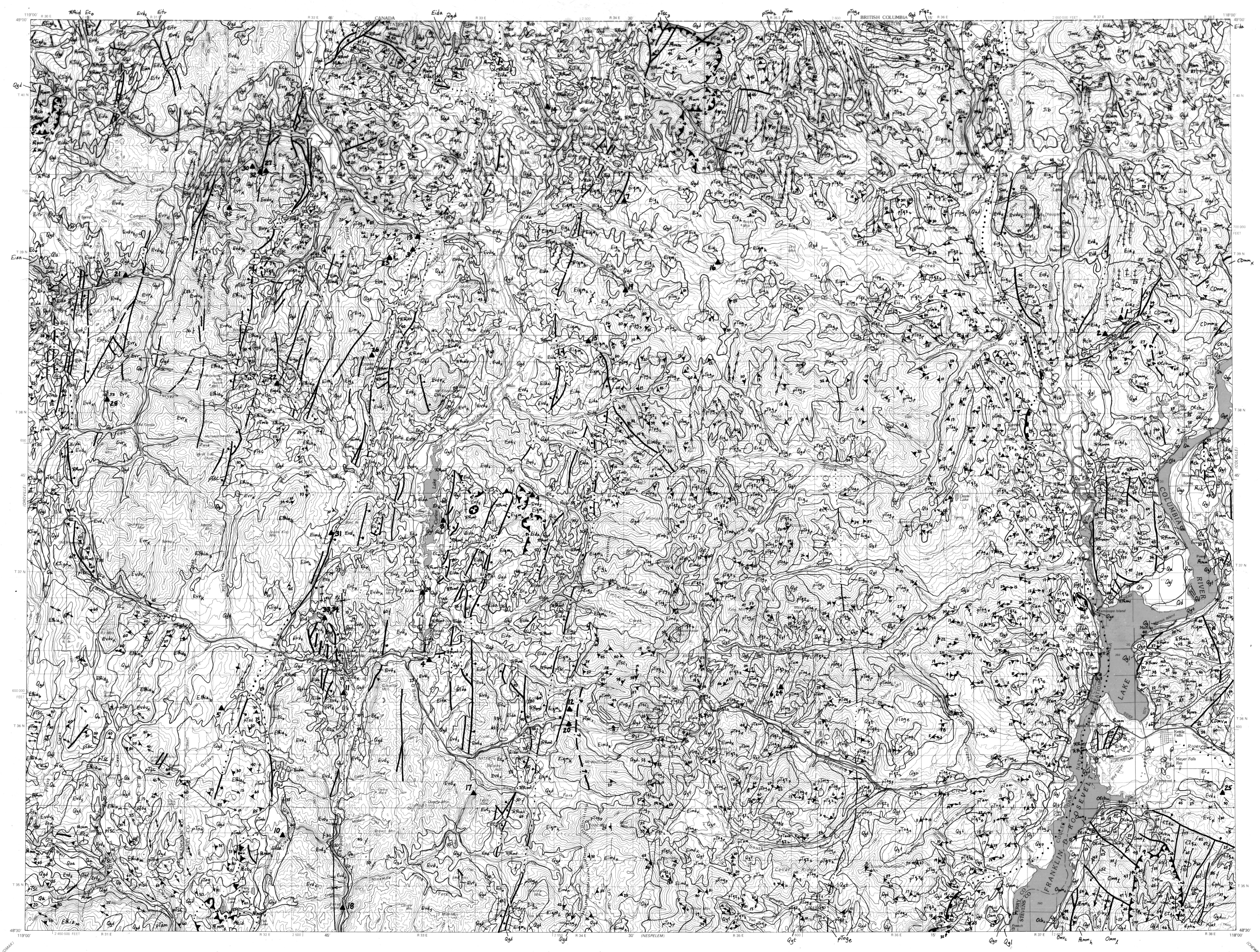
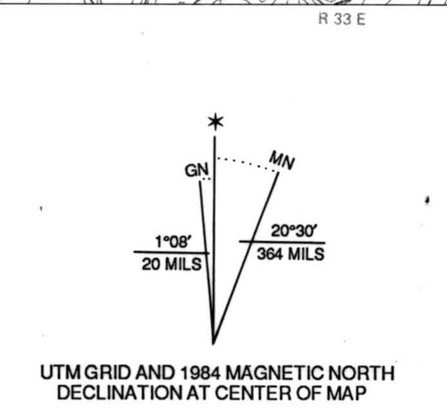
WASHINGTON STATE DEPARTMENT OF
Natural Resources
Brian Boyle - Commissioner of Public Lands
Art Stearns - Supervisor
Division of Geology and Earth Resources
Raymond Lasmanis, State Geologist

