

Chapter 6

Excavations At DgRw 204-F2

DgRw 204-F2 was selected for excavation as an example of a small, undisturbed burial feature. This feature was so inconspicuous, and the entrance so well concealed that it was overlooked during the initial reconnaissance, and was not discovered until the upper bluffs were re-examined at the end of the site survey. Although various animals may have used the burial chamber as a shelter, there is no evidence for and little likelihood of human disturbance of the remains.

Feature Description

Feature 2 is located near the centre of a cluster of sandstone boulders at the toe of the upper bluffs, about 10 m north of an old logging road that skirts the base of the bluffs (Figure 6.1). The feature is formed by a large wedge-shaped sandstone block whose southern edge rests on several smaller blocks. When first discovered, the feature was nearly covered by brush piles and other logging debris (Figure 6.2).

Preliminary evaluation of 204-F2 identified two chambers beneath the large sandstone block which forms the roof, but only the larger south chamber appeared to contain human skeletal remains. The entrance to the burial chamber is located at the southeast corner of the ceiling block (Figure 6.3), and faces southeast (118°); when found, it was partially blocked by two large and several smaller sandstone boulders, leaving an opening 1.30 m long and 0.23 m high. These boulders appear to have been deliberately placed to wall off the entrance to the burial feature. The roof of the burial chamber slopes downwards to the west at a 10° angle; it also slopes very slightly to the north (Figure 6.4). The chamber floor, which is littered with sandstone slabs and cobbles, measures a maxi-

imum of 1.40 m north-south by 1.60 m east-west. It is slightly uneven, dipping near the centre of the chamber from high points along the north, south, and west walls.

A number of human skeletal elements were visible towards the back (west end) of the burial chamber (Figures 6.2, 6.3), including two skulls, a mandible, a scapula, three innominates, several long bones, ribs, and a lumbar vertebra. From these remains it was estimated that at least two adults were represented in this burial feature. Several small clamshell fragments were also observed scattered among the bones, and a small patch of ash was observed 0.50 m east of the entrance (Figure 6.3).

Excavation Results

Four 1.0 x 1.0 m excavation units were laid out in a square grid across the floor of the burial chamber, but the south, west, and north walls of the feature limited the extent of excavation that could be undertaken: in EU 3 only the SE and SW quadrants were dug, and in EU 4 only the SE quadrant. The lowness of the ceiling created problems of access to the interior of the burial chamber. Once the boulders blocking the entrance were removed, the height of the opening was increased to 45 cm, high enough to admit an excavator lying on her side or stomach. However, the back of the chamber, where most of the human bones were located, was only 10-20 cm high, too low to permit access. To overcome this difficulty, unit quadrants were excavated in sequential strips from east to west, progressively creating openings deep enough to allow the excavator access to the next quadrant. Although each unit was excavated to a minimum depth of

