

The background of the slide is a photograph of a field. In the foreground, a person is kneeling and working with a piece of equipment, possibly a soil sampling tool. In the background, another person is standing and looking at something in their hands. The field is a mix of green and brown, suggesting a natural or agricultural setting. The sky is blue with some clouds.

Otway Basin CSLF Project

Proposed by Australia and the United States

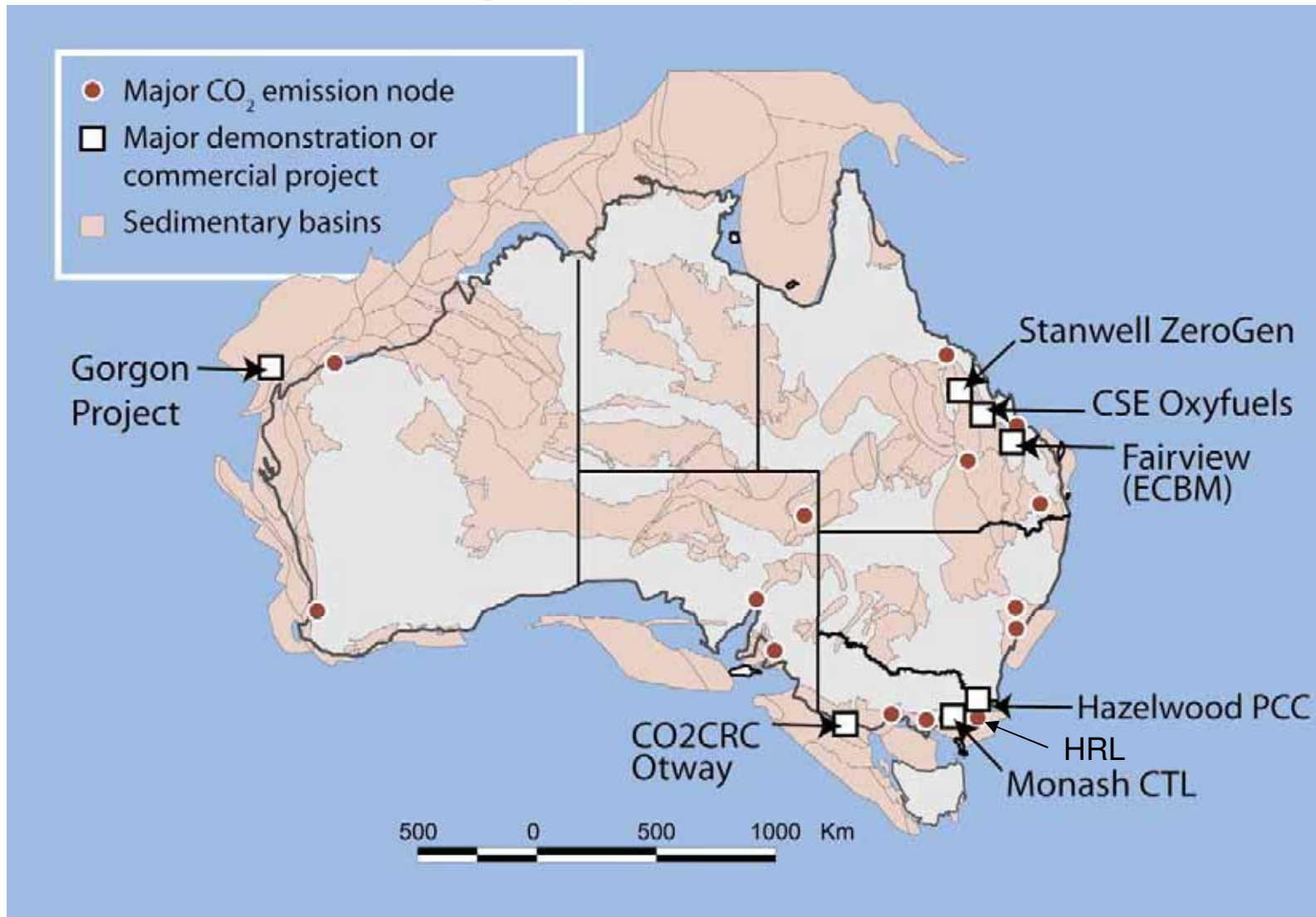
Presentation by
Dr Peter J Cook, Chief Executive,
CO2CRC
Paris 2007



