

Elephant Mountain Flow

Miocene and Pliocene: South-central Washington.

A. C. Waters, 1955, Geol. Soc. America Bull., v. 66, no. 6, p. 673, pl. 1.

Name applied to basalt flow interstratified in Ellensburg formation. Occurs at higher stratigraphic level than Selah Butte flow (new). Average thickness about 35 feet in area mapped; thickens eastward into widespread lava sheet in Black Rock Spring quadrangle. Map bracket shows Ellensburg and associated basalt flows as Miocene and Pliocene. Text states that much or all of the Ellensburg and its associated intercalated basalt flows are regarded as Pliocene.

Flow crops out on Elephant Mountain, eastern continuation of Rattlesnake Ridge, Yakima East quadrangle.

Elephant Mountain Basalt
(Ellensburg Formation)

1961

Mackin, J. H., A stratigraphic section in the Yakima
Basalt and the Ellensburg Formation in south-central
Washington: Washington Div. Mines and Geology, Rept.
Inv. 19 (284)
p. 33-35 R

Miocene

S-cent. Washington

Elephant Mountain flow
(Yakima basalt)

1965

Schmincke, H. U., Tracing a basalt flow on the
Columbia River Plateau, south-central Washington
(abs.): GSA Spec. Paper 82

p. 275

Overlies Pomona flow; underlies Ward Gap flow.

Not stated

S.-Cent. Wash.

Elephant Mountain basalt
(Yakima basalt)

May 1965

Schmincke, H. U., Petrology, paleocurrents, and stratigraphy of the Ellensburg Formation and interbedded Yakima Basalt flows, southcentral Washington: Dissert. Abs. v. 25, no. 11.

p. 6541

Not stated

S-Cent. Wash.

Elephant Mountain Basalt
(Yakima Basalt)

1967

Schmincke, Hans-Ulrich, Stratigraphy and Petrography
of Four Upper Yakima Basalt Flows in South-Central
Washington: GSA Bull., v. 78, no. 11, Nov.

p. 1385-1422

G(200)
G29

1390, 1392, 1418, 1419

[M. Tert.]

SC. Wash.

Elephant Mountain Basalt Mbr./flow
(Yakima Basalt Fm.)

1967

Schmincke, H.-U., Fused Tuff and Péperites in South-Central Washington: in GSA Bull., V. 78, No. 3, Mar.

p. 321 (Fig. 2), 327

G(200)

G29

age not stated

SC. Wash.

Elephant Mountain Mbr.
(Yakima-Ellensburg Fm.)

1968

Savage, C. N., Lexicon of Idaho Geologic Names:
Idaho. Bur. Mines & Geology, Inf. Circ. 20, Dec.
(283)

p. 1-78.

qIn3c

18

[Mio.-Plio.]

[Wash.]

Elephant Mountain Basalt [Mbr.]
(Ellensburg Fm.)

1969

McKee, B. and McKee, P., Refractive Index
Data for fused glass from basalt of the Columbia
Plateau: Columbia River Basalt Symp. #2, Proc.,
Mar. p. 39 - 49
40(Fig.1)

201(280)
q C 723p

[Tert.]

Columbia Plat.

Elephant Mountain flow/basalt
(Yakima Basalt)

1971

Newcomb, R. C., Relation of the Ellensburg
Formation to extensions of the Dalles Formation
in the area of Arlington and Shutler Flat,
North Central Oregon: The Ore Bin, v. 33,
no. 7, July. p. 133-142

(285)

D3o

133 † 139 - Clearly assigned to Yakima

U. Mio.

NC. Oreg.

Elephant Mountain Basalt [mbr.]
(Yakima Basalt Fm.)

1973

Brown, D. J. & Ledgerwood, R. K., Trip #6-
Stratigraphy and Structure of Yakima Basalt in the
Pasco Basin, Washington: Oregon Dept. Geol. &
Mineral Ind., Bull. #77 (for GSA Cordilleran Sec.,
Gdbk., Mar.). (285)

p. 171-181

B

172 (F. 1) map of type localities

Flow in B. 1200

U. Mio. - Low. Plio.

SC. WA.

Elephant Mountain basalt [mbr.]
(Yakima basalt) (upper)

1973

*Wright, T. L.; Grollier, M. J.; Swanson, D. A.,
Chemical Variation related to the Stratigraphy of
the Columbia River Basalt: GSA Bull., v. 84, no. 2,
Feb.

G(200)

p. 371-386

G29

372 (T. 1)

of Schmincke, '67

Columbia River Gp.
[Mio. & Plio.]

NC. Oreg.
SC. Wash.

Elephant Mountain flow
(Yakima Basalt, Columbia River Gp.)

1974

Nathan, S. & Fruchter, J. S., Geochemical & Paleomagnetic Stratigraphy of the Picture Gorge & Yakima Basalts (Columbia River Group) in Central Oregon: GSA Bull., v. 85, #1, Jan. G(200)
p. 63-76 G29

M, Mio,

sc, WA & c, OR

Elephant Mountain Mbr.

1977

(Saddle Mountains Basalt, Yakima
Basalt Sbgp.) (Columbia River Gp.)

