# Data Repository Item 2003067

TABLE DR1. EVIDENCE OF MAXIMUM MISSOULA FLOOD STAGES BETWEEN ARLINGTON AND PORTLAND, OREGON.

| Site No. (Fig. 1b) | Latitude (degrees north) | Longitude (degrees south) | Altitude (meters above sea level) | Feature | Reference | Comments |
|---|---|---|---|---|---|---|
| 1 | 45 41' 17" | 120 23' 30" | 341 | Erosional trim line | This study | Scarp in loess and colluvium |
| 2 | 45 43' 38" | 120 23' 25" | 335 | Erosional trim line | This study | Scarp in loess and colluvium |
| 3 | 45 41' 18" | 120 25' 15" | 341 | Erosional trim line | This study | Scarp in loess and colluvium |
| 4 | 45 43' 12" | 120 26' 14" | 347 | Divide not crossed | This study | |
| 5 | 45 41' 50" | 120 30' 00" | 347 | Divide not crossed | This study | Between Columbia and John Day River valleys |
| 6 | 45 42' 28" | 120 32' 10" | 311 | Crossed divide | This study | Between Columbia and John Day River valleys |
| 7 | 45 44' 06" | 120 32' 25" | 360 | Divide not crossed | This study | Between Columbia and John Day River valleys |
| 8 | 45 43' 10" | 120 37' 10" | 360 | Divide not crossed | This study | Between Columbia and John Day River valleys |
| 9 | 45 41' 12" | 120 43' 40" | 293 | Eroded CRBG basalt | This study | Loess cover eroded off of high bench |
| 10 | 45 40' 30" | 120 44' 43" | 321 | Non-flooded area | This study | Preserved residual soils and loess |
| 11 | 45 40' 54" | 120 44' 56" | 345 | Non-flooded area | This study | Preserved residual soils and loess |
| 12 | 45 40' 24" | 120 53' 05" | 311 | Erosional trim line | This study | Scarp in loess and colluvium |
| 13 | 45 37' 51" | 120 53' 05" | 323 | Erosional trim line | This study | Scarp in loess and colluvium |
| 14 | 45 39' 52" | 120 55' 10" | 341 | Divide not crossed | This study | |
| 15 | 45 37' 45" | 120 55' 50" | 287 | Eroded Tertiary sediment | This study | Erosional scarp and loess cover eroded off of high bench |
| 16 | 45 37' 44" | 120 56' 45" | 305 | Erosional trim line | This study | Scarp in loess and colluvium |
| 17 | 45 38' 22" | 120 03' 00" | 334 | Divide not crossed | This study | |
| 18 | 45 40' 00" | 120 03' 10" | 305 | Erosional trim line | This study | Scarp in loess and colluvium |
| 19 | 45 37' 50" | 121 15' 50" | 282 | Erratic | Piper (1932 p.128) | Angular fragments of granitic rocks on north slope of northern fork of Chenoweth Creek |
| 20 | 45 39' 27" | 121 13' 34" | 293 | Erosional trim line | This Study | Prominent line on Seven Mile Hill near Crates Point. Also eroded bedrock notch at 268±12m and a granitic erratic at 286±12m |
| 21 | 45 40' 30" | 121 18' 25" | 280 | Erosional trim lines | This study | Scarp dividing residual soil and scabland |
| 22 | 45 43' 10" | 121 18' 30" | 305 | Divide not crossed | Allison (1933, p. 709) | |
| 23 | 45 43' 12" | 121 22' 25" | 293 | Erosional trim line | This study | Scarp dividing residual soil and scabland |
| 24 | 45 42' 36" | 121 23' 45" | 293 | Erosional trim line | This study | Scarp dividing residual soil and scabland |
| 25 | 45 40' 52" | 121 25' 45" | 283 | Erosional trim line | This study | Scarp dividing residual soil and scabland |
| 26 | 45 38' 29" | 121 29' 47" | 232 | Erratic | This study | Hood River Valley, intersection of Wells Drive and Mountain Road |
| 27 | 45 39' 15" | 121 30' 12" | 250 | Erratic | Bretz (1919) | Hood River Valley; altitude modified from Allison (1933, p. 713) |
| 28 | 45 43' 50" | 121 37' 40" | 274 | Flooded area | This study | Basalt stripped of loess and soil cover |
| 29 | 45 42' 15" | 121 42' 40" | 267 | Flooded area | Allen et al., (1986) | Bedrock erosion |
| 30 | 45 34' 30" | 122 13' 00" | 201 | Crossed divide | Allen et al., (1986, p. 165) | Spillways into the Washougal River valley |
| 31 | 45 32' 20" | 122 14' 35" | 229 | Non-flooded area | This study | Preserved residual soils on slopes above Crown Point |
| 32 | 45 40' 00" | 122 23' 00" | 137 | Divide not crossed | Bretz (1928) | |
| 33 | 45 46' 40" | 122 25' 00" | 114 | Gravel bar | Trimble (1963) | Portland basin |
| 34 | 45 31' 50" | 122 32' 30" | 91 | Gravel Bar | Bretz (1969) | Portland basin |
| 35 | N.D. | N.D. | 120 | Erratics | Allison (1935, 1978) | Maximum elevation of erratics in Portland Basin and Willamette Valley |