CARBON SEQUESTRATION LEADERSHIP FORUM



CCS projects in Australia



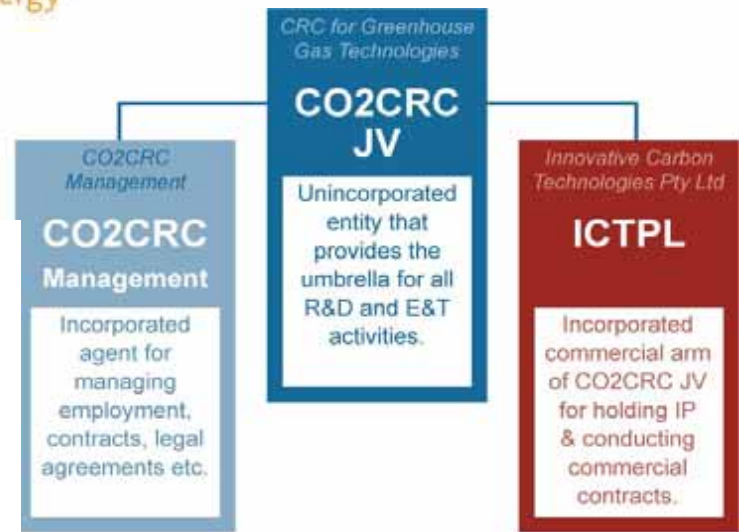
Otway Basin Project



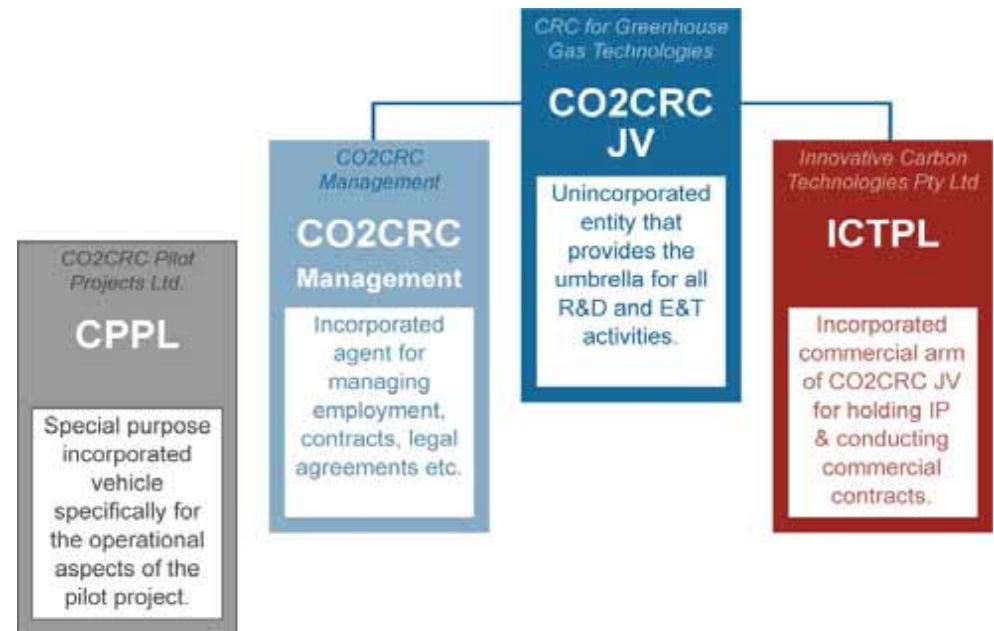
- Project developed by CO2CRC in 2004
- Site characterization and baseline monitoring commenced 2005
- Community and regulator consultation commenced 2005
- Purchased assets 2005
- Special purpose operating company set up by CO2CRC Dec 2005
- Static and dynamic modelling of site undertaken during 2005-2006
- Drill injection well February- March 2007
- Pipeline will be laid by mid 2007
- Injection will commence mid 2007
- Total of 100K tonnes CO₂ injected 2007-2008
- Project will run to at least mid 2010 with M&V a key component
- Stage 1 will cost A\$30M
- Stage 2 expected to cost A\$20M?