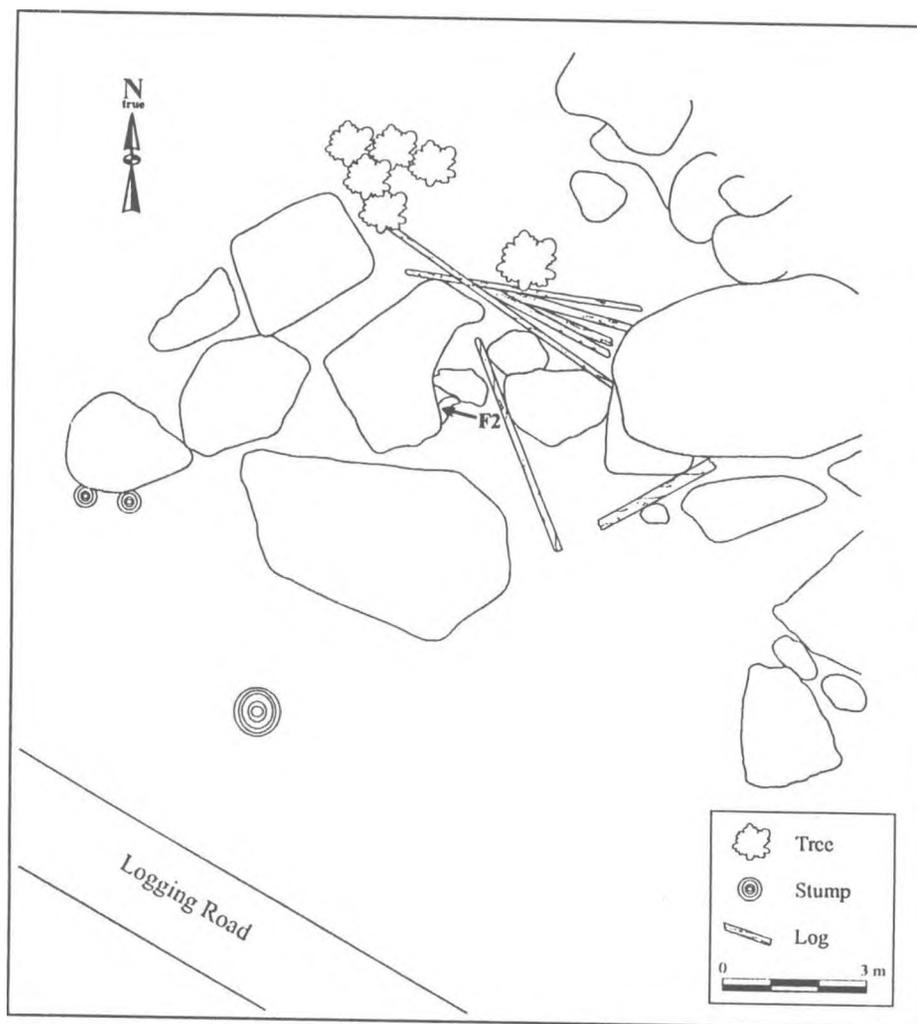


Figure 6.1 DgRw 204-F2 location.

20 cm below surface, cultural material inside the feature was restricted to the surface and the upper 5 cm of the deposits.

Matrix Description

The surface of the burial chamber was covered with organic litter, primarily decaying leaves, twigs, and dead vines, and partially buried under fallen sandstone slabs. The sediments beneath this surface litter consisted of very dry, loose, medium brown (10YR 5/3) sandy silts containing a high proportion of angular sandstone slabs, cobbles, pebbles, and gravel. Small bits of charcoal and fragmented shell were present in the upper 5 cm of the deposits (level 1). Sediments below level 1 were increasingly compact, culturally sterile sandy silts, containing no bone, shell, or charcoal. Due to the shallowness of the cultural deposits and the difficulty of access, no stratigraphic profiles were drawn of this feature.

Faunal Remains

The following discussion summarizes the results of faunal analyses by van Gaalen (1991) and Kusmer (1992). Fauna collected from the feature include sparse shellfish fragments and a total of 116 vertebrate elements, representing mammal (41%), reptile (27%), fish (22%), and bird (10%) remains. The majority of these specimens were collected from EU 2, which also contained most of the human remains. Seventy-nine of the collected bones (68%) could be identified to a specific taxon (Table A.5). Mammalian fauna include various rodents (squirrel, rat/mouse, and vole), carnivores (raccoon, weasel), and deer; a few small mammal fragments appear to be burnt. Only herring and salmon were identified among the fish remains, but the avian fauna are more varied, including waterfowl, grouse, and perching birds. The fish and reptile (snake) are represented almost exclusively by vertebral elements, but the bird and mammal remains include



Figure 6.2 View of DgRw 204-F2 entrance (top); view inside burial chamber, looking west (bottom); scale bars=10 CM.