*Notes:* Precise location information not available for erractics in Willamette valley. Altitudes determined by mapping on 1:24,000 topographic maps and have an uncertainty of about ±6m

TABLE DR2. SITES OF STRATIGRAPHIC OBSERVATIONS FOR MISSOULA FLOOD DEPOSITS IN THE COLUMBIA VALLEY BETWEEN ARLINGTON AND HOOD RIVER, OREGON.

| Site label (Fig. 1b) | Locality | Latitude (degrees north) | Longitude (degrees west) | Altitude* (meters above sea level) | Feature type | Number of floods inferred from exposed units† | Computed discharge§ ($10^6$ $m^3$/sec) | Youngest radiocarbon age# ($^{14}$C yr B.P.) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| A | Mosier | 45 40' 36" | 121 24' 54" | 110-185 | Eddy bar | 1 | 4 | 14,795 ∂ 150 | Exposure extensive but incomplete. |
| B | Mosier | 45 40' 54" | 121 22' 53" | 135/ 60-135 | Divide crossing/ delta bar | 7 | 2 | 13,695 ∂ 95 | Exposure extensive but incomplete |
| C | Lyle | 45 42' 48" | 121 17' 45" | 150-215 | High eddy bar | 1 | 5.5 | 23, 000 +520/-490 | Exposure very limited |
| D | Lyle | 45 42' 28" | 121 17' 40" | 145-185 | Inset eddy bar | 8 | 4.5 | >42,600 | Exposure extensive but incomplete |
| E | Petersburg | 45 37' 08" | 121 04' 21" | 180/ 110-170 | Divide crossing/ delta bar | 9 | 3 | 14,480 ∂ 145 | Exposure extensive but incomplete |
| F | Fairbanks | 45 37' 28" | 121 00' 14" | 250/ 145-210 | Divide crossing/ delta bar | 1 | 5 | >43,600 | Exposure incomplete |
| G | Deschutes River mouth | 45 37' 52" | 120 54' 50" | 60-150 | Eddy bar | 7 | 2 | | Exposure extensive but incomplete |
| H | Maryhill | 45 42' 00" | 120 48' 00" | 230-255 | Tractive bar | 6 | 6.5 | 32, 630 ∂ 610 | Exposure extensive but incomplete |
| I | Helm Canyon | 45 42' 30" | 120 40' 30" | 150-215 | Eddy bar | 4 | 4 | | Exposure incomplete |
| J | Philippi Canyon | 45 40' 20" | 120 30' 57" | 240/ 85-225 | Divide crossing/ delta bar | 1 | 4.5 | 19,015 ∂ 165 | No exposure of the delta bar, but small exposure of small flanking eddy bar. Radiocarbon date from colluvium underneath flood deposits |
| K | McDonald Ford | 45 35' 58" | 120 24' 30" | 295/ 130-195 | Divide crossing/ delta bar | 1 | 7 | | Exposure very limited |
| L | Alkali Canyon | 45 45' 10" | 120 10' 00" | 240/ 180-210 | Outflow channel/ delta bar | 2 | 3.5 | | Exposure incomplete |
| M | Arlington | 45 42' 55" | 120 09' 30" | 275 245-255 | Streamlined loess hill/ pendant bar | 6-7 | 5-6 | | Exposure complete, described by Baker and Bunker (1985) |
| N | South of Arlington | 45 39' 40" | 120 07' 35" | 217(?)-220 | Rhythmites | 6-7 | 3.5 | | Exposure extensive but incomplete |
| O | South of Arlington | 45 38' 23" | 120 10' 00" | 200(?)-205 | Rhythmites | 15 | 3.5 | | Exposure extensive but incomplete |
| P | South of Arlington | 45 42' 02" | 120 10' 25" | 130(?)-135 | Rhythmites | 10 | 1 | | Exposure extensive but incomplete |
| Q | John Day River Valley | 45 33' 02" | 120 23' 20" | 140(?)-145 | Rhythmites | 10 | 1.5 | | Exposure extensive but incomplete |
| R | East of The Dalles | 45 36' 18" | 121 01' 41" | 295 | Granitic erratic | 1 | 8 | | Exposure complete |

*Altitudes given for divide crossings indicate the present low point of the divide. Altitude ranges given for deposits encompass the approximate bottom to top of deposit and is from exposure or local geomorphic relations. Base of rhythmite sections not known.

†Where the top or bottom of the deposit is not exposed, estimate is a minimum one.

§The discharge is the minimum calculated flow necessary to emplace the deposits. For the delta bars, the discharge is that necessary for flow to overtop the divide between the Columbia River Valley and the area of deposition. For other types of deposits, the calculated discharge is that required to inundate the location of the deposits. For site M, the discharge range reflects uncertainty as to whether flow depositing the bar overtopped the streamlined loess hill upstream.

#The youngest radiocarbon date obtained from the site.

**Data Repository cited references:**

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