

Haddock - 1959

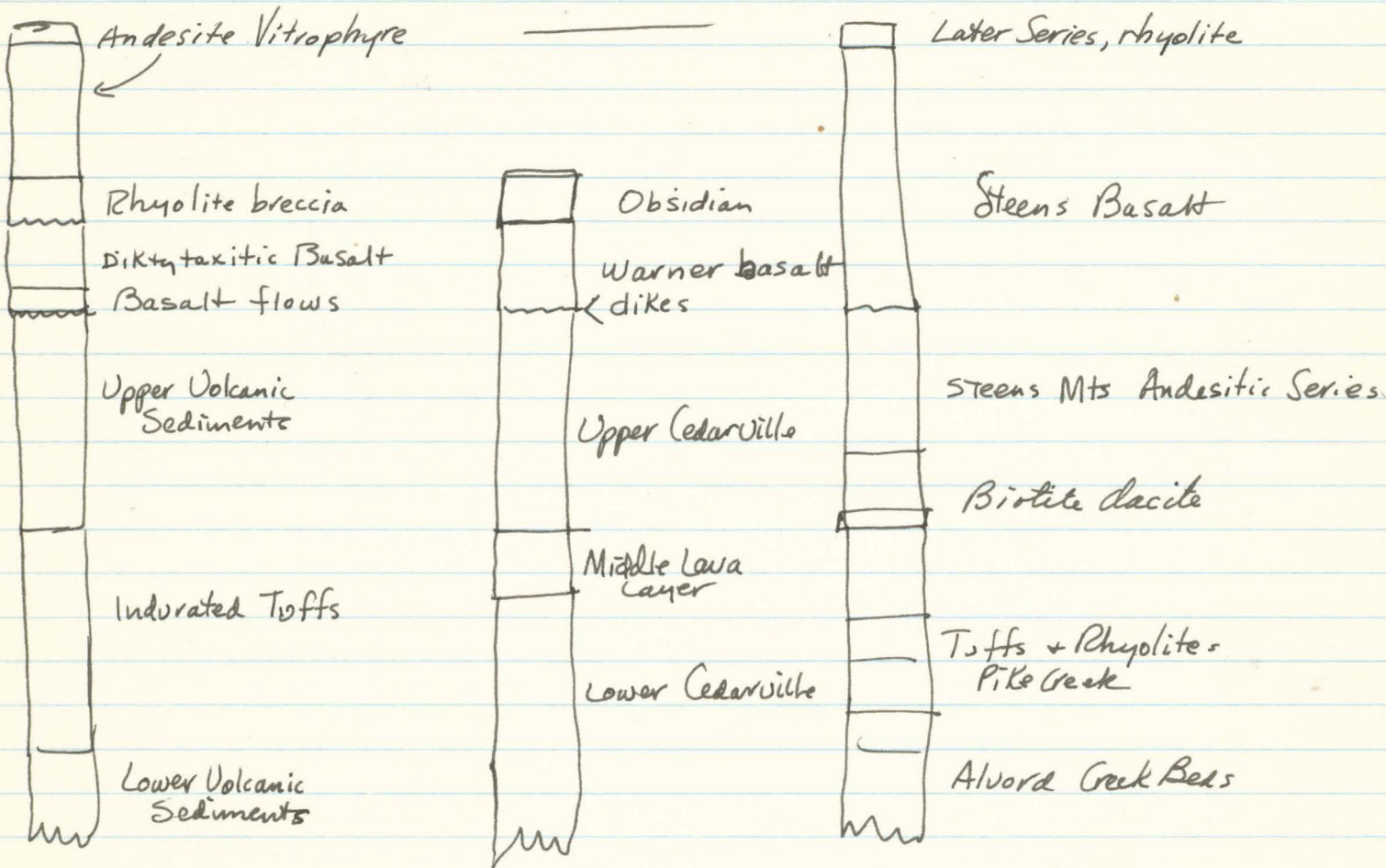
Cougar Peak

Warner Mts

Russell - 1928

Steens Mt.

Fuller - 1931



Continental

Marine

Volcanic

Intrusive

Quaternary

Qc

Alluvium

Qv

Pleistocene + Recent  
Volcanics

Pliocene

Pc

Sandstone, shale, cong.  
and some volcanics

Pm

Fossil ss. + congl.  
near Coos Bay

Pv

Lavas + minor lake  
beds

Ti

Miocene

Mc

Ss., sh., cgl., + some vol.

