A	ABS	136	90
351	29HO17344	GIN AMOUR	A22	g	I	ABS	136	76
352	GGIMONARCH	MONARCH		g	I	GGI	136	81

353	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	135	82
354	14HO07811	PEAK ACCELRENOWN	A22	g	I	WWS	135	83
355	GGISILVESTRE	SILVESTRE	BLC,,CN,C,C,VC,	g	I	GGI	135	79
356	7HO13251	S-S-I MONTROSS JETT-ET	A12	g	I	GAC	135	85
357	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	134	84
358	14HO07770	AOT SILVER HELIX		g	I	WWS	134	84
359	STGHONDO	MR DDS MT HONDO 54778-ET		g	I	SXT	133	79
360	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	133	99
361	MCAPPLE	CHILDERS COVE ANNIEDALE MCAPPLE-IMP-ET	CVC	g	A	AGR	133	92
362	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	133	80
363	0200HO10222	LINDENRIGHT MEGAWATT	BLF,,CV,F,A,22	g	I	SEM	133	84
364	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,,CV,F,D,PF	g	A	ALT	133	94
365	DJANGO	WARRAMONT DEMPSEY DAWSON-ET	A12	g	A	GAC	132	80
366	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	132	84
367	7HO12787	PLAIN-KNOLL KING ROYAL	A22	g	I	WWS	131	85
368	RAZ	CARENDA RAZ	A22	g	A	GAC	131	81
369	CRVFOXTROTP	DELTA FOXTROT P	POC	g	I	CRV	131	84
370	7HO12266	WOODCREST MOGUL YODER-ET		g	I	WWS	131	84
371	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,,BL,F,D,PF	g	A	ALT	131	93
372	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	130	93
373	14HO07328	COASTAL-VIEW MOOKIE	A22,,BL,F,C,VF,	g	A	WWS	130	98
374	29HO18285	PINE-TREE SPLENDID-P-ET	A22,,PO,C,R,DC	g	I	ABS	130	76
375	AIELDORADO	DG ALBERO ELDORADO		g	I	SXT	129	85
376	GGIFERRO	FERRO	BLC,,CN,C,C,VC,	g	I	GGI	129	81
377	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	129	93



Daughter Fertility		Workability		Conformation Traits			Indices			
Dtr Fert	Rel	Milk Spd	Rel	Over Type	Mam Syst	Type Rel	BPI \$	BPI Rel	HWI	TWI
103	75	94	81	110	110	77	312	75	265	354
105	61	100*	69	100*	100*	75	314	69	262	301
108	69	102	83	108	108	81	364	72	325	385
111	78	97	77	100	103	75	274	75	246	261
107	81	101	75	109	102	73	261	71	214	273
105	80	102*	69	102	105	73	238	71	221	257
110	93	101	90	103	100	86	303	89	265	303
113	63	102	77	100	108	72	451	70	392	413
103	98	95	92	107	109	97	221	92	185	266
102	79	98*	68	102	101	76	233	75	209	232
112	67	102*	73	97*	102*	73	346	69	300	298
105	64	101	69	109	107	72	347	69	282	365
106	70	101	71	109	111	75	199	74	200	245
103	65	101*	69	101*	104*	65	248	68	203	233
106	72	100	77	105	106	75	256	74	233	279
102	71	97	73	105	104	73	287	73	234	290
105	81	100	83	104	99	80	291	73	221	296
104	73	99	82	111	111	79	265	76	232	308
108	74	101	83	106	102	87	354	86	281	358
111	71	100*	65	105	103	70	304	73	280	293
103	62	102*	67	108	110	65	296	68	281	338
113	80	102	76	100	100	76	195	72	195	165
101	62	102#	77	103#	107#	77	328	79	248	349
105	79	99	82	108	109	79	248	77	225	289
104	77	97	79	108	106	77	211	75	187	244
106	55	102*	65	105	104	68	326	70	266	331
111#	82	101#	83	106#	105#	80	276	84	230	296
108	97	98	91	104	102	93	271	91	240	273

105	78	94	84	102	106	85	305	85	212	264
107	89	104#	82	102#	107#	79	251	82	254	276
109	56	99*	65	104*	103*	63	253	69	229	264
109	69	102*	72	101*	103*	65	213	69	187	196
106	72	102	76	105	104	73	231	74	211	253
104	81	100	84	101	99	79	209	76	164	214
112	67	103	75	101	101	74	321	73	275	288
104	82	105	83	107	104	77	294	72	274	320
108	52	102*	63	103*	107*	60	326	68	278	325
108	78	98	82	101	103	80	248	73	234	236
107	61	101*	69	105	109	64	310	68	263	309
110	61	100	70	105*	107*	66	235	68	204	244
119	80	103	78	100	107	78	289	74	298	253
104	80	103*	72	102	107	75	332	75	283	325
103	81	103	75	98	99	75	292	79	231	248
106*	62	102*	70	105	103	70	309	71	251	316
106	66	99	71	102	102	72	227	72	195	235
107	74	94	79	98	102	74	217	74	210	199
107	85	105	87	109	112	87	317	87	294	354
109	55	102*	67	102*	103*	64	391	66	320	375
104	68	102*	66	99	98	72	264	72	218	240
103	75	101*	64	100	102	64	225	73	192	233
106	74	99	76	106	108	71	219	81	207	248
106	58	104*	67	103	104	72	263	71	241	266
113	59	101*	68	104*	106*	65	327	71	297	329
103	68	100*	67	110	106	73	319	73	258	355
107	72	102	81	110	107	79	325	72	272	370
104	66	102*	69	99	107	71	337	72	246	310
105	77	100	80	103	106	77	279	75	240	287
110	73	99*	72	97	102	74	282	71	248	234
106	70	103	79	103	105	74	320	74	256	326
110	69	102	74	101	100	74	263	70	236	252
109	85	99	84	101	103	81	211	75	191	188
107	70	102*	62	97	101	75	248	70	231	213
109#	78	104#	80	107	105	79	331	81	281	359
112	75	97	78	100	99	74	293	73	273	259

105	84	103	74	105	112	76	207	86	189	234
108	79	102	78	98	103	77	282	76	221	259
107*	50	102*	60	100	99	60	265	65	227	244
101	60	99	74	109	109	75	209	73	149	261
112	54	100*	62	101	108	63	268	69	257	255
102	79	101*	73	102	101	74	267	80	196	262
105	61	102*	70	101*	105*	70	367	77	286	346
102	70	93	78	93	102	73	203	72	163	156
105	62	101*	63	107	104	72	275	72	224	303
104	82	101#	78	107#	108#	74	289	84	247	332
105	76	101	83	110	110	80	239	78	205	293
108	80	102	82	103	103	79	239	77	245	241
104	98	103	95	107	102	93	230	92	186	266
110#	79	104#	78	105#	107#	77	310	80	289	323
112	53	100*	56	96	99	61	238	67	228	196
106	66	98*	68	107	104	70	278	72	229	294
109	71	101	74	104	102	75	337	71	256	338
108	64	99	75	106	113	75	245	69	226	268
107*	85	103	79	102	103	78	302	82	257	294
105	58	101*	62	98	99	68	276	70	229	249
106	81	99	80	97	100	79	308	77	242	268
112	81	102	82	99	96	76	274	76	251	226
103	66	104	75	112	113	75	313	74	260	370
105	70	98*	69	103	105	72	212	73	165	210
111	70	99*	64	102	100	71	241	74	231	235
103	66	98	74	98	99	70	252	71	195	234
103*	53	103*	63	100*	104*	61	244	69	199	230
108*	55	101*	65	98*	102*	63	266	69	217	233
115	83	101	81	99	101	80	209	73	206	182
105	73	101	79	105	113	77	211	72	214	239
99	90	100#	83	106	109	87	260	85	210	296
104	79	103	82	107	108	78	262	74	224	292
107	72	102	75	101	105	75	250	70	242	238
107	76	97	78	114	112	75	204	76	187	271
108*	53	103*	63	103*	102*	60	317	67	267	299
106	77	99*	72	99	103	71	234	71	201	206

105*	57	99	67	99	103	68	194	70	142	172
112	71	101	80	105	102	75	235	73	221	230
111	75	104	76	107	105	79	304	81	277	333
108	72	103	76	105	104	77	268	75	245	290
106*	55	100*	64	100*	101*	62	249	69	195	228
105	73	98*	66	103	105	73	204	73	192	204
107*	50	100*	61	98*	103*	58	239	67	206	213
96	92	104	93	97	99	90	198	90	191	172
104	71	99	78	102	107	80	307	81	241	304
108	59	103	69	100	104	69	251	72	219	240
107	77	102	75	106	107	75	260	73	232	282
104#	82	99#	82	99#	100#	77	260	81	225	237
108#	79	103#	81	107#	109#	75	332	83	277	337
113	57	100*	55	103	102	66	284	68	251	279
108#	82	101#	80	98#	108#	78	278	81	265	249
105	75	102	77	103	106	75	276	75	228	266
101	71	102*	67	106	105	71	250	73	216	271
102	60	103*	71	108	108	67	255	68	197	288
111	77	98	81	104	103	75	277	76	257	283
113	78	99	80	97	98	73	232	71	229	191
108	55	100*	68	102	104	67	282	67	222	274
107	73	103	78	99	102	76	209	75	192	193
107	82	97	83	103	102	77	232	73	195	227
112*	53	103	73	107	104	71	354	72	284	344
106	94	100#	82	103	107	84	255	89	214	242
111	77	100*	69	104	100	77	268	76	228	252
111	69	102*	73	100*	104*	68	205	69	200	187
106	55	104*	65	98*	101*	63	260	70	216	230
104	70	101*	66	103	103	73	320	72	261	313
111*	50	100*	60	98*	102*	57	217	65	192	183
103	57	104*	64	105	108	67	263	70	248	292
105	57	102*	66	103*	106*	64	237	69	201	251
102	83	98	82	106	107	79	283	77	215	279
105	57	102*	63	104*	104*	60	257	69	189	264
114	64	104*	65	99	104	72	350	72	321	315
108	81	104	82	105	108	79	413	78	366	432

