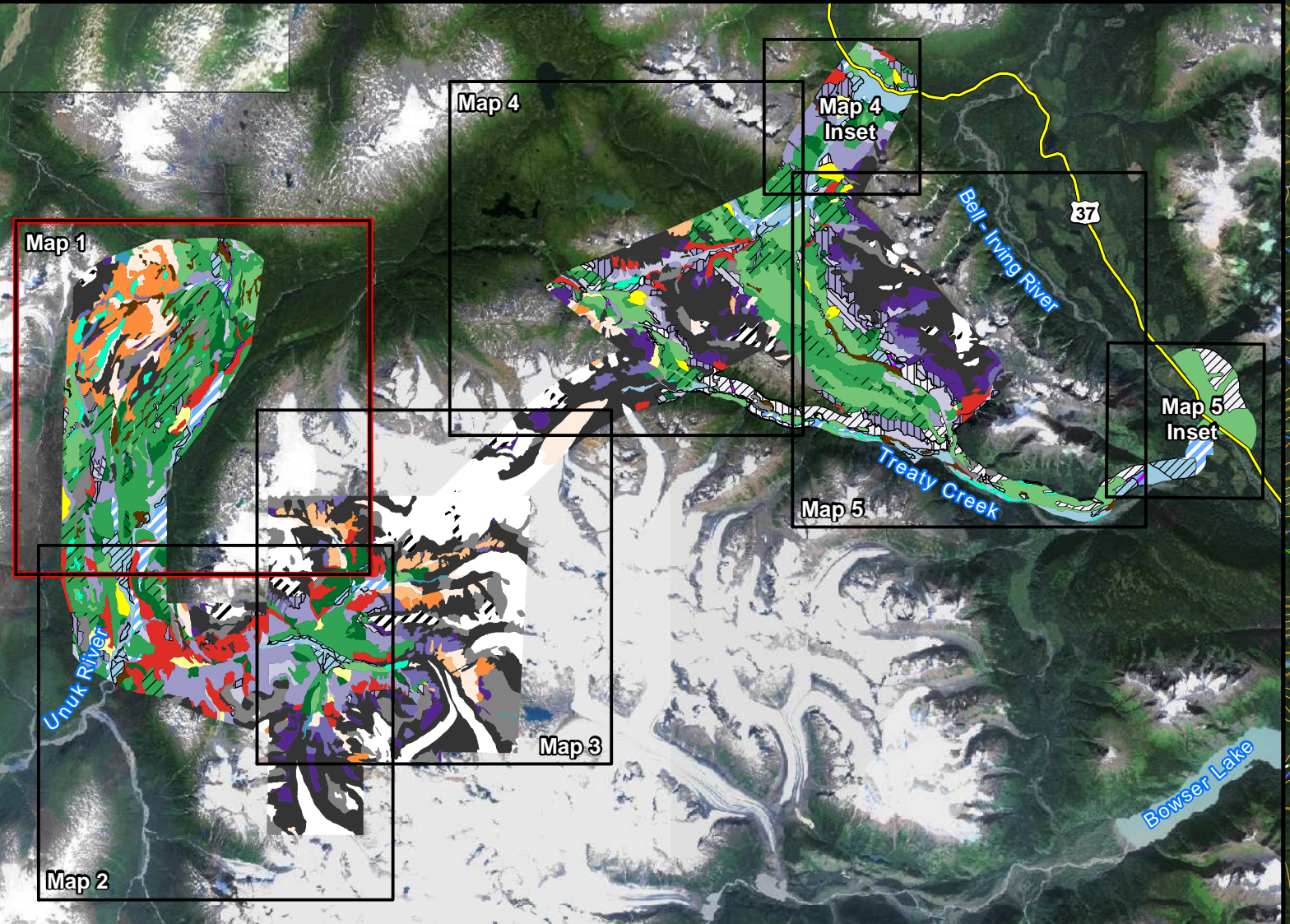
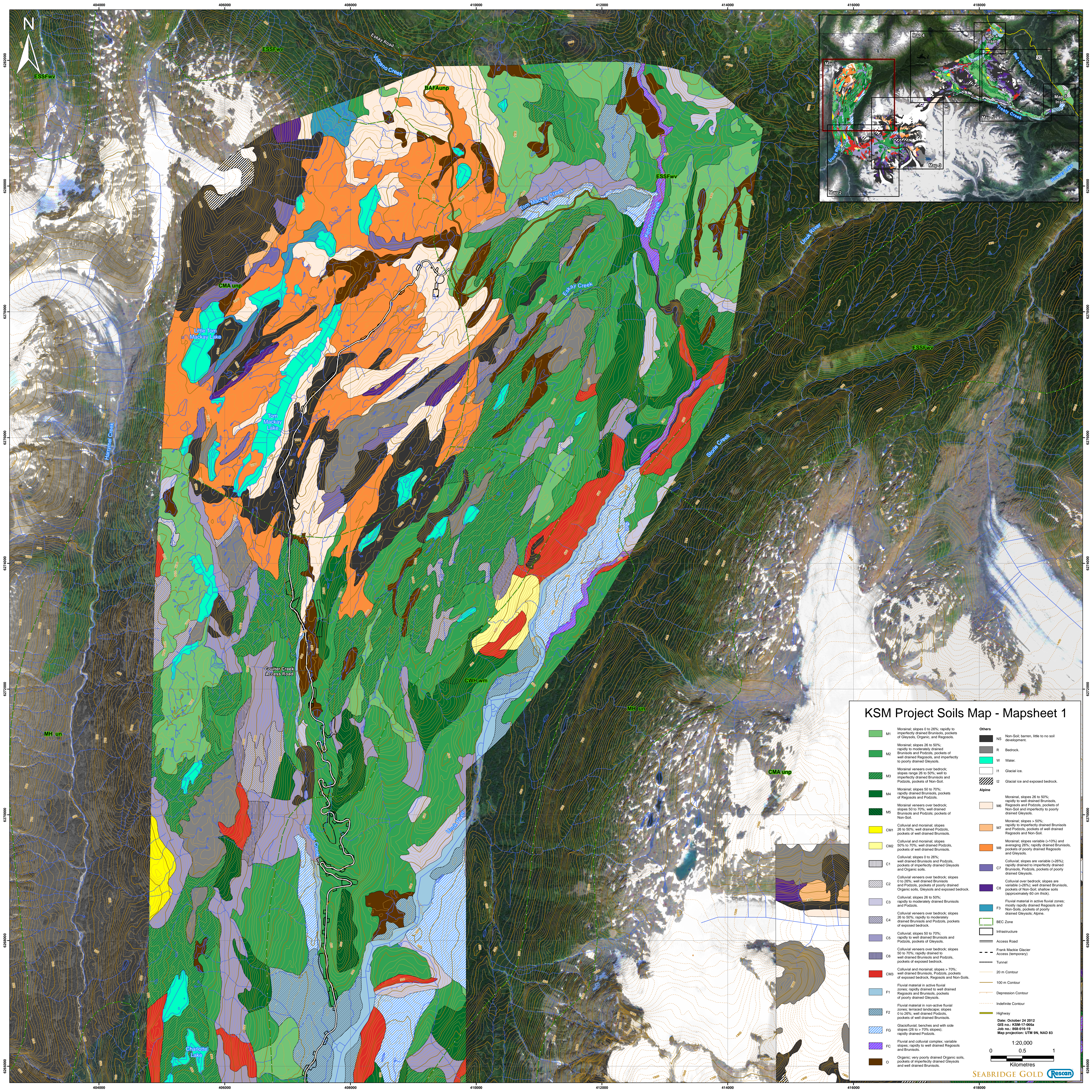
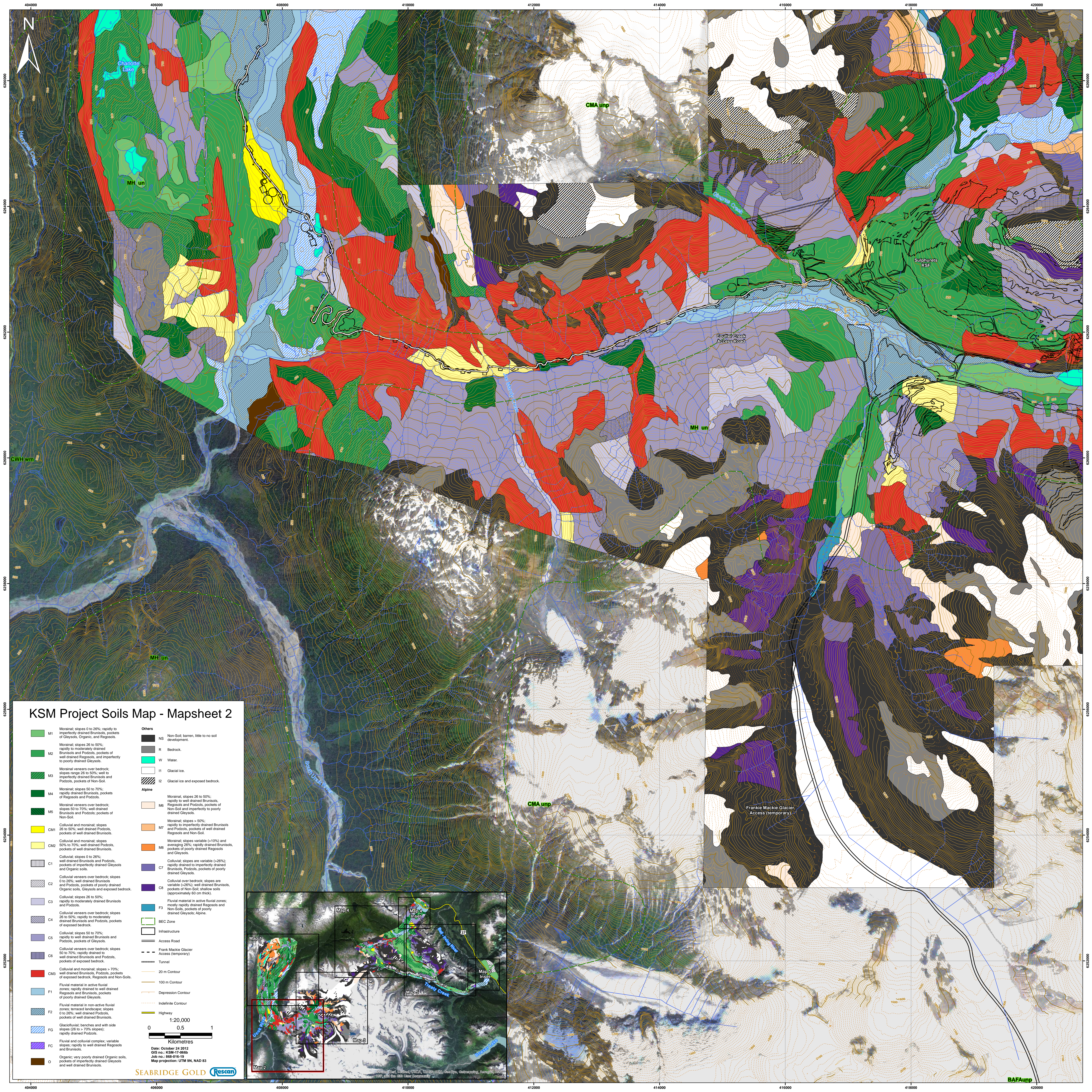


**APPENDIX 8-C
2011 SOIL MAPS WITHIN THE
KSM PROJECT LOCAL STUDY AREA**



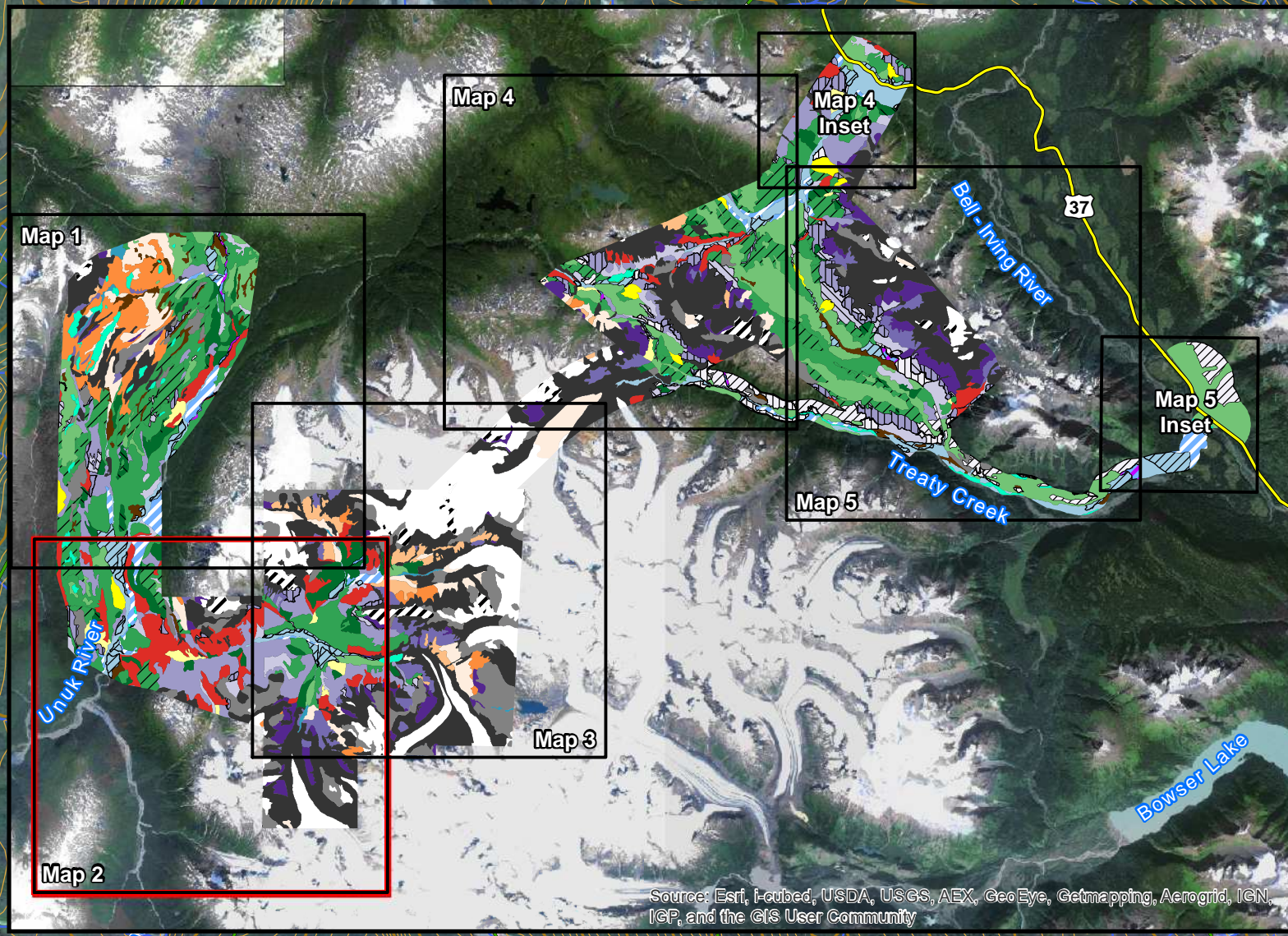
KSM Project Soils Map - Mapsheet 1

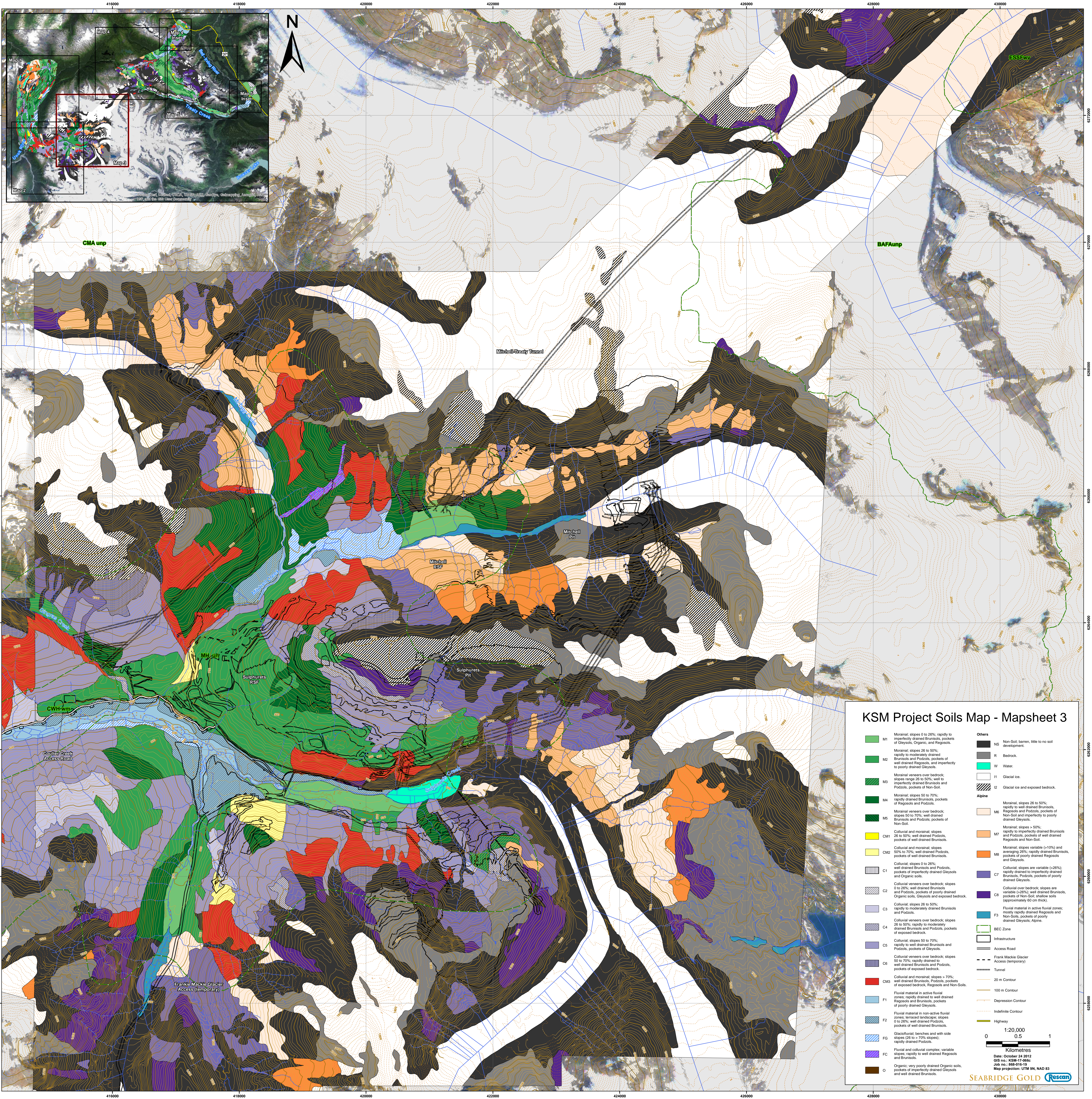
	M1	Moraine: slopes 0 to 20%; rapidly to imperfectly drained Brunisols, pockets of Gleysols, Organic, and Regosols.		NS	Non-Soil: barren, little to no soil development.