Mm

Ss. + sh.

Mv

Basalt + andesite flows

Small granitic intr.  
Western Cascades

Oligocene

Oc

Tuffs, sh., ss., aggl., clays  
sand + gravel

Om

Tuffaceous sh. + ss. +  
micaceous - ss.

Ov

Undiff. Tert. vol. with  
some cont. sed.

φv

Lavas and  
pyroclastics

Eocene

Ec

Tuffs, ashes, agglom.  
andesitic + rhyolitic  
lavas, sands, clay, gravel

Em

Ss. + sh., some basalt  
flows + sills, coal beds

Ev

Basaltic rocks, in  
part intrusive

Cretaceous

K

Ss., cong + minor sh.

Ki

Granitic intrusives

Jurassic - Triassic

JR

Ss., sh., sl., chert, meta-  
volcanics, schists, etc.

Kib

Ultramafic  
intrusives

Permo-Triassic

PeR

Undiff. metamorphics  
some intrusives

PeRv

Meta-volcanics  
minor meta-seds.

Late Paleozoic

C

Miss. to Perm. ss., ls.  
silt and chert

Early Paleozoic

DE

Older schists



Quaternary



- Alluvium



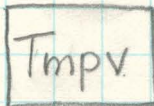
- Pleistocene  
Recent Volcanics

Pliocene



TPV - Pliocene volcanics - undifferentiated  
Pvb - Pliocene basalt  
Pvp - Pliocene pyroclastic rocks

Mio-Plio



Mio-pliocene volcanic rocks undifferentiated

Miocene



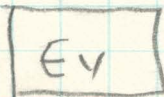
Miocene volcanic rocks undifferentiated  
Mvb - basalt  
Mvp - Pyroclastic rocks  
Mvr - Rhyolite, Dacite

Oligocene(?)



Oligocene volcanic rocks undifferentiated

Eocene



Eocene volcanic rocks undifferentiated



B.N. Moore

Waring

Tranger

Moore

NVP Newcomb

Tentative units for East Central Oregon

Lake + Stream deposit  
Recent Eruptives

Qyal (Qd)

QVP

Qal

QV

Qp - pumice

Qal - Alluvium

QV - volcanic rocks

Qc - Alluvium

Qv - Pleistocene Recent volcanics

TPV

Pliocene volcanics

TPvb - basalt

TPvp - Pyroclastic - Tuffaceous Sediments

TPmv - Mio-Pliocene Volcanics Warner Basalt

Ti

Intrusive rocks

Toa - Andesitic flows

TuI

TuY

TuII

TMV

Miocene volcanics

TMvb - miocene basalt

TMVP - " pyroclastic rocks

TMvr - " Rhyolite, Dacite, and/or Obsidian

TOV

Oligocene volcanics

TVWC

volcanic rocks of Western Cascades

Ev

Eocene

Teu-linggi

Olivin + ba.  
Diatomite  
Lower lava Series  
And. + ba

Andesite  
pyrophy +  
associated tuffs

Ts - Sedimentary rocks table

Td - Tuffaceous rocks

Tav

Tv







Quaternary / Recent Alluvium  
 Quaternary \ Pleistocene Lake Beds

Pliocene - Lake Beds -

Acid effusives

Capping Basalt - Diktytafitic

Miocene - Basalt flows - steens + equivalent

Beaded intermediate tuffs +

Massive clayey-pumice tuffs

Massive indurated lapilli tuffs, xl tuffs, welded tuffs, etc.

Oligocene

(?) Pyroclastic - indurated tuffs, andesitic flows of Paisley Hills - Goose Lake escarpment  
 Coogan Buttes. No Dating -

Eocene

	Andy's Continental	Marine	Volcanic	Intrusive
Quaternary	Qc - alluvium		Qv Pleistocene + Recent Volcanics	
Pliocene	Pc ss, sh, cong, + some volcanics		Pv lavas + minor lake beds	
Miocene	Mc	Mm	Mv Basalt + Andesite flows	
Oligocene			Tv undiff. Tertiary vol. with Some Cont. Sed.	



