



APPENDIX I – GEOSYNTHETICS QUALITY CONTROL DOCUMENTS AND INVENTORY

APPENDIX I.1 – 80MIL LLDPE GEOMEMBRANE INVENTORY CONTROL

APPENDIX I.2 – RESUMES OF INSTALLATION PERSONNEL

APPENDIX I.3 – 80MIL LLDPE GEOMEMBRANE ROLL QC CERTIFICATES

APPENDIX I.4 – 80MIL LLDPE GEOMEMBRANE RESIN QC CERTIFICATES

APPENDIX I.5 – WELDING ROD QUALITY CONTROL CERTIFICATES

APPENDIX 1.6 – GEOTEXILE ROLL QUALITY CONTROL CERTIFICATES



APPENDIX I.1 – 80MIL LLDPE GEOMEMBRANE INVENTORY CONTROL

Squaw Gulch Valley Leach Facility

Phase 2A Part 3 Record of Construction

80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FNB0047810003	DKJ810770	23	410	9,430	X	X	X	12/11/19
FNB0047810004	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810005	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810006	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810007	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810008	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810009	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810010	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810011	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810012	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810013	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810014	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810015	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810016	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810017	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810018	DKJ810770	23	410	9,430	X	X	X	12/11/19
FNB0047810019	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810020	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810021	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810022	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810023	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810024	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810025	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810026	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810027	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810028	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810029	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810030	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810031	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810032	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810033	DKJ810770	23	410	9,430	X	X	X	12/11/19
FNB0047810034	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810035	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810036	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810037	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810038	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810039	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810040	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810041	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810042	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810043	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810044	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810045	DKJ810770	23	410	9,430		X	X	12/11/19

Squaw Gulch Valley Leach Facility

Phase 2A Part 3 Record of Construction

80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agro QC Certification	Resin Certification	Site Delivery Date
FNB0047810046	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810047	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810048	DKJ810770	23	410	9,430	X	X	X	12/11/19
FNB0047810049	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810050	DKJ810770	23	410	9,430		X	X	12/11/19
FNB0047810051	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810052	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810053	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810054	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810055	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810056	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810057	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810058	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810059	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810060	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810061	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810062	DKJ810770	23	410	9,430		X	X	12/13/19
FNB0047810063	DKJ810770	23	410	9,430	X	X	X	12/12/19
FNB0047810064	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810065	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810066	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810067	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810068	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810069	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810070	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810071	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810072	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810073	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810074	DKJ810770	23	410	9,430		X	X	12/12/19
FNB0047810075	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810076	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810077	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810078	DKJ810770	23	410	9,430	X	X	X	12/16/19
FNB0047810079	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810080	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810081	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810082	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810083	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810084	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810085	DKJ810770	23	410	9,430	X	X	X	12/16/19
FNB0047810086	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810087	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810088	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810089	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810090	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810091	DKJ810770	23	410	9,430		X	X	12/16/19

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FNB0047810092	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810093	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810094	DKJ810770	23	410	9,430		X	X	12/16/19
FNB0047810095	DKK810700	23	410	9,430		X	X	12/16/19
FNB0047810096	DKK810700	23	410	9,430		X	X	12/16/19
FNB0047810097	DKK810700	23	410	9,430		X	X	12/16/19
FNB0047810098	DKK810700	23	410	9,430		X	X	12/16/19
FNB0047810099	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810100	DKK810700	23	410	9,430	X	X	X	12/17/19
FNB0047810101	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810102	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810103	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810104	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810105	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810106	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810107	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810108	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810109	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810110	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810111	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810112	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810113	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810114	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810115	DKK810700	23	410	9,430	X	X	X	12/17/19
FNB0047810116	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810117	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810118	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810119	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810120	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810121	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810122	DKK810700	23	410	9,430		X	X	12/17/19
FNB0047810123	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810124	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810125	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810126	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810127	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810128	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810129	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810130	DKK810700	23	410	9,430	X	X	X	12/18/19
FNB0047810131	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810132	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810133	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810134	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810135	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810136	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810137	DKK810700	23	410	9,430		X	X	12/18/19

Squaw Gulch Valley Leach Facility

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Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FNB0047810138	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810139	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810140	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810141	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810142	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810143	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810144	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810145	DKK810700	23	410	9,430	X	X	X	12/18/19
FNB0047810146	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810147	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810148	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810149	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810150	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810151	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810152	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810153	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810154	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810155	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810156	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810157	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810158	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810159	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810160	DKK810700	23	410	9,430	X	X	X	12/18/19
FNB0047810161	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810162	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810163	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810164	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810165	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810166	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810167	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810168	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810169	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810170	DKK810700	23	410	9,430		X	X	12/18/19
FNB0047810171	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810172	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810173	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810174	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810175	DKK810700	23	410	9,430	X	X	X	12/20/19
FNB0047810176	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810177	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810178	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810179	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810180	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810181	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810182	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810183	DKK810700	23	410	9,430		X	X	12/20/19

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FNB0047810184	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810185	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810186	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810187	DKK810700	23	410	9,430		X	X	12/20/19
FNB0047810188	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810189	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810190	DKJ810710	23	410	9,430	X	X	X	12/20/19
FNB0047810191	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810192	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810193	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810194	DKJ810710	23	410	9,430		X	X	12/20/19
FNB0047810195	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810197	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810198	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810199	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810200	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810201	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810202	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0047810203	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240001	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240002	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240003	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240004	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820005	DKK810710	23	410	9,430	X	X	X	12/21/19
FND0047820008	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820009	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820010	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820011	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820012	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820013	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820014	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820015	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820016	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820017	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820018	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820019	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820020	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820021	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820022	DKK810710	23	410	9,430	X	X	X	12/20/19
FND0047820023	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820024	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820025	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820026	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820027	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820028	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820029	DKK810710	23	410	9,430		X	X	12/20/19

Squaw Gulch Valley Leach Facility

Phase 2A Part 3 Record of Construction

80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0047820030	DKK810710	23	410	9,430		X	X	12/20/19
FND0047820031	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820032	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820033	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820034	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820035	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820036	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820037	DKK810710	23	410	9,430	X	X	X	12/23/19
FND0047820038	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820039	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820040	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820041	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820042	DKK810710	23	410	9,430		X	X	12/23/19
FND0047820043	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820044	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820045	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820046	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820047	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820048	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820049	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820050	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820051	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820052	DKK810710	23	410	9,430	X	X	X	12/21/19
FND0047820053	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820054	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820055	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820056	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820057	DKK810710	23	410	9,430		X	X	12/21/19
FND0047820058	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820059	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820060	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820061	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820062	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820063	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820064	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820065	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820066	DKJ810710	23	410	9,430		X	X	12/21/19
FND0047820067	DKJ810710	23	410	9,430	X	X	X	12/30/19
FND0047820068	DKJ810710	23	410	9,430		X	X	12/30/19
FND0047820069	DKJ810710	23	410	9,430		X	X	12/30/19
FND0047820070	DKJ810710	23	410	9,430		X	X	12/31/19
FND0047820071	DKJ810710	23	410	9,430		X	X	12/31/19
FND0047820072	DKJ810710	23	410	9,430		X	X	12/31/19
FND0047820073	DKJ810710	23	410	9,430		X	X	12/31/19
FND0047820074	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820075	DKJ810710	23	410	9,430		X	X	12/23/19

Squaw Gulch Valley Leach Facility

Phase 2A Part 3 Record of Construction

80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0047820076	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240005	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240006	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240007	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240008	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240009	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240010	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240011	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240012	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240013	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240014	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240015	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240016	DKJ810710	23	410	9,430		X	X	12/21/19
FNB0048240017	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240019	DKJ810710	23	410	9,430		X	X	12/31/19
FND0047820077	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820078	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820079	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820080	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820081	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820082	DKJ810710	23	410	9,430	X	X	X	12/23/19
FND0047820083	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820084	DKJ810710	23	410	9,430		X	X	12/23/19
FND0047820085	DKJ810710	23	410	9,430		X	X	12/23/19
FNB0048240019	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240020	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240021	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240022	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240023	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240024	DKJ810710	23	410	9,430		X	X	12/31/19
FNB0048240025	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240026	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240027	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240028	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240029	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240030	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240031	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240032	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240033	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240034	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240035	DKJ810710	23	410	9,430		X	X	12/27/19
FNB0048240036	DKJ810710	23	410	9,430		X	X	12/27/19
<i>Total Rolls</i>	315	<i>Total Area (sf)</i>		2,970,450				



APPENDIX I.2 – RESUMES OF INSTALLATION PERSONNEL

Resume of Qualifications

Trevor Simmons

Professional Qualifications

Trevor Simmons possesses over twenty seven years of experience in the geosynthetic industry. He has supervised and installed over 150,000,000 square feet of numerous types of geosynthetic material from all major manufacturers. He has performed and supervised projects ranging up to 7,000,000 square feet. He has experience installing and supervising the installation of HDPE, LLDPE, XR5, Geocomposite Clay, Geocomposite, Geotextiles, Polypropylene and PVC liners.

Mr. Simmons' experience includes international work in Canada, England, the Bahamas, the United Arab Emirates and Laos. Current duties include coordination of 15 Field Superintendents and as many as 200 foremen, Quality Control Technicians, Operators, Laborers and Welding Technicians through the construction season.

Mr. Simmons joined American Environmental Group Ltd. in April of 2005.

Experience and Employment Background

2015 – Present: American Environmental Group, Ltd., Richfield, Ohio
Operations Manager

2005 – 2015 American Environmental Group, Ltd., Richfield, Ohio
General Superintendent
As a General Superintendent, Mr. Simmons oversaw the completion of both ordinary and extraordinary geosynthetics installation. The ordinary include normal wastewater ponds and landfill cells, while the extraordinary included many emergency landfill projects where quality and safety were critical. Such emergency projects required a high level of competence and communication with multiple trades to meet customer and legal requirements. Crew sizes ranged from 10 to 40

2004 – 2005: Geo-Synthetics Inc., Waukesha, WI.
Project Manager
As a Project Manager, Mr. Simmons was responsible for all aspects of construction on installation projects throughout the United States. Mr. Simmons managed between 2 and 8 geosynthetic crews on a continual basis. His duties included P&L management, materials management, crew scheduling, daily coordination with clients, invoicing of contract and extra work items. Mr. Simmons was responsible for overall client satisfaction. His duties also included interviewing, screening, and selecting candidates for Employment.

2002 – 2003: COMANCO Environmental Corporation, Baton Rouge, LA
Project Manager
As a Project Manager, Mr. Simmons was responsible for all aspects of construction on installation projects in his Southeast Region. Mr. Simmons managed between 2 and 6 geosynthetic crews on a continual basis. His duties included P&L management, materials management, crew scheduling, daily coordination with clients, invoicing of contract and extra work items. Mr. Simmons was responsible for overall client satisfaction.

Tetra Tech AEG

3600 Brecksville Road, Suite 100, Richfield, Ohio 44286
Tel +1.330.659.5930 **Fax** +1.330.659-5931 **tetrattech.com**

Resume of Qualifications

Trevor Simmons

- 1992 – 2002: Serrot International, Inc. / National Seal Company, Baton Rouge, LA
Superintendent to Project Manager
Responsible for the supervision of field geosynthetics installation crews of 10 to 45 technicians and laborers. Mr. Simmons successfully completed installations in the U.S., Canada, England, The Bahamas and The United Arab Emirates. Coordinated project duties with other on-site contractors to meet required guidelines and goals.
- 1990 – 1992: Geosyntec Consultants, Consulting Engineers, Boca Raton, FL
Sr. Engineering Technician
Mr. Simmons was responsible for the documentation of all relevant aspects of landfill construction. He reviewed material certifications to ensure compliance with project specifications. He coordinated daily with the owner, earthwork contractor, and installation contractor. He facilitated problem / resolution meetings as necessary. Mr. Simmons performed on-site testing of materials. He prepared documentation for inclusion into final reports for submittal to state regulatory agencies for approval.
- 1989 – 1990: National Seal Company, Galesburg, IL
Senior Technician
Installation of various liner systems including: HDPE, LLDPE, Polypropylene, VLDPE, and PVC. Capable of operating all types of geosynthetic welding equipment.