	M2	Moraine: slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of well drained Regosols, and imperfectly to poorly drained Gleysols.		R	Bedrock.
	M3	Moraine veneers over bedrock; slopes range 26 to 50%; well to imperfectly drained Brunisols and Podzols, pockets of Non-Soil.		W	Water.
	M4	Moraine: slopes 50 to 70%; rapidly drained Brunisols, pockets of Regosols and Podzols.		I1	Glacial ice.
	M5	Moraine veneers over bedrock; slopes 50 to 70%; well drained Brunisols and Podzols, pockets of Non-Soil.		I2	Glacial ice and exposed bedrock.
	CM1	Colluvial and moraine: slopes 26 to 50%; well drained Brunisols, pockets of well drained Brunisols.	Alpine		
	CM2	Colluvial and moraine: slopes 50 to 70%; well drained Podzols, pockets of well drained Brunisols.		M6	Moraine: slopes 26 to 50%; rapidly to well drained Brunisols, Regosols and Podzols, pockets of Non-Soil and imperfectly to poorly drained Gleysols.
	C1	Colluvial: slopes 0 to 26%; well drained Brunisols and Podzols, pockets of imperfectly drained Gleysols and Organic soils.		M7	Moraine: slopes > 50%; rapidly drained to imperfectly drained Brunisols and Podzols, pockets of well drained Regosols and Non-Soil.
	C2	Colluvial veneers over bedrock; slopes 0 to 26%; well drained Brunisols and Podzols, pockets of poorly drained Organic soils, Gleysols and exposed bedrock.		M8	Moraine: slopes variable (>10%) and averaging 26%; rapidly drained Brunisols, pockets of poorly drained Regosols and Gleysols.
	C3	Colluvial: slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols.		C7	Colluvial: slopes are variable (>26%); rapidly drained to imperfectly drained Brunisols, Podzols, pockets of well drained Regosols and Non-Soil.
