Vegetation and Flora of the Proposed Gravel Pits: Yardie Creek Road

Pit One
RHS of road, 34.70 Km. from Start of Yardie Creek road.

Consists of one old and one active pit

Vegetation is Low open *Acacia tetragonophylla* shrubland over *Atriplex vesicaria* shrubs over *Cenchrus ciliaris / Triodia pungens* grassland. Vegetation is in good condition, with moderate invasion by Buffel grass (*Cenchrus ciliaris*). There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within the proposed pit area.

Pit Two (RAAF Canyon)
LHS of road, 43.25 Km. from Start of Yardie Creek road.

Consists of one old pit to the south of the proposed pit.

Vegetation is Low open *Acacia bivenosa* shrubland over *Triodia pungens* grassland, with scattered shrubs of *Alectryon oleifolium, Acacia pyrifolia, Enchylaena tomentosa, Cassia chateliana* and *Scaevola tomentosa*. Vegetation is in excellent condition. There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within the proposed pit area. However, the vegetation is in excellent condition and if this pit is not required, it would be best to use only pit one and rehabilitate the old pit site in this area.

Pit Three (south of Mandu Mandu Gorge)
LHS of road, 55.4 Km. from Start of Yardie Creek road.

This and adjacent pit four are very close to the base of Cape Range and include some of the pediments of the Range that form low hills of massive limestone, which stretch from north of here to Ningaloo Station. There are two distinctive vegetation formations found in the area, one on the deeper soils between the low hills and the other on the hills themselves.

The 'valleys' are covered with Low open *Acacia bivenosa / Acacia tetragonophylla* shrubland over low shrubs of *Indigofera boviperda* over *Triodia pungens* grassland, with scattered shrubs of *Ipomaea costata, Enchylaena tomentosa, Cassia pleurocarpa* and *Solanum lasiophyllum*. Vegetation is in excellent condition. There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within this area.

The 'hills' are covered in low heath of *Melaleuca cardiophylla, Dampiera incana, Brachysema macrocarpum, Sarcojustica kempeana, Stackhousia umbellata* and *Goodenia tenuiloba* over low grassland of *Eragrostis eriopoda* and *Triodia* species. These hills are described in Keighery and Gibson in their study of the Cape range peninsula as community type five (page 64). They have several Cape Range endemics located on them, namely *Grevillea variifolia* ssp *variifolia* and *Stackhousia umbellata* and should not be mined if possible. I understand that they are not suitable for road gravel materials because they are

massive limestone and would require blasting or drilling to remove the rock and crushing of the mined material.

The northern proposed pit is also very close to Mandu Mandu Gorge, a long way in from the road necessitating a new access road and in vegetation of excellent condition, it should only be used if sufficient materials are not available from pit four.

Pit Four (south of Mandu Mandu Gorge)
LHS of road, 55.97 Km. from Start of Yardie Creek road.

Consists of one old pit to the north of the proposed pit, currently used as a rubbish site.

This and adjacent pit three are very close to the base of Cape Range and include some of the pediments of the Range that form low massive limestone hills, which stretch from here to Ningaloo Station. There are two distinctive vegetation formations found in the area, one on the deeper soils between the low hills and the other on the hills themselves.

The 'valleys' are covered with Low open *Acacia bivenosa / Acacia tetragonophylla* shrubland over low shrubs of *Indigofera boviperda* over *Triodia pungens* grassland, with scattered shrubs of *Ipomaea costata*, *Enchylaena tomentosa*, *Cassia pleurocarpa* and *Solanum lasiophyllum*. Vegetation is in excellent condition. There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within this area.

The 'hills' are covered in low heath of *Melaleuca cardiophylla*, *Dampiera incana*, *Brachysema macrocarpum*, *Sarcojustica kempeana*, *Stackhousia umbellata* and *Goodenia tenuiloba* over low grassland of *Eragrostis eriopoda* and *Triodia* species. These hills are described in Keighery and Gibson as Community type five (page 64). They have several Cape Range endemics located on them, namely *Grevillea variifolia* and *Stackhousia umbellata* and should not be mined if possible. I understand that they are not suitable for road gravel materials because they are massive limestone as with pit three.

This proposed pit already has an access road to the tip and should be used in preference to pit three, avoiding the limestone hills.

Pit Five (north of Pilgonamon Gorge)
LHS of road, 59.44 Km. from Start of Yardie Creek road.