Academic / Training Background

- OSHA 40 Hour Training Course – CFR 1910.120
- OSHA 8 Hour Refresher Training – CFR 1910.120
- OSHA 8 Hour Supervisor's and Competent Person Training – CFR 1910.120
- MSHA 24 Hour New Miner
- MSHA 8 Hour Refresher
- OSHA 10 Hour Construction Outreach
- OSHA 30 Hour Construction Outreach
- First Aid / CPR
- Wheel Loaders – various sizes
- Bobcat loaders - various sizes
- Backhoe/loader combination - various sizes
- Forklifts - rubber tired - various sizes
- Aerial Lifts – various sizes
- Excavators – various sizes
- Bulldozers – various sizes
- IAGI - Certified Welding Technician
- Instructor – Powered Industrial Truck

Tetra Tech AEG

3600 Brecksville Road, Suite 100, Richfield, Ohio 44286
Tel +1.330.659.5930 Fax +1.330.659-5931 tetratech.com

Antonio Alejo – Technician II		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2010 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	1995– 2010	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician II has a minimum of 2 million square feet of geosynthetic material installation experience.



Jose Alejo – Technician III		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2010 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	1995– 2010	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician III has a minimum of 10 million square feet of geosynthetic material installation experience.



Jesus Carrillo – QC Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2015 – Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	1996-2005	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic QC Technician has a minimum of 5 million square feet of geosynthetic material installation experience.



Alvino Gonzalez- Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2010 – Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE Lining Technology, Inc.	2010 – 2010	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.

Walter Lira-Guzman – Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2012 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.



Jorge Louis Olvera – Master Seamer/Foreman		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2011 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
ESI	2010– 2011	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	2007– 2008	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Master Seamer / Foreman has a minimum of 30 million square feet of geosynthetic material installation experience.



Noy Pok - Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	5/2020 – Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
Atlantic Lining Co	2019 - 2020	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.



Yaquelin Ricardo-Hernandez – QC Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2015-Present	Geomembrane HDPE, LLDPE, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	2005-2012	Geomembrane HDPE, LLDPE, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic QC Technician has a minimum of 5 million square feet of geosynthetic material installation experience.



Peter Seekins - Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2015-Present	Geomembrane HDPE, LLDPE, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.



Sinhxay Sundara - Master Seamer		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2005 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
American Environmental Group, LTD.	April 23, 2009 - 2014	IAGI CWT 032009 Certified Welding Technician
Geo-Synthetic, Inc.	2000 – 2005	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
GSE	1995 – 2000	Geomembrane HDPE, VLDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

Master Seamers have an IAGI Certified Welding Technician certificate that entitles them having a minimum of 30 million square feet of geosynthetic material installation experience



Curry Trahan – Technician		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2019-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.



Shawn Bowers – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.



Julian Pettingell – Technician III		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020 - Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
IEC	2019	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
Mustang	2017 - 2018	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
ESI	2014 - 2017	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 10 million square feet of geosynthetic material installation experience.



Javier Ortega – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.



Raziel Rodriguez – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.



Trey Shields - Technician		
Company History	Years' Experience	Materials
American Environmental Group, LTD.	2019 - Present	Geomembrane HDPE, LLDPE, XR-5 PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles
Atlantic Lining	2018 - 2019	Geomembrane HDPE, LLDPE, XR-5 PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician has a minimum of 1 million square feet of geosynthetic material installation experience.



Phaivanh Thonesavanh – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.



Duong Tran – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2020-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.



Glenn Beeman, Jr – Technician in Training		
Company History	Years Experience	Materials
American Environmental Group, LTD.	2019-Present	Geomembrane HDPE, LLDPE, XR-5, PVC, Geosynthetic Clay Liner (GCL), Geonet, Geocomposite, Geotextiles

A Geosynthetic Technician in training is working on having a minimum of 1 million square feet of geosynthetic material installation experience.





APPENDIX I.3 – 80 MIL LLDPE GEOMEMBRANE ROLL QC CERTIFICATES




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Maria Coffey-Manager Quality Control Department					ASTM D5994 (Modified)			ASTM D7466			ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693						ASTM D1004		ASTM D4833			
Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	Production Date		
		Width	Length	Area	Min.	Max.	Ave.																				
		ft.	ft.	ft².	mils	mils	mils									mils	mils	min	g/cc							g/10 min.	%
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152			
1	FNB0047810003	23	410.0	9,430	73	84	78	26	34	DKJ810770	214	0.933	0.34	2.5	10	235	3013	254.5	3263	519	637	60	56	149	12/6/2019		
2	FNB0047810004	23	410.0	9,430	73	83	78	27	36	DKJ810770	214	0.933	0.34	2.5	10	235	3013	254.5	3263	519	637	60	56	149	12/6/2019		
3	FNB0047810005	23	410.0	9,430	73	81	77	26	33	DKJ810770	214	0.933	0.34	2.5	10	232	3013	251.3	3263	519	637	60	56	149	12/6/2019		
4	FNB0047810006	23	410.0	9,430	74	82	78	27	35	DKJ810770	214	0.933	0.34	2.5	10	235	3013	254.5	3263	519	637	60	56	149	12/6/2019		
5	FNB0047810007	23	410.0	9,430	71	81	76	26	33	DKJ810770	214	0.931	0.34	2.3	10	234.5	3086	249.3	3280	510	619	63	59	154	12/6/2019		
6	FNB0047810008	23	410.0	9,430	75	80	78	29	34	DKJ810770	214	0.931	0.34	2.3	10	240.7	3086	255.8	3280	510	619	63	59	154	12/6/2019		
7	FNB0047810009	23	410.0	9,430	73	81	77	27	33	DKJ810770	214	0.931	0.34	2.3	10	237.6	3086	252.6	3280	510	619	63	59	154	12/6/2019		
8	FNB0047810010	23	410.0	9,430	73	80	77	27	33	DKJ810770	214	0.931	0.34	2.4	10	237.6	3086	252.6	3280	510	619	63	59	154	12/6/2019		
9	FNB0047810011	23	410.0	9,430	73	79	76	27	33	DKJ810770	214	0.931	0.34	2.4	10	234.5	3086	249.3	3280	510	619	63	59	154	12/6/2019		
10	FNB0047810012	23	410.0	9,430	74	80	76	27	31	DKJ810770	214	0.933	0.34	2.5	10	253.9	3341	268.3	3530	520	623	68	69	153	12/6/2019		
11	FNB0047810013	23	410.0	9,430	73	79	77	29	33	DKJ810770	214	0.933	0.34	2.5	10	257.3	3341	271.8	3530	520	623	68	69	153	12/7/2019		
12	FNB0047810014	23	410.0	9,430	73	78	76	27	32	DKJ810770	214	0.933	0.34	2.5	10	253.9	3341	268.3	3530	520	623	68	69	153	12/7/2019		
13	FNB0047810015	23	410.0	9,430	73	79	76	28	33	DKJ810770	214	0.933	0.34	2.4	10	253.9	3341	268.3	3530	520	623	68	69	153	12/7/2019		
14	FNB0047810016	23	410.0	9,430	73	81	77	27	33	DKJ810770	214	0.933	0.34	2.4	10	257.3	3341	271.8	3530	520	623	68	69	153	12/7/2019		
15	FNB0047810017	23	410.0	9,430	70	82	77	27	34	DKJ810770	214	0.933	0.34	2.3	10	253.5	3292	283.5	3682	516	649	74	74	155	12/7/2019		
16	FNB0047810018	23	410.0	9,430	72	81	78	28	35	DKJ810770	214	0.933	0.34	2.3	10	256.8	3292	287.2	3682	516	649	74	74	155	12/7/2019		
17	FNB0047810019	23	410.0	9,430	74	81	78	26	39	DKJ810770	214	0.933	0.34	2.3	10	256.8	3292	287.2	3682	516	649	74	74	155	12/7/2019		
18	FNB0047810020	23	410.0	9,430	71	82	78	28	35	DKJ810770	214	0.933	0.34	2.3	10	256.8	3292	287.2	3682	516	649	74	74	155	12/7/2019		
19	FNB0047810021	23	410.0	9,430	71	82	78	27	41	DKJ810770	214	0.933	0.34	2.3	10	256.8	3292	287.2	3682	516	649	74	74	155	12/7/2019		
20	FNB0047810022	23	410.0	9,430	73	82	78	28	37	DKJ810770	214	0.933	0.34	2.4	10	243	3115	264.9	3396	525	637	62	59	152	12/7/2019		
21	FNB0047810023	23	410.0	9,430	72	83	79	25	36	DKJ810770	214	0.933	0.34	2.4	10	246.1	3115	268.3	3396	525	637	62	59	152	12/7/2019		
22	FNB0047810024	23	410.0	9,430	76	82	79	27	37	DKJ810770	214	0.933	0.34	2.4	10	246.1	3115	268.3	3396	525	637	62	59	152	12/7/2019		
23	FNB0047810025	23	410.0	9,430	73	83	78	27	40	DKJ810770	214	0.933	0.34	2.4	10	243	3115	264.9	3396	525	637	62	59	152	12/7/2019		
24	FNB0047810026	23	410.0	9,430	71	82	78	26	38	DKJ810770	214	0.933	0.34	2.4	10	243	3115	264.9	3396	525	637	62	59	152	12/7/2019		
25	FNB0047810027	23	410.0	9,430	73	84	78	27	38	DKJ810770	214	0.931	0.34	2.3	10	235.9	3024	269.8	3459	530	640	68	68	147	12/7/2019		
26	FNB0047810028	23	410.0	9,430	73	81	76	27	31	DKJ810770	214	0.931	0.34	2.3	10	229.8	3024	262.9	3459	530	640	68	68	147	12/7/2019		



Maria Coffey-Manager
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 Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: **00005731**
 Liner Type: **80LL micro**
 Item: **FG-LDMSDS080BBBEG**
 Current # of Rolls: **315**
 Roll Count: **1 - 315 of 315 (all)**
 Report Date: **6/24/2020**