	C4	Colluvial veneers over bedrock; slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of exposed bedrock.		C8	Colluvial over bedrock; slopes are variable (>26%); well drained Brunisols, pockets of Non-Soil; shallow soils (approximately 60 cm thick).
	C5	Colluvial: slopes 50 to 70%; rapidly to well drained Brunisols and Podzols, pockets of Gleysols.		F3	Fluvial material in active fluvial zones; mostly rapidly drained Regosols and Non-Soil, pockets of poorly drained Gleysols, Alpine.
	C6	Colluvial veneers over bedrock; slopes 50 to 70%; rapidly drained to well drained Brunisols and Podzols, pockets of exposed bedrock.		BEC Zone	BEC Zone
	CM3	Colluvial and moraine: slopes > 70%; well drained Brunisols, Podzols, pockets of exposed bedrock, Regosols and Non-Soils.		Infrastructure	Infrastructure
	F1	Fluvial material in non-active fluvial zones; terraced landscapes; slopes 0 to 26%; well drained Podzols, pockets of well drained Brunisols.		Access Road	Access Road
	F2	Glacioluvial: benches and with side slopes (26 to > 70% slopes); rapidly drained Podzols.		Frank Mackie Glacier Access (temporary)	Frank Mackie Glacier Access (temporary)
	FG	Glacioluvial: benches and with side slopes (26 to > 70% slopes); rapidly drained Podzols.		Tunnel	Tunnel
	FC	Fluvial and colluvial complex; variable slopes; rapidly to well drained Regosols and Brunisols.		20 m Contour	20 m Contour
	O	Organic: very poorly drained Organic soils, pockets of imperfectly drained Gleysols and well drained Brunisols.		100 m Contour	100 m Contour
				Depression Contour	Depression Contour
				Indefinite Contour	Indefinite Contour
				Highway	Highway



KSM Project Soils Map - Mapsheet 2

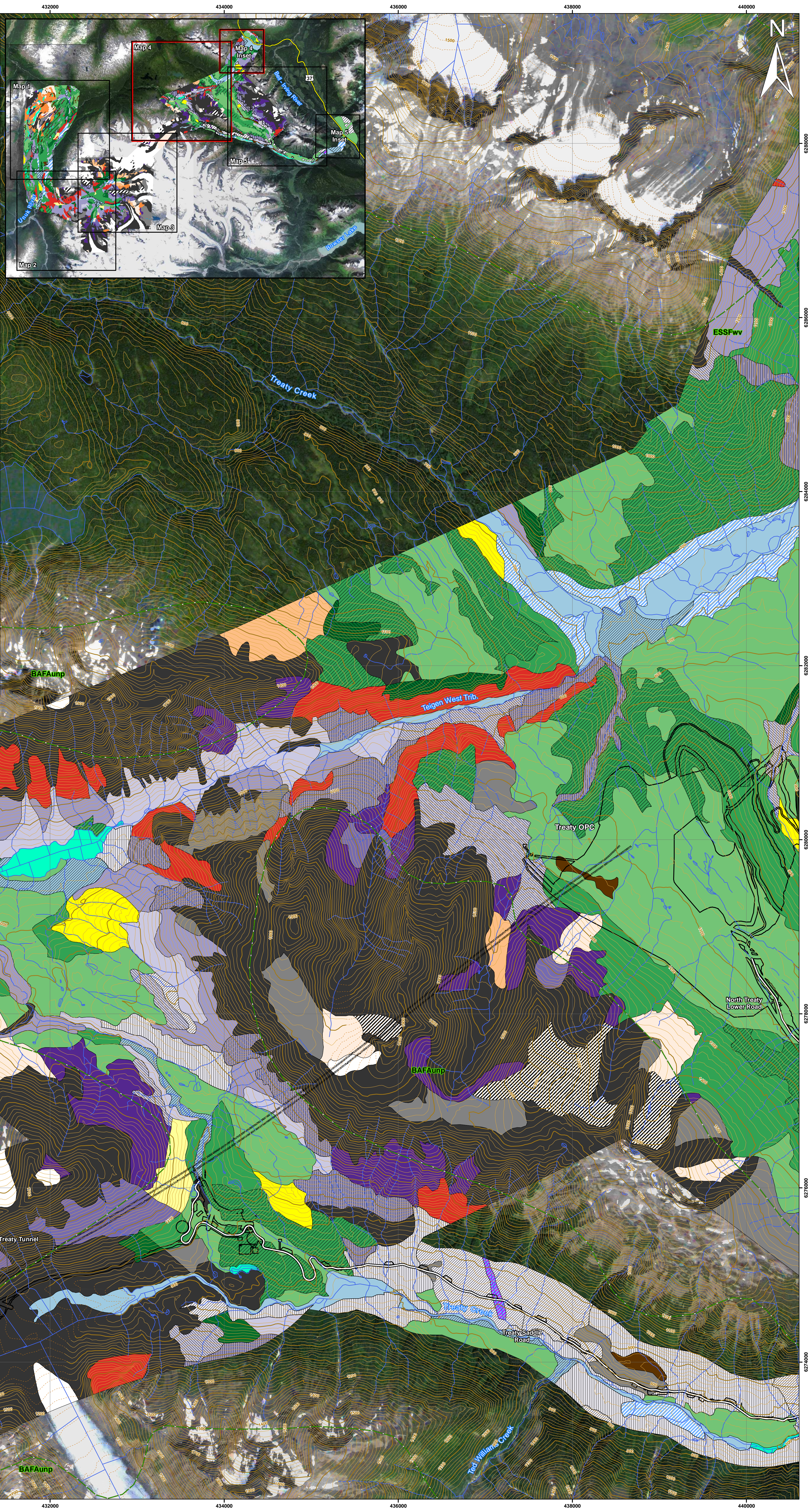
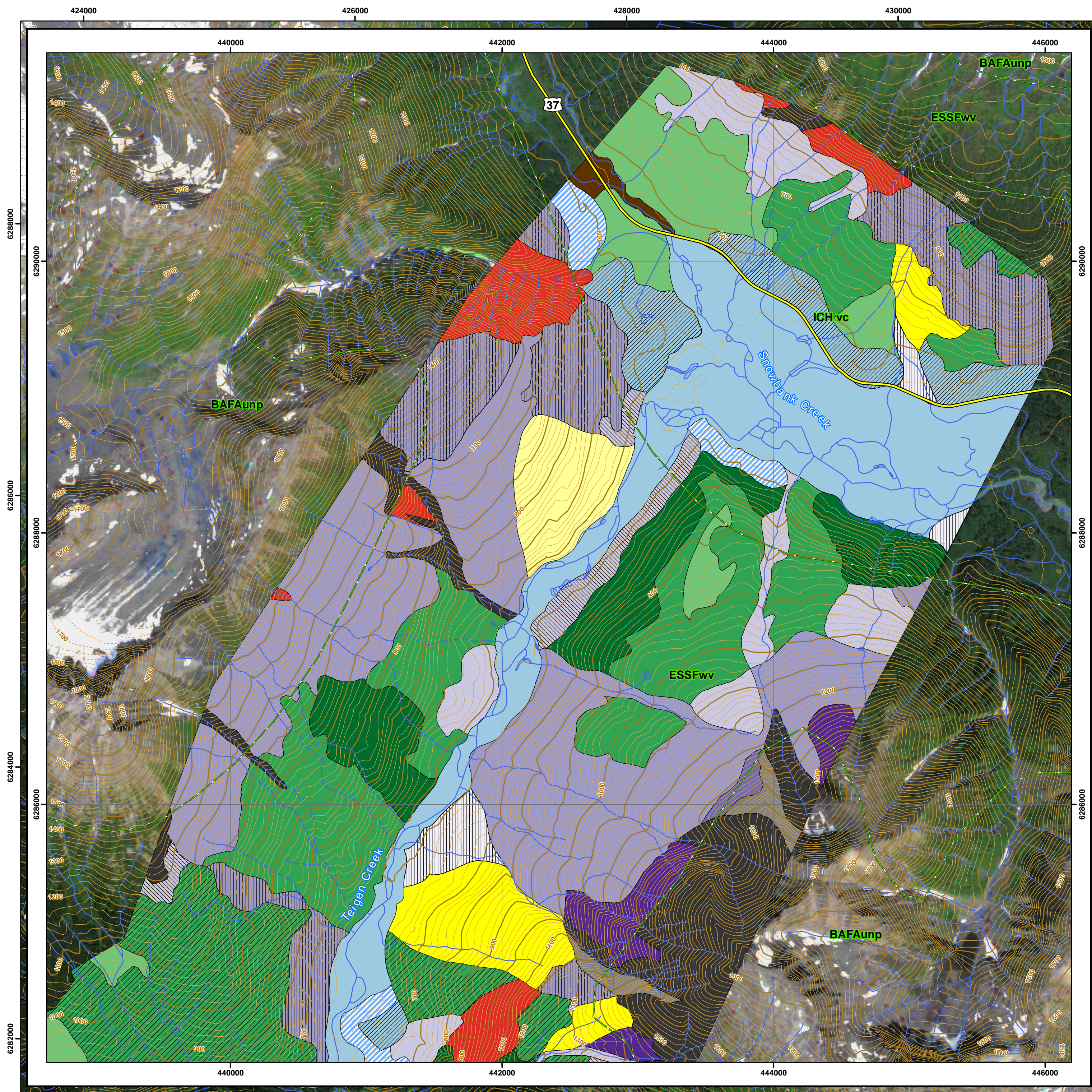
- | | |
|--|--|
| <ul style="list-style-type: none">M1 Morainel, slopes 0 to 26%; rapidly to imperfectly drained Brunisols, pockets of Gleysols, Organic, and Regosols.M2 Morainel, slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of well drained Regosols, and imperfectly to poorly drained Gleysols.M3 Morainel veneers over bedrock; slopes range 26 to 50%; well to imperfectly drained Brunisols and Podzols, pockets of Non-Soil.M4 Morainel, slopes 50 to 70%; rapidly drained Brunisols, pockets of Regosols and Podzols.M5 Morainel veneers over bedrock; slopes 50 to 70%; well drained Brunisols and Podzols; pockets of Non-Soil.CM1 Colluvial and morainel, slopes 26 to 50%; well drained Podzols, pockets of well drained Brunisols.CM2 Colluvial and morainel, slopes 