

Enclosure 1

2007 Seismic Survey Vegetation



EMPIRE OIL & GAS NL

LEGEND
Forests ACN 063 613 730
F1 Low Forest dominated by *Banksia attenuata* over mixed herbaceous species dominated by *Anarthia laevis* on brown sand

Woodlands
W1 Woodland dominated by *Eucalyptus decipiens* subsp. *decipiens* over mixed shrubs and herbs dominated by *Austrostipa compressa* on grey sand
W2 Open Woodland of *Eucalyptus rudis* over mixed shrubs on grey sand
W3 Low Woodland of *Eucalyptus totiana*, *Banksia attenuata* and *Banksia menziesii* over mixed shrubs on grey sand
W3d Degraded areas of Type W3
W4 Low Woodland dominated by *Banksia prionotes* over mixed shrubs on brown sand
W5 Open Low Woodland of *Melaleuca preissiana* and *Banksia attenuata* over mixed shrubs on brown sand
W5a Open Woodland of *Melaleuca preissiana*, *Banksia attenuata* and *Melaleuca raphiophylla* over mixed shrubs on brown loamy sand on the crest of a low rise
W6 Low Woodland to Low Forest dominated by *Melaleuca raphiophylla* on grey sand in a swamp
W6d Degraded areas of Type W6

Scrub
S1 Dwarf Scrub dominated by *Melaleuca systena* and mixed shrubs and herbs on grey sand
S2 Dwarf Scrub dominated by *Halosarcia indica* subsp. *bidens* over mixed herbs and sedges on grey sand in a swamp

Thickets
T1 Thicket of *Melaleuca viminea* subsp. *viminea* over herbs and sedges on grey sand in swamps and creeks
T2 Thicket dominated by *Acacia rostellifera* on grey sand with occasional limestone outcropping
T3 Thicket of *Melaleuca laterita* and *Melaleuca teretifolia* over herbs and sedges on grey clay in a swamp

Heaths
H1 Dense Heath dominated by *Banksia telmatiaea* with mixed shrubs on grey sand
H2 Dense Heath dominated by *Beaufortia squarrosa* over mixed shrubs and herbs on grey sand
H3 Dense Heath dominated by *Melaleuca seriata* over mixed shrubs on grey sand
H4 Heath dominated by *Dryandra armata* var. *armata* and *Gastrolobium plicatum* and mixed shrubs on brown sand
H5 Heath dominated by *Calothamnus quadrifidus* and *Hakea obliqua* subsp. *parviflora* and mixed shrubs on white sand
H6 Heath of mixed shrubs on yellow sand with limestone outcropping
H7 Heath dominated by *Banksia telmatiaea* and *Beaufortia squarrosa* and mixed shrubs and sedges on brown sand in a swamp
H8 Heath dominated by *Alocasuarina lehmanniana* subsp. *lehmanniana* and mixed shrubs and sedges on grey sandy clay in a swamp
H9 Dense Low Heath dominated by *Calothamnus quadrifidus* over mixed shrubs and sedges on grey sand
H10 Low Heath dominated by *Melaleuca systena* and on yellow sand and dunes
H11 Low Heath dominated by *Melaleuca brevifolia*, *Melaleuca seriata* and *Grevillea preissii* subsp. *preissii* over mixed shrubs on grey sand in a drainage basin

Sedges
SE1 Very Open Tall Sedgeland dominated by *Gahnia trifida* on grey sandy clay in swamps.