99	98	104	96	109	109	94	253	92	181	310
101*	54	102*	60	102*	103*	60	249	66	198	239
102	59	102*	67	99*	104*	71	259	68	187	247
112	75	98	80	100	99	72	196	73	209	171
103	97	102#	83	108#	113#	78	247	88	230	312
106	76	102*	63	93	94	72	255	73	210	191
107	66	98	69	97	96	60	206	67	173	171
109	51	100*	62	103*	103*	60	258	68	208	243
109	70	100*	68	104	106	74	299	74	279	304
107	61	101*	67	102*	100*	63	255	71	213	245
108	89	102	72	104#	106#	72	208	84	207	230
110	65	100*	67	102	103	71	315	72	242	282
103*	54	102*	63	100	101	67	221	69	188	217
106	54	103*	65	100*	110*	64	249	69	204	234
106	83	103	82	98	103	80	238	73	223	227
113	63	100*	63	99*	100*	61	226	71	199	193
105	94	102	88	104	111	90	204	89	193	252
105	66	101*	68	104	106	69	225	72	199	228
110	97	101	95	97	99	93	275	91	230	233
101	91	99#	80	101	102	91	252	88	175	244
114	70	102	69	100	97	71	192	70	154	148
104	80	104	82	109	109	79	286	76	247	323
105*	85	101	79	102	104	80	213	80	205	217
103*	51	102*	62	101*	102*	59	233	67	191	222
108	61	99*	68	98*	100*	65	244	67	191	207
104	97	102	95	106	108	92	236	91	211	281
107*	53	102*	63	96	106	68	307	69	279	277
105	61	102*	68	99*	101*	65	305	70	242	275
105	67	101*	59	98	105	72	288	73	239	266
107	83	103	82	102	103	79	205	73	219	207
105	77	103	77	97	101	76	218	75	204	196
104	63	103*	64	102	105	71	246	71	216	255
111	55	101*	64	101	102	66	301	70	235	270
104	54	102*	63	102*	106*	61	295	69	251	296
105	95	100	93	107	104	91	231	90	195	260
108	69	99	73	105	100	69	320	78	233	306

109	71	102*	66	100	107	68	331	73	299	327
107	69	100*	66	100	105	72	307	73	247	276
108#	63	101	65	101#	100#	69	286	78	226	250
113	52	100*	63	101	106	66	267	69	255	251
116	62	103*	66	103*	105*	64	304	70	275	287
104	87	104	72	103#	105#	65	247	83	189	232
113	80	101	82	100	102	80	230	77	232	206
106	86	100#	75	102#	106#	74	195	84	164	197
109	78	103*	63	101	104	70	283	70	267	265
103	80	100	80	106	107	78	233	72	196	260
106	67	103	72	102*	106*	62	208	72	176	216
106	75	104	81	99	104	74	317	72	271	291
103	72	95	82	104	102	80	238	83	159	229
106	68	101*	66	100	101	73	240	73	179	214
101	57	102*	65	103	103	67	243	70	188	245
113	65	98	72	100	102	68	258	68	246	233
106	71	99*	63	99	103	68	229	69	202	209
115	69	102	65	95	100	72	289	73	251	232
106	98	97	98	103	100	98	235	93	166	209
107*	64	100*	71	106*	108*	69	222	70	178	221
106	79	102	80	103	105	75	260	75	226	258
101*	58	103*	65	103*	108*	64	241	68	198	254
101	70	101	78	104	107	74	202	73	183	216
103	69	101*	67	101	103	70	253	69	222	254
103	98	99	97	98	97	97	203	92	144	162
109	71	102*	64	93	100	66	313	69	271	250
99	82	100	83	108	104	80	215	74	144	239
109	64	102	73	102	102	69	231	73	213	213
108	81	100	80	97	104	79	281	77	225	240
95*	53	103*	64	97*	101*	62	276	68	198	256
107	59	102*	66	99	105	70	240	71	218	217
106*	87	103	71	107	107	73	219	81	193	262
101	93	102	90	107	109	89	273	88	223	296
100	79	99	75	101	102	71	226	70	169	203
104	64	99	74	104	103	68	261	72	180	246
106	80	97	81	100	103	78	212	76	163	200

108	59	100*	67	100	104	70	234	68	205	213
102	54	101*	64	101*	105*	59	228	68	189	231
106	54	102*	62	100*	106*	62	224	69	199	213
111	56	98*	64	102*	107*	62	239	69	228	232
106#	70	95	69	105#	105#	71	221	79	181	214
111	69	103*	65	105	107	73	291	73	259	303
108	84	104	83	109	109	79	309	82	263	329
108	81	101	80	100	105	77	333	84	285	329
107	66	101*	67	100*	101*	63	212	71	182	195
111	72	101	80	102	98	74	237	72	185	219
105*	63	101	73	100	102	68	218	71	182	208
107	68	102*	68	99*	102*	66	267	72	219	235
107*	56	105	72	109	105	69	240	71	192	286
103	63	104*	66	105	112	72	298	72	240	319
103	62	102*	63	99	103	67	237	71	186	219
102	95	102#	82	106	109	90	228	89	173	270
109*	57	102*	66	97*	103*	65	252	69	236	222
115*	54	102	77	108	107	72	216	69	220	247
104	82	104	81	109	112	75	351	80	292	380
107	68	100*	65	95	100	69	276	69	237	224
110	83	104	82	106	107	74	236	72	237	274
109	72	100*	66	103	101	71	262	73	212	250
104*	53	103*	63	103*	106*	61	293	69	217	293
102	98	103	95	102	106	97	198	92	141	203
105	61	103*	71	104*	105*	71	254	73	191	260
109	54	103*	66	100*	102*	63	275	69	215	247
100	74	100	77	105	107	76	232	75	183	267
109	84	103	83	95	97	80	251	75	224	186
111	76	102	80	98	102	73	273	72	241	246
109	79	103	82	102	106	79	234	73	211	222
106	56	100*	65	98*	102*	64	275	67	222	238
104*	56	104*	66	98*	102*	64	259	68	194	238
108	63	101*	66	102	102	70	385	72	287	348
108	81	105	80	101	102	77	255	73	221	254
110#	64	103#	77	106#	107#	76	231	80	217	251
109*	52	102*	62	95*	102*	61	228	68	190	184

107	79	102	78	101	110	79	296	77	273	285
105	77	104	76	104	107	75	317	71	249	320
104	90	103	89	106	109	85	257	88	223	257
111	58	103*	66	96	100	70	280	71	241	226
109	62	101	69	97	99	71	266	71	236	220
101	74	102	87	105	106	82	259	84	201	279
105	78	100	80	103	102	72	241	71	221	231
116	51	103*	60	96*	106*	61	390	68	332	336
109	70	102	75	109	110	73	315	78	274	340
111	77	102*	67	98	99	72	285	74	241	231
108	99	105	96	101	104	98	206	93	182	192
105	61	100*	65	105	108	71	211	71	188	241
117	81	99	80	102	102	75	293	76	266	272
114	67	99	76	106	105	71	248	71	228	258
102	58	103*	68	101*	103*	65	317	70	249	306
105	60	103	78	103	97	79	332	80	225	299
108	72	102*	72	108	109	74	273	74	221	308
106	61	102*	65	102	106	71	223	72	174	216
107	81	104	72	102	103	74	192	82	164	206
108	81	102	78	100	105	77	231	76	192	209
108	71	103	74	106	109	74	279	74	237	284
107	66	101*	66	100	104	72	299	72	246	261
103*	51	103*	63	103*	105*	59	283	67	219	286
107	67	102*	69	99	104	69	269	72	248	254
104	75	100*	68	102	100	71	235	73	187	222
107	68	103	78	100	103	76	291	74	254	263
101	80	104	83	104	104	80	267	77	207	278
101	80	100	78	103	101	75	224	73	179	215
103	95	102	89	108	110	92	204	91	152	264
108	92	103	88	98	100	83	243	87	185	196
103	95	99	93	105	102	92	214	90	150	207
106	75	104	70	99	101	75	271	75	227	256
113	78	101	75	99	99	78	253	77	219	211
104	70	100*	69	106	107	68	326	69	252	330
102	99	102	98	102	96	95	227	92	159	206
104	73	103	74	101	102	73	206	73	177	209