50 to 70%; well drained Podzols, pockets of well drained Brunisols.C1 Colluvial, slopes 0 to 26%; well drained Brunisols and Podzols, pockets of imperfectly drained Gleysols and Organic soils.C2 Colluvial veneers over bedrock; slopes 0 to 26%; well drained Brunisols and Podzols, pockets of poorly drained Organic soils, Gleysols and exposed bedrock.C3 Colluvial, slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols.C4 Colluvial veneers over bedrock; slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of exposed bedrock.C5 Colluvial, slopes 50 to 70%; rapidly to well drained Brunisols and Podzols, pockets of Gleysols.C6 Colluvial veneers over bedrock; slopes 50 to 70%; rapidly drained to well drained Brunisols and Podzols, pockets of exposed bedrock.CM3 Colluvial and morainel, slopes > 70%; well drained Brunisols, Podzols, pockets of exposed bedrock, Regosols and Non-Soils.F1 Fluvial material in active fluvial zones, rapidly drained to well drained Regosols and Brunisols, pockets of poorly drained Gleysols.F2 Fluvial material in non-active fluvial zones, terraced landscapes; slopes 0 to 26%; well drained Podzols, pockets of well drained Brunisols.FG Glaciofluvial; benches and with side slopes (26 to > 70% slopes); rapidly drained Podzols.FC Fluvial and colluvial complex; variable slopes; rapidly to well drained Regosols and Brunisols.O Organic; very poorly drained Organic soils, pockets of imperfectly drained Gleysols and well drained Brunisols. | <ul style="list-style-type: none">NS Non-Soil; barren, little to no soil development.R Bedrock.W Water.I1 Glacial ice.I2 Glacial ice and exposed bedrock. <p>Alpine</p> <ul style="list-style-type: none">M6 Morainel, slopes 26 to 50%; rapidly to well drained Brunisols, Regosols and Podzols, pockets of Non-Soil and imperfectly to poorly drained Gleysols.M7 Morainel, slopes > 50%; rapidly to imperfectly drained Brunisols and Podzols, pockets of well drained Regosols and Non-Soil.M8 Morainel, slopes variable (>10%) and averaging 20%; rapidly drained Brunisols, pockets of poorly drained Regosols and Gleysols.C7 Colluvial, slopes are variable (>26%); rapidly drained to imperfectly drained Brunisols, Podzols, pockets of poorly drained Gleysols.C8 Colluvial over bedrock; slopes are variable (>26%); well drained Brunisols, pockets of Non-Soil; shallow soils (approximately 60 cm thick).F3 Fluvial material in active fluvial zones; mostly rapidly drained Regosols and Non-Soils, pockets of poorly drained Gleysols, Alpine. <p>Other Symbols</p> <ul style="list-style-type: none">BEC ZoneInfrastructureAccess RoadFrank Mackie Glacier Access (temporary)Tunnel20 m Contour100 m ContourDepression ContourIndefinite ContourHighway <p>Scale: 1:20,000