Disturbed
D1 Disturbed Forest of *Casuarina obesa* over mixed weeds on brown clay
D2 Disturbed Thicket dominated by *Alocasuarina ?lehmanniana* over mixed shrubs and herbs
D3 Disturbed Woodland of *Eucalyptus ?decipiens* over pasture

Mosaics
Areas mapped as a mosaic contained two different vegetation types that were distinguishable in the field but could not be separated on the aerial photography.
M1 Mosaic of Low Woodland of *Banksia ilicifolia*, *Banksia menziesii*, *Banksia attenuata* and *Eucalyptus totiana* over mixed shrubs on brown sand; and Low Heath dominated by *Acacia pulchella* var. *glaberrima* and *Calothamnus quadrifidus* and mixed shrubs on grey clayey sand
M2 Mosaic of Heath dominated by *Banksia telmatiaea* and mixed shrubs on brown sand; and Low Sedgeland dominated by *Chorizandra enodis* with *Melaleuca lateriflora* subsp. *acutifolia* on brown clayey sand

Other
CL Cleared land
F Seasonally inundated wetland floor associated with plant community T1
Dist Disturbed Land

Detailed Recording Site
Roads/Tracks
Watercourses

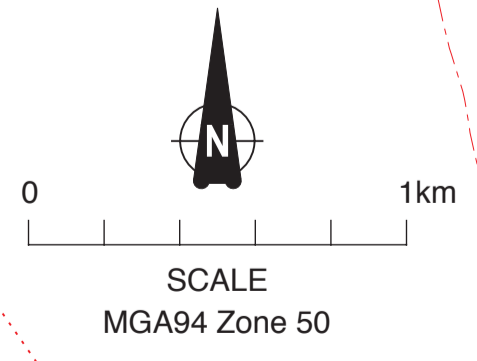
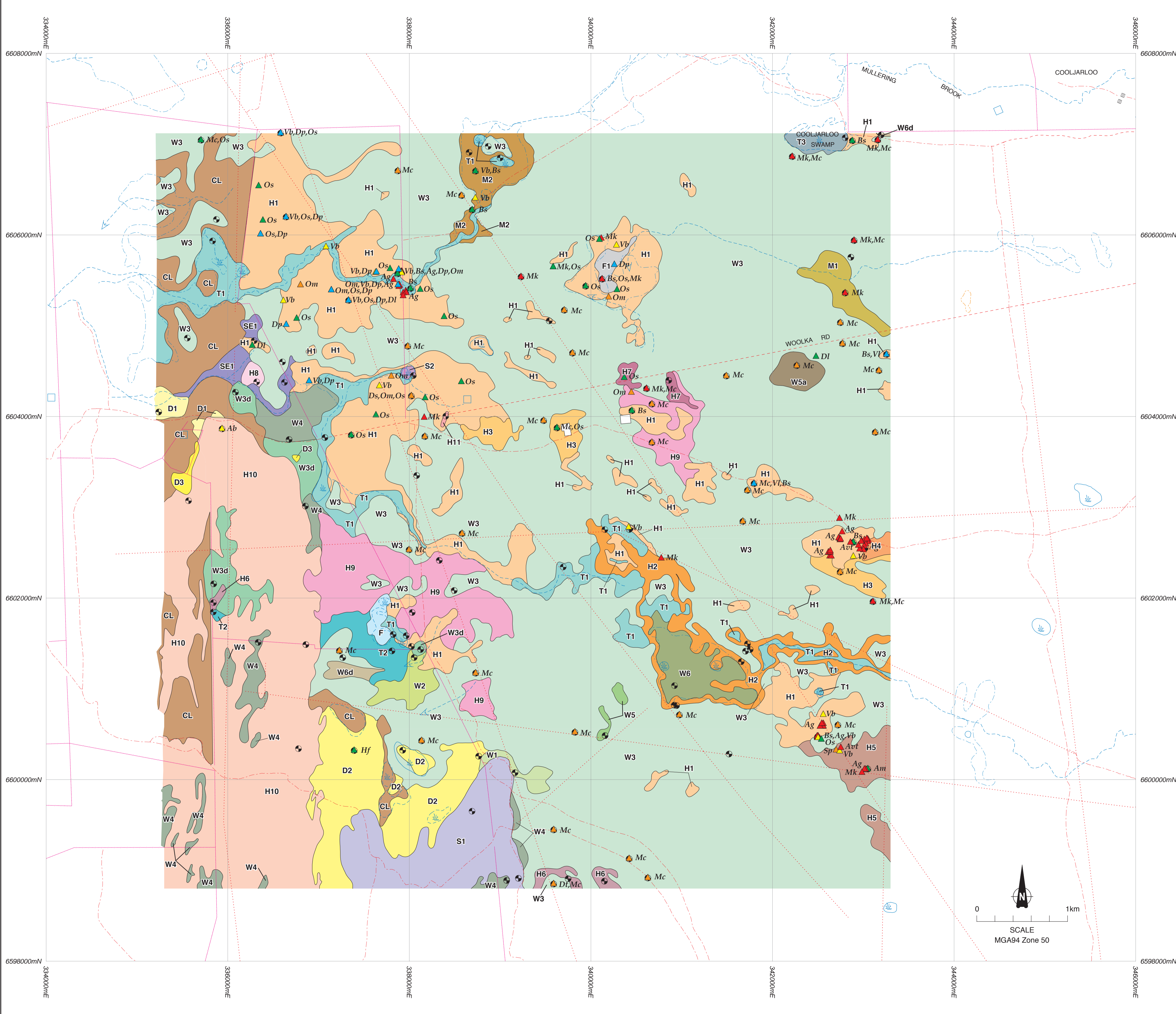
Rare and Priority Flora
Ab *Acacia benthamii* (P2)
Ag *Andersonia gracilis* (F)
Av1 *Angaranthus viridis* ?subsp. *terraspectans* (DRF)
Bs *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3)
DI *Dryandra lindleyana* subsp. *poliosta* (P3)
Dp *Dryandra platycarpa* (P4)
Ds *Dryandra stricta* (P3)
Dt *Dryandra tortifolia* (P3)
Hf *Haloragis filiosa* (P3)
Hk *Macarthuria keigheryi* (F)
Mc *Melaleuca clavifolia* (P1)
Os *Olax scalariformis* (P3)
Om *Onychosepalum microcarpum* (P1)
Sp *Schoenus pennisetis* (P1)
Vb *Verticordia blepharophylla* (P2)
Vi *Verticordia lindleyi* subsp. *lindleyi* (P4)