Bentley, R. D., Stratigraphy of the Yakima
Basalts and structural evolution of the
Yakima ridges in the western Columbia
Plateau: GSA Gdbk. (Pac. N.W.) Nov. Field
Trip 12. p. 339-389, 344(T.1)...strat. col.

G(200)

qG29gf)

under: Ice Harbor + unnamed Mbrs.

over: Pomona + Rattlesnake Ridge Mbrs.

8,000,000 yrs old

WA

Elephant Mountain Mbr. (0-30 m)

1977

(Saddle Mountains Basalt, Yakima Basalt Subgp)

Hammond, P.E.; Bentley, R.D.; Brown, J.C.; Ellingson,
J.A.; *Swanson, D.A., Volc. Strat. + Struct. of s.

Cascade Range, WA: GSA Gdbk. (Pac. N.W.) Nov. Field Trip
4. p. 127-169

G(200)

qG29gf

138(T.3)

at least 2 unnamed flows

M. to U. Mio.

sw. WA

Elephant Mountain Mbr (av 30 m)
(Saddle Mountains Basalt, Yakima Bas Subgp)
(Columbia River Bas Gp)

1978

*Swanson, D. A. and *Wright, T. L., Bedrock Geology of
the northern Columbia Plateau and adjacent areas--Chap 3
in The Channeled Scabland, Baker & Nummedal, eds: NASA
Planet Geol Prog Gdbk, June 503(284)
p. 37-57, 43(F.3.3)..strat col C362
49

10.5 m.y. (McKee et al, '77)
U.Mio

WA, OR?

Elephant Mountain Mbr.

1979

(Saddle Mountains Basalt)

(Yakima Basalt Subgp., Columbia River Basalt Gp.)

Beeson, M.H. and Moran, M.R., Columbia River Basalt
Group stratigraphy in western Oregon: OR Geol. v. 41,
no. 1, Jan. p. 11-14, 12(F.2)...strat. sec. fr.

Swanson, D.A., USGS B. 1456-H [pending] (285)

D30

under: Buford Mbr.(U. Mio.)

unconf. over: Mattawa flow(M. Mio.)

10.5 m.y.

M. Mio.

w. OR

Elephant Mountain Member (redefined)

1979

(of Saddle Mountain Basalt)

(of Yakima Basalt Subgroup)

(of Columbia River Basalt Group)

upper Miocene

southern Washington and northern Oregon

Swanson, D. A., Wright, T. L., Hooper, P. R., and
Bentley, R. D., 1979, Revisions in stratigraphic
nomenclature of the Columbia River Basalt Group: U.S.
Geological Survey Bulletin 1457-G, 59 p. (200)

E

Elephant Mountain Basalt Member renamed: Elephant
Mountain Member, redefined to include Ward Gap Basalt →

(over)

U. Mio.

s. WA, n. OR

Member of Schmincke (1967), and reassigned to Saddle Mountains Basalt (now redefined) of Yakima Basalt Subgroup (now raised in rank) of Columbia River Basalt Group (now redefined). Unconformably overlies Weissenfels Ridge Member (new name) and conformably underlies Buford Member (newly adopted), both of Saddle Mountains. Age changed from Miocene and Pliocene to: late Miocene.

Elephant Mountain Mbr
(Saddle Mountains Basalt)

1984

Stoffel, K. L., Geology of the Grande Ronde lignite
field, Asotin County, Washington: WA Dept. Nat. Res.,
Div. Geol. and Ear. Res, Rept. Inv. 27

p. 1-79

(284)

19-23

R

12 (fig. 10)..proposed stratigraphy for Grande Ronde
lignite field (WA)

incl. Whitetail Butte flow (top) (75-120 m)

Tule Lake flow (45 m)

10.5-9.5 m.y.
Mio

se WA

Elephant Mountain Mbr/flow (named flows)
(Saddle Mtns Basalt, Columbia River Basalt Gp)

1984

Reidel, Stephen P., The Saddle Mountains--the evolution
of an anticline in the Yakima Fold Belt: Am. J. Sci, v.
284, no. 8 S(200)
p. 942-978 Am48

945..consists of 2 flows: Ward Gap (younger) (of
Laval, 1956 thesis) and Elephant Mtn (more extensive)
963..youngest mbr present in area

Mio

Saddle Mtns

sc WA

Elephant Mountain Mbr

1985

(Saddle Mountains Basalt, Columbia River Basalt Gp)

Ferns, M. L., Preliminary report on northeastern Oregon
lignite and coal resources, Union, Wallowa, and Wheeler
Counties: OR Dept. Geol. and Min. Ind., OF Rept 0-85-2

p. 1-19

(285)

7 (fig. 3)..strat col

q0p2

5-6

Mio

ne OR

Elephant Mountain Mbr (State usage)
(Saddle Mountains Bas, Columbia River Bas Gp)

1987

Walsh, T.J., Korosec, M.A., Phillips, W.M., Logan, R.L.,
and Schasse, H.W., Geologic Map of Washington--southwest
quadrant: WA State Dept. Natural Resources, Div. Geology
and Earth Resources, Geologic Map GM-34 (1:250,000 scale)

M(284)2

So88w

Swanson and others, 1979; symbol Mv_s

Toppenish Ridge

Yakima Co.

sw. WA

late Mio