0 0.5 1 Kilometres</p> <p>Date: October 24 2012
GIS no.: KSM-17-066b
Job no.: 888-016-19
Map projection: UTM 9N, NAD 83</p> |
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KSM Project Soils Map - Mapsheet 3

M1	Moraine, slopes 0 to 26%; rapidly to imperfectly drained Brunisols, pockets of Gleysols, Organic, and Regosols.	NS	Non-Soil: barren, little to no soil development.
M2	Moraine, slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of well drained Regosols, and imperfectly to poorly drained Gleysols.	R	Bedrock.
M3	Moraine, slopes 50 to 70%; rapidly to moderately drained Brunisols and Podzols, pockets of Non-Soil.	W	Water.
M4	Moraine, slopes 70 to 70%; rapidly to moderately drained Brunisols and Podzols.	I1	Glacial ice.
M5	Moraine, slopes 70 to 70%; rapidly to moderately drained Brunisols and Podzols, pockets of Non-Soil.	I2	Glacial ice and exposed bedrock.
CM1	Colluvial and moraine, slopes 0 to 26%; rapidly to moderately drained Brunisols, pockets of well drained Brunisols.	Alpine	
CM2	Colluvial and moraine, slopes 26 to 50%; rapidly to moderately drained Brunisols, pockets of well drained Brunisols.	M6	Moraine, slopes 26 to 50%; rapidly to well drained Brunisols, Regosols and Podzols, pockets of Non-Soil and imperfectly to poorly drained Gleysols.
C1	Colluvial, slopes 0 to 26%; well drained Brunisols and Podzols, pockets of imperfectly drained Gleysols and Organic soils.	M7	Moraine, slopes > 50%; rapidly to imperfectly drained Brunisols and Podzols, pockets of well drained Regosols and Non-Soil.
C2	Colluvial veneers over bedrock, slopes 0 to 26%; well drained Brunisols and Podzols, pockets of poorly drained Organic soils, Gleysols and exposed bedrock.	M8	Moraine, slopes variable (>10%) and averaging 26%; rapidly drained Brunisols, pockets of poorly drained Regosols and Gleysols.
C3	Colluvial veneers over bedrock, slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols.	C7	Colluvial, slopes are variable (>26%); rapidly drained to imperfectly drained Brunisols, Podzols, pockets of poorly drained Gleysols.
C4	Colluvial veneers over bedrock, slopes 50 to 70%; rapidly to well drained Brunisols and Podzols, pockets of exposed bedrock.	C8	Colluvial over bedrock, slopes are variable (>26%); well drained Brunisols, pockets of Non-Soil, shallow soils (approximately 60 cm thick).
