SURAT SUPERMODEL II – AN INTEGRATED GEOLOGICAL FRAMEWORK FOR CSG

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INTRODUCTION

- > A nested approach is used to model the distribution of mire (swamp) and channels (Fig. 1)
- > Two local models are used to obtain the geometry parameters for preparing training images (Fig. 2)
- > Isopach of sandstone thickness and paleo-flow direction from image logs are used to constrain primary channel direction in MPS (Fig. 3)
- > Sandstone and coal correlation to used to understand geometry and connections (Fig. 4)
- > Borehole data (Fig. 5) and training images (Fig. 6) are used in modelling as constraints; Fig. 7 shows the modelling results for Upper Juandah member of Walloon Coal Measures.

FACIES MODELLING BY USING MPS FOR Upper Juandah Sheilds et al. 2015, unpublish Density, Gamma-ray, coring MARYBOROUGH data, well completion report Lithology ENGLAND Creating training image for primary Depositional facies Paleocurrent by channel containing all geometry data at well boreholes image log from analogue and local models **↓** MPS SURAT BASIN NAMBOUR Training image generated from Distribution of Primary Distribution of marginal OB river and local model swamp and coal swamp channel Distribution of Primary channel and channel Calculation Distribution of Primary channel, channel, marginal swamp and coal swamp. Floodplain is background facies middle unit of in all processes. Upper Juandah Fig. 1. Flow diagram shows the nested approaches in depositional Fig. 2. Local models facies modelling Coal seam terminated by Coal splitting sandstone sandstone Fig. 3. (a) Isopach of sandstone thickness and (b) Paleo-flow direction from interpretation of image logs and two dominant directions Fig. 4. Correlation of sandstone and coal at local scale

RESULTS





