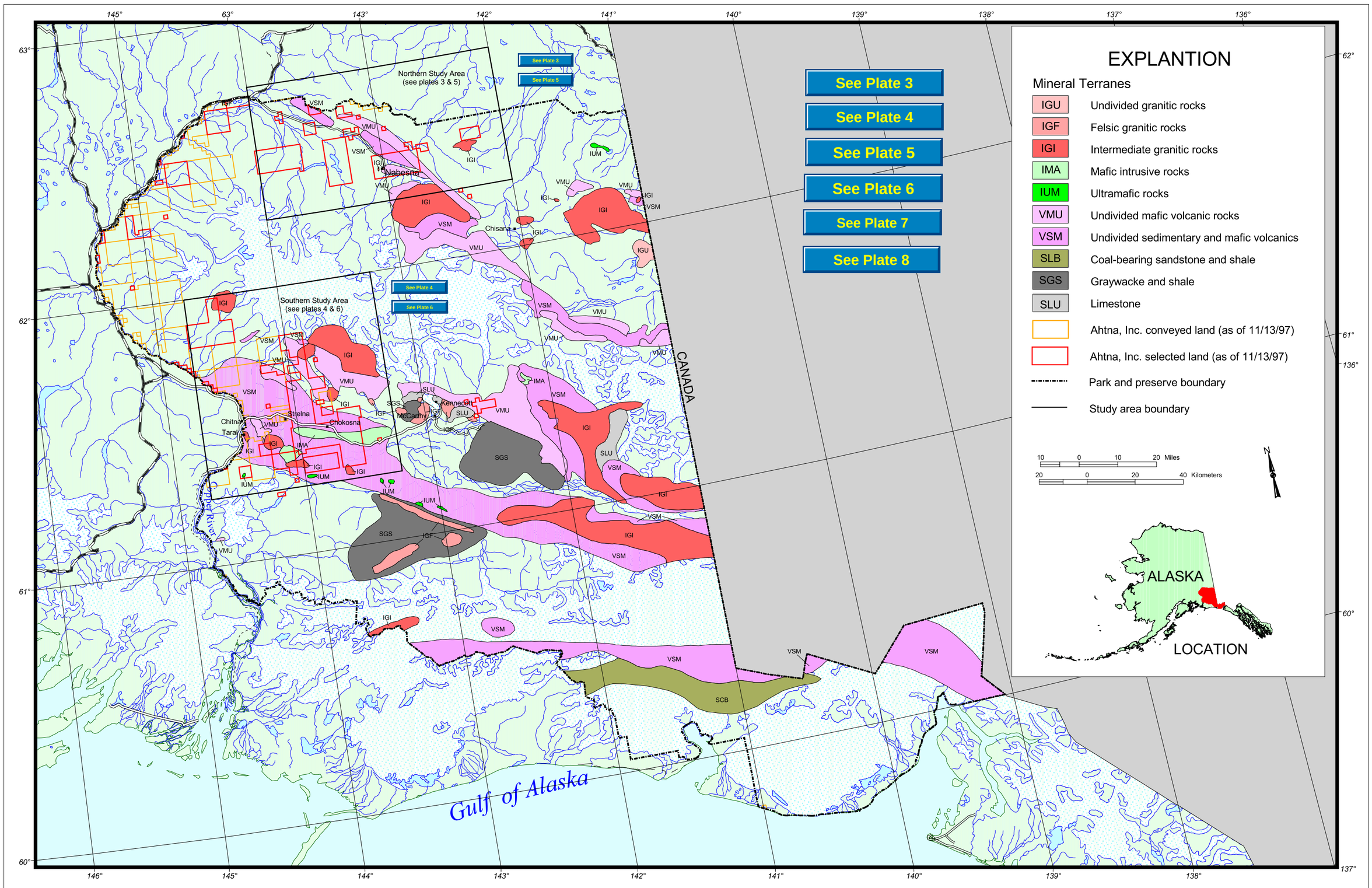


PLATE 1. - Location map of the Wrangell-St. Elias National Park and Preserve showing mineral terranes.

EXPLANATION

Volcanic Rocks

QTvi --- Quaternary and/or Tertiary intermediate volcanic rocks.

ITvm --- Lower Tertary mafic volcanic volcanic rocks.

KJvm --- Cretaceous and Jurassic mafic volcanic rocks.