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date		
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	
		ft.	ft.	ft²	mils	mils	mils	mils	mils							ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.	
Minimum Results (ea. Col.)					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152	
27	FNB0047810029	23	410.0	9,430	71	81	77	26	33	DKJ810770	214	0.931	0.34	2.3	10	232.8	3024	266.3	3459	530	640	68	68	147	12/7/2019
28	FNB0047810030	23	410.0	9,430	75	81	78	27	34	DKJ810770	214	0.931	0.34	2.2	10	235.9	3024	269.8	3459	530	640	68	68	147	12/7/2019
29	FNB0047810031	23	410.0	9,430	75	79	77	27	33	DKJ810770	214	0.931	0.34	2.2	10	232.8	3024	266.3	3459	530	640	68	68	147	12/7/2019
30	FNB0047810032	23	410.0	9,430	75	82	79	26	34	DKJ810770	214	0.934	0.34	2.4	10	267.7	3388	286.9	3632	480	638	73	70	159	12/8/2019
31	FNB0047810033	23	410.0	9,430	76	80	78	29	34	DKJ810770	214	0.934	0.34	2.4	10	264.3	3388	283.3	3632	480	638	73	70	159	12/8/2019
32	FNB0047810034	23	410.0	9,430	76	80	78	27	33	DKJ810770	214	0.934	0.34	2.4	10	264.3	3388	283.3	3632	480	638	73	70	159	12/8/2019
33	FNB0047810035	23	410.0	9,430	76	82	79	27	33	DKJ810770	214	0.934	0.34	2.4	10	267.7	3388	286.9	3632	480	638	73	70	159	12/8/2019
34	FNB0047810036	23	410.0	9,430	75	82	79	28	33	DKJ810770	214	0.934	0.34	2.4	10	267.7	3388	286.9	3632	480	638	73	70	159	12/8/2019
35	FNB0047810037	23	410.0	9,430	76	82	79	26	37	DKJ810770	214	0.932	0.34	2.4	10	232.2	2939	270.5	3424	521	632	63	61	149	12/8/2019
36	FNB0047810038	23	410.0	9,430	78	82	80	26	39	DKJ810770	214	0.932	0.34	2.4	10	235.1	2939	273.9	3424	521	632	63	61	149	12/8/2019
37	FNB0047810039	23	410.0	9,430	76	81	79	27	38	DKJ810770	214	0.932	0.34	2.4	10	232.2	2939	270.5	3424	521	632	63	61	149	12/8/2019
38	FNB0047810040	23	410.0	9,430	74	79	77	26	34	DKJ810770	214	0.932	0.34	2.5	10	226.3	2939	263.6	3424	521	632	63	61	149	12/8/2019
39	FNB0047810041	23	410.0	9,430	75	81	78	26	38	DKJ810770	214	0.932	0.34	2.5	10	229.2	2939	267.1	3424	521	632	63	61	149	12/8/2019
40	FNB0047810042	23	410.0	9,430	74	82	79	27	36	DKJ810770	214	0.934	0.34	2.3	10	261.8	3314	286.7	3629	520	623	65	66	155	12/8/2019
41	FNB0047810043	23	410.0	9,430	74	82	78	26	36	DKJ810770	214	0.934	0.34	2.3	10	258.5	3314	283.1	3629	520	623	65	66	155	12/8/2019
42	FNB0047810044	23	410.0	9,430	72	83	78	27	37	DKJ810770	214	0.934	0.34	2.3	10	258.5	3314	283.1	3629	520	623	65	66	155	12/8/2019
43	FNB0047810045	23	410.0	9,430	72	81	77	25	35	DKJ810770	214	0.934	0.34	2.5	10	255.2	3314	279.4	3629	520	623	65	66	155	12/8/2019
44	FNB0047810046	23	410.0	9,430	75	80	77	28	34	DKJ810770	214	0.934	0.34	2.5	10	255.2	3314	279.4	3629	520	623	65	66	155	12/8/2019
45	FNB0047810047	23	410.0	9,430	75	80	77	29	35	DKJ810770	214	0.933	0.34	2.4	10	260.8	3387	282.2	3665	520	638	73	74	157	12/8/2019
46	FNB0047810048	23	410.0	9,430	75	81	77	28	33	DKJ810770	214	0.933	0.34	2.4	10	260.8	3387	282.2	3665	520	638	73	74	157	12/8/2019
47	FNB0047810049	23	410.0	9,430	75	80	77	29	34	DKJ810770	214	0.933	0.34	2.4	10	260.8	3387	282.2	3665	520	638	73	74	157	12/8/2019
48	FNB0047810050	23	410.0	9,430	76	81	77	29	33	DKJ810770	214	0.933	0.34	2.7	10	260.8	3387	282.2	3665	520	638	73	74	157	12/9/2019
49	FNB0047810051	23	410.0	9,430	73	81	78	28	34	DKJ810770	214	0.933	0.34	2.7	10	264.2	3387	285.9	3665	520	638	73	74	157	12/9/2019
50	FNB0047810052	23	410.0	9,430	74	80	78	27	32	DKJ810770	214	0.935	0.34	2.4	10	258.8	3318	291.8	3741	540	661	74	73	156	12/9/2019
51	FNB0047810053	23	410.0	9,430	76	82	79	28	33	DKJ810770	214	0.935	0.34	2.4	10	262.1	3318	295.5	3741	540	661	74	73	156	12/9/2019
52	FNB0047810054	23	410.0	9,430	74	81	79	29	33	DKJ810770	214	0.935	0.34	2.4	10	262.1	3318	295.5	3741	540	661	74	73	156	12/9/2019




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
53	FNB0047810055	23	410.0	9,430	75	79	78	27	34	DKJ810770	214	0.935	0.34	2.5	10	258.8	3318	291.8	3741	540	661	74	73	156	12/9/2019			
54	FNB0047810056	23	410.0	9,430	76	81	79	28	37	DKJ810770	214	0.935	0.34	2.5	10	262.1	3318	295.5	3741	540	661	74	73	156	12/9/2019			
55	FNB0047810057	23	410.0	9,430	76	82	78	26	34	DKJ810770	214	0.934	0.34	2.5	10	256.2	3284	279.4	3582	519	645	66	61	155	12/9/2019			
56	FNB0047810058	23	410.0	9,430	76	82	79	28	31	DKJ810770	214	0.934	0.34	2.5	10	259.4	3284	283	3582	519	645	66	61	155	12/9/2019			
57	FNB0047810059	23	410.0	9,430	75	82	78	27	34	DKJ810770	214	0.934	0.34	2.5	10	256.2	3284	279.4	3582	519	645	66	61	155	12/9/2019			
58	FNB0047810060	23	410.0	9,430	74	83	78	30	33	DKJ810770	214	0.934	0.34	2.5	10	256.2	3284	279.4	3582	519	645	66	61	155	12/9/2019			
59	FNB0047810061	23	410.0	9,430	76	82	79	30	31	DKJ810770	214	0.934	0.34	2.5	10	259.4	3284	283	3582	519	645	66	61	155	12/9/2019			
60	FNB0047810062	23	410.0	9,430	74	83	78	26	33	DKJ810770	214	0.933	0.34	2.4	10	256.2	3285	282.8	3625	513	625	65	62	155	12/9/2019			
61	FNB0047810063	23	410.0	9,430	75	82	79	27	33	DKJ810770	214	0.933	0.34	2.4	10	259.5	3285	286.4	3625	513	625	65	62	155	12/9/2019			
62	FNB0047810064	23	410.0	9,430	76	82	78	26	34	DKJ810770	214	0.933	0.34	2.4	10	256.2	3285	282.8	3625	513	625	65	62	155	12/9/2019			
63	FNB0047810065	23	410.0	9,430	76	81	78	28	33	DKJ810770	214	0.933	0.34	2.4	10	256.2	3285	282.8	3625	513	625	65	62	155	12/9/2019			
64	FNB0047810066	23	410.0	9,430	74	82	78	28	34	DKJ810770	214	0.933	0.34	2.4	10	256.2	3285	282.8	3625	513	625	65	62	155	12/9/2019			
65	FNB0047810067	23	410.0	9,430	74	81	77	29	34	DKJ810770	214	0.933	0.34	2.6	10	257.9	3349	278.4	3616	527	640	65	62	158	12/9/2019			
66	FNB0047810068	23	410.0	9,430	75	81	79	25	34	DKJ810770	214	0.933	0.34	2.6	10	264.6	3349	285.7	3616	527	640	65	62	158	12/9/2019			
67	FNB0047810069	23	410.0	9,430	74	81	79	28	31	DKJ810770	214	0.933	0.34	2.6	10	264.6	3349	285.7	3616	527	640	65	62	158	12/10/2019			
68	FNB0047810070	23	410.0	9,430	74	81	78	27	36	DKJ810770	214	0.933	0.34	2.3	10	261.2	3349	282	3616	527	640	65	62	158	12/10/2019			
69	FNB0047810071	23	410.0	9,430	76	79	78	29	31	DKJ810770	214	0.933	0.34	2.3	10	261.2	3349	282	3616	527	640	65	62	158	12/10/2019			
70	FNB0047810072	23	410.0	9,430	74	82	78	27	32	DKJ810770	214	0.933	0.34	2.3	10	253.1	3245	269.8	3459	529	623	71	68	156	12/10/2019			
71	FNB0047810073	23	410.0	9,430	74	82	78	27	33	DKJ810770	214	0.933	0.34	2.3	10	253.1	3245	269.8	3459	529	623	71	68	156	12/10/2019			
72	FNB0047810074	23	410.0	9,430	75	81	78	25	34	DKJ810770	214	0.933	0.34	2.3	10	253.1	3245	269.8	3459	529	623	71	68	156	12/10/2019			
73	FNB0047810075	23	410.0	9,430	74	82	77	27	34	DKJ810770	214	0.933	0.34	2.2	10	249.9	3245	266.3	3459	529	623	71	68	156	12/10/2019			
74	FNB0047810076	23	410.0	9,430	76	80	78	26	34	DKJ810770	214	0.933	0.34	2.2	10	253.1	3245	269.8	3459	529	623	71	68	156	12/10/2019			
75	FNB0047810077	23	410.0	9,430	75	80	78	26	35	DKJ810770	214	0.933	0.34	2.5	10	250.1	3207	276.3	3542	531	628	67	62	146	12/10/2019			
76	FNB0047810078	23	410.0	9,430	76	81	78	26	33	DKJ810770	214	0.933	0.34	2.5	10	250.1	3207	276.3	3542	531	628	67	62	146	12/10/2019			
77	FNB0047810079	23	410.0	9,430	77	81	78	26	34	DKJ810770	214	0.933	0.34	2.5	10	250.1	3207	276.3	3542	531	628	67	62	146	12/10/2019			
78	FNB0047810080	23	410.0	9,430	75	80	77	26	38	DKJ810770	214	0.933	0.34	2.3	10	246.9	3207	272.7	3542	531	628	67	62	146	12/10/2019			



Maria Coffey-Manager
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 Quality Control Department

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Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: **00005731**
 Liner Type: **80LL micro**
 Item: **FG-LDMSDS080BBBEG**
 Current # of Rolls: **315**
 Roll Count: **1 - 315 of 315 (all)**
 Report Date: **6/24/2020**

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date		
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	
		ft.	ft.	ft²	mils	mils	mils	mils	mils							ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.	
Minimum Results (ea. Col.)					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152	
79	FNB0047810081	23	410.0	9,430	73	80	78	27	35	DKJ810770	214	0.933	0.34	2.3	10	250.1	3207	276.3	3542	531	628	67	62	146	12/10/2019
80	FNB0047810082	23	410.0	9,430	76	80	77	27	33	DKJ810770	214	0.935	0.34	2.5	10	256.1	3326	266.3	3459	519	624	65	61	154	12/10/2019
81	FNB0047810083	23	410.0	9,430	75	82	78	26	34	DKJ810770	214	0.935	0.34	2.5	10	259.4	3326	269.8	3459	519	624	65	61	154	12/10/2019
82	FNB0047810084	23	410.0	9,430	76	82	78	27	36	DKJ810770	214	0.935	0.34	2.5	10	259.4	3326	269.8	3459	519	624	65	61	154	12/10/2019
83	FNB0047810085	23	410.0	9,430	76	81	79	28	34	DKJ810770	214	0.933	0.34	2.4	10	262.8	3326	273.3	3459	519	624	65	61	154	12/10/2019
84	FNB0047810086	23	410.0	9,430	74	81	78	30	33	DKJ810770	214	0.933	0.34	2.4	10	259.4	3326	269.8	3459	519	624	65	61	154	12/10/2019
85	FNB0047810087	23	410.0	9,430	75	81	78	28	32	DKJ810770	214	0.934	0.34	2.5	10	281.8	3613	285	3654	526	634	64	62	155	12/10/2019
86	FNB0047810088	23	410.0	9,430	76	80	78	29	33	DKJ810770	214	0.934	0.34	2.5	10	281.8	3613	285	3654	526	634	64	62	155	12/11/2019
87	FNB0047810089	23	410.0	9,430	77	81	79	29	34	DKJ810770	214	0.934	0.34	2.5	10	285.4	3613	288.7	3654	526	634	64	62	155	12/11/2019
88	FNB0047810090	23	410.0	9,430	76	80	78	29	33	DKJ810770	214	0.934	0.34	2.3	10	281.8	3613	285	3654	526	634	64	62	155	12/11/2019
89	FNB0047810091	23	410.0	9,430	75	82	78	27	32	DKJ810770	214	0.934	0.34	2.3	10	281.8	3613	285	3654	526	634	64	62	155	12/11/2019
90	FNB0047810092	23	410.0	9,430	74	84	79	27	34	DKJ810770	214	0.932	0.34	2.4	10	286.8	3631	292.2	3699	551	640	65	63	157	12/11/2019
91	FNB0047810093	23	410.0	9,430	74	81	79	24	35	DKJ810770	214	0.932	0.34	2.4	10	286.8	3631	292.2	3699	551	640	65	63	157	12/11/2019
92	FNB0047810094	23	410.0	9,430	72	81	78	25	36	DKJ810770	214	0.932	0.34	2.4	10	283.2	3631	288.5	3699	551	640	65	63	157	12/11/2019
93	FNB0047810095	23	410.0	9,430	73	81	77	25	35	DKK810700	200	0.932	0.37	2.4	10	279.6	3631	284.8	3699	551	640	65	63	157	12/11/2019
94	FNB0047810096	23	410.0	9,430	72	83	78	26	35	DKK810700	200	0.932	0.37	2.4	10	283.2	3631	288.5	3699	551	640	65	63	157	12/11/2019
95	FNB0047810097	23	410.0	9,430	71	84	78	25	35	DKK810700	200	0.932	0.37	2.4	10	265.8	3408	281.7	3612	530	636	68	69	156	12/11/2019
96	FNB0047810098	23	410.0	9,430	72	82	78	25	35	DKK810700	200	0.932	0.37	2.4	10	265.8	3408	281.7	3612	530	636	68	69	156	12/11/2019
97	FNB0047810099	23	410.0	9,430	74	83	79	24	35	DKK810700	200	0.932	0.37	2.4	10	269.2	3408	285.3	3612	530	636	68	69	156	12/11/2019
98	FNB0047810100	23	410.0	9,430	72	85	79	24	35	DKK810700	200	0.932	0.37	2.4	10	269.2	3408	285.3	3612	530	636	68	69	156	12/11/2019
99	FNB0047810101	23	410.0	9,430	74	80	78	27	32	DKK810700	200	0.932	0.37	2.4	10	265.8	3408	281.7	3612	530	636	68	69	156	12/11/2019
100	FNB0047810102	23	410.0	9,430	75	81	78	29	33	DKK810700	200	0.934	0.37	2.4	10	290.6	3726	277.3	3555	535	608	67	62	160	12/11/2019
101	FNB0047810103	23	410.0	9,430	75	83	79	30	34	DKK810700	200	0.934	0.37	2.4	10	294.4	3726	280.8	3555	535	608	67	62	160	12/11/2019
102	FNB0047810104	23	410.0	9,430	77	81	79	29	33	DKK810700	200	0.934	0.37	2.4	10	294.4	3726	280.8	3555	535	608	67	62	160	12/11/2019
103	FNB0047810105	23	410.0	9,430	76	80	78	29	33	DKK810700	200	0.934	0.37	2.3	10	290.6	3726	277.3	3555	535	608	67	62	160	12/11/2019
104	FNB0047810106	23	410.0	9,430	74	83	79	28	33	DKK810700	200	0.934	0.37	2.3	10	294.4	3726	280.8	3555	535	608	67	62	160	12/12/2019