109	88	102#	74	101#	104#	79	232	83	192	215
111	53	102	68	98	100	65	218	77	185	185
112	58	102*	64	97*	105*	62	256	70	242	228
111	57	103*	63	97	102	67	302	70	288	269
105	57	104*	69	99*	104*	65	232	69	201	227
108	96	98	96	99	99	95	258	92	171	190
106	70	104*	67	98*	103*	64	273	72	220	243
108#	82	105#	76	105	108	88	270	83	240	300
101*	55	103	76	102	106	73	218	72	185	242
105	82	97	79	106	104	74	222	74	153	232
104*	56	103*	65	102*	103*	62	252	69	200	251
98	69	103	74	97	105	76	260	78	214	223
105	73	104	79	109	110	77	268	75	196	320
104	86	102	89	101	103	86	309	86	218	278
106	69	101	70	99*	103*	66	239	72	190	207
116	73	102	81	103	103	73	293	71	262	279
106	63	106	73	110	109	73	334	72	261	369
115	64	104*	66	92	94	67	317	72	273	236
108#	76	102	72	102#	104#	65	286	79	218	274
107*	51	102*	63	100*	101*	59	300	66	222	273
105	63	100	74	112	111	76	274	73	211	315
108	57	101*	66	102	103	67	272	70	227	261
103	88	103	85	100	108	80	275	87	228	251
113*	58	102*	68	99*	103*	64	369	69	308	329
104	71	101	83	102	105	66	263	79	212	263
105	73	100	76	102	100	73	250	74	198	242
103	72	102	77	96	98	75	283	71	203	238
100	97	101	93	104	103	89	289	90	199	295
105	78	104*	75	99	102	74	223	79	191	200
107	91	100	88	96#	97#	67	263	87	188	201
97	64	101	72	98	100	69	195	74	144	158
106	76	100	74	104	106	70	217	74	175	222
107	76	100	79	102	107	76	246	76	222	230
100	83	96	82	110	112	76	249	72	182	291
108	58	99*	64	99	102	67	236	70	187	190
103	56	103*	61	96	104	68	197	70	181	180

108	79	105	80	101	99	74	271	74	249	265
106	80	100	81	103	102	78	237	76	208	236
109	77	103*	67	104	110	74	248	70	237	262
107	78	102	75	104	107	76	226	75	209	245
104	65	101*	61	102	105	69	286	71	219	274
102	91	103	86	115	105	82	236	86	173	293
110*	51	103*	60	99*	103*	56	284	66	244	263
104	69	104	75	103*	107*	63	248	73	200	258
112	58	100*	66	101*	100*	63	220	70	190	188
107	81	100	83	99	96	76	219	76	144	172
106	62	102*	70	101*	104*	67	281	71	208	257
102	87	104	76	105#	105#	64	244	84	191	249
98	65	102	75	100	103	69	242	75	167	224
104	77	104*	65	101	105	71	238	74	213	229
103	55	103*	68	102*	108*	66	194	70	181	211
105*	53	103*	63	102*	106*	60	267	68	211	256
107*	55	103*	64	100*	106*	63	280	69	243	270
109	77	96	79	97	95	71	327	71	273	274
105*	51	101*	62	98*	104*	59	281	66	208	244
101	78	103	82	114	114	75	335	72	232	402
106	86	102	89	101	98	88	198	87	147	191
111	69	103	77	99	98	72	263	71	226	227
105	75	102	78	104	107	76	278	72	212	296
108	77	101	78	105	108	74	251	75	211	262
104	73	103*	71	99	106	73	275	74	218	254
110	76	101*	67	105	105	74	318	74	241	310
109	78	103*	71	101	103	71	288	73	219	258
108	70	102	78	101	104	72	295	74	243	283
107	95	98	89	95#	99#	80	272	88	193	194
102	78	102	77	104	109	77	319	72	260	325
105	81	101	79	103	106	80	288	74	234	291
113	71	100*	64	100	104	69	274	73	254	245
108	61	104	74	96	110	83	209	82	199	199
104	83	102#	65	102#	103#	69	202	81	172	205
110*	58	103	72	99	106	74	308	72	271	266
108	71	101	72	102	105	72	233	73	200	234

111	80	100	81	96	99	74	213	74	197	170
106	75	103	73	107	111	75	252	73	228	266
107	68	103	74	103	106	73	205	73	175	220
99	82	102	81	101	104	77	218	77	168	216
109	81	102	83	103	102	77	214	76	191	203
104	81	102	78	102	105	79	288	76	203	266
105	61	104*	66	99	104	70	230	71	172	204
104	98	103	96	97	106	95	260	92	211	233
106	88	98	75	112	111	83	231	85	172	272
106	67	103*	65	107	108	71	252	72	218	273
112	83	102	84	102	107	81	246	73	221	227
103	91	101#	73	95#	96#	80	227	85	161	168
101	67	102	79	104	98	75	287	78	211	273
107	76	103	81	102	107	79	259	76	219	265
104	79	103	80	107	110	79	259	76	188	280
104	61	103	72	110	103	73	191	76	128	219
105	83	102	83	101	100	78	191	76	150	169
105	83	102	78	100	106	78	277	73	238	269
105	90	102#	83	112#	110#	76	295	85	207	340
108	91	102#	83	104	107	90	222	86	204	247
103	97	101	88	103	103	89	243	90	174	258
103	60	104	71	112	109	73	273	69	223	324
102	73	102	71	103	99	78	205	71	154	199
105	74	101	77	105	104	74	202	73	181	218
103	92	101#	84	104	109	86	201	86	162	222

Good Bulls Guide for Holstein - Fertility

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Daughter Fertility	
							Dtr Fert	Rel
1	7HO12571	DE-SU HEINZ 12342	A12,,BL,F,C,VF,	g	I	WWS	119	80
2	VIKHSPARKY	VH SUAREZ SPARKY	A22	g	I	VIK	117	81
3	011HO11509	PEAK ALTABREEZE-ET		g	I	ALT	116	62
4	CRVROSEBUD	DELTA ROSEBUD	RDC	g	I	CRV	116	73
5	AVENGER	CO-OP AVENGER	A12	g	I	AGR	115	83
6	29HO18236	LEANINGHOUSE BUCKLEY-P-ET	A22,,PO,C	g	I	ABS	115	64
7	29HO0897	SPRUCE HAVEN PRO -RED-ET	A22,,RD,C	g	I	ABS	115	69
8	CBCRAVEN	GLAMOUR JABIR CRAVEN		g	I	SXT	114	70
9	CRVWEBMAIL	DELTA WEBMAIL	A11	g	I	CRV	114	67
10	7HO12858	OCD YODER CYCLONE-ET	A12	g	I	GAC	114	64
11	14HO07852	TIGER-LILY SSHOT OXFORD-ET	A22	g	I	WWS	113	59
12	CRVWHATSAPP	FLEVO GENETICS WHATSAPP	A22,,RD,C	g	I	CRV	113	80
13	011HO11598	PEAK ALTAMENTO-ET	A22	g	I	ALT	113	63
14	0200HO10777	WESTCOAST PERSEUS	A22,,CV,F,B,LF	g	I	SEM	113	63
15	CRVDAIRYMAN	DELTA DAIRYMAN	A22	g	I	CRV	113	65
16	CBMRGREY	PEAK MR GREY		g	I	SXT	113	78
17	ALTIVO	CO-OP JABIR ALTIVO - ET	A22	g	I	AGR	113	80
18	14HO07736	BUSH-BROS DEIFY 355	A22	g	I	WWS	113	71
19	7HO13340	S-S-I MESORACO HOMER-ET	A11	g	I	WWS	113	57
20	VIKHPROUD	VH PREDESTINE PROUD	A12	g	I	VIK	113	78
21	0200HO10359	SANDY-VALLEY-I PARAMOUNT	A12	g	I	SEM	112	67
22	CRVLEVATOR	DELTA LEVATOR		g	I	CRV	112	75
23	CRVPAISLE	PEAK TANGO PAISLEY		g	I	CRV	112	77
24	IGRONNIE	CASTLEBLAGH RONNIE		g	I	IRG	112	69
25	CRVLOWMONO	LOWLANDS MONOPOLY	CVF,,BL,F,A,22	g	I	CRV	112	81
26	VIKHBALZAC	VH BETA BALZAC	A12	g	I	VIK	112	75
27	CRDAZE	KINGS-RANSOM M DAZE-ET	A22	g	I	AGR	112	58
28	CRVWISENT	DELTA WISENT RF	RDC	g	I	CRV	112	71