Trvm --- Triassic mafic volcanic rocks.

Intrusive Rocks

Tif --- Tertiary felsic intrusive rocks.

Kif --- Cretaceous felsic intrusive rocks.

Kii --- Cretaceous intermediate intrusive rocks.

Ki --- Cretaceous undifferentiated intrusive rocks.

Jii --- Jurassic intermediate intrusive rocks.

JTrii --- Jurassic and/or Triassic intermediate intrusive rocks.

Pif --- Pennsylvanian intermediate intrusive rocks.

Pim --- Pennsylvanian mafic intusive rocks.

uPzim --- Upper Paleozoic mafic intrusive rocks.

Sii --- Silurian intermediate intrusive rocks.

Pzim --- Paleozoic mafic intrusive rocks.

Pzi --- Paleozoic intermediate intrusive rocks.

Ultramafic Rocks

PPu --- Pennsylvanian ultramafic rocks.

Pzu --- Paleozoic ultramafic rocks.

Stratified Sedimentary Sequence

Qh --- Holocene deposits. Alluvial, glacial, lake, swamp, landslide, and flood plain deposits.

Qp --- Pliestocene deposits. Alluvial, glacial, dune sand, loess, and reworked sand and silt deposits.

uT --- Upper Tertiary rocks. Sandstone siltstone, shale, mudstone, and conglomerate of Miocene and Pliocene age.

mT --- Middle Tertiary rocks. Siltstone, sandstone, organic shale, and locally volcanic rocks.

IT --- Lower Tertiary rocks. Continental clastic rocks of Palecene and Eocene age.

K --- Cretaceous rocks. Shelf deposits of sandstone, siltstone, shale, and limestone of the Kennicott and Chititu Formations.

IK --- Lower Cretaceous rocks. Interlayed submarine and subaerial andesitic fragmental volcanic detritus, and interbedded mafic volcanic rocks.

KJ1 --- Cretaceous and Upper Jurassic rocks. Graywacke, slate, argillite, minor conglomerate, volcanic detritus, and interbedded mafic volcanic rocks.

KJ2 --- Lower Cretaceous and Upper Jurassic rocks. Shallow and deep water clastic deposits (Oxfordian to Barremian) north of the Wrangell Mountains.

J --- Jurassic rocks. Shale, siltstone, and sandstone of the Nizina Mountain Formation and the Kotsina Conglomerate along the southern Wrangell Mountains.

JTr --- Jurassic and/or Triassic rocks. Limestone with minor dolomite, shale, and chert of the Chitistone Limestone, Nizina Limestone, and the McCarthy Formation along the southern Wrangell Mountains.

TrP --- Triassic and Permian rocks. Mafic volcanic rocks, limestone, and calcareous argillite.

PPP --- Permian and Pennsylvanian rocks. Basaltic to andesitic lavas and derivative volcaniclatic rocks, tuffs, minor gabbro, and local shallow-water sedimentary rocks metamorphosed to greenshist facies, and locally, amphilbolite facies. Includes the Skolai Group, Strelna Formation (Permian), and Tetelna Volcanics.

Pz --- Paleozoice rocks. Marble in places containing tremolite.

D --- Paleozoic rocks. Pyroclastic rocks and ash flows interbedded with sedimentary rocks metamorphosed to schist and gniess.

Continental Deposits

Tmc --- Miocene continental deposits. Sandstone, siltstone, shale, claystone, and conglomerate.

TKc --- Tertiary and Cretaceous continental deposits. Conglomerate, breccia, sandstone, arkose, mudstone, shale, and tuffaceous rocks.