# - Correlation Chart -

Andy Core.	N. PETERSON	Geo. Walker
Quaternary Alluvium Pleistocene + Recent	Alluvium	Alluvium
	Flat lying basalt flows - rimrock formers - and undeformed lake deposited sed + tuffs probably Plio-Pleistocene	<b>Basalts and Pyroclastics</b> above Tpmc generally west of Quartz Mt. etc. North of Abert Lake -
	Warner Basalt - capping thin to massive light gray olivine basalt - dikty taxitic mainly.	Tpmb - Mio-Plio basalts capping dikty taxitic basalt.
	<del>Ph</del> Younger Tuffs - Mio-Plio Older Basalts - " Older Tuffs - John Day Equivalent	Tmt - fossil bearing tuffs - vertebrate Mascall equivalent <sup>Upper Miocene</sup>
		Tmmb - Middle Miocene basalts including porphyritic at Abert Rim.
		Tmor - John Day Equiv.
		Toea - Andesitic volc. under Tmor.
Indurated Tuffs -		
Miocene Tuffs + basalt		<u>Mio-Plio basalt -</u>
Tmae - acid to intermediate effusive rocks and associated tuffs -		
Tmt+ - indurated varicolored pyroclastic rocks. John Day equiv. - <sup>cont.</sup> some sed. John Day Equivalent		



~~Study Corcoran:~~

Plio - Pleist -

Pliocene -

Mio - Plio - Tob - Olivine basalt flows with minor  
indurated tuffs - includes dense porphyrite  
to light gray likely tuffite.

Miocene - Tmt

Tmxt - clayey ~~tuff~~ siliceous tuffs

Tmot - indurated tuffs



A faulted anticline - result is a series of homoclinal ridges which show that the influence of the older structure has not been eliminated by the faulting.

Prominent marginal scarps with step faults along the front

Basin and Range in Oregon is characterized by north trending fault block mountains and basins of internal drainage.

Some of the mountains are horsts with intervening grabens and others are tilted fault blocks.

Block faulted volcanic plateaus.



# Rough outline of Geology in Lakewood Area -

faulting - axis of anticline collapsed	Pleistocene	}	flow banded rhyolite <sup>dike-like masses</sup> - rhyolite intrusions etc.
			Residual patches of fragmental tuff of rhyolite composition in saddles.
folding into a broad anticline with the axis trending about N45W	Pliocene -	}	Basalt flows - grading from thin (6') to several hundred feet - 3 composition -
	Upper Miocene -		Bedded lake sediments with some thick agglomerate at the base and also the top - layers unidentifiable from localities
	Middle Miocene -		Series of Tuffs - bedded tuff breccia, lithic crystal tuffs - agglomerates welded tuffs - most are light colored and most <sup>appear to</sup> have a rhyolitic to dacitic composition.
Mainly explosive type volcanism	Lower Miocene -	}	white, tan, red, green all are hard some have been completely silicified or devitrified. Equivalent in part to Cedarville formation.
	}		At least 2000 feet of these are exposed - near the base 1 fossil rhino tooth - John Day equivalent - <u>Diceratherium</u> .

mineralization associated with late faulting and rhyolite intrusive type volcanism.



South Central Oregon  
Waring 1908

Tranger 1950

Meyers  
Newcomb

	Waring 1908	Tranger 1950	Meyers Newcomb	
Recent		Qyal - Younger Alluvium Qd - windblown sand Qvr - Volcanic rocks recent		
Pleistocene	Lake + Stream deposits	Minor faulting Qoal Older Alluvium Qvp Volcanic rocks	Qyal - Qoal -	
	Recent Eruptives	Major faulting	Tul - Upper lava rocks	Blanca
Pliocene		Ts - clay, silt, sand + gravel Td - Tuffaceous rocks - Fort Rock	Ty - Younger fm. Tll - Lower lava rocks	Hemp OK
U		Deformation (Major faulting)		Banister
M Miocene	Tuffs	Older Basic Effusives		
L	Basalt		Tav - Volcanic rocks Rhyolite, dacite, and other siliceous lava flows and associated effusive accumulations	Hemp
Oligocene	Older Acid Effusives	Early Tertiary	Tv - Volcanic rocks Basalt, and, rhyolite with assoc. tuff, agglomerate	Avic
Eocene				Avic

Donath - 1958

Age of Warner Basalt - Steens Basalt  
Younger than M. Miocene and older than  
upper Pliocene