29	0200HO10222	LINDENRIGHT MEGAWATT	BLF,,CV,F,A,22	g	I	SEM	112	83
30	0200HO02870	MR LOOKOUT P ENFORCER	BLF,,CV,F,A,22	g	A	SEM	112	92
31	VIKHCOSMO	VH CLARK COSMO	A22	g	A	VIK	112	80
32	011HO11760	PEAK ALTAVARNISH-ET	A11	g	I	ALT	112	58
33	011HO11499	MR BOMAZ ALTAMEGLO-ET	A22	g	I	ALT	112	82
34	29HO17732	DE SU 11949 PENALTY	A12	g	I	ABS	112	67
35	7HO13398	S-S-I SUPERSHOT SUPERFLY	A22	g	I	WWS	111	78
36	29HO18225	PINE-TREE BURLEY-ET	A11	g	I	ABS	111	77
37	011HO11666	MELARRY ALTAWORMONT-ET		g	I	ALT	111	71
38	CBDREAMER	WILTOR DREAMER		g	A	SXT	111#	82
39	IGRASCAL	GOLDENFIELD RASCAL		g	I	IRG	111	70
40	CRVFUSION	WEINTERPER FUSION	A22	g	I	CRV	111	69
41	VIKHROMELLO	VH ROENHAVE RODGERS ROMELLO		g	I	VIK	111	76
42	7HO13607	S-S-I MODESTY MAGICTOUCH-ET	A22	g	I	WWS	111	69
43	CRVCHUCK	PEAK CHUCK	A22	g	I	CRV	111	77
44	CRVJUPILER	DELTA JUPILER	A11	g	I	CRV	111	72
45	7HO13608	S-S-I MODESTY MARQUEE-ET	A12	g	I	WWS	111	57
46	7HO12987	LEANINGHOUSE FABIO 22171	A12	g	I	GAC	111	56
47	7HO12940	LEANINGHOUSE BIG BUBBA-ET	A22	g	I	WWS	111	58
48	VIKHPONTOS	VH TRONSMARK PICANTO PONTOS	A22	g	I	VIK	111	80
49	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	111	75
50	IGRAPHAEL	GOLDENFIELD RAPHAEL		g	I	IRG	111	77
51	TRAVLINMAN	LISMORE TRAVLIN MAN CRI-ET	A22	g	I	AGR	111	69
52	7HO12967	OCD ANCHORMAN LAMBER-ET	A22	g	I	WWS	111	55
53	011HO11724	PEAK ALTASTEEL-ET		g	I	ALT	110	69
54	CRVPHONIC	ROYSON JUSTICE PHONIC	A22	g	I	CRV	110	57
55	NZGBOMAXIMA	BOTHWELL WT MAXIMA S2F	A12	g	I	LIC	110	59
56	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	110#	79
57	7HO12897	OCD SPRING SAMURI	A22	g	I	GAC	110	76
58	29HO18233	SANDY-VALLEY FIVESTAR-ET	A11	g	I	ABS	110	73
59	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	110	97
60	7H13140	SSI CASHCOIN SYNERGY	A12	g	I	GAC	110	83
61	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	110	93
62	NZGTAFTANIUM	TAFTS WT TITANIUM	CVF,,A2,2,B,LF	g	I	LIC	110	58
63	7HO12898	OCD SUPERSPRING	A22	g	I	WWS	110	65
64	CBLOTTACCLASS	OCONNORS LOTTA CLASS	A22	g	A	SXT	110#	64

65	VIKHNERD	VH NUGGET NERD RC	RDC,,A2,2	g	I	VIK	110	65
66	011HO11762	BUTLerview ALTARINGER		g	I	ALT	110	61
67	29HO17964	SEAGULL-BAY-MJ SOLARIS-ET	A11	g	I	ABS	109	84
68	MEGAPACKAGE	TJR MEGA-PACKAGE 54577-ET		g	I	ECL	109	69
69	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	109#	78
70	011HO11778	BOMAZ ALTAROBSON	A22,,CV,F,B,LF,	g	I	ALT	109	71
71	14HO07806	GIL GAR S SHOT QUAMBO	A12	g	I	WWS	109	56
72	STGBLUNDER	STANTONS BLUNDER 3520-ET		g	I	SXT	109	70
73	CRVASTRO	DELTA ASTRO	CVF,,BL,F	g	A	CRV	109	98
74	AIECLAIR	WILLSBRO KL ECLAIR	A22	g	I	SXT	109	79
75	CRVNANO	DE VRENDT NANO P	POC	g	I	CRV	109	81
76	NZGNAUTEXCEL	WHINLEA NAUT EXCEL	CVF,,A1,2,C,NF,	g	I	LIC	109	79
77	011HO11463	T-SPRUCE ALTAARN	BLF,,CV,F,D,PF	g	A	ALT	109	88
78	29HO17518	TAG-LANE MILKSHAKE	A22	g	I	ABS	109	78
79	0200HO02942	SILVERRIDGE ALBUM	BLF,,CV,F,A,22	g	I	SEM	109	85
80	7HO13302	SSI MONTROSS MEGAMAN	A22	g	I	WWS	109	78
81	7HO12814	SEAGULL-BAY TRUE PP	POS,,A2,2	g	I	WWS	109	71
82	OUTLAST	REGANCREST OUTLAST PP-ET	POS,,A1,2	g	I	GAC	109	62
83	7HO12605	HIGHERRANSOM AZOR	A22	g	I	WWS	109	77
84	011HO11781	BOMAZ ALTAUPSHOT-ET		g	I	ALT	109	72
85	VIKHOGGY	VH ODENSE OGGY	A22	g	I	VIK	109	77
86	29HO18490	DE-SU 13530 SEVILLE-ET	A12	g	I	ABS	109	55
87	MURCIELAGO	CO-OP AARDEMA MURCIELAGO-ET	A11	g	I	AGR	109	71
88	0200HO10383	LADYS-MANOR LUXUS	A12,,BL,F,C,VF	g	I	SEM	109	70
89	29HO18478	PINE-TREE SAMIRAH-ET	A22	g	I	ABS	108	63
90	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	108#	82
91	VIKHROZWELL	VH HOEJGAARD REFLECTOR ROZWEL	A22	g	I	VIK	108	79
92	29HO18182	ROSYLANE-LLC SPOCK-ET	A11	g	A	ABS	108#	76
93	BLOWTORCH	SYRYCZUK SILVR BLOWTORCH-ET		g	I	AGR	108	79
94	GGIMONARCH	MONARCH		g	I	GGI	108	71
95	CLASHP	ANDERSTRUP CLASH	A22,,PO,C	g	I	GAC	108	70
96	0200HO10588	SANDY-VALLEY APACHE-P	A22,,PO,C,C,VF,	g	I	SEM	108	57
97	0200HO07450	AMIGHETTI NUMERO UNO	BLF,,CV,F,A,12	g	A	SEM	108	99
98	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	108	84
99	14HO07858	PEAK ACCELNICHE	A12	g	I	WWS	108	61
100	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	108	74

101	29HO18076	TEEMAR ASTON-ET	A12	g	I	ABS	108	58
102	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	108	81
103	0200HO10220	LEOTHE DARK VADOR	A22,,CV,F,B,LF	g	A	SEM	108#	63
104	29HO18416	PINE-TREE JOJO-ET	A11	g	I	ABS	108	55
105	CRV FARRELL	M FOUR-CAL FARRELL-ET	A12	g	I	CRV	108	77
106	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	108#	79
107	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	108	92
108	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,,A1,1	g	A	ABS	108#	82
109	GGIALBANO	ALBANO 666321948	A22	g	I	GGI	108	80
110	7HO12024	DE-SU MGL GARZA 11388-ET	A22	g	I	WWS	108	72
111	7HO12671	WA-DEL YODER BANDARES		g	I	WWS	108	81
112	CBMOAT	COGENT DE CROB MOAT	A22	g	I	SXT	108	64
113	011HO11608	DF ALTAPARISIAN	A12,,BL,F,C,VF	g	I	ALT	108	81
114	011HO11682	PEAK ALTA FUNKY	A22,,CN,F,B,LF	g	I	ALT	108	71
115	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	108	89
116	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	A22	g	A	GAC	108	69
117	JSMARDIGRAS	MR MOVIE STAR MARDI GRAS	A12	g	A	GAC	108	91
118	7HO13771	PINE-TREE MOD KENNEDY 713-ET	A11	g	I	WWS	108	57
119	29HO17176	RELOUGH DANUMERO	A11	g	I	ABS	108	72
120	011HO11720	PEAK ALTAFLYWHEEL	A11,,BL,F,C,VF	g	I	ALT	108	81
121	29HO17500	DG CHARLEY	A12	g	I	ABS	108	78
122	0200HO10598	CALBRETT SOLSTICE	A22,,BL,F,C,VF	g	I	SEM	108	59
123	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	108	97
124	NZGMAIREGOLD	MAIRE FI GOLDDIGGER	A12	g	I	LIC	108	55
125	0200HO06530	EDG SKATEBOARD	A22,,BL,F,C,VF	g	I	SEM	108	81
126	JSARGO	ENDCO ARGO - ET	A12	g	I	GAC	108	59
127	14HO07748	KINGS-RANSOM 1ST DEWARS-ET	A22	g	I	GAC	108	69
128	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	108	96
129	011HO11677	PEAK ALTASLICK P-ET	A12	g	I	ALT	107	68
130	0200HO10660	STANTONS ADORABLE	CVF,,BL,F,A,12	g	I	SEM	107	72
131	CRVREMINDER	WD REMINDER		g	I	CRV	107	74
132	GGISINCLAIR	GGI - SINCLAIR		g	I	GGI	107	78
133	14HO07767	COOKIECUTTER SHOT HENLEY	A12	g	I	WWS	107	77
134	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	107*	85
135	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	107	95
136	MEGAREMI	FARNEAR MEGA-REMI 61375-ET		g	I	ECL	107	66