Other

Water

Ice

Map symbols

Fault

Fault, dotted where concealed

Park and preserve boundary

LEGEND

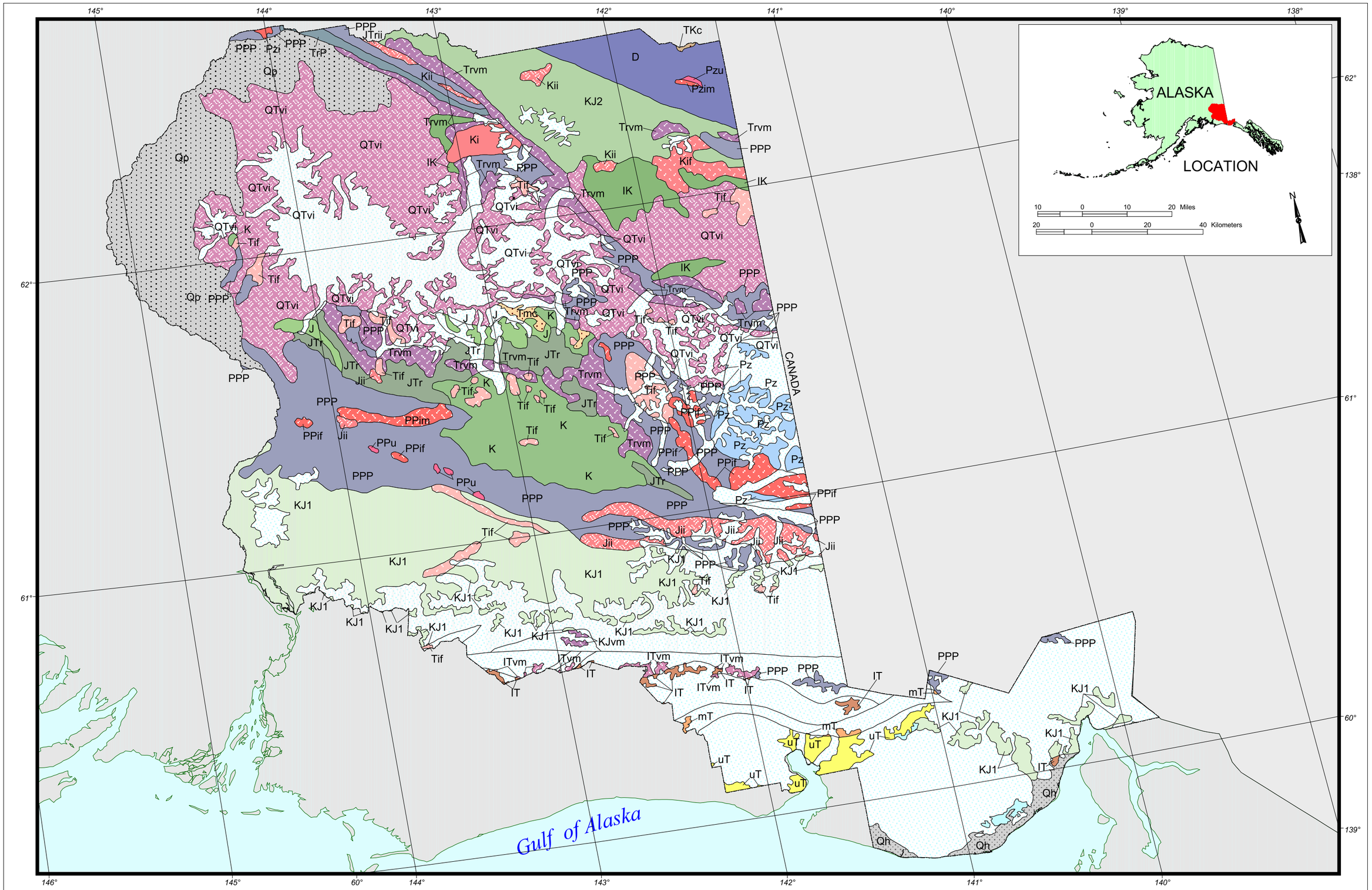


PLATE 2. - Geologic map of the Wrangell-St. Elias National Park and Preserve.
(adapted from Geologic Map of Alaska by Helen M. Beikman - 1980)

144°00'06" 143°50'07" 143°40'08" 143°30'09" 143°20'10" 143°10'11" 143°00'12" 142°50'13" 142°40'14" 142°30'15" 142°20'16" 142°10'17" 142°00'18"

62°39'56"

62°29'57"

62°19'58"

Noyes Mountain

GARIBOU CREEK PROSPECT
UNNAMED OCCURRENCE 2
CARIBOU CREEK MINE
TRAIL CREEK
TRAIL CREEK SHEAR
TRAIL CREEK CIRQUE NORTH
TRAIL CREEK CIRQUE
ROCK CREEK MOLY
CORUNDUM
RENNIMORE & RASMUSSEN
VICKI
Natat Creek
Caribou Creek
NABESNA
ROAD
RIVER
BEE JAY
Platinum Creek
Boyden Hills
PLATINUM CREEK
Devils Mountain
UNNAMED OCCURRENCE 1
BOYDEN
RAMBLER MINE
Nabesna
ROYAL DEVELOPMENT CO.
NABESNA MINE
NABESNA
CAMP CREEK 2
CAMP CREEK 1
Lider Creek
ANTLER CREEK NORTH
ANTLER CREEK SOUTH