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WEC Reference: EMPIRE 05-20

MULLERING 3D PROJECT, COOLJARLOO

2007 SEISMIC SURVEY VEGETATION

Author: D. Woodman A1 Figure No. Rev
Scale: 1:20,000 Date: November 2006 MUL - S3D - 10.01 C



Drawn: CAD Resources ~ Tel: 9246 3242 ~ Fax: 9246 3202 ~ www.cadresources.com.au ~ A1 ~ CADRes Job No: 118605 ~ CAD Reference: mul_s3d_10_01.dgn

Enclosure 2

2007 Seismic Survey Layout








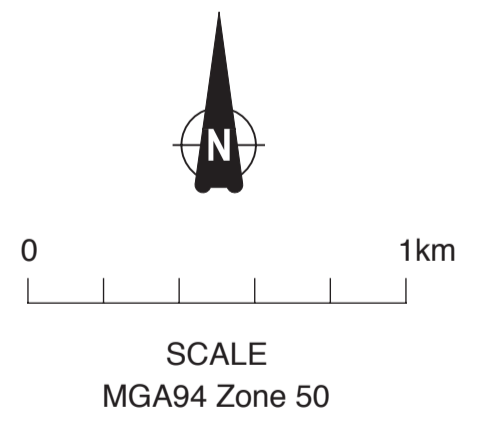
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NOTES