Consists of one active coral sand pit to the south of the proposed pit.

The area is adjacent to an old well, stockyard and possible station outhouse. The current vegetation is *Triodia pungens* grassland with patches of Buffel (*Cenchrus ciliaris*)Grassland with scattered patches of Low open *Acacia tetragonophylla / Acacia bivenosa* shrubland over low shrubs of *Diplopeltis intermedia*, *Indigofera boviperda*, *Acacia sclerosperma*, over *Eragrostis eriopoda / Triodia pungens* grassland with numerous herbs of *Salsola kali*. Vegetation is in average condition, with moderate invasion by Buffel grass (*Cenchrus ciliaris*).

The past vegetation of the area was probably Acacia low shrubland. The current vegetation being the result of heavy grazing pressure and frequent fires because of its proximity to the well. This grassland is now maintained by Kangaroo grazing.
There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within the proposed pit area.

Pit Six (Shire Limestone Pit, Osprey Bay)
LHS of road, ? Km. from Start of Yardie Creek road.

Consists of one active pit to the west of the proposed pit.

Vegetation is Low open *Acacia tetragonophylla* shrubland over low shrubs of *Dampiera incana*, *Solanum lasiophyllum*, *Isotropis atropurpurea* and *Scaevola tomentosa* shrubs over *Eragrostis eriopoda / Triodia pungens* grassland on the deep sandy loams north and south of the current pit. The eastern half of the proposed pit is covered with Low open *Acacia bivenosa / Acacia tetragonophylla* shrubland over low shrubs of *Ipomaea costata* over *Eriachne helmsii / Triodia pungens* grassland, with scattered shrubs of *Enchylaena tomentosa*, *Cassia pleurocarpa* and *Solanum lasiophyllum*. Vegetation is in excellent condition. There was a rich coverage of annuals especially *Swainsona forrestii* reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within this area.

Pit Seven (Shire Limestone Pit, Osprey Bay)
RHS of road, 72.1 Km. from Start of Yardie Creek road.

Consists of three old pits, with two large proposed pits to the north and south.

Vegetation is Low open *Acacia bivenosa / Alectryon oleifolium* shrubland over *Atriplex vesicaria* shrubs over *Cenchrus ciliaris / Triodia pungens* grassland. Scattered shrubs of *Acacia tetragonophylla*, *Solanum lasiophyllum*, *Ptilotus obovatus*, *Cassia chateliana*, *Diplopeltis intermedia*, *Scaevola tomentosa* and *Steptoglossa decurrens* are present.

The western side of the proposed pit has been burnt and is currently regenerating. Vegetation is in good condition, with moderate invasion by Buffel grass (*Cenchrus ciliaris*). There was a rich coverage of annuals reflecting the above average rainfall. No rare, priority flora or Cape Range endemics were located within the proposed pit area.

The best usage of this area would be to mine the burnt areas first and to use the unburnt areas second to provide seed materials to revegetate the western half of the pits.

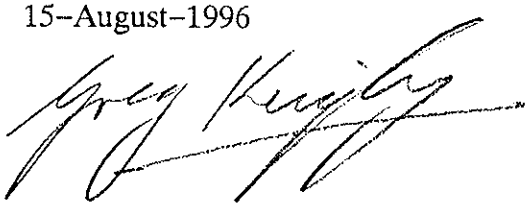
General Comments

All of the proposed pits with the exception of numbers three and four south of Mandu Mandu are located well away from the Range and hence do not contain any of the Cape Range endemics or any rare or priority flora. The endemics are either found only on the massive limestone's of the Range, the sands on the Range or the western pediments of the range. Only proposed pits three and four have some of the western pediments of the range in their areas.

Because of the location, quality of the vegetation, presence of the western pediments (and their associated flora) and access, I would recommend that pit three not be used if sufficient material can be accessed from pit four.

All the other pits are located in the common vegetation (*Acacaia tetragonophylla* or *Acacia bivenosa* shrublands) of the western coastal plain and contain no rare, priority or restricted flora. Nearly all of the species recorded in the proposed pits regenerate readily and prolifically from seed. If normal rehabilitation procedures are followed the pits should be able to be rehabilitated to their original vegetation cover and composition.

