Table 1 Biostratigraphy constrained by bivalves in the Quemo Co section and magnetostratigraphy

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| Stratigraphy | Bivalves | Biostratigraphy Age | Magnetostratigraphy Age of Fang *et al.* (2016) | Environment |
| Xueshan Fm. | Assemblage *Radulopecten fibrosus- Gervillella orientalis- Placunopopsis duriuscula*  *Meleagrinella nieniexionglaensis* Wen, *Radulopecten* *fibrosus* (Sowerby), *Miyagipecten* *lavis* (Wen), *Placunopsis* *duriuscula* (Phillips), *P*. sp., *Bakevellia* (*Bakevellia*) *waltoni* (Lycett) *Gervillella* *qinghaiensis* Wen, *G. orientalis* (Douville), *G*. cf. *siliqua* (Eudes-Deslongchangs), *Plagiostoma* cf. *channoni* Cox, *Pseudolimea* *duplicata* (Sowerby), *Lopha* *maliensis* Tong, *Modiolus* (*Modiolus*) *imbricatus* Sowerby, *Protocardia* *qinghaiensis* Wen, *Corbicellopsis* *laevis* (Sowerby), *Unicardiopsis* cf. *acesta* (d’Orbigny), *Quenstedtia* cf. *oblita* Greppin, *Q*. cf. *dingriensis* Wen, *Mactromya* *qinghaiensis* Wen, *M. gibbasa* (Morris et Lycett), *Astarte* *togtonheensis* Wen, *A*. cf. *elegans* Sowerby, *Tancredia* *triangularis* Wen, *Pseudotrapezium* *cordiforme* (Deshayes), *Anisocardia* (*Anisocardia*) *togtonheensis* Wen, *A*. (*Antiquicyprina*) cf. *trapezoidalis* Wen, *Pholadomya* cf. *carinata* Goldfuss, *Pleuromya* *uniformis* (Sowerby), *Playtmyoidea* sp. | Kimmeridgian | <157.5 Ma | Marine |
| Suowa Fm. | Assemblage *Myopholas multicostata- Placunopsis duriuscula- Camptonectes (Camptonectes) auritus*  *Palaeonucula* sp., *Mesosacella morrisi* (Deshayes), *M. wenquanensis* Sha, Fursich, Smith et Wang, *Nuculana* (*Praesacella*) cf. *ovum* (Sowerby), *Grammatodon* (*Grammatodon*) cf. *clathratum* (Leckenby), *Pinna* sp., *Meleagrinella* sp., *Pteria* cf. *plana* (Morris et Lycett), *Miyagipecten laevis* (Wen), *Radulopecten tipperi* Cox, *R. vagans* (Sowerby), *R. tripartitus* Sha, Fursich, Smith et Wang, *R. fibrosus* (Sowerby), *R. pamirensis* Wen, *R. gerzensis* Wen, *Camptonectes* (*Camptonectes*) *auritus* (Schlotheim), *C.* (*C.*) *laminatus* (Sowerby), *C.* (*Camptochlamys*) *clathratus* (Roemer), *C.* (*Annulinectes*) *obscurus* (Sowerby), *Propeamussium* (*Propeamussium*) cf. *pumilum* (Lamarck), *Placunopsis* cf. *subelongata* (d’Orbigny), *Placunopsis* cf. *socialis* Morris et Lycett, *P. duriuscula* (Phillips), *Gervillella qinghaiensis* Wen, *G. siliqua* (Eudes-Deslongchamps), *G.* sp., *Bakevellia*? sp., *Aguilerella* sp., *Pseudolimea duplicata* (Sowerby), *P. tjubegatanica* (Repman), *P.* sp., *Plagiosto-ma* cf*. channoni* Cox, *Lopha* cf. *tifoensis* Cox, *L*. cf. *maliensis* Tong, *Liostrea* cf. *jiangjinensis* Wen, *L.* cf. *birmanica* (Reed), *L.* cf. *blanfordi* Cox, *Plicatula* sp., *Modiolus* (*Modiolus*) *imbricatus* Sowerby, *M.* (*M.*) cf. *trigonus* Chen, *Myophorella*? sp., *Protocardia stricklandi* (Morris et Lycett), *P. qinghaiensis* Wen, *Mactromya* cf. *qinghaieusis* Wen, A*starte togtonheensis* Wen, *A.* cf. *elegans* Sowerby, *A.* cf. *maliensis* Tong, *Astartoides gambaensis* Wen et Lan, *A.* cf. *dingriensis* Wen, *Anisocardia* (*Anisocardia*) *rostrata* (Sowerby), *A.* (*A.*) cf. *channoni* Cox, *A*. (*A*.) *togtonheensis* Wen, *A*. (*A*.) sp., *A.* (*Anitiquicyprina*) cf. *trapezoidalis* Wen, *Pseudotrapezium cordiforme* (Deshayes), *Amiodon fengdengensis* (Chen), *A.* cf. *khoratensis* (Hayami), *Platymyoidea* sp., *Myopholas multicostata* (Agassiz), *M. percostata* Douville, *Pleuromya* cf. *uniformis* (Sowerby), *P. subelongata* (d’Orbigny), *P.* sp. | Callovian-Oxfordian | 160.1-<157.5 Ma | Marine |