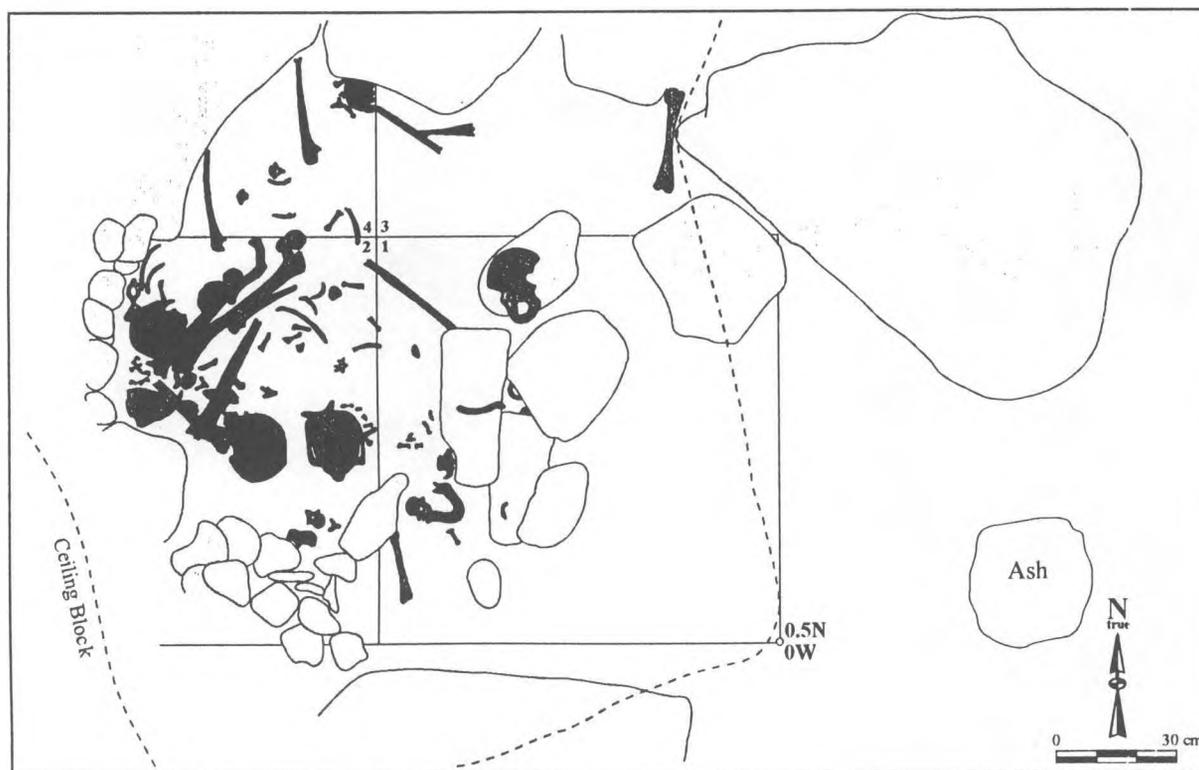


Figure 6.3 DgRw 204-F2: floor plan.

cranial, limb, and vertebral elements. All of the deer and raccoon remains are from immature animals.

Shellfish remains, although uncommon, were found in all of the excavated quadrants. Due to their rarity, they were quantified by counting numbers of identified specimens (NISP) rather than as a proportion (by weight) of collected matrix samples, as was the case with the other excavated features. Several shellfish species were identified, including bay mussel (8), clam (12), littleneck clam (10), butter clam (5), horse clam (1), whelk (3), cockle (5), and barnacle (1). Approximately 25% of the shell fragments are burnt.

Both natural and cultural processes appear to have contributed to the collection of this faunal assemblage. The bird, carnivore, reptile and deer remains probably represent a natural accumulation of animals that either used the crevice for shelter/habitation (rodents, snakes, etc.), or ended up there as carnivore prey. The fish, shellfish, and burnt bones are indicative of human activity. Specifically, the evidence of burning of both bone and shell, the presence of charcoal flecks in the matrix, and the occurrence of a small ash patch immediately outside the chamber together suggest some form of mortuary ritual that involved the burning of food items. The preponderance of vertebral elements may indicate that the fish had been processed and preserved prior to deposition.