CO2CRC JV and related entities



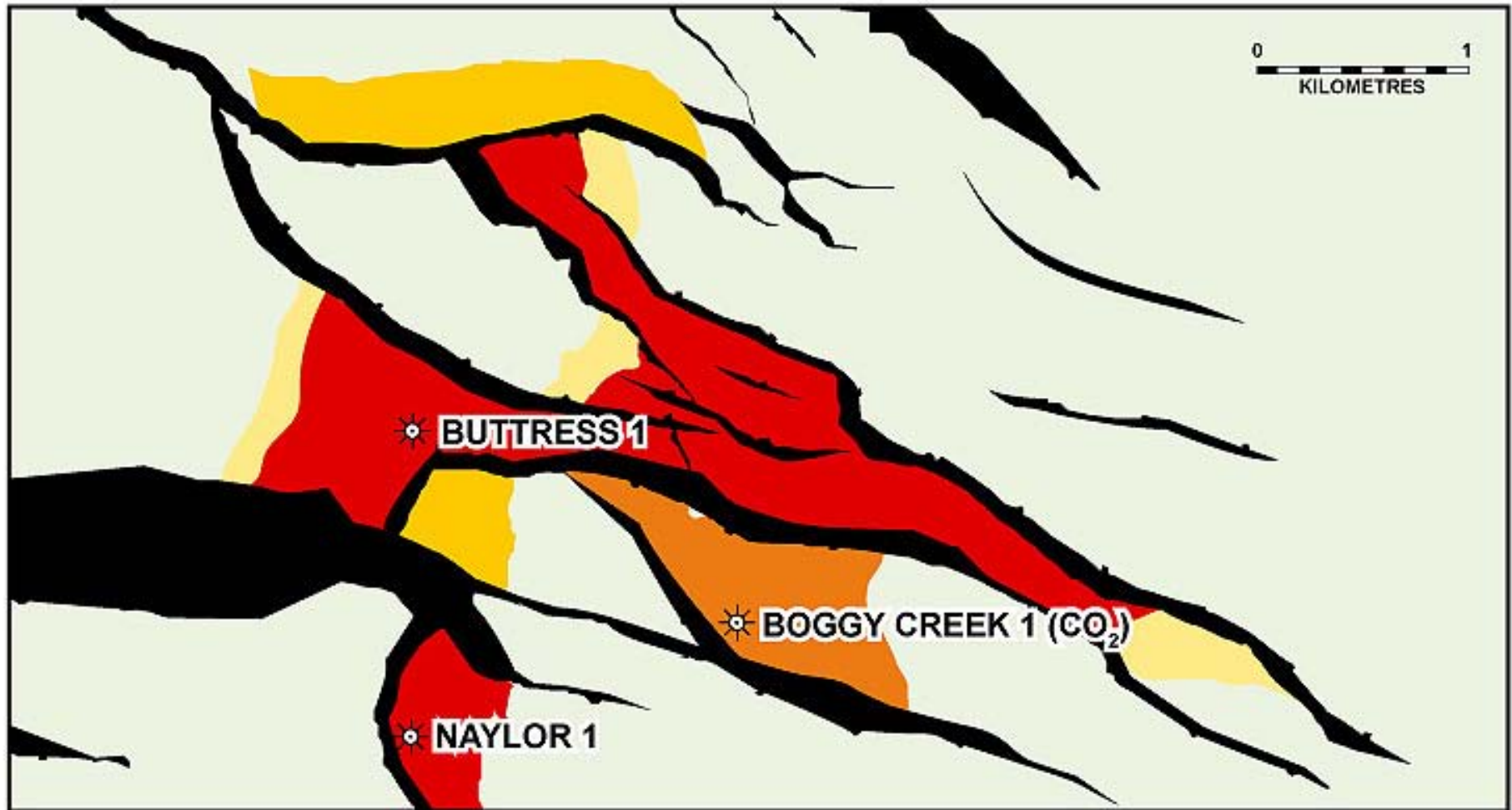
CO2CRC Pilot Project Ltd (Operating Company)