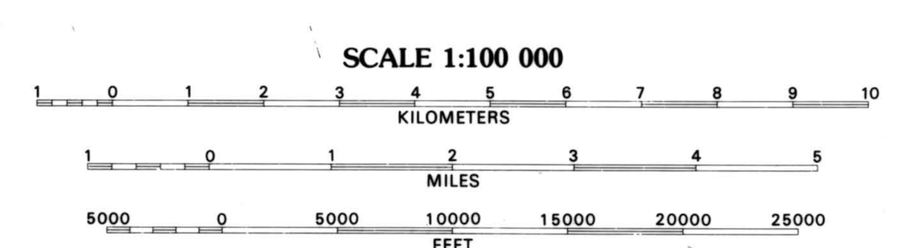
REPUBLIC QUADRANGLE

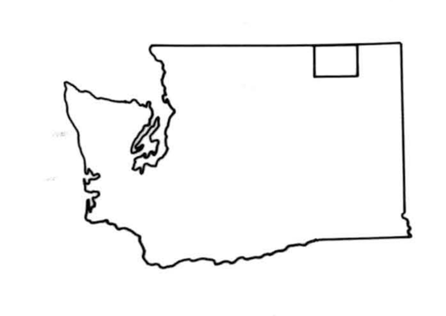
WASHINGTON DIVISION OF GEOLOGY AND EARTH RESOURCES
Raymond Lasmanis, State Geologist

PLATE 1
OPEN FILE REPORT 90-10
GEOLOGIC MAP OF THE REPUBLIC 1:100,000 QUADRANGLE, WASHINGTON









THIS REPORT CONSISTS OF 1 MAP AND A 62 PAGE TEXT

GEOLOGIC MAP OF THE REPUBLIC 1:100,000 QUADRANGLE, WASHINGTON

Compiled by
KEITH L. STOFFEL

APRIL 1990

GEOLOGIC UNITS

SEDIMENTARY AND VOLCANIC DEPOSITS AND ROCKS

QUATERNARY SEDIMENTARY DEPOSITS

Nonglacial Deposits

Qa	Alluvium
Qoa	Older alluvium
Qls	Mass-wasting deposits
Qd	Dunes

Glacial Deposits

Qgt	Glacial till
Qgo	Glacial outwash
Qgl	Glaciolacustrine deposits
Qgd	Glacial drift

TERTIARY SEDIMENTARY AND VOLCANIC ROCKS

$Evdv_k$	Klondike Mountain Formation, vitrophyric and microcrystalline dacite and andesite flows
Evr_k	Klondike Mountain Formation, rhyolite(?) flows
Evc_k	Klondike Mountain Formation, volcanic conglomerate
Ec_k	Klondike Mountain Formation, sedimentary rocks
Ebx_k	Klondike Mountain Formation, breccia
Evd_k	Klondike Mountain Formation, porphyritic dacite and andesite flows
Evt_k	Klondike Mountain Formation, tuff and tuff breccia
Evd_s	Sanpoil Volcanics, dacite, andesite, and trachyte flows
Evt_s	Sanpoil Volcanics, tuff and tuff breccia
Ec_o	O'Brien Creek Formation

METASEDIMENTARY AND METAVOLCANIC ROCKS

MESOZOIC METASEDIMENTARY AND METAVOLCANIC ROCKS

Jmv_r	Rossland Group, metavolcanic rocks
Jmm_r	Rossland Group, metasedimentary rocks
Jcg_r	Rossland Group, metaconglomerate
TRcb	Triassic metacarbonate
TRPmmm	Triassic-Permian metasedimentary rocks
TRPmmv	Triassic-Permian metavolcanic rocks
TRPmmt	Triassic-Permian metasedimentary and metavolcanic rocks, undivided

PALEOZOIC METASEDIMENTARY AND METAVOLCANIC ROCKS

$Pzmm_h$	Metasedimentary rocks near Heidegger Hill
$Pzmm_s$	Metasedimentary rocks near Swan Lake
$Pzcb_s$	Metacarbonate near Swan Lake
Pmmm	Permian metasedimentary rocks
Pmcb	Permian metacarbonate
$CDmm_k$	Kelly Hill phyllite
$CDmm_m$	Metasedimentary rocks near Mission Lake
$CDmv_m$	Metavolcanic rocks near Mission Lake
Omm_c	Covada Group, metasedimentary rocks
Ocb_c	Covada Group, metacarbonate
Omv_c	Covada Group, metavolcanic rocks
Omm_l	Ledbetter Slate, metasedimentary rocks
$OꞒcb_m$	Metaline Formation, metacarbonate
$Ꞓph_m$	Maitlen Phyllite
$Ꞓcb_m$	Maitlen Phyllite, metacarbonate
$ꞒZq_a$	Addy Quartzite