C5	Colluvial, slopes 0 to 26%; well drained Brunisols and Podzols, pockets of exposed bedrock.	F3	Fluvial material in active fluvial zones, mostly rapidly drained Regosols and Non-Soils, pockets of poorly drained Gleysols, Alpine.
C6	Colluvial and moraine, slopes > 70%; well drained Brunisols, Podzols, pockets of exposed bedrock, Regosols and Non-Soils.	BEC Zone	
F1	Fluvial material in active fluvial zones; rapidly drained to well drained Regosols and Brunisols, pockets of poorly drained Gleysols.	Infrastructure	
F2	Fluvial material in non-active fluvial zones; terraced landscapes, slopes 0 to 26%; well drained Podzols, pockets of well drained Brunisols.	Access Road	
FG	Glaciofluvial, benches and with side slopes (26 to > 70% slopes); rapidly drained Podzols.	Frank Mackie Glacier Access (temporary)	
FC	Fluvial and colluvial complex, variable slopes; rapidly to well drained Regosols and Brunisols.	Tunnel	
O	Organic, very poorly drained Organic soils, pockets of poorly drained Gleysols and well drained Brunisols.	20 m Contour	



KSM Project Soils Map - Mapsheet 4

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|-----|---|---|--|
| M1 | Moraine, slopes 0 to 25%, rapidly to imperfectly drained Brunisols, pockets of Gleysols, Organic, and Regosols. | NS | Non-Soil: barren, little to no soil development. |
| M2 | Moraine, slopes 26 to 50%, rapidly to moderately drained Brunisols and Podzols, pockets of well drained Regosols, and imperfectly to poorly drained Gleysols. | R | Bedrock. |
| M3 | Moraine veneers over bedrock; slopes range 26 to 50%, well to imperfectly drained Brunisols and Podzols, pockets of Non-Soil. | W | Water. |
| M4 | Moraine, slopes 50 to 70%; rapidly drained Brunisols, pockets of Regosols and Podzols. | I1 | Glacial ice. |
| M5 | Moraine veneers over bedrock; slopes 50 to 70%; well drained Brunisols and Podzols; pockets of Non-Soil. | I2 | Glacial ice and exposed bedrock. |
| CM1 | Colluvial and moraine; slopes 26 to 50%; well drained Podzols, pockets of well drained Brunisols. | M6 | Moraine, slopes 26 to 50%; rapidly to imperfectly drained Brunisols, Regosols and Podzols, pockets of Non-Soil and imperfectly to poorly drained Gleysols. |
| CM2 | Colluvial and moraine; slopes 50% to 70%; well drained Podzols, pockets of well drained Brunisols. | M7 | Moraine, slopes > 50%; rapidly to imperfectly drained Brunisols and Podzols, pockets of well drained Regosols and Non-Soil. |
| C1 | Colluvial, slopes 0 to 25%, well drained Brunisols and Podzols, pockets of imperfectly drained Gleysols and Organic soils. | M8 | Moraine; slopes variable (<10%) and averaging 25%; rapidly drained Brunisols, pockets of poorly drained Regosols and Gleysols. |
| C2 | Colluvial veneers over bedrock; slopes 0 to 25%; well drained Brunisols and Podzols, pockets of poorly drained Organic soils, Gleysols and exposed bedrock. | C7 | Colluvial; slopes are variable (<25%); rapidly drained to imperfectly drained Brunisols, Podzols, pockets of poorly drained Gleysols. |
| C3 | Colluvial, slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols. | C8 | Colluvial over bedrock; slopes are variable (>25%); well drained Brunisols, pockets of Non-Soil, shallow soils (approximately 60 cm thick). |
| C4 | Colluvial veneers over bedrock; slopes 26 to 50%; rapidly to moderately drained Brunisols and Podzols, pockets of exposed bedrock. | F3 | Fluvial material in active fluvial zones; mostly rapidly drained Regosols and Non-Soils, pockets of poorly drained Gleysols, Alpine. |
| C5 | Colluvial, slopes 50 to 70%; rapidly to well drained Brunisols and Podzols, pockets of Gleysols. | | |
| C6 | Colluvial veneers over bedrock; slopes 50 to 70%; rapidly drained to well drained Brunisols and Podzols, pockets of exposed bedrock. | BEC Zone | |
| CM3 | Colluvial and moraine; slopes > 70%; well drained Brunisols, Podzols, pockets of exposed bedrock, Regosols and Non-Soils. | Infrastructure | |
| F1 | Fluvial material in active fluvial zones, rapidly drained to well drained Regosols and Brunisols, pockets of poorly drained Gleysols. | Access Road | |
| F2 | Fluvial material in non-active fluvial zones; terraced landscape; slopes 0 to 25%; well drained Podzols, pockets of well drained Brunisols. | Frank Mackie Glacier Access (temporary) | |
| FG | Glaciofluvial, benches and with side slopes (25 to > 70% slopes); rapidly drained Podzols. | Tunnel | |
| FC | Fluvial and colluvial complex; variable slopes; rapidly to well drained Regosols and Brunisols. | 20 m Contour | |
| O | Organic; very poorly drained Organic soils, pockets of imperfectly drained Gleysols and well drained Brunisols. | 100 m Contour | |
- 0 1:20,000 0.5 1 Kilometres
- Date: October 24 2012
GIS no.: KSM-17-0661
Job no.: 168-016-19
Map projection: UTM 9N, NAD 83

SEABRIDGE GOLD Rescan