Artifacts

No tools or other objects of human manufacture were recovered from 204-F2.

Dating

The estimated age of this burial feature, based on radiocarbon analysis of bone collagen obtained from miscellaneous rib and vertebra fragments is 2290 ± 60 years BP (uncorrected), or 2450 ± 60 years BP (C^{13} adjusted age) (Beta-37843). These dates place the feature near the end of the Locarno Beach phase and/or the beginning of the Marpole phase of the Gulf of Georgia cultural chronology.

Human Remains

A total of 582 human teeth, bones, and bone fragments were recovered from 204-F2, of which 208 specimens (36.7%) were unidentifiable as to element. All portions of the skeleton are well represented, including the skull, teeth, and small bones of the hands and feet. In this respect, 204-F2 differs from the other two excavated features at DgRw 204, both of which contain relatively few cranial elements, and is more similar to the excavated features from DgRw 199 (see Appendix C, Table C.1).

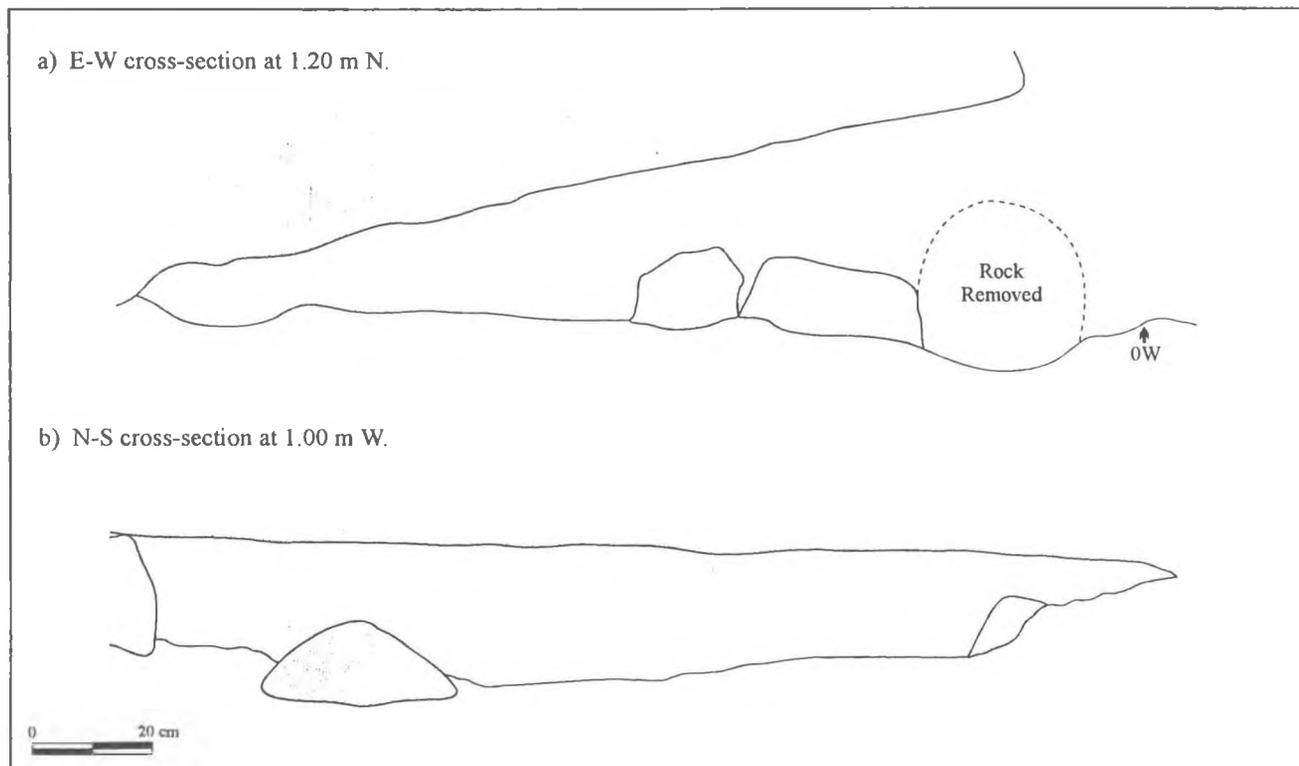


Figure 6.4 DgRw 204-F2: cross-sections of burial chamber.