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
105	FNB0047810107	23	410.0	9,430	74	82	78	29	33	DKK810700	200	0.932	0.37	2.4	10	270.7	3470	296.6	3803	520	666	66	66	156	12/12/2019			
106	FNB0047810108	23	410.0	9,430	74	81	78	28	33	DKK810700	200	0.932	0.37	2.4	10	270.7	3470	296.6	3803	520	666	66	66	156	12/12/2019			
107	FNB0047810109	23	410.0	9,430	74	81	78	28	33	DKK810700	200	0.932	0.37	2.4	10	270.7	3470	296.6	3803	520	666	66	66	156	12/12/2019			
108	FNB0047810110	23	410.0	9,430	77	81	78	28	33	DKK810700	200	0.932	0.37	2.3	10	270.7	3470	296.6	3803	520	666	66	66	156	12/12/2019			
109	FNB0047810111	23	410.0	9,430	72	83	78	25	36	DKK810700	200	0.932	0.37	2.3	10	270.7	3470	296.6	3803	520	666	66	66	156	12/12/2019			
110	FNB0047810112	23	410.0	9,430	73	83	79	24	37	DKK810700	200	0.932	0.37	2.4	10	277.2	3509	286.6	3628	546	641	70	67	152	12/12/2019			
111	FNB0047810113	23	410.0	9,430	74	83	79	25	35	DKK810700	200	0.932	0.37	2.4	10	277.2	3509	286.6	3628	546	641	70	67	152	12/12/2019			
112	FNB0047810114	23	410.0	9,430	74	83	79	26	37	DKK810700	200	0.932	0.37	2.4	10	277.2	3509	286.6	3628	546	641	70	67	152	12/12/2019			
113	FNB0047810115	23	410.0	9,430	73	81	78	26	36	DKK810700	200	0.932	0.37	2.4	10	273.7	3509	283	3628	546	641	70	67	152	12/12/2019			
114	FNB0047810116	23	410.0	9,430	73	82	77	25	36	DKK810700	200	0.932	0.37	2.4	10	270.2	3509	279.4	3628	546	641	70	67	152	12/12/2019			
115	FNB0047810117	23	410.0	9,430	75	85	78	27	39	DKK810700	200	0.933	0.37	2.4	10	240.5	3083	281.5	3609	542	638	70	63	153	12/12/2019			
116	FNB0047810118	23	410.0	9,430	74	83	78	25	34	DKK810700	200	0.933	0.37	2.4	10	240.5	3083	281.5	3609	542	638	70	63	153	12/12/2019			
117	FNB0047810119	23	410.0	9,430	76	85	79	26	35	DKK810700	200	0.933	0.37	2.4	10	243.6	3083	285.1	3609	542	638	70	63	153	12/12/2019			
118	FNB0047810120	23	410.0	9,430	76	83	79	25	33	DKK810700	200	0.933	0.37	2.4	10	243.6	3083	285.1	3609	542	638	70	63	153	12/12/2019			
119	FNB0047810121	23	410.0	9,430	75	81	78	28	34	DKK810700	200	0.933	0.37	2.4	10	240.5	3083	281.5	3609	542	638	70	63	153	12/12/2019			
120	FNB0047810122	23	410.0	9,430	75	80	78	28	32	DKK810700	200	0.934	0.37	2.3	10	280.8	3600	277.6	3559	562	627	63	61	154	12/12/2019			
121	FNB0047810123	23	410.0	9,430	75	79	78	28	36	DKK810700	200	0.934	0.37	2.3	10	280.8	3600	277.6	3559	562	627	63	61	154	12/12/2019			
122	FNB0047810124	23	410.0	9,430	75	80	78	29	34	DKK810700	200	0.934	0.37	2.3	10	280.8	3600	277.6	3559	562	627	63	61	154	12/12/2019			
123	FNB0047810125	23	410.0	9,430	75	80	78	28	35	DKK810700	200	0.934	0.37	2.4	10	280.8	3600	277.6	3559	562	627	63	61	154	12/13/2019			
124	FNB0047810126	23	410.0	9,430	74	79	77	28	33	DKK810700	200	0.934	0.37	2.4	10	277.2	3600	274	3559	562	627	63	61	154	12/13/2019			
125	FNB0047810127	23	410.0	9,430	77	82	79	29	34	DKK810700	200	0.933	0.37	2.3	10	264.9	3353	278.9	3531	545	621	65	64	151	12/13/2019			
126	FNB0047810128	23	410.0	9,430	75	81	78	28	36	DKK810700	200	0.933	0.37	2.3	10	261.5	3353	275.4	3531	545	621	65	64	151	12/13/2019			
127	FNB0047810129	23	410.0	9,430	73	80	77	28	35	DKK810700	200	0.933	0.37	2.3	10	258.2	3353	271.9	3531	545	621	65	64	151	12/13/2019			
128	FNB0047810130	23	410.0	9,430	75	81	78	27	36	DKK810700	200	0.933	0.37	2.2	10	261.5	3353	275.4	3531	545	621	65	64	151	12/13/2019			
129	FNB0047810131	23	410.0	9,430	76	83	79	26	34	DKK810700	200	0.933	0.37	2.2	10	264.9	3353	278.9	3531	545	621	65	64	151	12/13/2019			
130	FNB0047810132	23	410.0	9,430	77	82	80	25	34	DKK810700	200	0.934	0.37	2.3	10	269.6	3370	281.8	3522	522	618	65	64	154	12/13/2019			




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
131	FNB0047810133	23	410.0	9,430	76	82	79	27	35	DKK810700	200	0.934	0.37	2.3	10	266.2	3370	278.2	3522	522	618	65	64	154	12/13/2019			
132	FNB0047810134	23	410.0	9,430	77	83	80	26	35	DKK810700	200	0.934	0.37	2.3	10	269.6	3370	281.8	3522	522	618	65	64	154	12/13/2019			
133	FNB0047810135	23	410.0	9,430	77	82	79	27	38	DKK810700	200	0.934	0.37	2.6	10	266.2	3370	278.2	3522	522	618	65	64	154	12/13/2019			
134	FNB0047810136	23	410.0	9,430	76	81	79	27	37	DKK810700	200	0.934	0.37	2.6	10	266.2	3370	278.2	3522	522	618	65	64	154	12/13/2019			
135	FNB0047810137	23	410.0	9,430	76	81	79	26	37	DKK810700	200	0.934	0.37	2.4	10	262.4	3321	291.7	3692	530	656	64	60	151	12/13/2019			
136	FNB0047810138	23	410.0	9,430	77	83	79	26	35	DKK810700	200	0.934	0.37	2.4	10	262.4	3321	291.7	3692	530	656	64	60	151	12/13/2019			
137	FNB0047810139	23	410.0	9,430	77	81	79	28	33	DKK810700	200	0.934	0.37	2.4	10	262.4	3321	291.7	3692	530	656	64	60	151	12/13/2019			
138	FNB0047810140	23	410.0	9,430	75	81	78	28	34	DKK810700	200	0.934	0.37	2.5	10	259	3321	288	3692	530	656	64	60	151	12/13/2019			
139	FNB0047810141	23	410.0	9,430	75	81	78	27	33	DKK810700	200	0.934	0.37	2.5	10	259	3321	288	3692	530	656	64	60	151	12/13/2019			
140	FNB0047810142	23	410.0	9,430	75	81	78	27	36	DKK810700	200	0.933	0.37	2.4	10	260.1	3334	274.5	3519	531	628	65	64	153	12/13/2019			
141	FNB0047810143	23	410.0	9,430	75	79	77	28	33	DKK810700	200	0.933	0.37	2.4	10	256.7	3334	271	3519	531	628	65	64	153	12/14/2019			
142	FNB0047810144	23	410.0	9,430	76	82	80	28	34	DKK810700	200	0.933	0.37	2.4	10	266.7	3334	281.5	3519	531	628	65	64	153	12/14/2019			
143	FNB0047810145	23	410.0	9,430	74	83	78	30	36	DKK810700	200	0.933	0.37	2.3	10	260.1	3334	274.5	3519	531	628	65	64	153	12/14/2019			
144	FNB0047810146	23	410.0	9,430	75	82	78	28	34	DKK810700	200	0.933	0.37	2.3	10	260.1	3334	274.5	3519	531	628	65	64	153	12/14/2019			
145	FNB0047810147	23	410.0	9,430	77	83	79	27	33	DKK810700	200	0.932	0.37	2.3	10	270.3	3422	292.4	3701	527	631	74	72	157	12/14/2019			
146	FNB0047810148	23	410.0	9,430	76	82	79	28	32	DKK810700	200	0.932	0.37	2.3	10	270.3	3422	292.4	3701	527	631	74	72	157	12/14/2019			
147	FNB0047810149	23	410.0	9,430	76	84	79	31	34	DKK810700	200	0.932	0.37	2.3	10	270.3	3422	292.4	3701	527	631	74	72	157	12/14/2019			
148	FNB0047810150	23	410.0	9,430	77	83	80	31	39	DKK810700	200	0.932	0.37	2.4	10	273.8	3422	296.1	3701	527	631	74	72	157	12/14/2019			
149	FNB0047810151	23	410.0	9,430	77	80	79	35	33	DKK810700	200	0.932	0.37	2.4	10	270.3	3422	292.4	3701	527	631	74	72	157	12/14/2019			
150	FNB0047810152	23	410.0	9,430	75	82	79	29	38	DKK810700	200	0.933	0.37	2.3	10	257.1	3255	278.7	3528	527	636	63	65	152	12/14/2019			
151	FNB0047810153	23	410.0	9,430	77	81	79	29	35	DKK810700	200	0.933	0.37	2.3	10	257.1	3255	278.7	3528	527	636	63	65	152	12/14/2019			
152	FNB0047810154	23	410.0	9,430	75	82	78	31	37	DKK810700	200	0.933	0.37	2.3	10	253.9	3255	275.2	3528	527	636	63	65	152	12/14/2019			
153	FNB0047810155	23	410.0	9,430	76	82	79	33	35	DKK810700	200	0.934	0.39	2.4	10	257.1	3255	278.7	3528	527	636	63	65	152	12/14/2019			
154	FNB0047810156	23	410.0	9,430	76	82	79	31	36	DKK810700	200	0.934	0.39	2.4	10	257.1	3255	278.7	3528	527	636	63	65	152	12/14/2019			
155	FNB0047810157	23	410.0	9,430	73	81	78	27	35	DKK810700	200	0.933	0.39	2.3	10	265.2	3400	297.4	3813	538	659	67	58	154	12/14/2019			
156	FNB0047810158	23	410.0	9,430	74	80	78	27	33	DKK810700	200	0.933	0.39	2.3	10	265.2	3400	297.4	3813	538	659	67	58	154	12/14/2019			