137	7HO12773	LARCREST KENOSHA		g	I	WWS	107	76
138	011HO11704	BRYHILL ALTA1STLOOK		g	I	ALT	107	72
139	14HO07801	AOT HAROLDO	A22	g	I	WWS	107	69
140	29HO18041	LARCREST CAYLE-ETS	A11	g	I	ABS	107	79
141	FLAMER	FARNEAR-TBR-BH FLAMER-ET	A12	g	I	AGR	107	77
142	0200HO10229	VELTHUIS B FORCE	A22,,CV,F,B,LF	g	I	SEM	107	66
143	94HO0895	MR ANSLY ADDICTION-P-ET	A12,,PO,C	g	A	ABS	107	89
144	0200HO06617	BOLDI V ACTOR		g	I	SEM	107	73
145	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	107	75
146	GGIFERRARI	FERRARI		g	I	GGI	107	83
147	29HO17335	WILDER DALLIANCE	A12	g	I	ABS	107	76
148	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	107	91
149	29HO18066	ABS DANNER-P-ET	A22,,PO,C	g	I	ABS	107	68
150	0200HO10711	PROGENESIS TOULOUSE	A22	g	I	SEM	107	59
151	POINTP	POINT P	POC	g	I	AGR	107	68
152	7HO12876	RI-VAL-RE POWER TOOL-P	POC,,A1,2	g	I	WWS	107	67
153	CRVBERNINI	PEELSEHOEVE BERNINI		g	I	CRV	107	81
154	011HO11841	PEAK ALTAGHILLIE-ET	A12	g	I	ALT	107	61
155	GGISILVESTRE	SILVESTRE	BLC,,CN,C,C,VC,	g	I	GGI	107	68
156	011HO11531	BOMAZ ALTASABRE	A22,,CV,F,B,LF,	g	I	ALT	107	81
157	CRVCUPIDO	DELTA CUPIDO	A12,,CV,F	g	I	CRV	107	82
158	0200HO10470	ROCKYMOUNTAIN PRESENT	A11,,CV,F,B,LF	g	I	SEM	107	70
159	NIGHTIME	MR KB NIGHTIME 166-ET		g	I	AGR	107	61
160	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	107	85
161	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	107	98
162	011HO11736	PEAK ALTARECOIL	A22	g	I	ALT	107	76
163	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	107	81
164	VIKHLEYTON	VH LOT LEYTON	A22	g	I	VIK	107	66
165	7HO12769	DE-SU KENYON 12726	A22	g	I	WWS	106	70
166	29HO17918	DE-SU 12693 SKYFALL	A12	g	I	ABS	106	77
167	29HO18006	ABS MANSFIELD-ET	A22	g	A	ABS	106#	70
168	CRRAY	HARTFORD UPD AVIATOR RAY		g	I	AGR	106	71
169	RUBI-HAZE	MR DDS RUBI-HAZE 54682-ET	A22	g	I	AGR	106	58
170	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	106	84
171	CRVMAGISTER	DELTA MAGISTER	A22	g	I	CRV	106	75
172	7HO12974	SANDY-VALLEY COPYCAT-TW-ET	A11	g	I	WWS	106	55

173	7HO12690	LADYS-MANOR MTRS LOYALTY-ET	A22	g	I	WWS	106	67
174	CRVABEL	PEAK JEROD ABEL	A22	g	I	CRV	106	80
175	STGGAMMA	FARNEAR-BH DELTA-GAMMA-ET		g	I	SXT	106	61
176	29HO17785	LARCREST COMMEND-ET	A22	g	I	ABS	106	75
177	CHILIPEPPER	MR POWER CHILI PEPPER-P-ET	A22,,PO,C	g	I	AGR	106	69
178	011HO11779	BOMAZ ALTATOPSHOT-ET	A22,,BL,F,C,VF,	g	I	ALT	106	81
179	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	106*	87
180	7HO12212	DE-SU SS HONEYBEE 11569	A22,,BL,F,C,NF,	g	A	WWS	106	94
181	VIKHBROBACK	VH BALISTO BROBACK	A22	g	I	VIK	106	79
182	JSPowerBALL	VIEW-HOME POWERBALL P ET	POC,,A2,2	g	A	GAC	106	92
183	NZGWELLFORAY	GREENWELL SB FORAY-ET	A22	g	I	LIC	106	56
184	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	106	74
185	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,,BL,F,C,VF	g	A	SEM	106	99
186	011HO11758	PEAK ALTANIXER-ET		g	I	ALT	106	76
187	14HO07878	DE-SU FASTBREAK-ET	A22	g	I	WWS	106	55
188	HUNK	AOT MODESTY HUNK	A12	g	I	AGR	106	56
189	GGIAPPEAL	APPEAL	BLC,,CN,C,C,VC,	g	I	GGI	106	72
190	14HO07768	JIMTOWN SS NOAH-ET	A12	g	I	WWS	106	66
191	011HO11722	PEAK ALTALOTTO P-ET	POC	g	I	ALT	106	70
192	GGISANTA	SANTACLUS		g	I	GGI	106	66
193	14HO07811	PEAK ACCELREOWN	A22	g	I	WWS	106	75
194	7HO13454	S-S-I JOSUPER ROCKETFIRE-ET		g	I	WWS	106	68
195	29HO17784	LARCREST COLLUDE-ET	A22	g	I	ABS	106	83
196	MCAPPLE	CHILDERS COVE ANNIE DALE MCAPPLE-IMP-ET	CVC	g	A	AGR	106	88
197	011HO11693	PEAK ALTAWYNN	A22	g	I	ALT	106	67
198	7HO12997	WELCOME TARRINO 3181-ET	A12	g	I	WWS	106	55
199	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	106	86
200	GGISEMINO	SEMINO	A22	g	I	GAC	106	63
201	250HO13449	S-S-I PENLEY ALL STAR	A12	g	I	WWS	106	72
202	0200HO10360	SANDY-VALLEY-I PEMBROKE	A11,,BL,F,C,VF	g	I	SEM	106	70
203	OHGFAMOUS	FAMOUS - ET	BLF,,CV,F,A,12	g	I	AGR	106	80
204	011HO11707	PEAK LC ALTACORDIAL	A22,,BL,F,C,VF	g	I	ALT	106	76
205	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	106	86
206	29HO18373	PINE-TREE PROPHECY-ET	A12	g	I	ABS	106	62
207	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	106	98



Survival		Cell Count		Conformation Traits			Indices			
Survival	Rel	CC	Rel	Over Type	Mam Syst	Type Rel	BPI \$	BPI Rel	HWI	TWI
109*	68	176	84	100	107	78	289	74	298	253
108*	68	148	85	102	102	75	293	76	266	272
109*	57	157	78	103*	105*	64	304	70	275	287
108*	59	143	76	103	103	73	293	71	262	279
111*	71	167	85	99	101	80	209	73	206	182
110*	58	143	80	92	94	67	317	72	273	236
108*	61	155	82	95	100	72	289	73	251	232
106*	60	159	79	100	97	71	192	70	154	148
109*	58	148	80	106	105	71	248	71	228	258
111*	60	162	79	99	104	72	350	72	321	315
114*	59	173	80	104*	106*	65	327	71	297	329
113*	69	156	86	100	102	80	230	77	232	206
108*	55	160	80	99*	100*	61	226	71	199	193
109*	61	190	80	100	108	72	451	70	392	413
110*	55	155	73	100	102	68	258	68	246	233
110*	67	145	86	99	99	78	253	77	219	211
109*	67	181	82	100	100	76	195	72	195	165
109*	62	137	82	100	104	69	274	73	254	245
109*	56	164	76	103	102	66	284	68	251	279
105*	67	163	81	97	98	73	232	71	229	191
109*	62	177	79	101	101	74	321	73	275	288
108*	61	171	83	100	99	74	293	73	273	259
110*	65	122	85	99	104	77	220	74	218	188
103*	56	97	85	92	92	65	191	72	127	101
106*	68	168	84	99	96	76	274	76	251	226
108*	60	161	81	100	99	72	196	73	209	171
108*	54	144	79	97*	105*	62	256	70	242	228
111*	61	165	81	105	102	75	235	73	221	230

108*	70	133	84	102	107	81	246	73	221	227
107	73	127	95	102#	99#	78	240	86	178	180
106	69	113	87	101#	98#	74	195	80	183	178
108*	57	140	77	101*	100*	63	220	70	190	188
109*	69	117	85	94	98	77	217	76	189	139
108*	65	188	69	97*	102*	73	346	69	300	298
114*	65	195	84	100	103	75	274	75	246	261
108*	62	149	82	98	99	72	285	74	241	231
111*	61	184	81	105	103	70	304	73	280	293
112	73	180	92	106#	105#	80	276	84	230	296
108*	62	168	83	102	100	71	241	74	231	235
108*	59	139	77	99	98	72	263	71	226	227
107*	60	150	82	98	102	73	273	72	241	246
107*	62	153	82	105	107	73	291	73	259	303
111*	65	163	84	104	103	75	277	76	257	283
108*	60	152	76	102	98	74	237	72	185	219
108*	57	144	79	97	102	67	302	70	288	269
110*	55	153	76	102*	107*	62	239	69	228	232
110*	60	149	78	96	100	70	280	71	241	226
106*	68	135	82	96	99	74	213	74	197	170
110	66	165	84	107	105	79	304	81	277	333
106*	66	162	86	104	100	77	268	76	228	252
109*	64	162	74	100*	104*	68	205	69	200	187
109*	57	157	77	101	102	66	301	70	235	270
112*	65	172	80	101	100	74	263	70	236	252
101*	52	103	85	88	90	62	209	69	175	107
102*	53	112	85	97	95	62	263	70	222	209
112	68	169	89	105#	107#	77	310	80	289	323
110*	64	138	83	105	105	74	318	74	241	310
109*	64	172	81	97	102	74	282	71	248	234
109	93	159	98	97	99	93	275	91	230	233
110*	71	151	84	106	107	74	236	72	237	274
109	89	191	97	103	100	86	303	89	265	303
102*	51	118	84	103	97	61	200	69	163	185
109*	62	160	80	102	103	71	315	72	242	282
110	65	150	88	106#	107#	76	231	80	217	251