| Xiali Fm. | Assemblage *Pteroperna costatula— Radulopecten vagans*  *Palaeonucula* sp., *Pinna*? sp., *Meleagrinella* cf. *braamburiensis* (Phillips), *Radulopecten tipperi* Cox, *R. vagans* (Sowerby), *R. pamirensis* Wen, *R.* sp., *Placuopsis duriuscula* (Phillips), *Bakevillia (Bakevellia) waltoni* (Lycett), *Gervillella qinghaiensis* Wen, *Costigervillia minima* Wen, *Lopha* cf. *tifoensis* Cox, *Liostrea jiangjinensis* Wen, *Pteria plana* Roemer, *Pteroperna costatula* (Deslongchamps), *P.* sp., *Modiolus* (*Modiolus*) *imbricatus* Sowerby, *Vaugonia* cf. *yanshipingensis* Wen, *Protocardia* (*P.*) *qinghaiensis* Wen, *P.* (*P.*) *stricklandi* (Morris et Lycett), *Corbicellopsis* cf. *laevis* (Sowerby), *Unicardiopsis amdoensis* Wen, *Corbula yanshipingeusis* Wen, *C. kidugalloensis* Cox, *C.* sp., *Astarte* cf. *elegans* Sowerby, *A.* sp., *Anisocardia* (*Anisocardia*) cf. *channoni* Cox, *A.* (*A.*) *rostrata* (Sowerby), *Pseudotrapezium cordiforme* (Deshayes), *Amiodon* cf. *khoratensis* (Hayami), *Thracia togtonheensis* Wen | Bathonian-Callovian | 163.3-160.1 Ma | Marine |
| Buqu Fm. | Assemblage *Isognomon (Mytiloperna) bathonicus- Protocardia hepingxiangensis-Praeexogyra cf. acaminata*  *Liostrea* *birmanica*, *Ceratomya* *undalat*, *C*. *concentrica*, *Grammatodon* (*Grammatodon*) *clathratum*, *Pinna* *tibetica*, *P*. *nyainrongensis*, *Radulopecten* *tipperi*, *Protocardia* *hepingxiangensis*, *Liostrea* *jiangjinensis*, *L*. *zadoensis*, *Lopha* *maliensis*, *L*. *baqenensis*, *Entolium* *nieniexionglaensis*, *Praeexogyra* cf. *acaminata*, *Radulopecten* *shuanghuensis*, *Gervillella* *qinghaiensis*, *Pteria* *problematica, Modiolus* (*Modiolus*) *trigonus*, *Mactromya* *qinghaiensis*, *Neomiodon* *yanshipingensis*, *A*. (*Antiquicyprina*) *trapezoidalis*, *Pholadomya socialis qinghaiensis* | Bathonian | 165.5-163.3 Ma | Marine |
| Quemocuo Fm. | *Quenstedtia? sp.*  Assemblage *Undulatula perlonga- Psilunio chaoi*  *Psilunio* *chaoi* Grabau, *P*. *lateriplanus* Ma, *P*. *thailandicus* (Hayami), *P*. *sinensis* Gu, *Lamprotula* (*Eolamprotula*) sp., *Undulatula* *perlonga* Gu, *U*. *ptychorhyncha* Gu, *Cuniopsis* cf. *johannisbohmi* (Frech), *Solenaia* *tanggulaensis* Wen, *Unio* cf. *obrustschewi* Martinson, *Margaritifera* *isfarensis* Chernyshev | Bajocian | >171.2-165.5 Ma | Marine  Fresh water |
| Erlongba Fm. | Assemblage *Amonotis togtonheensis-Cardium (Tulongocardium) xizhangensis* | Norian- Rhaetian | 212±1.7 Ma (Volcanics, Bai *et al.*, 2005) |  |
| Bagong Fm. | Assemblage *Halobia superbescens- H*. *disperseinsecta*  Assemblage *Amonotis togtonheensis-Cardium* (*Tulongocardium*) *xizhangensis* | Norian |  |  |
| Bolila Fm. | *Cassianella cf. berychi, Halobia plicosa, H. superbescens, H. sp., Plagiostoma sp.* | Carnian |  |  |

Bivalves are from Geological report of the 1:250, 000 regional geological survey in Chibuzhang Co area.