

GSA Data Repository Item # 8408

Title of article Intracanyon flows of the Columbia River Basalt Group in  
the lower Columbia River Gorge and their relationship to the Troutdale Formation

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see GSA Bulletin v. 95, p. 463 - 477

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TABLE 4. Bulk clast composition (in %) of conglomerates from the Troutdale Formation as determined by pebble counts.

Sample Number	1	2	3	4	5	6	7	8	9
<u>Constituents</u>									
Columbia River basalt	55.8	76.4	67.7	14.8	64.8	75.7	31.8	30.9	9.5
Basalt	14.1	10.6	8.0	6.0	12.0	8.1	68.2	65.5	88.6
Andesite	6.1	3.3	9.0	9.3	6.8	2.0	0.0	0.0	0.0
Dacite	0.0	0.0	0.0	65.4	0.0	0.0	0.0	0.0	0.0
Rhyolite	1.8	0.8	0.6	0.0	1.8	0.7	0.0	0.0	0.0
Granitic	0.7	0.0	1.6	0.0	1.3	0.0	0.0	0.0	0.0
Quartzite	9.2	5.6	7.7	3.9	7.6	8.8	0.0	0.0	0.0
Cryptocrystalline quartz	8.0	3.3	5.0	0.6	5.7	4.7	0.0	3.6	1.9
Other	4.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Sample	No. clasts counted	Member	Location
1	163	lower	Collected at the 61-m elevation in unnamed stream valley south of Bridal Veil, Oregon (SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T1N, R5E)
2	123	lower	Collected at the 152-m elevation in unnamed stream valley south of Bridal Veil, Oregon (SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T1N, R5E)
3	313	lower	Collected at the 240-m elevation on Palmer Mill Road.
4	182	lower (lahar)	Collected at the 137-m elevation in unnamed stream valley south of Bridal Veil, Oregon (SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T1N, R5E).
5	159	upper (transitional)	Collected at the 195-m elevation on Highway 14 west of Cape Horn, Washington (NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T1N, R5E)
6	148	upper (transitional)	Collected at the 213-m elevation on the east side of Crown Point, Oregon, along the Old Scenic Highway (NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T1N, R5E)
7	66	upper	Collected at the 213-m elevation on the west side of Crown Point, Oregon, along the Old Scenic Highway (NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T1N, R5E). Underlies Boring Lava flow
8	55	upper	Collected at the 213-m elevation on the west side of Crown Point, Oregon along the Old Scenic Highway (NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T1N, R5E). Foreset-bedded conglomerate
9	105	upper	Collected at the 329-m elevation on Palmer Mill Road

**TABLE 5.** Bulk mineral composition (in %) of sandstones from the Troutdale Formation as determined by petrographic point counts of thin sections\*.

Sample Number	1	2	3	4	5	6	7	8	9**	10**	11**
<u>Constituent</u>											
Quartz	12.2	16.4	15.6	0.6	0.4	0.0	2.8	6.0	13	29	29
Plagioclase	32.8	30.4	26.2	0.8	0.6	0.0	16.8	5.0	20	18	17
K - feldspar	22.6	20.2	12.0	0.0	0.0	0.0	2.0	5.4	7	10	13
Lithic fragments	16.6	14.8	23.0	97.2	96.4	99.0	66.4	71.6	56	35	32
Opaque minerals	1.0	2.0	4.2	0.6	0.0	0.0	2.0	1.8	1	4	5
Mafic minerals	10.2	12.4	16.2	0.4	2.4	0.8	8.4	8.6	4	5	4
Mica	4.6	3.8	2.8	0.4	0.2	0.2	1.6	1.6	-	-	-

\* 500 grains counted per sample.

\*\* Modern-day Columbia River bottom sediment provide for comparison. From Whetten and others (1969). Location of samples; 9 - below Bonneville Dam; 10 - from Bonneville reservoir; 11 - from The Dalles reservoir. Bulk mineral compositions for these samples is based on 250 grains counted per sample.

<u>Sample Number</u>	<u>Member</u>	<u>Location</u>
1	lower	Collected at the 61-m elevation in the unnamed stream valley south of the town of Bridal Veil, Oregon (SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T1N, R5E).
2	lower	Collected at the 240-m elevation on Palmer Mill Road
3	lower	Collected at the 95-m elevation below Highway 14 west of Cape Horn, Washington (NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T1N, R5E).
4	upper (vitric)	Collected at the 329-m elevation on Palmer Mill Road
5	upper (vitric)	Collected at the 366-m elevation on Multnomah Creek Trail (Trail No. 441; SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T1N, R6E).
6	upper (vitric)	Collected at the 183-m elevation on Chanticleer Point Road (NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T1N, R4E).
7	upper (lithic)	Collected at the 329-m elevation on Palmer Mill Road
8	upper (lithic)	Collected at the 18-m elevation at the Stark Street Bridge, lower Sandy River, Oregon (SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T1S, R4E).