Otway Basin, Victoria



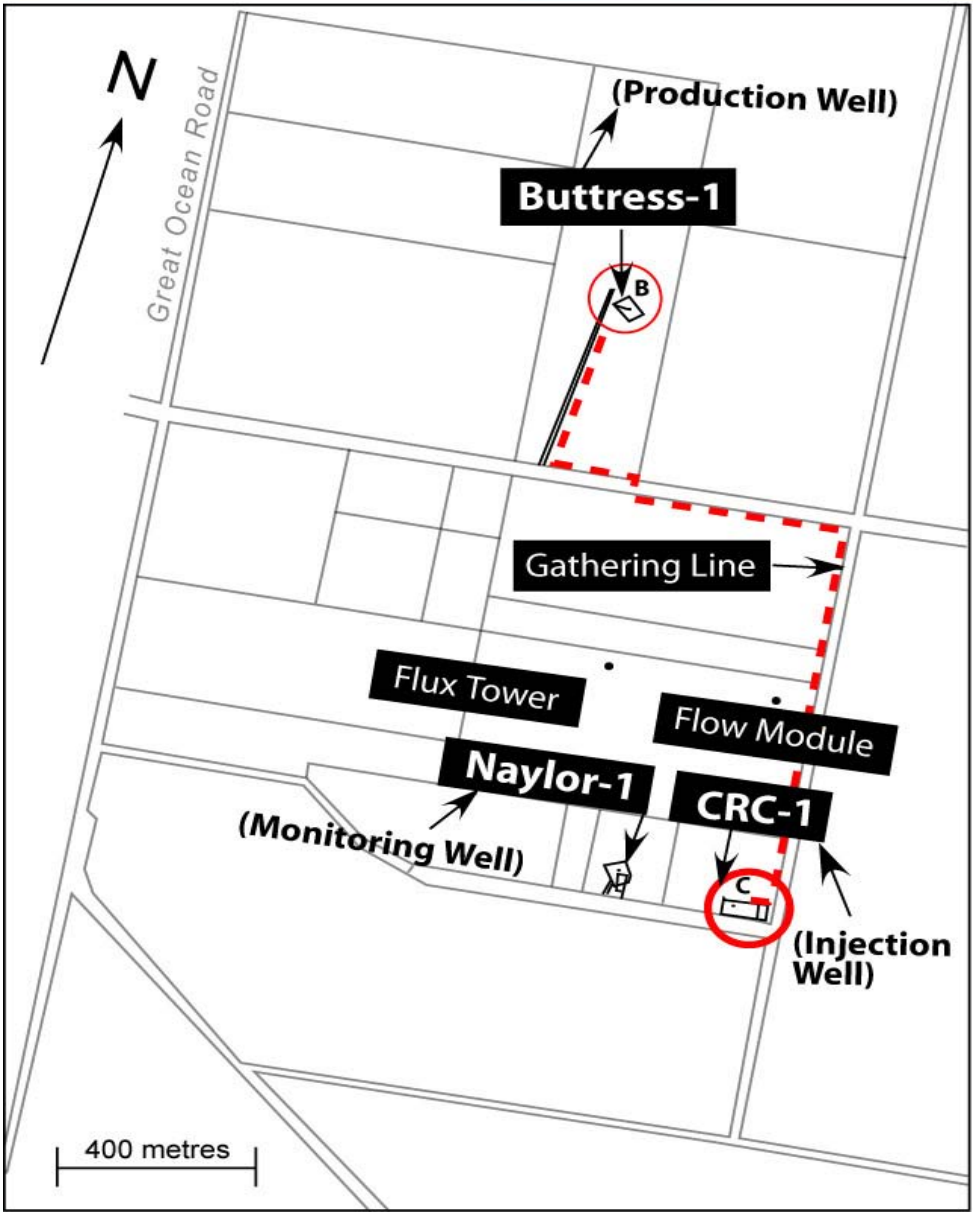
Sealing Faults in the vicinity of the Project