104*	58	127	78	97	102	70	287	71	251	234
109*	58	176	74	105*	107*	66	235	68	204	244
109*	70	150	86	95	97	80	251	75	224	186
111*	58	178	78	101*	103*	65	213	69	187	196
112	71	171	89	107	105	79	331	81	281	359
110*	62	169	81	104	102	75	337	71	256	338
111*	57	178	74	104*	103*	63	253	69	229	264
113*	64	161	83	104	106	74	299	74	279	304
106	95	118	98	105	101	89	238	91	188	232
110*	69	150	83	102	106	79	234	73	211	222
107*	67	134	84	103	102	77	214	76	191	203
99*	61	86	88	90	86	65	193	74	102	86
109	72	145#	90	101#	104#	79	232	83	192	215
110*	67	138	82	101	103	71	288	73	219	258
108*	74	172	85	101	103	81	211	75	191	188
109*	62	156	79	101	104	70	283	70	267	265
110*	59	154	77	93	100	66	313	69	271	250
107*	60	149	76	97	99	71	266	71	236	220
110*	65	141	76	104	110	74	248	70	237	262
108*	60	151	82	103	101	71	262	73	212	250
106*	62	139	81	97	95	71	327	71	273	274
111*	58	175	72	102*	103*	64	391	66	320	375
111*	60	157	82	100	107	68	331	73	299	327
112*	62	149	87	109	110	73	315	78	274	340
110*	61	150	79	102	102	70	385	72	287	348
108	70	164	89	98#	108#	78	278	81	265	249
109*	61	141	83	101	99	74	271	74	249	265
108	62	143	88	102#	104#	65	286	79	218	274
108*	66	171	84	98	103	77	282	76	221	259
107*	62	136	81	102	105	72	233	73	200	234
109*	62	137	82	101	104	72	295	74	243	283
107*	58	125	74	105*	107*	69	277	68	223	279
108	98	148	99	101	104	98	206	93	182	192
112*	68	153	90	109	109	79	309	82	263	329
109*	58	158	73	98*	100*	65	244	67	191	207
113	70	184	95	106	102	87	354	86	281	358

108*	58	141	76	99	102	67	236	70	187	190
109*	67	152	81	100	105	77	333	84	285	329
108	60	157	88	101#	100#	69	286	78	226	250
110*	60	163	70	102	104	67	282	67	222	274
109*	64	138	84	105	108	74	251	75	211	262
112	68	164	92	107#	109#	75	332	83	277	337
105	87	145	93	98	100	83	243	87	185	196
111	75	144	89	105	108	88	270	83	240	300
110*	70	170	84	103	103	79	239	77	245	241
112*	68	147	80	108	109	74	273	74	221	308
111*	68	162	86	105	108	79	413	78	366	432
109*	64	169	74	106	113	75	245	69	226	268
107*	68	147	85	100	105	77	231	76	192	209
110*	64	146	82	106	109	74	279	74	237	284
108	67	160	93	104#	106#	72	208	84	207	230
106	63	157	83	105	100	69	320	78	233	306
112	81	130	93	104	107	90	222	86	204	247
110*	58	143	78	102	103	67	272	70	227	261
108*	69	165	83	105	104	77	268	75	245	290
106*	68	154	86	97	104	79	281	77	225	240
109*	70	177	84	101	103	80	248	73	234	236
108*	61	153	74	100	104	70	234	68	205	213
112	92	179	98	104	102	93	271	91	240	273
102*	51	96	80	101	96	64	296	69	216	274
105*	69	150	84	101	102	77	255	73	221	254
112*	62	165	78	100	104	69	251	72	219	240
112*	70	204	84	108	108	81	364	72	325	385
105	86	144	99	99	99	95	258	92	171	190
110*	59	152	81	99*	102*	66	267	72	219	235
113*	67	173	81	110	107	79	325	72	272	370
106*	63	175	82	98	102	74	217	74	210	199
108*	68	141	83	104	107	76	226	75	209	245
111*	66	165	84	106	107	75	260	73	232	282
113*	70	169	91	102	103	78	302	82	257	294
103	87	137	95	95#	99#	80	272	88	193	194
111*	58	152	80	100*	101*	63	212	71	182	195

110*	67	166	83	114	112	75	204	76	187	271
110*	66	166	79	101	105	75	250	70	242	238
109*	61	157	82	100	105	72	307	73	247	276
109*	70	150	86	101	110	79	296	77	273	285
110*	67	128	87	104	107	66	306	78	241	294
107*	63	146	79	100	104	72	299	72	246	261
109	78	178	90	102#	107#	79	251	82	254	276
107*	66	163	81	99	102	76	209	75	192	193
110*	62	115	88	102	105	65	428	83	302	393
109*	73	158	83	102	103	79	205	73	219	207
110*	69	132	84	102	107	79	259	76	219	265
109	70	142	97	96#	97#	67	263	87	188	201
106*	59	151	78	95	100	69	276	69	237	224
107*	61	154	75	99	105	70	240	71	218	217
107*	65	146	80	100	103	76	291	74	254	263
112*	60	146	80	99	104	69	269	72	248	254
105*	69	140	84	99	96	76	219	76	144	172
111*	54	161	79	102*	100*	63	255	71	213	245
108*	63	135	79	103	106	73	205	73	175	220
109*	68	194	84	109	102	73	261	71	214	273
113*	69	163	84	103	102	77	232	73	195	227
107*	63	172	83	97	101	75	248	70	231	213
109*	60	177	75	105	109	64	310	68	263	309
111	73	175	93	109	112	87	317	87	294	354
111	88	127	99	103	107	89	213	91	204	210
108*	64	141	85	102	107	76	246	76	222	230
109	67	147	91	102	103	74	192	82	164	206
106*	50	161	70	97	96	60	206	67	173	171
112*	64	187	82	109	111	75	199	74	200	245
108*	65	166	82	99	103	71	234	71	201	206
110	64	153	88	105#	105#	71	221	79	181	214
109*	59	155	80	99	103	68	229	69	202	209
110*	62	173	79	103	104	72	263	71	241	266
106	74	121	97	100	102	84	321	88	212	288
111*	60	156	80	99	104	74	317	72	271	291
109*	58	180	76	105	104	68	326	70	266	331

111*	62	133	80	107	108	71	252	72	218	273
109*	67	153	86	100	103	78	212	76	163	200
110*	61	147	80	102	106	71	223	72	174	216
107*	65	145	84	99	101	75	271	75	227	256
108*	57	143	82	99*	103*	66	239	72	190	207
108*	67	168	86	97	100	79	308	77	242	268
111*	68	154	90	107	107	73	219	81	193	262
111	77	162	98	103	107	84	255	89	214	242
104*	66	155	83	103	105	75	260	75	226	258
108	85	126	95	96	101	91	305	89	252	262
101*	49	113	84	102	99	63	256	70	199	230
107	67	173	87	106	108	71	219	81	207	248
104	98	121	99	100	98	96	194	92	132	170
110*	63	161	83	93	94	72	255	73	210	191
110*	53	162	77	98*	101*	63	260	70	216	230
108*	56	150	73	98*	102*	64	275	67	222	238
109*	63	178	81	105	104	73	231	74	211	253
111*	61	169	79	107	104	70	278	72	229	294
109*	56	144	81	98*	103*	64	273	72	220	243
110*	61	175	78	102	102	72	227	72	195	235
112*	64	135	83	107	111	75	252	73	228	266
108*	61	156	80	100	101	73	240	73	179	214
106*	71	160	85	98	103	80	238	73	223	227
105	78	133	92	112	111	83	231	85	172	272
110*	56	156	80	102*	106*	62	208	72	176	216
106*	57	94	76	98	105	68	198	70	165	182
107	73	139	94	101	98	88	198	87	147	191
109*	62	143	75	110	109	73	334	72	261	369
110*	63	186	82	105	106	75	256	74	233	279
106*	62	172	81	103	105	74	320	74	256	326
107*	69	141	86	103	102	78	237	76	208	236
110*	62	142	85	104	106	70	217	74	175	222
108	66	156	93	102#	106#	74	195	84	164	197
111*	61	140	77	101*	104*	67	281	71	208	257
106	89	155	99	103	100	98	235	93	166	209