N

3 0 3 6 Miles

4 0 4 8 Kilometers

LEGEND

- Property location
- Ahtna, Inc. conveyed lands (as of 11/13/97)
- Ahtna, Inc. selected lands (as of 11/13/97)
- Town / village
- Park and preserve boundary

LOCATION MAP

Plate 3. Property location map of the northern study area Wrangell-St. Elias National Park and Preserve

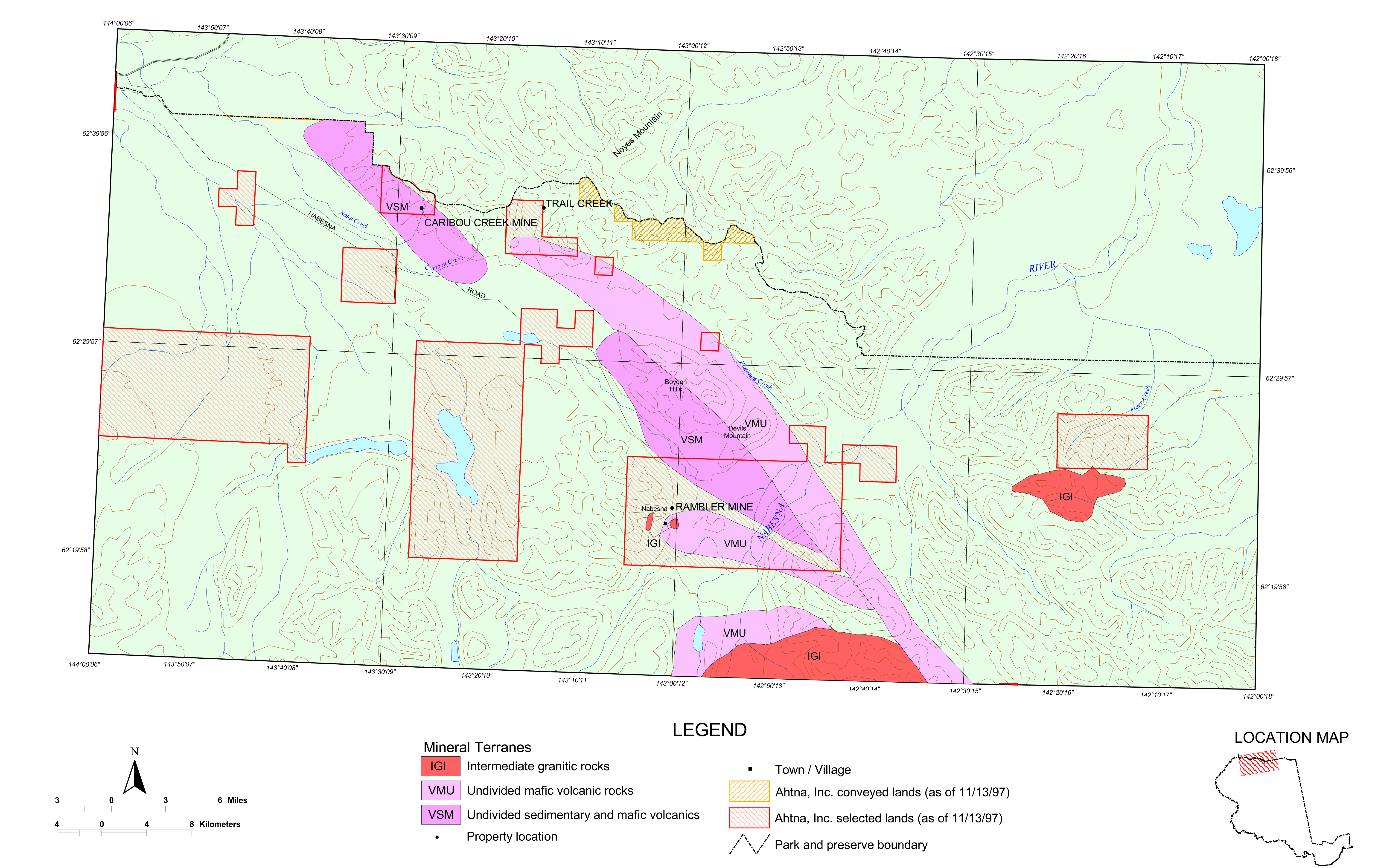


Plate 7. - Mineral Terranes map showing properties favorable for exploration in the northern study area.