CARBON SEQUESTRATION LEADERSHIP FORUM



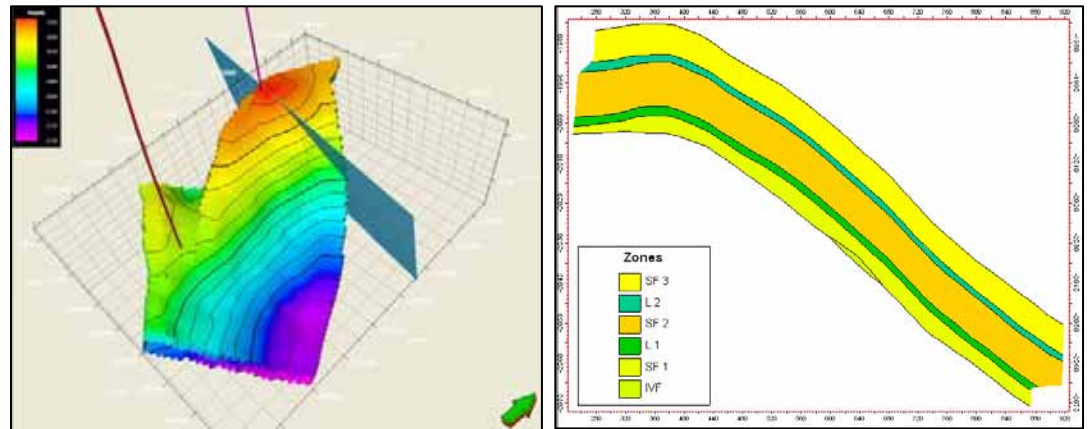
Location of facilities for the CO2CRC geosequestration project, Otway Basin, Victoria.



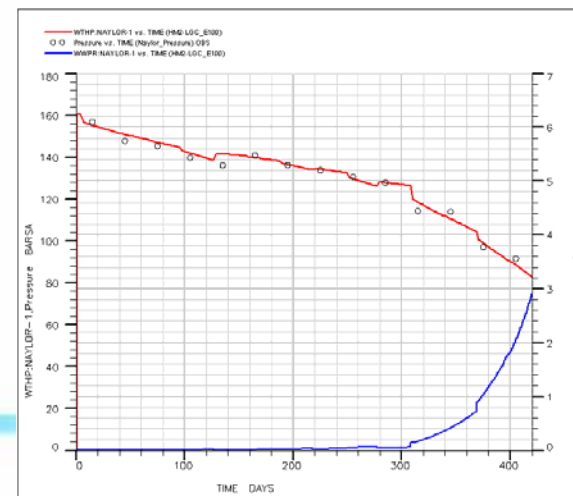
Site Characterisation

- Rigorous multi-disciplinary approach based on existing data using established oil field processes validated through peer reviews.