Maria Coffey-Manager
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Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
157	FNB0047810159	23	410.0	9,430	75	81	77	27	32	DKK810700	200	0.933	0.39	2.3	10	261.8	3400	293.6	3813	538	659	67	58	154	12/14/2019			
158	FNB0047810160	23	410.0	9,430	74	81	76	33	32	DKK810700	200	0.933	0.39	2.2	10	258.4	3400	289.8	3813	538	659	67	58	154	12/14/2019			
159	FNB0047810161	23	410.0	9,430	75	83	77	30	31	DKK810700	200	0.933	0.39	2.2	10	261.8	3400	293.6	3813	538	659	67	58	154	12/14/2019			
160	FNB0047810162	23	410.0	9,430	76	84	78	34	31	DKK810700	200	0.935	0.39	2.4	10	273.2	3502	300.1	3847	554	656	77	72	152	12/15/2019			
161	FNB0047810163	23	410.0	9,430	75	84	79	28	33	DKK810700	200	0.935	0.39	2.4	10	276.7	3502	303.9	3847	554	656	77	72	152	12/15/2019			
162	FNB0047810164	23	410.0	9,430	75	80	78	28	33	DKK810700	200	0.935	0.39	2.4	10	273.2	3502	300.1	3847	554	656	77	72	152	12/15/2019			
163	FNB0047810165	23	410.0	9,430	75	80	78	27	33	DKK810700	200	0.935	0.39	2.4	10	273.2	3502	300.1	3847	554	656	77	72	152	12/15/2019			
164	FNB0047810166	23	410.0	9,430	76	80	78	28	33	DKK810700	200	0.935	0.39	2.4	10	273.2	3502	300.1	3847	554	656	77	72	152	12/15/2019			
165	FNB0047810167	23	410.0	9,430	76	82	79	27	37	DKK810700	200	0.934	0.39	2.5	10	256.6	3248	271.4	3436	518	625	66	63	154	12/15/2019			
166	FNB0047810168	23	410.0	9,430	76	82	79	31	36	DKK810700	200	0.934	0.39	2.5	10	256.6	3248	271.4	3436	518	625	66	63	154	12/15/2019			
167	FNB0047810169	23	410.0	9,430	76	82	78	28	36	DKK810700	200	0.934	0.39	2.5	10	253.3	3248	268	3436	518	625	66	63	154	12/15/2019			
168	FNB0047810170	23	410.0	9,430	76	82	79	28	37	DKK810700	200	0.934	0.39	2.2	10	256.6	3248	271.4	3436	518	625	66	63	154	12/15/2019			
169	FNB0047810171	23	410.0	9,430	74	81	78	26	35	DKK810700	200	0.934	0.39	2.2	10	253.3	3248	268	3436	518	625	66	63	154	12/15/2019			
170	FNB0047810172	23	410.0	9,430	75	81	78	27	37	DKK810700	200	0.934	0.39	2.3	10	246.7	3163	283.1	3630	533	656	63	62	153	12/15/2019			
171	FNB0047810173	23	410.0	9,430	75	82	79	30	36	DKK810700	200	0.934	0.39	2.3	10	249.9	3163	286.8	3630	533	656	63	62	153	12/15/2019			
172	FNB0047810174	23	410.0	9,430	73	84	78	27	35	DKK810700	200	0.934	0.39	2.3	10	246.7	3163	283.1	3630	533	656	63	62	153	12/15/2019			
173	FNB0047810175	23	410.0	9,430	76	81	78	26	33	DKK810700	200	0.933	0.39	2.4	10	246.7	3163	283.1	3630	533	656	63	62	153	12/15/2019			
174	FNB0047810176	23	410.0	9,430	76	84	80	26	39	DKK810700	200	0.933	0.39	2.4	10	253	3163	290.4	3630	533	656	63	62	153	12/15/2019			
175	FNB0047810177	23	410.0	9,430	77	85	80	28	34	DKK810700	200	0.933	0.39	2.5	10	286.9	3586	306.7	3834	520	644	70	67	156	12/15/2019			
176	FNB0047810178	23	410.0	9,430	75	84	80	29	36	DKK810700	200	0.933	0.39	2.5	10	286.9	3586	306.7	3834	520	644	70	67	156	12/15/2019			
177	FNB0047810179	23	410.0	9,430	74	82	79	27	35	DKK810700	200	0.933	0.39	2.5	10	283.3	3586	302.9	3834	520	644	70	67	156	12/15/2019			
178	FNB0047810180	23	410.0	9,430	76	83	79	28	35	DKK810700	200	0.933	0.39	2.4	10	283.3	3586	302.9	3834	520	644	70	67	156	12/16/2019			
179	FNB0047810181	23	410.0	9,430	77	81	79	29	35	DKK810700	200	0.933	0.39	2.4	10	283.3	3586	302.9	3834	520	644	70	67	156	12/16/2019			
180	FNB0047810182	23	410.0	9,430	74	80	77	29	36	DKK810700	200	0.932	0.39	2.4	10	285.9	3713	285	3701	541	635	70	65	157	12/16/2019			
181	FNB0047810183	23	410.0	9,430	75	83	80	28	35	DKK810700	200	0.932	0.39	2.4	10	297	3713	296.1	3701	541	635	70	65	157	12/16/2019			
182	FNB0047810184	23	410.0	9,430	75	82	79	28	35	DKK810700	200	0.932	0.39	2.4	10	293.3	3713	292.4	3701	541	635	70	65	157	12/16/2019			




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.)					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
183	FNB0047810185	23	410.0	9,430	74	82	79	28	36	DKK810700	200	0.932	0.39	2.3	10	293.3	3713	292.4	3701	541	635	70	65	157	12/16/2019			
184	FNB0047810186	23	410.0	9,430	76	85	79	34	37	DKK810700	200	0.932	0.39	2.3	10	293.3	3713	292.4	3701	541	635	70	65	157	12/16/2019			
185	FNB0047810187	23	410.0	9,430	74	82	79	23	36	DKK810700	200	0.933	0.39	2.2	10	297.1	3761	307.4	3891	543	644	72	67	148	12/16/2019			
186	FNB0047810188	23	410.0	9,430	73	83	79	33	32	DKJ810710	147	0.933	0.34	2.2	10	297.1	3761	307.4	3891	543	644	72	67	148	12/16/2019			
187	FNB0047810189	23	410.0	9,430	78	83	81	27	36	DKJ810710	147	0.933	0.34	2.2	10	304.6	3761	315.2	3891	543	644	72	67	148	12/16/2019			
188	FNB0047810190	23	410.0	9,430	78	84	81	30	35	DKJ810710	147	0.933	0.34	2.1	10	304.6	3761	315.2	3891	543	644	72	67	148	12/16/2019			
189	FNB0047810191	23	410.0	9,430	76	86	81	27	37	DKJ810710	147	0.933	0.34	2.1	10	304.6	3761	315.2	3891	543	644	72	67	148	12/16/2019			
190	FNB0047810192	23	410.0	9,430	76	81	79	28	36	DKJ810710	147	0.934	0.34	2.5	10	279.8	3542	306.8	3884	526	633	72	67	151	12/16/2019			
191	FNB0047810193	23	410.0	9,430	77	82	80	24	36	DKJ810710	147	0.934	0.34	2.5	10	283.4	3542	310.7	3884	526	633	72	67	151	12/16/2019			
192	FNB0047810194	23	410.0	9,430	75	81	78	27	35	DKJ810710	147	0.934	0.34	2.5	10	276.3	3542	303	3884	526	633	72	67	151	12/16/2019			
193	FNB0047810195	23	410.0	9,430	73	80	77	29	33	DKJ810710	147	0.934	0.34	2.2	10	272.7	3542	299.1	3884	526	633	72	67	151	12/16/2019			
194	FNB0047810197	23	410.0	9,430	77	82	79	27	32	DKJ810710	147	0.934	0.34	2.2	10	279.8	3542	306.8	3884	526	633	72	67	151	12/16/2019			
195	FNB0047810198	23	410.0	9,430	74	82	78	28	32	DKJ810710	147	0.933	0.34	2.4	10	255	3269	273.4	3505	533	643	81	74	154	12/16/2019			
196	FNB0047810199	23	410.0	9,430	76	81	78	27	34	DKJ810710	147	0.933	0.34	2.4	10	255	3269	273.4	3505	533	643	81	74	154	12/17/2019			
197	FNB0047810200	23	410.0	9,430	74	82	78	26	33	DKJ810710	147	0.933	0.34	2.4	10	255	3269	273.4	3505	533	643	81	74	154	12/17/2019			
198	FNB0047810201	23	410.0	9,430	73	82	79	28	30	DKJ810710	147	0.933	0.34	2.5	10	258.3	3269	276.9	3505	533	643	81	74	154	12/17/2019			
199	FNB0047810202	23	410.0	9,430	76	84	79	25	31	DKJ810710	147	0.933	0.34	2.5	10	258.3	3269	276.9	3505	533	643	81	74	154	12/17/2019			
200	FNB0047810203	23	410.0	9,430	76	82	79	27	31	DKJ810710	147	0.935	0.34	2.4	10	252.4	3195	266.5	3374	522	615	68	76	154	12/17/2019			
201	FNB0048240001	23	410.0	9,430	76	82	79	24	33	DKJ810710	147	0.935	0.34	2.4	10	252.4	3195	266.5	3374	522	615	68	76	154	12/17/2019			
202	FNB0048240002	23	410.0	9,430	76	82	79	24	33	DKJ810710	147	0.935	0.34	2.4	10	252.4	3195	266.5	3374	522	615	68	76	154	12/17/2019			
203	FNB0048240003	23	410.0	9,430	77	82	79	24	34	DKJ810710	147	0.935	0.34	2.4	10	252.4	3195	266.5	3374	522	615	68	76	154	12/17/2019			
204	FNB0048240004	23	410.0	9,430	73	84	79	24	33	DKJ810710	147	0.935	0.34	2.4	10	252.4	3195	266.5	3374	522	615	68	76	154	12/17/2019			
205	FND0047820005	23	410.0	9,430	74	83	79	27	34	DKK810710	200	0.934	0.39	2.3	10	288.9	3657	295.3	3738	557	622	66	62	159	12/12/2019			
206	FND0047820008	23	410.0	9,430	73	81	78	28	33	DKK810710	200	0.934	0.39	2.3	10	285.2	3657	291.6	3738	557	622	66	62	159	12/12/2019			
207	FND0047820009	23	410.0	9,430	73	80	77	28	33	DKK810710	200	0.934	0.39	2.4	10	281.6	3657	287.8	3738	557	622	66	62	159	12/13/2019			
208	FND0047820010	23	410.0	9,430	73	82	78	28	29	DKK810710	200	0.934	0.39	2.4	10	285.2	3657	291.6	3738	557	622	66	62	159	12/13/2019			