Aerial mosaic supplied by DLI

LEGEND

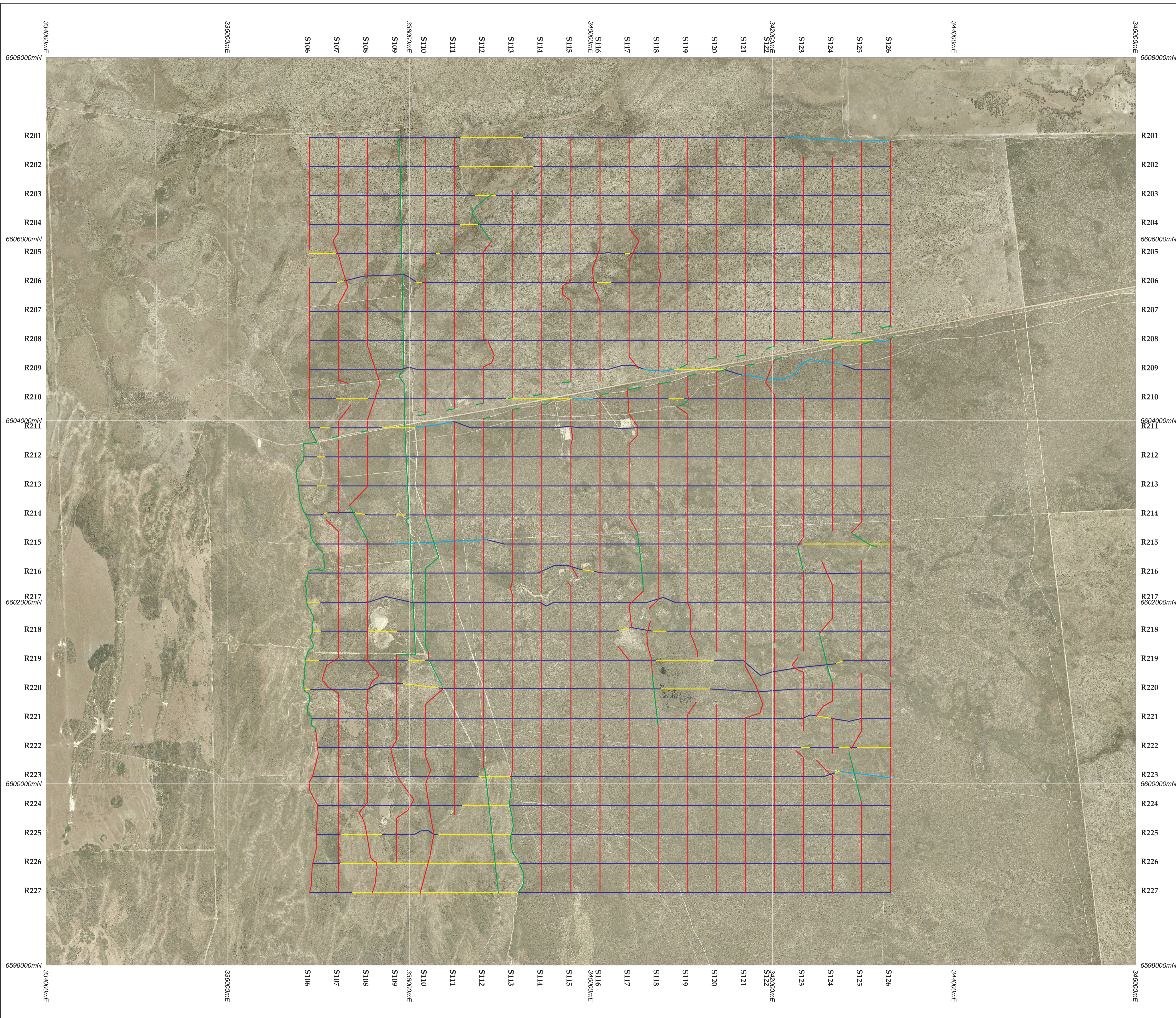
-  Seismic Source Line
-  Seismic Source Line on Existing Track
-  Seismic Receiver Line (To be rolled)
-  Seismic Receiver Line (Hand Carry)
-  Seismic Receiver Line on Existing Track



MULLERING 3D PROJECT, COOLJARLOO

**2007 SEISMIC SURVEY
LAYOUT
SHOWING DLI AERIAL MOSAIC MARCH 2004**

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|-------------------|---------------------|-------------------------|----------|
| Author: B. Warris | A1 | Figure No. | Rev |
| Scale: 1:20,000 | Date: December 2006 | MUL - 3D - 02.01 | D |



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