Condition

The condition of the recovered remains is variable. Dense cortical bone is generally well preserved, but cancellous bone tends to be eroded, so that long bones consist mainly of diaphyseal fragments with the metaphyses and articular surfaces damaged or missing. White calcareous patches, apparently a mineral precipitate from the surrounding rock walls and ceiling, coat many skeletal elements.

Evidence of animal disturbance was seen on six skeletal elements. Rodent gnaw marks were observed on an infant frontal bone (left orbit), an infant ulna (midshaft), and an adult female skull (right orbit, left zygoma). Conical punctures and/or bone splintering from carnivore chewing were apparent on a tibia, metacarpal, and innominate, all from adults. This is consistent with the results of the faunal analysis, which indicated that the burial chamber had been used as a shelter by a number of animals, including both rodents and carnivores.

Spatial distribution

Of the 582 recovered fragments, 576 are of known provenience as to unit, level, and quadrant. The remaining six small fragments were found while cleaning the chamber floor prior to photography, and their original provenience is unknown. The spatial distribution of human remains is summarized in Table 6.1. In contrast to the other excavated burial features, horizontal distribution was calculated by quadrant rather than by excavation unit due to the small size of the burial chamber, and the fact that only portions of EUs 3 and 4 were excavated. As is illustrated in Figure 6.5, the strongest concentration of human bones occurs in the south-central portion of the burial chamber, particularly the NE quadrant of EU 2.

The sediments in which the bones were partially buried are primarily of natural rather than cultural origin, resulting from the decay of the overlying sandstone slab combined with wind-deposited silts and organic debris. The bones do not appear to have been

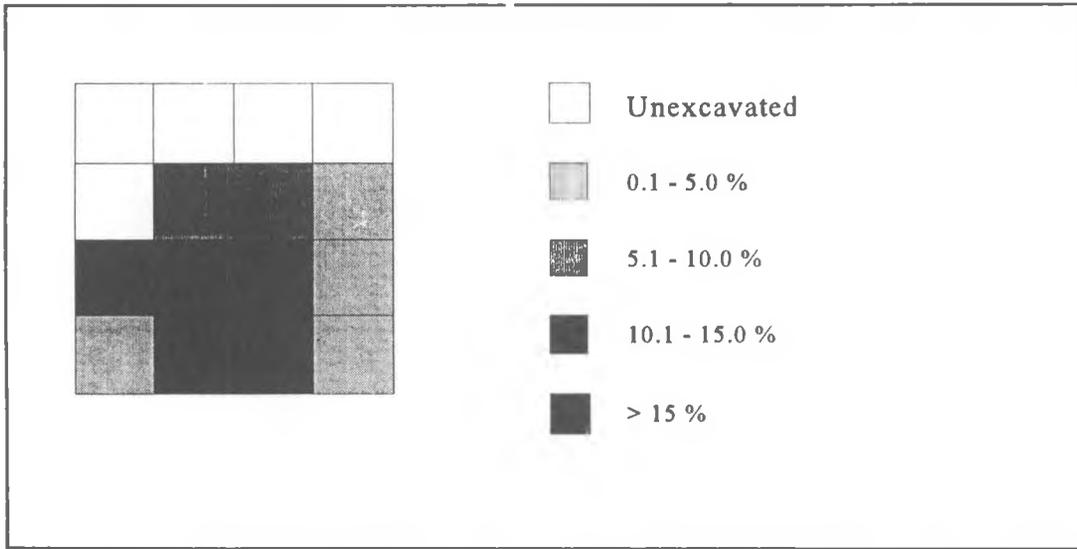


Figure 6.5 Horizontal distribution of human remains, DgRw 204-F2.

