

ESCONDIDA, CHILE

MULTICLIENT LANDSAT7 ETM+ STUDY

Compiled by Colin Nash and Associates Pty Ltd and GEOIMAGE Pty Ltd,
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The **ESCONDIDA Multiclient LANDSAT ETM+ Interpretation Study** covering the Escondida Region in Northern Chile was completed in July 2001. The location of the study area is shown on the location diagram below and covers all or parts of 18 standard 1:100,000 scale, half-degree Sheet areas. The study is based on the new high-resolution Landsat 7 Enhanced Thematic Mapper data. The study developed a detailed structural map layer which can be used in conjunction with other data sets (such as existing geological maps, spectral remote sensing, geophysics, geochemistry and metallogenic maps), to assist in exploration.

Deliverables to clients purchasing the Study will comprise a STANDARD PACKAGE which includes:

- Digital LANDSAT Data for the four complete images used in the study as well as enhanced imagery of the 18 standard sheets comprising the interpretation study.
- Hardcopy 1:250 000 LANDSAT 741 print of the study area.
- Digitised interpretation data for the area as outlined.
- A set of hardcopy 1:250 000 Interpretation Maps.

These products are described below together with other products of the study which can be ordered separately.

1. Digital Landsat Data

The Landsat7 ETM+ data used in the study were scenes 233/76-77 collected on 31st May 2000 and 1/76-77 collected on the 19th February 2000. The data was geocoded using the Chile 1:250k topographic maps and orthorectified using the GTOPO30. Each image has coregistered 6 multispectral bands, the panchromatic band and the two thermal bands and is in ER Mapper format. Copies of these four orthorectified full scenes are available to all participants.

As well a series of enhanced imagery of each of the 18 x 1:100k sheets incorporated in the study are provided. These enhancements include:

- Colour composites of bands 741, 754, 321 and 543 that have been stretched and enhanced with the 15metre panchromatic band,
- Above band composites with a decorrelation stretch,
- Abrams' ratio, and abrams' ratio enhanced with the pan band,
- Crippen's ratio, and Crippen's ratio enhanced with the pan band,
- Costa alteration image, and a Crosta enhanced with the pan band,
- Clay(red), iron(green) alteration highs on a greyscale pan image, and a
- Greyscale clay prediction image.

There will be 16 enhancements of each sheet. All imagery will be in the ER Mapper ECW format and all the imagery for the 18 sheets will be on one CDROM. Plugins which allow this format to be read by most GIS systems, including Mapinfo and ArcView, are available at no charge.

2. Hardcopy Landsat Images

The STANDARD PACKAGE includes a hardcopy 1:250 000 LANDSAT 741 Designjet print of the study area. A set of 1:100,000 Band 741 in RGB (enhanced with the pan band) prints as used for the interpretation study are available as Designjet products as an extra. The price of these prints is US\$1500 per set.

3. Digital Interpretation Data

The interpretations were carried out by Dr Colin Nash and were based upon the georectified Landsat images described above. The majority of the work was carried out at 1:100 000 scale however 1:50 000 plots were used in some areas for more detail. The types of structural/photogeological information defined include:-

- Traces of bedding/foliation trends and interpreted dip directions
- Interpreted geological boundaries
- Lithological polygons showing pre-Pliocene stratigraphic units
- Traces of interpreted folds and faults
- Traces of fractures
- Major drainage
- Legend listing structural, lithologic and topographic symbols
- In addition we have carried out a search for spectral anomalies and have outlined these on a separate layer.

All interpretation data was digitized as discrete layers and is supplied in MapInfo and ArcView format on CDROM as part of the STANDARD PACKAGE. The digital data is provided as 18 separate files, each of which will include as discrete map objects the various categories of interpreted information listed

Index Map showing the area covered by the ESCONDIDA Multiclient Interpretation.

above. The digital interpretation data for each sheet is georectified to allow overlay on the enhanced Landsat data or your existing GIS data.

4. 1:250,000 Scale Overview Map

A hardcopy, digitally drafted 1:250,000 scale overview map are provided to each participant. The map will be produced by digitally mosaicing the 18 individual sheets comprising the study. Copies of the individual 18 x 1:100,000 scale digitised Landsat interpretation maps are also available as 1:100,000 scale Designjet plots at an additional cost of US\$1500 per set of 18.

5. Report

A comprehensive report will be provided to each participant. The report will describe the methodology, regional geological setting, and results of the study, on a sheet-by-sheet basis. An Appendix to the report contains a summary of spectral anomalies on each sheet.

6. Timing

The final images, interpretation maps, digital products and report were completed in July 2001 and the study is now available for immediate purchase.

7. Cost

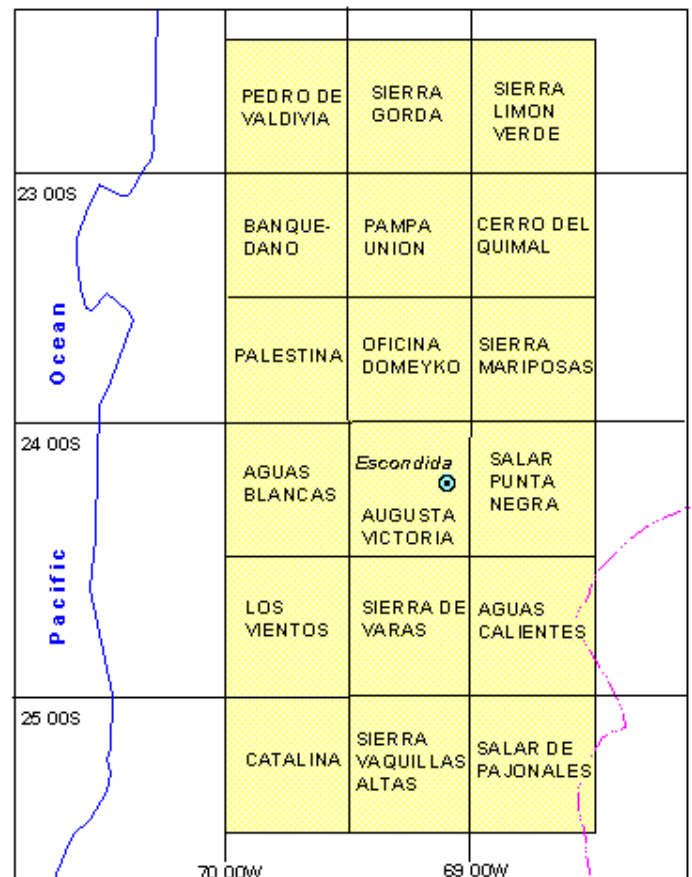
The cost of the STANDARD data set as described above is US\$15,000 per set (includes freight from Australia). Orders for extra hard copy prints will be forwarded at the same time if ordered with sufficient notice. Clients will be able to order extra prints at any time thereafter however freight will be added to the order.

8. Copyright and Reproduction of Data

The maps, images and report forming part of the **ESCONDIDA** study are copyrighted to GEOIMAGE Pty Ltd and Colin Nash and Associates Pty Ltd. Participants in the study are requested not to use the material in external reports or prospectuses, nor to pass it on to Joint Venture partners

DISCOUNT POLICY

A discount of 20% is available to companies who purchase more than one study. Companies who have previously purchased a study will be entitled to a 20% discount on the total price of all studies purchased. This discount will apply to all future studies which we undertake.



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Landsat 7 ETM+ band 741 enhanced with
15m pan image of the Escondida mine area
at a scale of 1:50 000.



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