144°45'
62°
144°22'
144°00'
143°37'
143°15'
62°
61°45'
61°30'
61°15'
144°45'
61°15'
143°15'

Chichokna River
Chechnimna Glacier
NABESNA GLACIER
Klavesna Glacier
See inset A.
Long Glacier
Kluvesna River
Kotsina River
Kuskulana Glacier
Kuskulana River
EDGERTON HWY
RIVER
Chitna
Strelna
Taral
McCARTHY
CHITINA
Wood Canyon Road
COPPER
Chokosna
Gkahina River
ROAD
RIVER
VSM

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

LEGEND

- Sample location
- Town / Village
- Ahtna, Inc. conveyed lands (as of 11/13/97)
- Ahtna, Inc. selected lands (as of 11/13/97)
- Park and preserve boundary

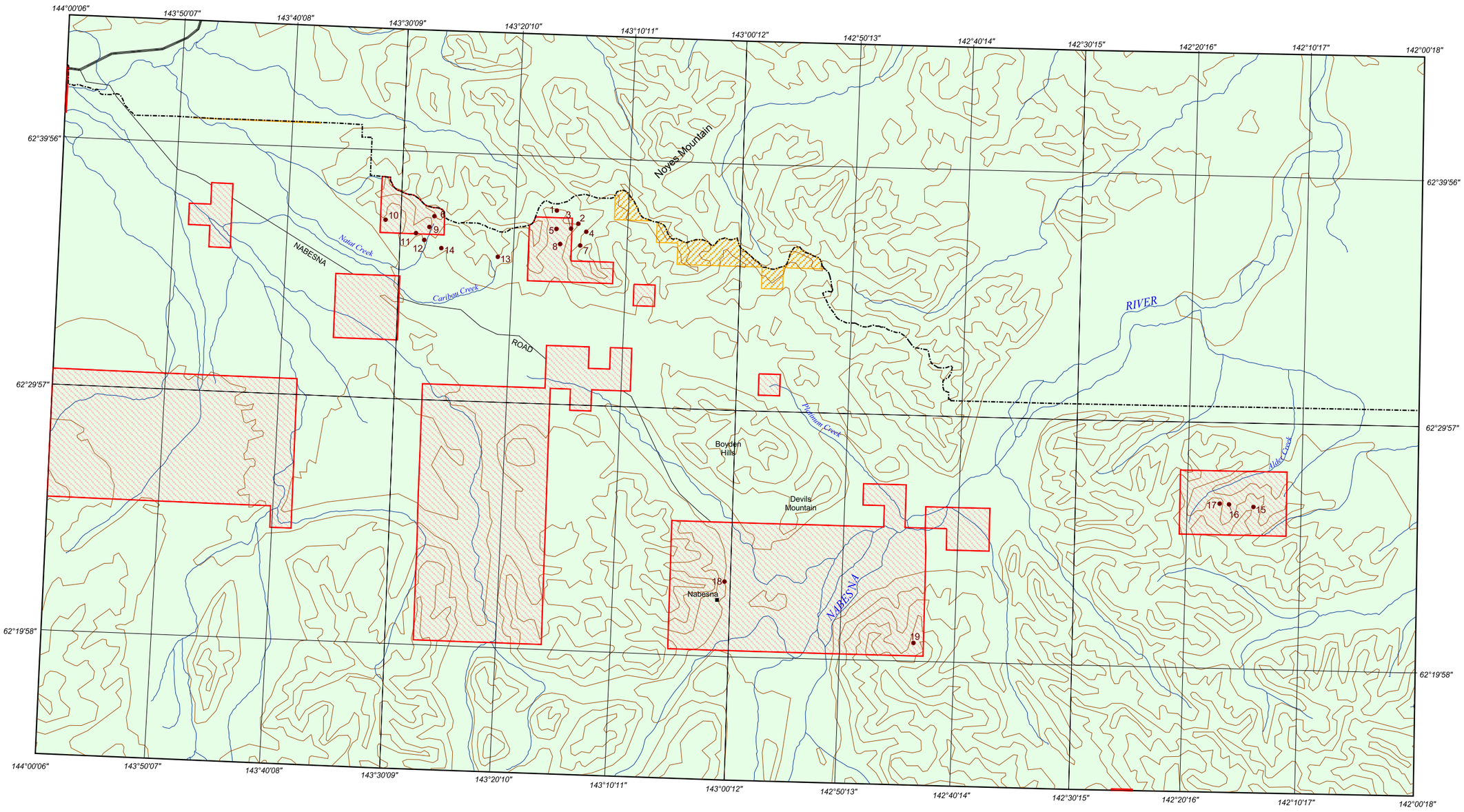
LOCATION MAP

2 0 2 4 6 8 Miles
3 0 3 6 9 12 Kilometers

N

Inset A.

Plate 6. - Sample location map of the southern study area Wrangell-St. Elias National Park and Preserve.



N

3 0 3 6 Miles

4 0 4 8 Kilometers

LEGEND

- Sample location
- Ahtna, Inc. conveyed lands (as of 11/13/97)
- Ahtna, Inc. selected lands (as of 11/13/97)
- Town / village
- Park and preserve boundary

LOCATION MAP

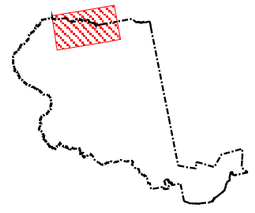


Plate 5. Sample location map of the northern study area Wrangell-St. Elias National Park and Preserve

Plate 4. - Property location map of the southern study area Wrangell-St. Elias National Park and Preserve.