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
209	FND0047820011	23	410.0	9,430	71	81	78	29	33	DKK810710	200	0.932	0.39	2.3	10	271.1	3475	268.2	3439	562	627	66	61	155	12/13/2019			
210	FND0047820012	23	410.0	9,430	73	82	78	27	32	DKK810710	200	0.932	0.39	2.3	10	271.1	3475	268.2	3439	562	627	66	61	155	12/13/2019			
211	FND0047820013	23	410.0	9,430	73	80	77	28	32	DKK810710	200	0.932	0.39	2.3	10	267.6	3475	264.8	3439	562	627	66	61	155	12/13/2019			
212	FND0047820014	23	410.0	9,430	72	81	77	25	33	DKK810710	200	0.932	0.39	2.2	10	267.6	3475	264.8	3439	562	627	66	61	155	12/13/2019			
213	FND0047820015	23	410.0	9,430	73	80	77	27	29	DKK810710	200	0.932	0.39	2.2	10	267.6	3475	264.8	3439	562	627	66	61	155	12/13/2019			
214	FND0047820016	23	410.0	9,430	72	81	77	26	31	DKK810710	200	0.932	0.39	2.3	10	271.5	3526	273.7	3554	554	643	66	61	156	12/13/2019			
215	FND0047820017	23	410.0	9,430	72	82	77	27	33	DKK810710	200	0.932	0.39	2.3	10	271.5	3526	273.7	3554	554	643	66	61	156	12/13/2019			
216	FND0047820018	23	410.0	9,430	72	80	77	26	34	DKK810710	200	0.932	0.39	2.3	10	271.5	3526	273.7	3554	554	643	66	61	156	12/13/2019			
217	FND0047820019	23	410.0	9,430	74	82	78	26	30	DKK810710	200	0.932	0.39	2.3	10	275	3526	277.2	3554	554	643	66	61	156	12/13/2019			
218	FND0047820020	23	410.0	9,430	73	81	78	27	35	DKK810710	200	0.932	0.39	2.3	10	275	3526	277.2	3554	554	643	66	61	156	12/13/2019			
219	FND0047820021	23	410.0	9,430	71	81	76	28	29	DKK810710	200	0.931	0.39	2.5	10	261.7	3443	276.3	3636	558	649	75	73	156	12/13/2019			
220	FND0047820022	23	410.0	9,430	72	84	77	28	32	DKK810710	200	0.931	0.39	2.5	10	265.1	3443	280	3636	558	649	75	73	156	12/13/2019			
221	FND0047820023	23	410.0	9,430	72	82	78	28	30	DKK810710	200	0.931	0.39	2.5	10	268.6	3443	283.6	3636	558	649	75	73	156	12/13/2019			
222	FND0047820024	23	410.0	9,430	72	80	77	29	31	DKK810710	200	0.931	0.39	2.4	10	265.1	3443	280	3636	558	649	75	73	156	12/13/2019			
223	FND0047820025	23	410.0	9,430	73	80	77	29	30	DKK810710	200	0.931	0.39	2.4	10	265.1	3443	280	3636	558	649	75	73	156	12/14/2019			
224	FND0047820026	23	410.0	9,430	73	81	77	30	29	DKK810710	200	0.932	0.39	2.4	10	273.8	3556	271.5	3526	567	624	77	71	155	12/14/2019			
225	FND0047820027	23	410.0	9,430	72	85	78	30	30	DKK810710	200	0.932	0.39	2.4	10	277.4	3556	275	3526	567	624	77	71	155	12/14/2019			
226	FND0047820028	23	410.0	9,430	75	83	78	26	30	DKK810710	200	0.932	0.39	2.4	10	277.4	3556	275	3526	567	624	77	71	155	12/14/2019			
227	FND0047820029	23	410.0	9,430	74	82	77	25	34	DKK810710	200	0.932	0.39	2.3	10	273.8	3556	271.5	3526	567	624	77	71	155	12/14/2019			
228	FND0047820030	23	410.0	9,430	73	83	78	29	37	DKK810710	200	0.932	0.39	2.3	10	277.4	3556	275	3526	567	624	77	71	155	12/14/2019			
229	FND0047820031	23	410.0	9,430	75	83	78	35	33	DKK810710	200	0.931	0.39	2.4	10	275.1	3527	263	3372	556	621	66	64	156	12/14/2019			
230	FND0047820032	23	410.0	9,430	75	83	79	29	35	DKK810710	200	0.931	0.39	2.4	10	278.6	3527	266.4	3372	556	621	66	64	156	12/14/2019			
231	FND0047820033	23	410.0	9,430	74	86	79	38	30	DKK810710	200	0.931	0.39	2.4	10	278.6	3527	266.4	3372	556	621	66	64	156	12/14/2019			
232	FND0047820034	23	410.0	9,430	73	81	78	27	37	DKK810710	198	0.936	0.39	2.3	10	275.1	3527	263	3372	556	621	66	64	156	12/14/2019			
233	FND0047820035	23	410.0	9,430	75	85	78	35	32	DKK810710	198	0.936	0.39	2.3	10	275.1	3527	263	3372	556	621	66	64	156	12/14/2019			
234	FND0047820036	23	410.0	9,430	74	80	77	26	29	DKK810710	198	0.932	0.39	2.2	10	279.8	3634	283.2	3678	561	640	67	64	159	12/14/2019			




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Cripple Creek & Victor Gold Mining Co
1632 County Road 82
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SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date					
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance				
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.				
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152				
235	FND0047820037	23	410.0	9,430	73	82	76	28	30	DKK810710	198	0.932	0.39	2.2	10	276.2	3634	279.5	3678	561	640	67	64	159	12/14/2019			
236	FND0047820038	23	410.0	9,430	72	81	76	29	29	DKK810710	198	0.932	0.39	2.2	10	276.2	3634	279.5	3678	561	640	67	64	159	12/14/2019			
237	FND0047820039	23	410.0	9,430	72	79	76	34	31	DKK810710	198	0.932	0.39	2.4	10	276.2	3634	279.5	3678	561	640	67	64	159	12/14/2019			
238	FND0047820040	23	410.0	9,430	76	86	79	29	29	DKK810710	198	0.932	0.39	2.4	10	287.1	3634	290.6	3678	561	640	67	64	159	12/15/2019			
239	FND0047820041	23	410.0	9,430	76	83	78	27	32	DKK810710	198	0.935	0.39	2.2	10	283.4	3633	286.7	3675	572	629	77	77	155	12/15/2019			
240	FND0047820042	23	410.0	9,430	76	85	78	28	30	DKK810710	198	0.935	0.39	2.2	10	283.4	3633	286.7	3675	572	629	77	77	155	12/15/2019			
241	FND0047820043	23	410.0	9,430	74	84	79	27	30	DKK810710	198	0.935	0.39	2.2	10	287	3633	290.3	3675	572	629	77	77	155	12/15/2019			
242	FND0047820044	23	410.0	9,430	77	87	80	35	31	DKK810710	198	0.935	0.39	2.5	10	290.6	3633	294	3675	572	629	77	77	155	12/15/2019			
243	FND0047820045	23	410.0	9,430	74	86	80	31	28	DKK810710	198	0.935	0.39	2.5	10	290.6	3633	294	3675	572	629	77	77	155	12/15/2019			
244	FND0047820046	23	410.0	9,430	76	83	79	28	33	DKK810710	198	0.932	0.39	2.5	10	285.7	3616	310.6	3932	568	665	68	67	159	12/15/2019			
245	FND0047820047	23	410.0	9,430	77	85	79	28	31	DKK810710	198	0.932	0.39	2.5	10	285.7	3616	310.6	3932	568	665	68	67	159	12/15/2019			
246	FND0047820048	23	410.0	9,430	74	85	78	26	30	DKK810710	198	0.932	0.39	2.5	10	282	3616	306.7	3932	568	665	68	67	159	12/15/2019			
247	FND0047820049	23	410.0	9,430	75	86	80	31	29	DKK810710	198	0.932	0.39	2.3	10	289.3	3616	314.6	3932	568	665	68	67	159	12/15/2019			
248	FND0047820050	23	410.0	9,430	77	84	79	29	32	DKK810710	198	0.932	0.39	2.3	10	285.7	3616	310.6	3932	568	665	68	67	159	12/15/2019			
249	FND0047820051	23	410.0	9,430	74	84	78	28	32	DKK810710	198	0.933	0.39	2.2	10	276.1	3540	273	3500	560	626	67	69	160	12/15/2019			
250	FND0047820052	23	410.0	9,430	74	85	78	26	30	DKK810710	198	0.933	0.39	2.2	10	276.1	3540	273	3500	560	626	67	69	160	12/15/2019			
251	FND0047820053	23	410.0	9,430	75	87	79	29	29	DKK810710	198	0.933	0.39	2.2	10	279.7	3540	276.5	3500	560	626	67	69	160	12/15/2019			
252	FND0047820054	23	410.0	9,430	77	86	79	28	28	DKK810710	198	0.933	0.39	2.2	10	279.7	3540	276.5	3500	560	626	67	69	160	12/15/2019			
253	FND0047820055	23	410.0	9,430	74	86	78	28	29	DKK810710	198	0.933	0.39	2.2	10	276.1	3540	273	3500	560	626	67	69	160	12/16/2019			
254	FND0047820056	23	410.0	9,430	75	86	79	28	32	DKK810710	198	0.933	0.39	2.3	10	289.9	3669	307.2	3889	564	662	73	69	158	12/16/2019			
255	FND0047820057	23	410.0	9,430	75	84	78	30	29	DKK810710	198	0.933	0.39	2.3	10	286.2	3669	303.3	3889	564	662	73	69	158	12/16/2019			
256	FND0047820058	23	410.0	9,430	76	85	79	29	30	DKJ810710	147	0.933	0.34	2.3	10	289.9	3669	307.2	3889	564	662	73	69	158	12/16/2019			
257	FND0047820059	23	410.0	9,430	75	85	79	28	30	DKJ810710	147	0.933	0.34	2.2	10	289.9	3669	307.2	3889	564	662	73	69	158	12/16/2019			
258	FND0047820060	23	410.0	9,430	79	86	81	32	38	DKJ810710	147	0.933	0.34	2.2	10	297.2	3669	315	3889	564	662	73	69	158	12/16/2019			
259	FND0047820061	23	410.0	9,430	78	82	80	28	31	DKJ810710	147	0.932	0.34	2.4	10	319	3987	331.9	4149	571	647	70	70	158	12/16/2019			
260	FND0047820062	23	410.0	9,430	76	85	80	28	33	DKJ810710	147	0.932	0.34	2.4	10	319	3987	331.9	4149	571	647	70	70	158	12/16/2019			



Maria Coffey-Manager
Maria Coffey-Manager
 Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: **00005731**
 Liner Type: **80LL micro**
 Item: **FG-LDMSDS080BBBEG**
 Current # of Rolls: **315**
 Roll Count: **1 - 315 of 315 (all)**
 Report Date: **6/24/2020**