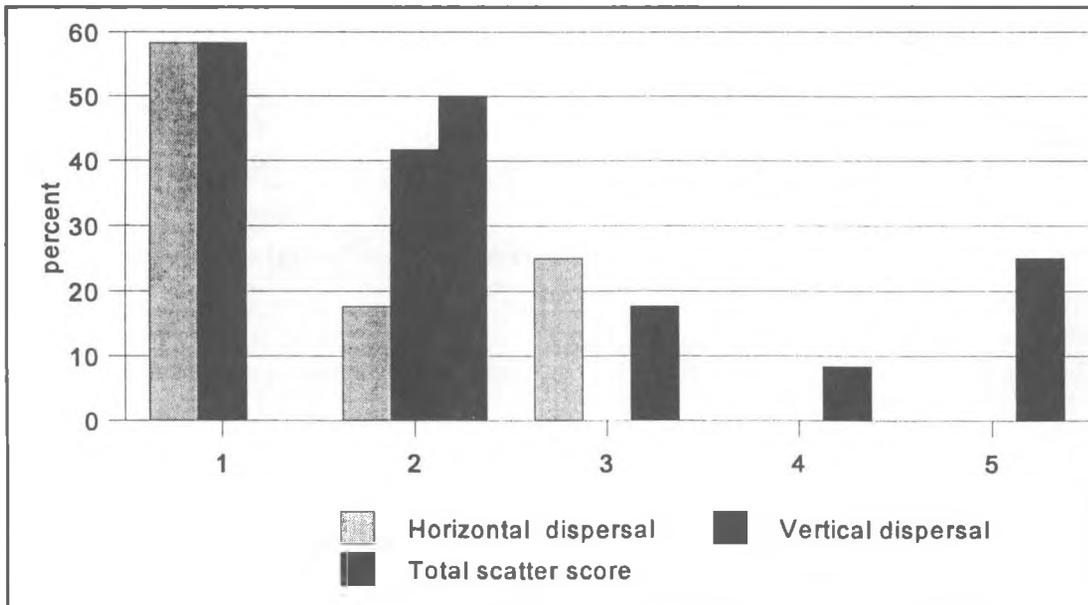


Figure 6.6 Dispersal scores of reconstructed elements, DgRw 204-F2.

deliberately buried, but were probably originally placed on the ground surface, with the sediments building up around and over them with time. The areas of the chamber furthest from the partially blocked entrance (EU 4-SE and EU 2-NW) appear to have experienced the least sedimentation, with more than half of the recovered remains from these quadrants (60.5% and 56.7% respectively) found on the surface. Throughout the rest of the burial chamber proportionally more elements were recovered from sub-surface deposits than from the surface, attesting to the accumulation of sediments around the chamber entrance.

Skeletal Reconstruction

Thirty-seven bone fragments (6.4%) were found to conjoin with other fragments, producing 12 conjoined “sets” of from two to nine pieces. Six of the reconstructed sets are skulls or cranial fragments; the remainder are long bones (n=2), ribs (n=2), an ilium, and an axis. In six cases, all of the members of a conjoined set come from the same provenience unit (TS=2), and in two cases, the set members come from adjacent units (TS=3). Members of the remaining four conjoined sets were slightly more widely dispersed, with total scatter scores of 4 or 5 (Figure 6.6). As would be expected given the shallowness of the cul-

tural deposits, horizontal scatter is on average (mean = 1.67) slightly greater than vertical scatter (mean = 1.42). All measures of dispersal (horizontal, vertical, and total) have lower values than at 204-F1 (Appendix C, Table C.2), a possible indication of the greater integrity of the deposits at 204-F2, or perhaps a reflection of the small size of the F2 burial chamber.