144°45'
144°22'
144°00'
143°37'
143°15'
62°
61°45'
61°30'
61°15'

CHICHOKNA
Chichokna River
Chesh'nina Glacier
NABESNA GLACIER
Kluvesna Glacier
See inset A.
FALL CREEK SADDLE OCCURRENCE
FALL CREEK UPPER PROSPECT
HOMESTAKE
SUNRISE
SUNSET
HIDDEN TREASURE
NEWHOME
Long Glacier
GOOD ENOUGH
FRANKLIN
Kluvesna River
MINERAL CREEK
SURPRISE/SUNSHINE
LOST CABIN
SILVER STAR MINE
Kotsina River
DOTTIE
ALASKA COPPER MINES
WARNER
KOTSINA RIVER
AMY CREEK
LARSON
SKYSCRAPER
CRAWFORD
LIME CREEK
ROARING CREEK
SKYSCRAPER PEAK WEST
ROARING CREEK SOUTHWEST
ROARING CREEK SOUTHEAST
AMMANN PROPSECT
MULLEN MINE
PEACOCK CLAIM
CAVE PROSPECT
MOUNTAIN SHEEP
BUNKER HILL
FORGET-ME-NOT
MONTANA BOY
BLUEBIRD (KOTSINA RIVER)
HUBBARD-ELLIOTT MINE
EDGERTON HWY
RIVER
COPPER KING MINE
BARRETT, YOUNG, & NAFSTED
MINNEAPOLIS
NUGGET CREEK MINE
PORCUPINE CREEK HEAD
STRELNA CREEK
CLEAR CREEK MINE
BLACKBURN
PORCUPINE CREEK MOUTH
Kuskulana Glacier
SQUAW CREEK
Kuskahaaa River
COPPER QUEEN
WAR EAGLE
BERG CREEK MINE
CALCITE
LONDON AND CAPE
Chitna
Strelna
Taral
KINNEY-GOLDEN
McCARTHY
ESCAPE
Chokosna
CHOKOSNA RIVER
Gkahina River
ROAD
Wood Canyon Road
COPPER
CHITINA
SURPRISE CREEK
DIVIDE CREEK
PALLS CREEK
O'HARA
CARMALITA
RIVER
VSM