PROTEROZOIC METASEDIMENTARY AND METAVOLCANIC ROCKS

Zmt_m	Windermere Group, Monk Formation, metasedimentary and metavolcanic rocks, undivided
Zcb_m	Windermere Group, Monk Formation, metacarbonate

INTRUSIVE IGNEOUS ROCKS

TERTIARY INTRUSIVE IGNEOUS ROCKS

Tertiary Hypabyssal Intrusive Rocks

	Pyroxene dacite and andesite dikes and sills
Eivd	Vitrophyric dacite and andesite plugs and dikes
$Eian_r$	Andesite and basalt sills(?) near Republic
	Rhyolite dikes
Eitr	Porphyritic trachyte plugs and dikes
Eida	Porphyritic dacite plugs and dikes
Eian	Porphyritic andesite plugs
Ei	Plagioclase porphyry near Lone Ranch Creek

Tertiary Plutonic Rocks

Eig_h	Herron Creek suite, granite
$Eiqm_h$	Herron Creek suite, quartz monzonite
Eim_h	Herron Creek suite, monzonite
$Eigd_h$	Herron Creek suite, granodiorite
$Eimd_k$	Devils Elbow suite, Kettle Crest pluton
$Eimd_h$	Devils Elbow suite, Henry Creek monzodiorite
$EPAia_m$	Keller Butte suite, Moses pluton
$EPAia_b$	Keller Butte suite, Mount Bonaparte pluton
Eig_u	Granite near US Creek
$Eiqm_k$	Quartz monzonite near Kerry Creek
Eig_o	Granite near Orient
$Eiqm_d$	Quartz monzonite near Deep Creek
Eim	Hodgson Creek monzonite
Eia_f	Fifteenmile Creek pluton
$Eigd_b$	Barstow granodiorite
Eii	Eocene intermediate intrusive rocks
Eik	Eocene alkalic intrusive rocks
Eib_t	Basic intrusive rocks near Toroda
Eib_k	Basic intrusive rocks near Kettle Falls

MESOZOIC INTRUSIVE IGNEOUS ROCKS

Kiat	Two-mica granite at Mingo Mountain
Kiqm	Quartz monzonite near Kettle Falls
$KJigd_b$	Buckhorn Mountain pluton, granodiorite
$KJid_b$	Buckhorn Mountain pluton, diorite
$KJigd_w$	Wauconda pluton
$KJik_s$	Alkalic rocks of Shasket Creek
Jiq	Jurassic(?) quartz diorite
TRPmid	Metadiorite near Buckhorn Mountain
Mzid	Metadiorite near Swan Lake
Mzu	Ultrabasic rocks
Jib	Jurassic (?) basic intrusive rocks

METAMORPHIC ROCKS

METAMORPHIC ROCKS OF TENAS MARY CREEK

Metaigneous Rocks

$pTog_p$	Porphyritic orthogneiss
$pTog_e$	Equigranular orthogneiss
pTam	Amphibolite

Layered Metamorphic Rocks

$pTqz_4$	Unit 4, quartzite
$pTsc_3$	Unit 3, schist
$pTpg_2$	Unit 2, paragneiss
$pTqz_2$	Unit 2, quartzite
$pTmb_2$	Unit 2, marble
$pTsc_1$	Unit 1, schist
$pTmb_1$	Unit 1, marble

Mixed Metamorphic and Igneous Rocks

pTmg	Migmatite

METAMORPHIC ROCKS IN THE SOUTHWEST PART OF THE MAP AREA

pTsc	Schist
pTmb	Marble
pTam	Amphibolite
pTog	Orthogneiss

EXPLANATION

- Contact
- Contact - gradational
- Scratch boundary - boundary between reconnaissance and detailed mapping
- Fault - dashed where approximately located; dotted where concealed; queried where uncertain
- Fault - ball and bar on downthrown side
- Thrust fault - sawteeth on upper plate; long-dashed where approximately located; queried where uncertain
- Low angle normal fault - blocks on upper plate; dotted where concealed
- Anticline - dotted where concealed
- Syncline - dotted where concealed
- Overturned anticline - showing direction of dip of limbs
- Overturned syncline - showing direction of dip of limbs
- 15 Strike and dip of beds
- 47 Strike and dip of overturned beds
- Strike of vertical beds
- 36 Strike and dip of foliation
- Strike of vertical foliation
- 15 Bearing and plunge of lineation
- 45 5 Note: planar symbols (strike and dip of beds, foliation or schistosity, and cleavage) may be combined with linear symbols to record data observed at same locality by superimposed symbols at point of observation. Coexisting planar symbols are shown intersecting at point of observation
- 6 Radiometric age locality (see Table 1)