Burning

Sixty bones (10.3%) show evidence of having been exposed to fire; 45 are small fragments not attributable to a specific element, but 15 were identified as to element and in some cases to a specific individual. The effects of burning are limited to slight discolouration or patches of black charring over small areas; none of the bones is calcined or burnt over its entire surface. In many cases, the charring is restricted to one end of a broken bone, and occasionally extends onto the medullary (internal) surface. This might suggest that the burning occurred some time after death, after the body was skeletonized and the skeletal elements fragmented. That is, the burning may have been the result of some accidental exposure to fire, perhaps through a natural occurrence such as a forest fire.

However, there is some evidence of non-random patterning in the elements affected by fire that argues against this interpretation. Of the fifteen identified specimens, five are hand bones, three are clavicles, two are tarsals, four are femurs, and one is a skull fragment. No ribs, vertebrae, pelvic bones, or arm bones are burnt. Each of the three individuals represented in the burial chamber is affected to some degree. Interestingly, half of the identified burned elements are from the adult female, whose skeleton is the most incomplete of the three. Only two burnt bones are attributable to the adult male (right third metacarpal, left clavicle), but the adult female also exhibits burning on these same two bones (among others).

The distribution of burnt bones across the burial chamber also argues against accidental exposure to fire. They are not clustered near the entrance to the burial chamber, where an ash dump attests to at least one earlier burning episode. A forest fire would presumably have affected all of the surface remains to some degree, but only two surface elements show any evidence of burning. Interestingly, no burnt bones were found in the area of highest bone density, EU 2-NE, but the surrounding quadrants to the south, east, and west each contain a few burnt elements, intermingled with unburnt bones.

Although deliberate cremation cannot be invoked as an explanation for the mild and sporadic burning on the human remains in this burial feature, it

is possible that some other form of mortuary ritual may be responsible. Burning patterns at 204-F2 are compared with the other four excavated burial features in Appendix C, Table C.5.

Table 6.1 Spatial distribution of human remains, DgRw 204-F2.

Unit/Quad	Surface	Level 1	Total	%
EU 1 - SE	0	1	1	0.17
EU 1 - SW	10	67	77	13.37
EU 1 - NE	1	2	3	0.52
EU 1 - NW	12	50	62	10.76
EU 2 - SE	12	46	58	10.07
EU 2 - SW	0	23	23	3.99
EU 2 - NE	54	145	199	34.55
EU 2 - NW	34	26	60	10.42
EU 3 - SE	2	9	11	1.91
EU 3 - SW	2	42	44	7.64
EU 4 - SE	23	15	38	6.60
Total	150	426	576	100.00
%	26.04	73.96	100.00	

Demography

Preliminary evaluation of this burial feature during the site reconnaissance suggested an MNI of two adults represented by the visible remains; excavations revealed the presence of a third individual, an infant. The differences between these three in age, size, and skeletal robusticity are so pronounced that it was possible to attribute all complete elements and many bone fragments to one of the three. The skeletons of the infant and the adult male are both fairly complete, but the female skeleton is very poorly represented, consisting mainly of the skull, three limb bones, and several hand and foot bones.

The infant is estimated to have been between 12 and 18 months of age at the time of death, based on dental development and long bone lengths (Stewart 1979). Age determinations of the two adults are based on the degree of closure of the ectocranial sutures (Meindle and Lovejoy 1985), and on the level of dental attrition, based on standards established for a prehistoric skeletal population from the Tsawwassen site (Curtin 1991a). In both cases the two independent criteria yielded similar results. The female was judged to be 35-40 years old by the dental standards, and 34.7-

41.1 by the cranial suture standards. The adult male appears to be slightly older: 40-45 years (dental attrition) or 43.5-45.2 (suture closure). Demographic profiles of 204-F2 are compared with the other four excavated features in Appendix C, Tables C.3 and C.4.