Greg Keighery
15–August–1996

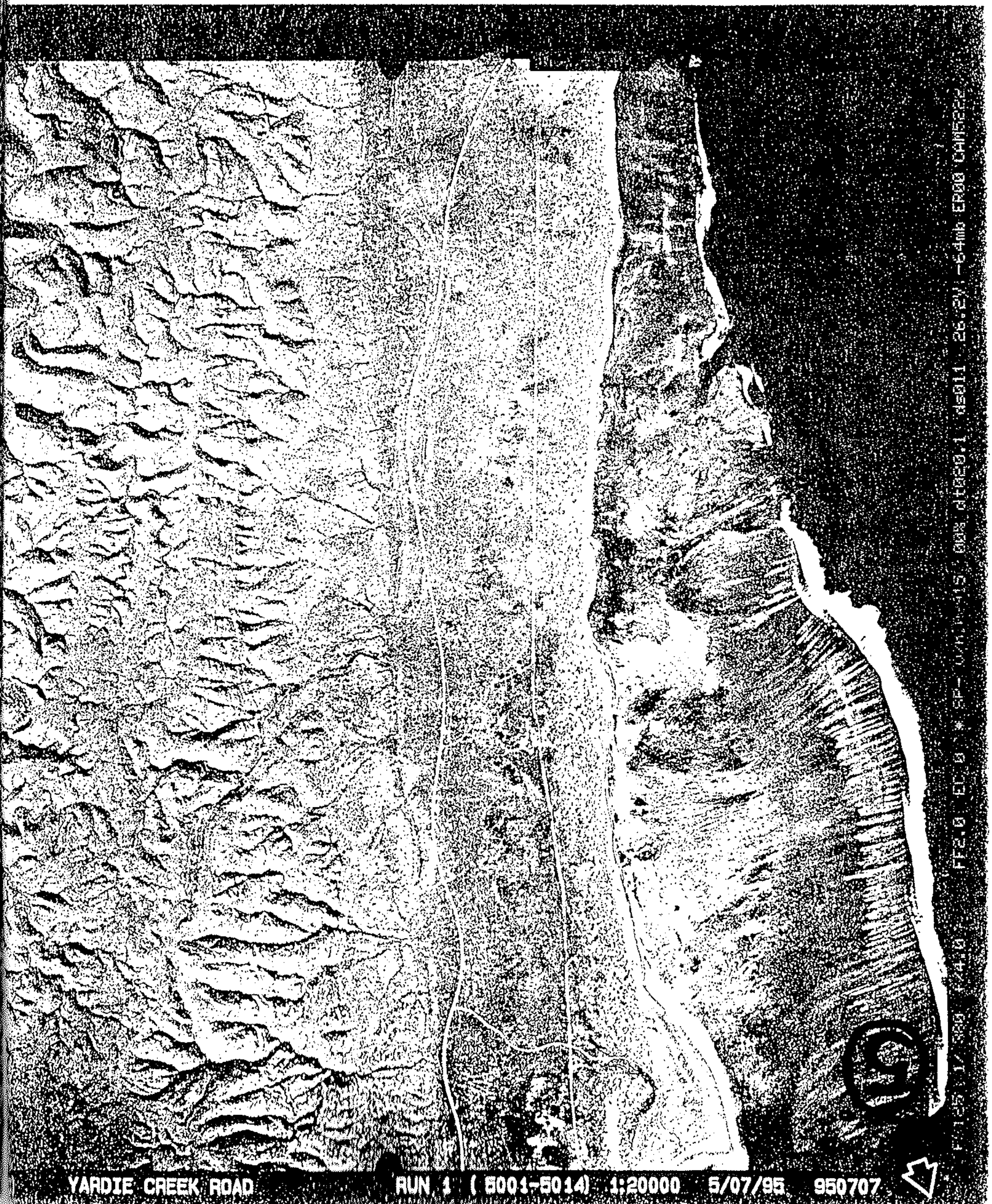


34.70 RHS : TURN OFF TO SHIRE PIT.

YARDIE CREEK ROAD
RUN 4 (6001-5014) 1:20000 5/07/95 950707
2

43.25 LHS : TURN OFF TO SHIRE PIT.

(C) YARDIE CREEK ROAD RUN 1 (5001-5014) 1:20000 5/07/95 950707
6



YARDIE CREEK ROAD
RUN 1 (6001-6014) 1:20000 5/07/95 950707
5