Good Bulls Guide for Holstein - Reliability

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included	Australian Proven or International	Source	Indices	
							BPI \$	BPI Rel
1	14HO07796	WELCOME SILVER GRIFF	A22	g	I	WWS	428	83
2	CBCONTENDER	MR SUPER CONTENDER	A22	g	A	SXT	354	86
3	DELISHDELTA	MR MOGUL DELTA 1427 - ET		g	I	AGR	351	80
4	7HO12601	OCD RODGERS FRANCHISE	A22	g	I	WWS	333	84
5	250HO12746	OCD KINGBOY RAMBO		g	A	WWS	332	83
6	JSSUPERHERO	ENDCO SUPERHERO-ET	A12	g	A	GAC	331	81
7	7HO11752	ROYLANE BOOKEM BOB 5170-ET	A22	g	A	WWS	321	88
8	29HO17706	DE SU 12128 TAILOR	A12	g	A	ABS	317	87
9	JSMONTANA	IHG MONTANA-ET	A22	g	A	GAC	310	80
10	29HO17747	COOCKIECUTTER HARPER	A12	g	A	ABS	309	86
11	011HO11631	PEAK ALTAPainter	A11,,BL,F,C,VF,	g	I	ALT	309	82
12	ENFORCER	RED FIELD DOORMAN FROUKJE	A12	g	A	GAC	307	81
13	KINGTUT	RENGAW REDMAW KB 9975-ET	A22	g	A	GAC	305	85
14	JSPowerBALL	VIEW-HOME POWERBALL P ET	POC,,A2,2	g	A	GAC	305	89
15	DESTINATION	KAARMONA DESTINED-ET	A11	g	A	GAC	304	81
16	MAEBULL	CALISTER MAEBULL	A22	g	A	GAC	303	89
17	29HO17762	MR AMERICA CHACAL	A22	g	I	ABS	302	82
18	011HO11493	GLEN-D-HAVEN ALTAHOTROD	A22,,BL,F,D,PF	g	A	ALT	295	85
19	7HO12095	DE-SU MALLINGER 11384	A22,,BL,F,C,NF,	g	A	WWS	291	87
20	29HO16667	DE-SU 11228 TOPSY-ET	A22	g	A	ABS	289	90
21	29HO18093	BRABANTDALE DRAKE-ET	A22	g	A	ABS	289	84
22	7HO13373	S-S-I 1STCLASS FLAGSHIP	A11	g	A	WWS	278	81
23	CBDREAMER	WILTOR DREAMER		g	A	SXT	276	84
24	0200HO10366	BENNER BARDO	BLF,,CV,F,A,22	g	A	SEM	275	87
25	29HO17607	BRYCEHOLME SS BOASTFUL	A12	g	A	ABS	275	91
26	29HO16887	DE-SU 11620 NIRVANA-ET	A22	g	A	ABS	273	88
27	CRVGFORCE	DELTA G-FORCE	A12	g	A	CRV	272	88
28	CBSUPERSHOT	COGENT SUPERSHOT		g	A	SXT	271	91

29	29HO18073	SEAGULL-BAY SLVR KIMBALL-ET	RDC,,A1,1	g	A	ABS	270	83
30	14HO07451	J-MOR SS HUNK-ET	A12	g	A	WWS	263	87
31	29HO16955	VIEW-HOME MONTEREY-ET	A11	g	A	ABS	260	92
32	EDGRUBICON	EDG RUBICON - ET		g	A	AGR	260	85
33	VIKHBOOTH	VH BEACON BOOTH	A22	g	A	VIK	260	81
34	29HO17919	DE-SU 12659 TACTIC	A22	g	A	ABS	259	84
35	GEEMCEE	RENGAW MANOMAN HUMMER-ET	A12	g	A	GAC	258	92
36	MAINSTREET	GLOMAR WALLSTREET	CNF,,CV,F,A,22	g	A	GAC	257	88
37	7HO12212	DE-SU SS HONEYBEE 11569	A22,,BL,F,C,NF,	g	A	WWS	255	89
38	29HO16909	LARCREST COMMANDER-ET	A22	g	A	ABS	253	92
39	29HO16888	SEAGULL-BAY MVP-ET	A22	g	A	ABS	252	93
40	7HO13250	S-S-I MONTROSS JEDI	A12	g	A	WWS	252	88
41	94HO0895	MR ANSLY ADDICTION-P-ET	A12,,PO,C	g	A	ABS	251	82
42	0200HO10038	SANDY-VALLEY EMERO	A22,,BL,F,C,VF	g	A	SEM	247	83
43	14HO07303	LE-O-LA MOGUL GAMBLER	A22,,BL,F,C,NF,	g	A	WWS	247	88
44	0200HO10569	IHG GEOGRAPHY-ET	A22,,BL,F,C,VF	g	A	SEM	244	84
45	14HO07328	COASTAL-VIEW MOOKIE	A22,,BL,F,C,VF,	g	A	WWS	243	90
46	FULLTHROTTLE	CURRAJUGLE FULL THROTTLE-IMP-ET	A11,,CV,F,B,LF	g	A	ABS	243	87
47	0200HO02870	MR LOOKOUT P ENFORCER	BLF,,CV,F,A,22	g	A	SEM	240	86
48	JELLY	RENGAW CAPGAIN JELLY-ET	A22	g	A	GAC	238	83
49	CRVASTRO	DELTA ASTRO	CVF,,BL,F	g	A	CRV	238	91
50	MARKKU	KAARMONA MARKKU	A12	g	A	GAC	236	86
51	011HO11379	LONE-OAK-ACRES ALTARABO	A22	g	A	ALT	236	91
52	WRANGLER	RENGAW MANOMAN WRANGLER-ET	A11	g	A	GAC	235	93
53	011HO11463	T-SPRUCE ALTAARN	BLF,,CV,F,D,PF	g	A	ALT	232	83
54	MCAPPLE	CHILDERS COVE ANNIE DALE MCAPPLE-IMP-ET	CVC	g	A	AGR	231	85
55	CRVBOUWROCKY	BOUW ROCKY		g	A	CRV	231	90
56	011HO11138	COOMBOONA SUPERSTITION REGAL	BLF,,CV,F	g	A	ALT	230	92
57	OHGBOSS	BOSS		g	A	AGR	228	88
58	250HO01118	DELABERGE PEPPER	A22	g	A	WWS	228	89
59	CHRISTMAS	EMU BANKS CHRISTMAS-ET	A22,,DP,F	g	A	GAC	227	93
60	011HO11446	MR FURNACE-HILL ALTAPITA	BLF,,CV,F,D,PF	g	A	ALT	227	85
61	COGENTTWIST	COGENT TWIST	A22,,CV,F,B,LF	g	A	SXT	227	92
62	NZGFIREUP	MAIRE MINT FIRE-UP	CVF,,A2,2,C,NF,	g	A	LIC	226	86
63	JSMARDIGRAS	MR MOVIESTAR MARDI GRAS	A12	g	A	GAC	222	86
64	0200HO06480	VAL-BISSON DOORMAN	BLF,,CV,F,A,22	g	A	SEM	221	92

65	OCKI	KAARMONA OCKI-ET	A12	g	A	GAC	219	81
66	29HO17705	EILDON-TWEED CAPTAIN	A12	g	I	ABS	219	81
67	29HO17553	UECKER SUPERSIRE JOSUPER-ET	A12	g	A	ABS	214	90
68	29HO17550	EDG BLACKGOLD-ET	A22	g	A	ABS	213	84
69	7H12111	MR OCD EPIC DRAGONHEART ET	A22	g	A	WWS	213	91
70	CBSAMITE	GUYE HOLDINGS SAMITE		g	A	SXT	209	82
71	14HO07358	PRIDE MOGUL TALLYHO 165-ET	A12	g	A	WWS	208	84
72	TLGLENUX	COOMBOONA OCTANE LENUX		g	A	TLG	207	86
73	0200HO07450	AMIGHETTI NUMERO UNO	BLF,,CV,F,A,12	g	A	SEM	206	93
74	250HO01131	DELABERGE SALT	A22	g	A	WWS	204	91
75	011HO11380	LONE-OAK-ACRES ALTAROBLE	CVF,,BL,F	g	A	ALT	204	89
76	7H11351	SEAGULL-BAY SUPERSIRE	A12	g	A	GAC	203	92
77	29HO17783	COMPASS-TRT LAYTON-P-ET	A22,,PO,C	g	A	ABS	202	81
78	011HO11437	WESTENRADE ALTASPRING	A22	g	A	ALT	201	86
79	29HO17944	WA-DEL ABS BOURBON-ET	A22	g	A	ABS	198	87
80	7H11477	DE-SU BKM MCCUTCHEN	A12	g	A	GAC	198	92
81	MICROCHIP	HINDLEE PICOLA GOLDCHIPDREAM 1418-ET	A22,,CN,F,C,VF	g	A	GAC	198	90
82	CBMAINTIME	OCONNORS VOGUE MAIN TIME	A22	g	A	SXT	195	84
83	HOMANIFOLD	MAINSTREAM MANIFOLD	A12,,BL,F,C,VF	g	A	SEM	194	92
84	AIPOPEYE	VEKIS DG POPEYE	A22	g	A	SXT	192	82