ENGLISH

Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833	Production Date		
		Width	Length	Area	Min.	Max.	Ave.				OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	
		ft.	ft.	ft²	mils	mils	mils	mils	mils		min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	%	%	lbs.	lbs.	lbs.	
Minimum Results (ea. Col.)					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152	
261	FND0047820063	23	410.0	9,430	76	86	80	28	33	DKJ810710	147	0.932	0.34	2.4	10	319	3987	331.9	4149	571	647	70	70	158	12/16/2019
262	FND0047820064	23	410.0	9,430	74	81	78	30	31	DKJ810710	147	0.932	0.34	2.4	10	311	3987	323.6	4149	571	647	70	70	158	12/16/2019
263	FND0047820065	23	410.0	9,430	74	83	79	26	32	DKJ810710	147	0.932	0.34	2.4	10	315	3987	327.8	4149	571	647	70	70	158	12/16/2019
264	FND0047820066	23	410.0	9,430	74	80	77	28	30	DKJ810710	147	0.934	0.34	2.2	10	270.4	3512	279.9	3635	561	649	64	63	155	12/16/2019
265	FND0047820067	23	410.0	9,430	72	82	78	27	32	DKJ810710	147	0.934	0.34	2.2	10	273.9	3512	283.5	3635	561	649	64	63	155	12/16/2019
266	FND0047820068	23	410.0	9,430	74	84	78	28	30	DKJ810710	147	0.934	0.34	2.2	10	273.9	3512	283.5	3635	561	649	64	63	155	12/16/2019
267	FND0047820069	23	410.0	9,430	73	82	78	28	30	DKJ810710	147	0.934	0.34	2.2	10	273.9	3512	283.5	3635	561	649	64	63	155	12/16/2019
268	FND0047820070	23	410.0	9,430	72	82	79	28	29	DKJ810710	147	0.934	0.34	2.2	10	277.4	3512	287.2	3635	561	649	64	63	155	12/16/2019
269	FND0047820071	23	410.0	9,430	72	82	79	27	30	DKJ810710	147	0.934	0.34	2.2	10	265.5	3361	269.8	3415	560	619	69	71	155	12/17/2019
270	FND0047820072	23	410.0	9,430	73	82	79	27	32	DKJ810710	147	0.934	0.34	2.2	10	265.5	3361	269.8	3415	560	619	69	71	155	12/17/2019
271	FND0047820073	23	410.0	9,430	75	82	79	28	27	DKJ810710	147	0.934	0.34	2.2	10	265.5	3361	269.8	3415	560	619	69	71	155	12/17/2019
272	FND0047820074	23	410.0	9,430	76	82	79	27	30	DKJ810710	147	0.934	0.34	2.3	10	265.5	3361	269.8	3415	560	619	69	71	155	12/17/2019
273	FND0047820075	23	410.0	9,430	76	82	79	25	30	DKJ810710	147	0.934	0.34	2.3	10	265.5	3361	269.8	3415	560	619	69	71	155	12/17/2019
274	FND0047820076	23	410.0	9,430	75	86	80	26	30	DKJ810710	147	0.933	0.34	2.3	10	283.8	3547	308.6	3857	544	632	77	75	160	12/17/2019
275	FNB0048240005	23	410.0	9,430	75	82	79	24	33	DKJ810710	147	0.933	0.34	2.5	10	248.9	3150	266.3	3371	505	602	68	67	154	12/17/2019
276	FNB0048240006	23	410.0	9,430	75	82	79	26	34	DKJ810710	147	0.933	0.34	2.5	10	248.9	3150	266.3	3371	505	602	68	67	154	12/17/2019
277	FNB0048240007	23	410.0	9,430	75	81	79	26	35	DKJ810710	147	0.933	0.34	2.5	10	248.9	3150	266.3	3371	505	602	68	67	154	12/17/2019
278	FNB0048240008	23	410.0	9,430	77	83	79	25	34	DKJ810710	147	0.933	0.34	2.4	10	248.9	3150	266.3	3371	505	602	68	67	154	12/17/2019
279	FNB0048240009	23	410.0	9,430	72	83	79	24	35	DKJ810710	147	0.933	0.34	2.4	10	248.9	3150	266.3	3371	505	602	68	67	154	12/17/2019
280	FNB0048240010	23	410.0	9,430	73	81	78	28	35	DKJ810710	147	0.934	0.34	2.3	10	276.7	3548	297.8	3818	545	654	73	75	154	12/17/2019
281	FNB0048240011	23	410.0	9,430	76	84	79	28	33	DKJ810710	147	0.934	0.34	2.3	10	280.3	3548	301.6	3818	545	654	73	75	154	12/17/2019
282	FNB0048240012	23	410.0	9,430	77	83	79	28	31	DKJ810710	147	0.934	0.34	2.3	10	280.3	3548	301.6	3818	545	654	73	75	154	12/17/2019
283	FNB0048240013	23	410.0	9,430	77	84	79	27	31	DKJ810710	147	0.934	0.34	2.4	10	280.3	3548	301.6	3818	545	654	73	75	154	12/17/2019
284	FNB0048240014	23	410.0	9,430	76	81	78	28	31	DKJ810710	147	0.934	0.34	2.4	10	276.7	3548	297.8	3818	545	654	73	75	154	12/18/2019
285	FNB0048240015	23	410.0	9,430	78	81	79	27	32	DKJ810710	147	0.934	0.34	2.5	10	267.7	3389	287.7	3642	525	623	66	65	154	12/18/2019
286	FNB0048240016	23	410.0	9,430	75	81	79	26	33	DKJ810710	147	0.934	0.34	2.5	10	267.7	3389	287.7	3642	525	623	66	65	154	12/18/2019




Maria Coffey-Manager
Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: 00005731
Liner Type: 80LL micro
Item: FG-LDMSDS080BBBEG
Current # of Rolls: 315
Roll Count: 1 - 315 of 315 (all)
Report Date: 6/24/2020

ENGLISH

Maria Coffey-Manager Quality Control Department					ASTM D5994 (Modified)			ASTM D7466			ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693								ASTM D1004		ASTM D4833	
Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	Production Date		
		Width	Length	Area	Min.	Max.	Ave.																				
		ft.	ft.	ft².	mils	mils	mils									mils	mils	min	g/cc							g/10 min.	%
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152			
287	FNB0048240017	23	410.0	9,430	75	83	77	29	34	DKJ810710	147	0.934	0.34	2.5	10	261	3389	280.4	3642	525	623	66	65	154	12/18/2019		
288	FNB0048240019	23	410.0	9,430	76	82	78	28	34	DKJ810710	147	0.934	0.34	2.3	10	264.3	3389	284.1	3642	525	623	66	65	154	12/18/2019		
289	FND0047820077	23	410.0	9,430	75	82	78	25	28	DKJ810710	147	0.933	0.34	2.3	10	276.7	3547	300.8	3857	544	632	77	75	160	12/17/2019		
290	FND0047820078	23	410.0	9,430	75	82	78	25	28	DKJ810710	147	0.933	0.34	2.3	10	276.7	3547	300.8	3857	544	632	77	75	160	12/17/2019		
291	FND0047820079	23	410.0	9,430	74	80	78	26	30	DKJ810710	147	0.933	0.34	2.3	10	276.7	3547	300.8	3857	544	632	77	75	160	12/17/2019		
292	FND0047820080	23	410.0	9,430	75	81	78	26	30	DKJ810710	147	0.933	0.34	2.3	10	276.7	3547	300.8	3857	544	632	77	75	160	12/17/2019		
293	FND0047820081	23	410.0	9,430	76	83	79	25	31	DKJ810710	147	0.932	0.34	2.1	10	286.6	3628	281.2	3560	552	618	72	72	158	12/17/2019		
294	FND0047820082	23	410.0	9,430	77	81	79	30	30	DKJ810710	147	0.932	0.34	2.1	10	286.6	3628	281.2	3560	552	618	72	72	158	12/17/2019		
295	FND0047820083	23	410.0	9,430	77	84	80	29	29	DKJ810710	147	0.932	0.34	2.1	10	290.2	3628	284.8	3560	552	618	72	72	158	12/17/2019		
296	FND0047820084	23	410.0	9,430	74	83	79	28	32	DKJ810710	147	0.932	0.34	2.3	10	286.6	3628	281.2	3560	552	618	72	72	158	12/17/2019		
297	FND0047820085	23	410.0	9,430	74	82	78	28	31	DKJ810710	147	0.932	0.34	2.3	10	283	3628	277.7	3560	552	618	72	72	158	12/17/2019		
298	FNB0048240019	23	410.0	9,430	75	82	78	28	35	DKJ810710	147	0.934	0.34	2.3	10	264.3	3389	284.1	3642	525	623	66	65	154	12/18/2019		
299	FNB0048240020	23	410.0	9,430	75	82	79	28	34	DKJ810710	147	0.933	0.34	2.5	10	236.9	2999	261.2	3306	513	612	68	64	157	12/18/2019		
300	FNB0048240021	23	410.0	9,430	74	83	79	28	34	DKJ810710	147	0.933	0.34	2.5	10	236.9	2999	261.2	3306	513	612	68	64	157	12/18/2019		
301	FNB0048240022	23	410.0	9,430	73	82	77	24	34	DKJ810710	147	0.933	0.34	2.5	10	230.9	2999	254.6	3306	513	612	68	64	157	12/18/2019		
302	FNB0048240023	23	410.0	9,430	74	81	79	26	36	DKJ810710	147	0.933	0.34	2.3	10	236.9	2999	261.2	3306	513	612	68	64	157	12/18/2019		
303	FNB0048240024	23	410.0	9,430	75	81	77	27	35	DKJ810710	147	0.933	0.34	2.3	10	230.9	2999	254.6	3306	513	612	68	64	157	12/18/2019		
304	FNB0048240025	23	410.0	9,430	71	82	78	27	35	DKJ810710	147	0.934	0.34	2.5	10	233.5	2994	258.3	3312	519	613	66	64	152	12/18/2019		
305	FNB0048240026	23	410.0	9,430	77	84	81	28	35	DKJ810710	147	0.934	0.34	2.5	10	242.5	2994	268.3	3312	519	613	66	64	152	12/18/2019		
306	FNB0048240027	23	410.0	9,430	78	85	80	28	35	DKJ810710	147	0.934	0.34	2.5	10	239.5	2994	265	3312	519	613	66	64	152	12/18/2019		
307	FNB0048240028	23	410.0	9,430	77	86	81	26	34	DKJ810710	147	0.934	0.34	2.3	10	242.5	2994	268.3	3312	519	613	66	64	152	12/18/2019		
308	FNB0048240029	23	410.0	9,430	77	83	79	27	33	DKJ810710	147	0.934	0.34	2.3	10	236.5	2994	261.6	3312	519	613	66	64	152	12/18/2019		
309	FNB0048240030	23	410.0	9,430	77	83	79	28	33	DKJ810710	147	0.934	0.34	2.3	10	261.8	3314	283.2	3585	520	601	63	63	155	12/18/2019		
310	FNB0048240031	23	410.0	9,430	78	84	80	28	32	DKJ810710	147	0.934	0.34	2.3	10	265.1	3314	286.8	3585	520	601	63	63	155	12/18/2019		
311	FNB0048240032	23	410.0	9,430	76	85	79	28	34	DKJ810710	147	0.934	0.34	2.3	10	261.8	3314	283.2	3585	520	601	63	63	155	12/18/2019		
312	FNB0048240033	23	410.0	9,430	76	83	79	29	34	DKJ810710	147	0.934	0.34	2.4	10	261.8	3314	283.2	3585	520	601	63	63	155	12/19/2019		
313	FNB0048240034	23	410.0	9,430	77	82	79	28	34	DKJ810710	147	0.934	0.34	2.4	10	261.8	3314	283.2	3585	520	601	63	63	155	12/19/2019		
314	FNB0048240035	23	410.0	9,430	76	81	78	28	34	DKJ810710	147	0.934	0.34	2.6	10	260.5	3340	268.9	3447	527	618	66	67	156	12/19/2019		



[Signature]
Maria Coffey-Manager
 Quality Control Department

Newmont Mining
Cripple Creek & Victor Gold Mining Co
1632 County Road 82
Cripple Creek, CO 80813

SO#: **00005731**
 Liner Type: **80LL micro**
 Item: **FG-LDMSDS080BBBEG**
 Current # of Rolls: **315**
 Roll Count: **1 - 315 of 315 (all)**
 Report Date: **6/24/2020**

ENGLISH

Maria Coffey-Manager Quality Control Department					ASTM D5994 (Modified)			ASTM D7466			ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693						ASTM D1004		ASTM D4833	
Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	Production Date
		Width	Length	Area	Min.	Max.	Ave.																		
		ft.	ft.	ft².	mils	mils	mils	mils	mils							min	g/cc	g/10 min.	%	(# in Cat. 1)	ppi	psi	ppi	psi	
Minimum Results (ea. Col.) 					71	81	77	24	32		147	0.933	0.34	2.3	10	230.9	2994	254.6	3306	513	601	63	63	152	
315	FNB0048240036	23	410.0	9,430	75	81	78	28	34	DKJ810710	147	0.934	0.34	2.6	10	260.5	3340	268.9	3447	527	618	66	67	156	12/19/2019