Living stature of the adult male was reconstructed from femur and tibia lengths using Trotter and Gleser's (1958) formulae for Mongoloid Males, which yielded a calculated stature of 162 cm. This is well within the normal range of variability established for other prehistoric skeletal samples from the Gulf of Georgia region (Beattie 1980; Curtin 1991a). No complete long bones are present in the female skeleton, so stature reconstruction was not possible, beyond the general observation that she was very gracile and considerably smaller than the male.

The skeletal remains were completely disarticulated when found, and there was no apparent clustering of elements by individual in the burial chamber; instead, the horizontal distribution of elements from each identified individual parallels that of the skeletal assemblage as a whole, with the greatest density of remains in EU 2-NE, and lesser amounts in the surrounding quadrants. It is unclear, however, to what degree the observed disarticulation can be attributed to interference by animals inhabiting the cave, or to intentional mortuary practices.

Anomalies and Pathologies

Several pathological conditions are apparent in the skeleton of the adult male. These include degenerative joint disease (osteoarthritis) affecting the right elbow and right wrist; a healed fracture of the left first toe (distal phalanx), with associated traumatic arthritis of the joint; a lytic lesion of unknown etiology on the superior centrum of the first lumbar vertebra; and an unhealed *peri mortem* fracture to the left mid-parietal region of the skull, which may have caused the death of this individual.

The adult male also experienced poor dental health, particularly in the upper jaw, which features at least six periapical cavities attributed to granulomata (Dias and Tayles 1997) and the *ante mortem* loss of three upper incisors and a premolar. The mandible exhibits few pathologies, but some interesting congenital anomalies, including agenesis of both central incisors and both third molars. The only other anomaly observed in this skeleton was a lumbosacral vertebra (sacralized fifth lumbar), with *spina bifida*. This condition may be entirely asymptomatic, or may be accompanied by other neurological abnormalities; both genetic and environmental factors apparently play a role in its development (Saunders 1978: 238).

The only pathological conditions observed in the adult female are osteoarthritis, affecting the cervical spine and left foot, and a healed fracture of the right third metatarsal. However, this skeleton is so incomplete that other pathological conditions may not have been preserved, even if originally present.

The infant may have suffered from some form of anaemia, as indicated by the presence of cribriform lesions (*cribra orbitalia*) on the roofs of both orbits. The lesions are small, and do not appear to be active, which may signify an earlier episode of ill-health that the baby survived. The proximal shaft of the left ulna appears unnaturally swollen due to deposition of a layer of periosteal new bone; by itself this finding is not diagnostic of a specific pathological condition, but given the prevalence of treponemal lesions in skeletal remains from another burial feature (see Chapter 8) its occurrence here is suggestive.

None of the three crania exhibits evidence of artificial deformation or of labret wear on the teeth.

Mortuary Practices

DgRw 204-F2 is the only one of the five excavated features that exhibited no evidence of human disturbance; however the presence of rodent and carnivore chewing damage on several bones indicates some degree of post depositional disturbance from animals. Unfortunately, the extent to which this disturbance has altered the original burial context is unclear. The degree of disarticulation of all three skeletons and the incompleteness of the adult female remains would seem to suggest that at least one and perhaps all three of the burials were secondary interments, but there is no convincing evidence for *post mortem* reduction processes such as defleshing, dismemberment, or cremation. No cutmarks were observed, and burning, although present, is apparent on only a few bones, appears to be of low intensity, very localized in extent, and patterned with respect to affected elements, suggesting a ritual context, such as the ceremonial burning of hand-held food offerings. However, the incomplete, sporadic burning could also be interpreted as representing symbolic rather than complete cremation of the body, perhaps for less wealthy or lower-ranking persons who could not afford or were not entitled to a full ceremonial cremation. The absence of grave inclusions, either utilitarian or wealth/status goods, coupled with the sparsity of food offerings (fish, shellfish, etc.) supports the suggestion that these individuals were not among the social elite, and may have received only perfunctory mortuary treatment.