Survival		Conformation Traits			Daughter Fertility		Feed Saved		Calving Ease	
Survival	Rel	Over Type	Mam Syst	Type Rel	Dtr Fert	Rel	Feed Saved	Rel	Calving Ease	Rel
110*	62	102	105	65	107	75	-59	35	102*	98
113	70	106	102	87	108	74	-111	44	103	96
112*	73	109	112	75	104	82	-17	39	104*	92
109*	67	100	105	77	108	81	91	40	104*	95
112	68	107#	109#	75	108#	79	-63	38	101	98
112	71	107	105	79	109#	78	-68	40	102	96
106	74	100	102	84	106	84	-117	43	102	97
111	73	109	112	87	107	85	8	44	101	94
112	68	105#	107#	77	110#	79	56	39	103	97
104	74	101	103	86	104	86	-70	43	103	96
112*	68	109	109	79	108	84	-43	40	105*	92
107	68	102	107	80	104	71	-41	41	102	87
107	71	102	106	85	105	78	-145	43	99	93
108	85	96	101	91	106	92	86	45	102	98
110	66	107	105	79	111	75	17	41	102	86
109	89	103	100	86	110	93	15	43	102	99
113*	70	102	103	78	107*	85	-16	40	105	75
110	68	112#	110#	76	105	90	-242	39	100	92
108	65	107#	110#	69	103	96	15	36	103	94
106	93	104	103	89	100	97	-76	44	103	97
111	67	107#	108#	74	104	82	9	38	104	88
108	70	98#	108#	78	108#	82	93	40	103	92
112	73	106#	105#	80	111#	82	-144	40	102	90
108	69	100	108	80	103	88	19	41	100	97
109	93	97	99	93	110	97	29	45	103	98
110	86	107	109	89	101	93	-46	44	102	95
103	87	95#	99#	80	107	95	-42	40	103	97
112	92	104	102	93	108	97	8	45	104	99

111	75	105	108	88	108#	82	2	44	103	95
109	70	96#	97#	67	107	91	-80	35	102	97
107	96	97	106	95	104	98	40	46	102	98
111	83	106	109	87	99	90	-20	43	102	86
108	72	99#	100#	77	104#	82	99	39	100	97
109	70	105	106	82	101	74	-28	42	102	92
105	86	99	99	95	108	96	-118	46	102	99
103	80	106	109	85	104	90	52	43	98	96
111	77	103	107	84	106	94	-69	42	102	94
111	95	109	109	94	99	98	-176	46	100	98
108	98	108	109	97	99	99	-173	47	103	100
110	77	101	102	91	101	91	-122	45	104	97
109	78	102#	107#	79	107	89	131	40	102	86
109	66	103#	105#	65	104	87	-126	35	102	92
109	90	108#	113#	78	103	97	18	38	102	97
111	62	105#	105#	64	102	87	-68	34	101	96
108	94	103	103	89	103	97	-55	44	102	99
105	87	98	100	83	108	92	-66	42	101	93
107	73	102#	99#	78	112	92	-125	40	103	97
106	68	104	102	80	103	72	-118	41	102	89
106	95	105	101	89	109	98	-46	44	100	97
104	85	115	105	82	102	91	-142	42	101	89
110	93	106	108	92	104	97	-25	45	102	99
106	89	103	100	98	106	98	-86	47	101	99
109	72	101#	104#	79	109	88	-30	40	101	92
105	78	112	111	83	106	88	-111	42	99	93
106	91	107	104	91	105	95	-13	45	101	96
108	95	107	102	93	104	98	-96	46	101	97
105	84	94#	104#	76	103	94	-47	38	101	96
109	86	106	109	90	102	95	-105	44	104	94
103	99	104	98	99	99	99	-118	47	101	100
107	72	95#	96#	80	103	91	-13	40	105	92
108	97	102	96	95	102	99	-91	46	101	99
105	66	101#	92#	72	105	93	-195	38	103	93
112	81	104	107	90	108	91	24	44	104	95
110	95	107	109	97	103	98	-54	47	102	98

107	67	106	108	71	106	74	0	38	102	86
111*	68	107	107	73	106*	87	-88	38	101*	81
110	91	105	102	92	103	95	-127	45	103	98
106	80	98	106	78	104	88	15	40	102	90
111	88	103	107	89	107	98	98	44	103	99
106	68	96	110	83	108	61	63	42	105	98
108	67	104#	106#	72	108	89	55	37	101	95
109	64	105	112	76	105	84	-113	40	101	98
108	98	101	104	98	108	99	-34	47	101	99
110	88	108	110	92	103	95	-124	45	103	98
111	86	104	111	90	105	94	-32	44	102	98
111	97	98	97	97	103	98	-92	47	103	99
110	65	102#	103#	69	104	83	8	36	103	89
107	84	104	109	86	103	92	-39	43	100	97
107	73	101	98	88	106	86	-81	44	103	95
108	96	102	106	97	102	98	-154	47	100	98
105	76	97	99	90	96	92	178	45	103	98
108	66	102#	106#	74	106	86	-48	38	102	93
104	98	100	98	96	106	99	-72	47	103	98
109	67	102	103	74	107	81	-36	39	101	98

Rank	Bull ID	Bull Name	Genetic Codes	Genomics Included
1	NZGWALTFERNO	WALTON INFERNO	A22,BLF,CNF,CVF	g
2	NZGRAYBEAM	SAN RAY FM BEAMER-ET S2F	A12	g
3	NZGCritical	CROSSANS CRITICAL-ET	A22,BLF,CNF,CVF	g
4	CRVNGAURUHOE	GREENMILE NGAURUHOE F10J6		g
5	NZGPrelude	WERDERS PRELUDE	A22	g
6	CRVPELORUS	CAWDOR SRB PELORUS F10J6		g
7	NZGBREAK	GREENWELL BREAKTHROUGH ET	A22	g
8	CRVSARAJEVO	SARAJEVO		g
9	CRVKAIMAI	BURGESS KAIMAI F11J5		g
10	CRVPHASER	PAYNES PHASER ET F12J4		g
11	CRVTEAK	ARRIETA TEAK F9J7		g
12	NZGWOODSPOT	WOODWARDS SPOT ON	A22,BLF,CNF,CVF	g
13	NZGARKANSHOT	ARKAN EO BIGSHOT-ET S3F	A22	g
14	CRVMAPLE	TATAWAI MAPLE F9J7		g
15	NZGTUSK	SCHRADERS TUSK	A12	g
16	NZGPRISIERRA	PRIESTS SIERRA	A22	g

Australian Proven or International	Source	Indices				Production Traits							
		BPI \$	BPI Rel	HWI	TWI	ASI	Prot kg	Prot %	Milk L	Fat kg	Fat %	ASI Rel	No. Dtrs
I	LIC	324	60	276	201	181	4	0.58	-967	30	1.03	67	
I	LIC	319	85	199	246	312	30	0.66	-173	48	0.80	96	
I	LIC	292	62	250	170	188	17	0.45	-243	25	0.51	68	
I	CRV	279	62	225	154	179	9	0.56	-760	23	0.80	69	
I	LIC	277	69	231	177	189	17	0.54	-441	16	0.51	77	
A	CRV	261	54	180	141	224	16	0.59	-549	31	0.79	65	
I	LIC	250	69	188	106	172	7	0.57	-865	21	0.84	76	
I	CRV	239	64	194	128	187	17	0.53	-401	16	0.48	72	
I	CRV	231	63	203	133	144	10	0.36	-353	23	0.55	70	
A	CRV	207	53	165	70	166	14	0.51	-472	12	0.46	62	
A	CRV	207	53	164	44	155	3	0.62	-1,100	13	0.87	63	
I	LIC	201	61	152	86	146	0	0.49	-947	27	0.97	69	
I	LIC	200	70	175	84	150	18	0.50	-291	-4	0.13	77	
A	CRV	198	52	148	60	165	2	0.62	-1,162	21	1.02	62	
I	LIC	195	62	190	45	106	-2	0.42	-912	17	0.81	70	
A	LIC	192	87	149	107	130	3	0.44	-763	19	0.74	98	445

		Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved	
No. Herds	No. Dtrs 1st Cntry	Survival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel
	119	97*	38	87	91	57	101	102	100	72	117	36	149	73	178	34
	61,336	103*	62	97	90	70	103	101	99	86	106*	91	78	95	-17	38
	147	96*	37	87	90	58	100	102	99	72	115	39	119	75	218	34
	91	98*	41	87	87	58	102	101	98	69	118	40	117	73	143	34
	13,704	98*	45	93	93	61	102	101	97	76	115	51	81	86	188	35
		102	39	88	90	34	101	101	100	52	111	47	100	58	54	22
	221	100*	51	85	88	61	101	103	97	74	118	57	101	83	70	35
	263	98*	41	89	87	53	101	99	97	64	113	48	92	79	212	32
	108	99*	44	89	92	60	99	100	98	70	112	45	123	73	197	35
		101	42	83	88	35	101	100	101	49	113	46	102	55	179	23
		98	39	79	85	35	100	100	98	49	115	45	121	56	184	22
	87	95*	37	90	85	55	101	100	95	68	116	35	98	75	113	33
	1,571	101*	53	85	90	63	102	99	101	75	115	58	81	85	243	36
		102	35	83	86	31	101	99	98	49	113	44	96	55	152	21
	100	94*	36	83	88	55	102	101	96	69	117	36	103	76	305	33
31		103	84	91#	92#	68	101#	102#	102#	82	110	95	121	98	77	36

Calving Ease	
Calving Ease	Rel
104	50
100*	93
104	68
105	55
103	73
103#	68
103	71
103	61
101	55
103#	67
101#	56
103	64
104	72
101#	55
104	70
101	97