APPENDIX I.4 – 80MIL LLDPE GEOMEMBRANE RESIN QC CERTIFICATES

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80045156
PO #: 16557
Weight: 187300.000 LB
Ship Date: 09/19/2019
Package: BULK
Mode: Hopper Car
Car #: CPCX816538
Seal No: 189042

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DKJ810770

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	12.70	g/10min
Pellet Count	ST-905	34	pelet/gram
Production date		20190912	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



T. KEVIN AYRES
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Shannon Blacknall at +1-832-813-4807

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80071664
PO #: 16662
Weight: 187500.000 LB
Ship Date: 10/31/2019
Package: BULK
Mode: Hopper Car
Car #: CHVX896718
Seal No: 126126

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DKK810700

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.37	g/10min
HLMI	ASTM D1238	15.12	g/10min
Pellet Count	ST-905	32	pelet/gram
Production date		20191011	
Density	D1505	0.920	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



T. KEVIN AYRES
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Shannon Blacknall at +1-832-813-4807

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80052424
PO #: 16557
Weight: 188000.000 LB
Ship Date: 10/01/2019
Package: BULK
Mode: Hopper Car
Car #: SHPX464215
Seal No: 189475

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DKJ810710

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
HLMI	ASTM D1238	13.83	g/10min
Pellet Count	ST-905	32	pelet/gram
Production date		20190911	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



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Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80071665
PO #: 16662
Weight: 187150.000 LB
Ship Date: 10/31/2019
Package: BULK
Mode: Hopper Car
Car #: PSPX007047
Seal No: 126129

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DKK810710

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.39	g/10min
HLMI	ASTM D1238	16.04	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20191011	
Density	D1505	0.920	g/cm3

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For CoA questions contact Shannon Blacknall at +1-832-813-4807



Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 918-977-4229 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

October 31, 2017

Filename: Agru Oven and QUV Exposure Testing_103117.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 HDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Smooth geomembrane samples have been received from Agru and test results are reported below. The samples were tested for HP-OIT in their as-received condition, and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17.

The following geomembrane sheet samples were received from Agru in mid-June 2017 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- K307 Lot #HHB620720, Agru Roll #G17D000534, black sheet, smooth, nominal 0.040" thick.
- 7104 Lot #CFJ810540, Agru Roll #G15B434055, black sheet, smooth, nominal 0.040" thick.

Exposure and testing conditions, along with the test results are tabulated on the next page. GM-13 and GM-17 require minimum % HP-OIT retention after a 90-day oven exposure and after a 1600 hour UV irradiance exposure. These test results indicate these GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by these Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

NOTICES

Technical Information - By using any Technical Information contained herein, Recipient agrees that said Technical Information is given by CPChem for convenience only, without any warranty or guarantee of any kind, and is accepted and used at your sole risk. Recipients are encouraged to verify independently any such information to their reasonable satisfaction. As used in this paragraph, "Technical Information" includes any technical advice, recommendations, testing, or analysis, including, without limitation, information as it may relate to the selection of a product for a specific use and application.

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	Exposure Conditions	Test Method
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m ² at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	% HP-OIT Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT retained after 90 days of oven aging.
K307 Lot #HHB620720, Agru Roll #G17D000534, black sheet, smooth, nominal 0.040" thick	1264	1123	89	GRI-GM13: 80 minimum
7104 Lot #CFJ810540, Agru Roll #G15B434055, black sheet, smooth, nominal 0.040" thick	550	508	92	GRI-GM17: 60 minimum

UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	% HP-OIT Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT retained after 1600 hrs of UV exposure.
K307 Lot #HHB620720, Agru Roll #G17D000534, black sheet, smooth, nominal 0.040" thick	1264	1024	81	GRI-GM13: 50 minimum
7104 Lot #CFJ810540, Agru Roll #G15B434055, black sheet, smooth, nominal 0.040" thick	550	470	85	GRI-GM17: 35 minimum

Note: 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.

NOTICES

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January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

TRI Job Reference Number: E2386-59-09

Material(s) Tested: One Agru 80 mil Microspike LLDPE Geomembrane(s)

Test(s) Requested: 2% Secant (ASTM D5323 via ASTM D638, GM17)
Multi-axial Tensile (ASTM D 5617)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com



GEOMEMBRANE TEST RESULTS

TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane

Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350

TRI Log #: E2386-59-09

PARAMETER											TEST REPLICATE NUMBER											MEAN	STD. DEV.	
											1	2	3	4	5	6	7	8	9	10				
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)																								
MD 2% Secant Modulus (psi)		30887	30305	30617	32594	31327																	31146	892
MD 2% Secant Modulus (ppi)		2662	2530	2596	2533	2444																	2553	82
TD 2% Secant Modulus (psi)		35037	35745	35187	37057	34833																	35572	897
TD 2% Secant Modulus (ppi)		2950	2760	3065	2827	2675																	2855	154
Multi-axial Tensile (ASTM D 5617)																								
Test Method A: Centerpoint Deflection Versus Pressure																								
Thickness (mils)		81.0	78.0	79.0																	79.3	1.5		
Maximum Stress (psi)		1873	1781	1899																	1851	62		
% Elongation @ Rupture (%)		77.6	77.0	85.0																	79.9	4.5		
Failure Description		MDT N-EF	MDT N-EF	MDT N-EF																				
MDT	A tear in the machine direction.																							
H	Circular or elliptical hole in the specimen.																							
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.																							
N-EF	No edge failure																							
MD Machine Direction		TD Transverse Direction																						



APPENDIX I.5 – WELDING ROD QUALITY CONTROL CERTIFICATES



WELDING ROD CERTIFICATE OF CONFORMITY

Weld Rod (Black)

Thickness: 5.00

Prod. Run #: FNWR10042410001

Lot Number: DKG810640

Material: 7104

Resin: LLDPE

Test Results

Carbon Black Content:
ASTM D4218

2.2 %

Melt Flow Index (Cond. E):
ASTM D1238

190°C/2160g

0.35 g/10 min.

Specific Gravity:
ASTM D792/D1505

Average Density

0.935 g/cc

Customer: Cripple Creek & Victor Gold Mining Co
Newmont Mining

Destination: 1632 County Road 82
Cripple Creek, CO 80813

SO #: 00005731

Signature:

A handwritten signature in blue ink, appearing to read "Maria Coffey", is written over a horizontal line.

Maria Coffey

Manager, Quality Control Department

Production Date: 10/1/2019

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80032944
PO #: 16453
Weight: 187600.000 LB
Ship Date: 08/30/2019
Package: BULK
Mode: Hopper Car
Car #: NAHX610300
Seal No: 158633

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DKG810640

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.35	g/10min
HLMI	ASTM D1238	14.25	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20190712	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



T. KEVIN AYRES
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Shannon Blacknall at +1-832-813-4807



APPENDIX I.6 – GEOTEXTILE ROLL QUALITY CONTROL CERTIFICATES



MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR MATERIALS FURNISHED FOR **NEWMONT-CRIPPLE CREEK & VICTOR GOLD MINE PROJECT**

PROJECT NUMBER: **475.0106.006**

LOCATION: VICTOR, CO

CONTRACTOR: TEZAK HEAVY EQUIPMENT CO., INC.

MANUFACTURER: SKAPS INDUSTRIES; 335 ATHENA DRIVE, ATHENS, GA 30601

TYPE OF MATERIAL: GE-112 NON-WOVEN GEOTEXTILE - 15' X 402'; 670 SY

TEST PERFORMED: NA

DATE OF TEST: NA

LOTS REPRESENTED: NA

ANDREW SMITH

A handwritten signature in black ink, appearing to read "Andrew Smith", written over a horizontal line.

Triton Environmental, LLC

I hereby certify under penalty of perjury that the material listed in this Certificate of Compliance represents 4690 Sqyd (quantity and units) of pay item 2A-14 (pay item number and Description) that will be

installed on project number 475.0106.006.

A handwritten signature in blue ink, appearing to read "Andrew Smith", written over a horizontal line.

Contractor

7/17/19

Date

Corporate: 5433 Newport St * Commerce City, CO 80022 * Phone 303-945-7588 * Fax 303-945-7579

Western Slope: 3017 Hwy 50 * Grand Junction, CO 81503 * 970-985-2984 * Fax 303-945-7589

East Coast: 4750 Steubenville Pike * Pittsburgh, PA 15205 * 412-458-0360 * Fax 412-458-0422

Providing Educated Solutions for your Environmental Concerns



July 18, 2019

Mr. Andrew Smith
Triton Environmental
5433 Newport Street
Commerce City, CO 80022

VIA e-mail

Reference: SKAPS GE112

Dear Mr. Smith,

This letter is to confirm our earlier discussion regarding SKAPS GE112 nonwoven needle punched geotextile. The GE112 is manufactured in the SKAPS plant in Athens, GA, and is continuously inspected using permanent on-line full-width metal detectors and does not contain any needles which could damage other geosynthetic layers.

Very truly yours,

Engineered Synthetic Products, Inc.
Representing SKAPS Industries, Inc.

Gary Willibey, P.E.

GLW/abm



3985 STEVE REYNOLDS BLVD., BLDG. H
NORCROSS, GA 30093
TEL: (770) 564-1857
FAX: (770) 564-1818
WWW.ESPGEOSYNTHETICS.COM



SKAPS Industries (Nonwoven Division)
335, Athena Drive
Athens, GA 30601 (U.S.A.)
Phone (706) 354-3700 Fax (706) 354-3737
E-mail: contact@skaps.com

Sales Office:
Engineered Synthetic Product Inc.
Phone: (770)564-1857
Fax: (770)564-1818

July 18, 2019

Triton Environmental, LLC

5433 Newport St
Commerce City, CO, 80022

PO : 14336

BOL : 069220

Dear Sir/Madam:

This is to certify that SKAPS GE112 is a high quality needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, randomly networked to form a high strength dimensionally stable fabric. SKAPS GE112 resists ultraviolet deterioration, rotting, biological degradation. The fabric is inert to commonly encountered soil chemicals. Polypropylene is stable within a pH range of 2 to 13. SKAPS GE112 conforms to the property values listed below:

PROPERTY	TEST METHOD	UNITS	M.A.R.V. Minimum Average Roll Value
Weight	ASTM D 5261	oz/sy (g/m ²)	12.00 (407)
Grab Tensile	ASTM D 4632	lbs (kN)	330 (1.47)
Grab Elongation	ASTM D 4632	%	50
Trapezoidal Tear	ASTM D 4533	lbs (kN)	125 (0.56)
CBR Puncture	ASTM D 6241	lbs (kN)	950 (4.23)
Permittivity*	ASTM D 4491	sec ⁻¹	0.90
Water Flow*	ASTM D 4491	gpm/ft ² (l/min/m ²)	70 (2852)
AOS*	ASTM D 4751	US Sieve (mm)	100 (0.15)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:

* At the time of manufacturing. Handling may change these properties.

KOUROSH SABZEVARI
QUALITY CONTROL MANAGER

www.skaps.com

www.espgeosynthetics.com

Product : GE112-180

ROLL # ASTM METHOD UNITS TARGET	WEIGHT D5261 oz/sq yd 12.00	MD TENSILE D4632 lbs. 330	MD ELONG D4632 % 50	XMD TENSILE D4632 lbs 330	XMD ELONG D4632 % 50	MD TRAP D4533 lbs. 125	XMD TRAP D4533 lbs 125	CBR PUNCTURE D6241 lbs. 950	AOS D4751 US Sieve 100	WATER FLOW D4491 gm/ft2 70	PERMITTIVITY D4491 sec-1 0.90
030670741	12.70	413	78	376	110	244	274	1561	100	73	0.98
030670754	12.93	397	69	406	113	137	141	1165	100	73	0.98
030670759	12.93	397	69	406	113	137	141	1165	100	73	0.98
030670765	12.56	410	69	385	99	159	176	1019	100	73	0.98