LEGEND

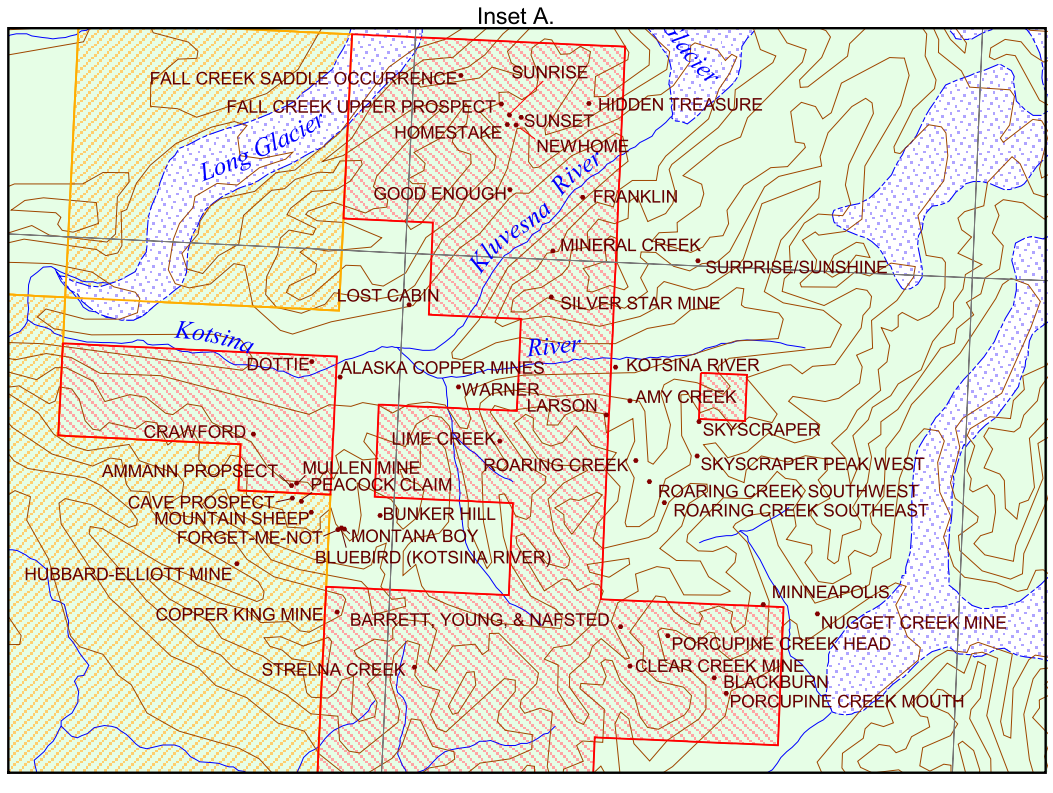
- Property location
- Town / Village
- Ahtna, Inc. conveyed lands (as of 11/13/97)
- Ahtna, Inc. selected lands (as of 11/13/97)
- Park and preserve boundary

LOCATION MAP

2 0 2 4 6 8 Miles
3 0 3 6 9 12 Kilometers

N

Inset A.



144°45'
144°22'
144°00'
143°37'
143°1
62°
61°4
61°30'
61°15'
144°45'
61°15'
143°15'
IGI
Chichokna River
Cheshmma Glacier
NABESNA GLACIER
Klutesnd Glacier
VSM
FALL CREEK UPPER PROSPECT
SUNSET
SUNRISE
HIDDEN TREASURE
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VSM
VMU
LARSON
LIME CREEK
VMU
MULLEN MINE
AMMANN PROPSECT
VMU
VMU
EDGERTON HWY
COPPER KING MINE
BARRETT, YOUNG, & NAFSTED
Kaskalana Glacier
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RIVER
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IGF
VMU
McCARTHY
Taral
IGI
Chokosna
VSM
IGI
CHITINA
Gkahina River
Wood Canyon Road
VSM
ROAD
COPPER
IMA
IMA
IUM
IGI
CARMALITA
RIVER
VSM
IUM
VSM
IGI

Plate 8. - - Mineral Terranes map showing properties favorable for exploration in the southern study area.

LEGEND

Mineral Terranes

- IGF — Felsic granitic rocks
- IGI — Intermediate granitic rocks
- IMA — Mafic intrusive rocks
- IUM — Ultramafic rocks
- VMU — Undivided mafic volcanic rocks
- VSM — Undivided sedimentary and mafic volcanics
- • Property location
- ▪ Town / Village
- Ahtna, Inc. conveyed lands (as of 11/13/97)
- Ahtna, Inc. selected lands (as of 11/13/97)
- Park and preserve boundary

LOCATION MAP

2 0 2 4 6 8 Miles

3 0 3 6 9 12 Kilometers

N