55.97 LHS : TURN OFF TO CALM RUBBISH PIT

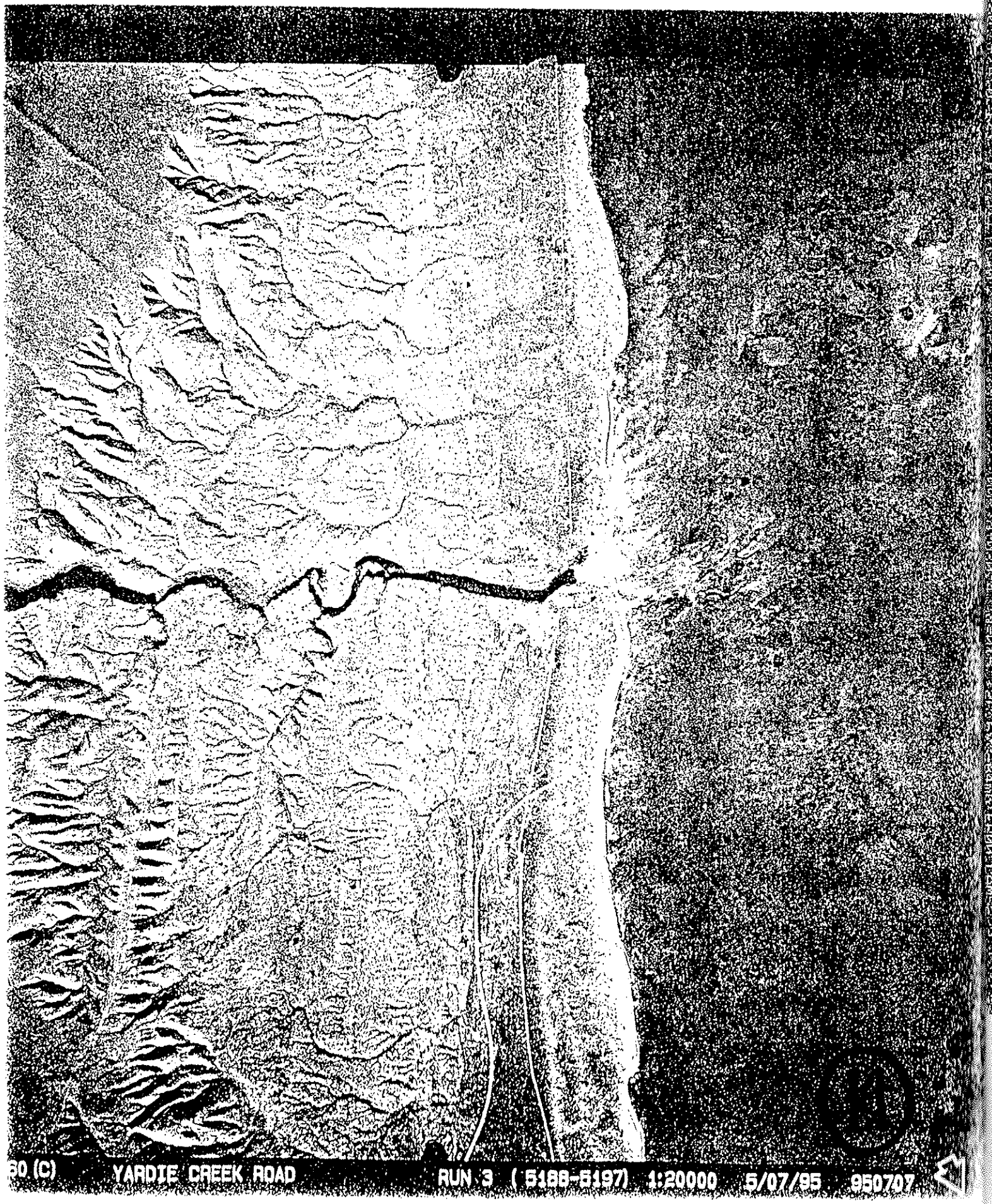
59.44 LHS : TURN OFF TO SHIRE CORAL SAND PIT.

(C) YARDIE CREEK ROAD
RUN 2 (5198-5207) 1:20000 5/07/95 950707
8

59.44 LHS : TURN OFF TO SHIRE LIMESTONE PIT

osprey Bay

72.1 RHS - TURN OFF TO SHIRE CORAL SAND PIT.


80 (C) YARDIE CREEK ROAD RUN 3 (5188-5197) 1:20000 5/07/95 950707