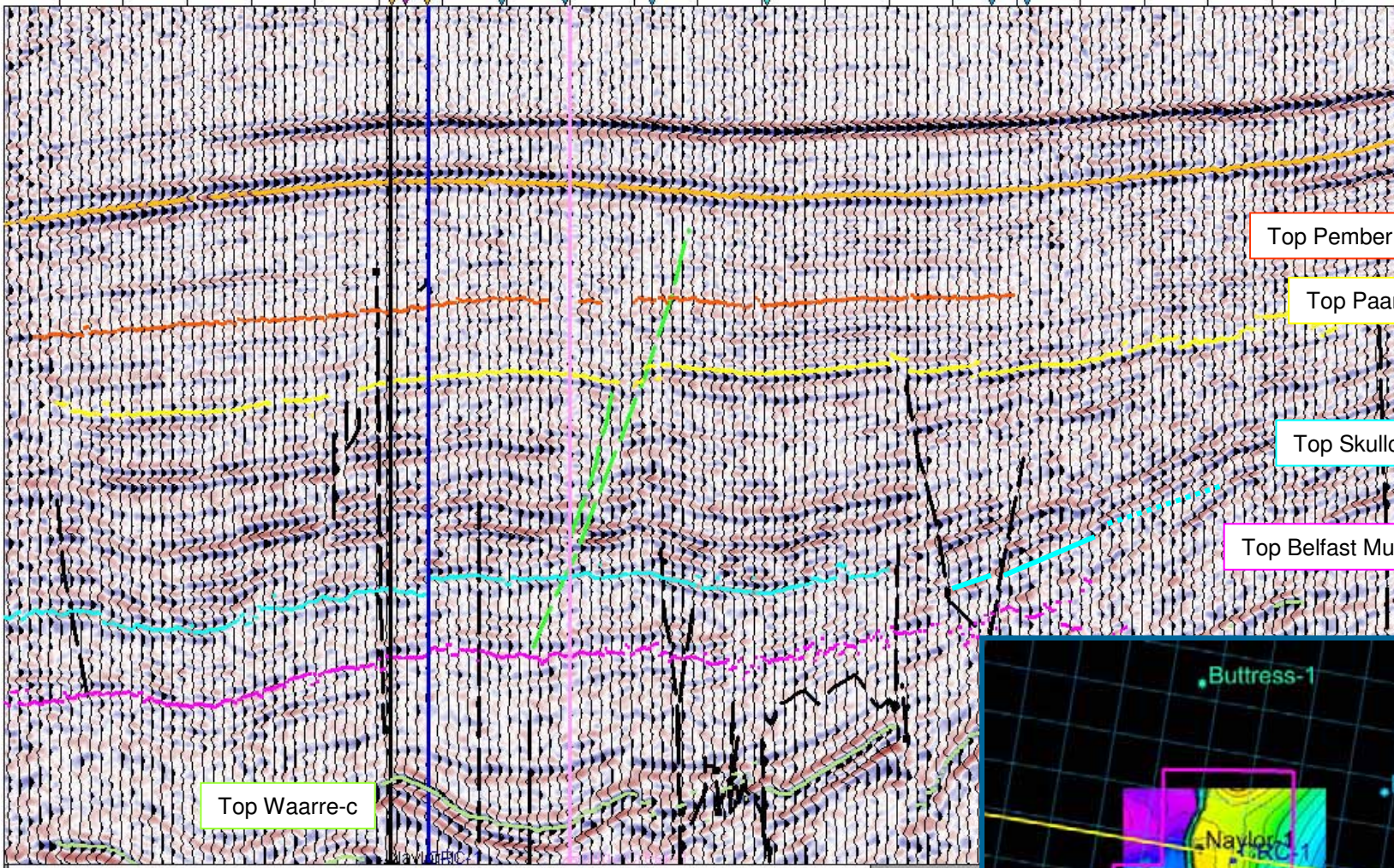
- Build detailed reservoir model using current state of the art modelling packages



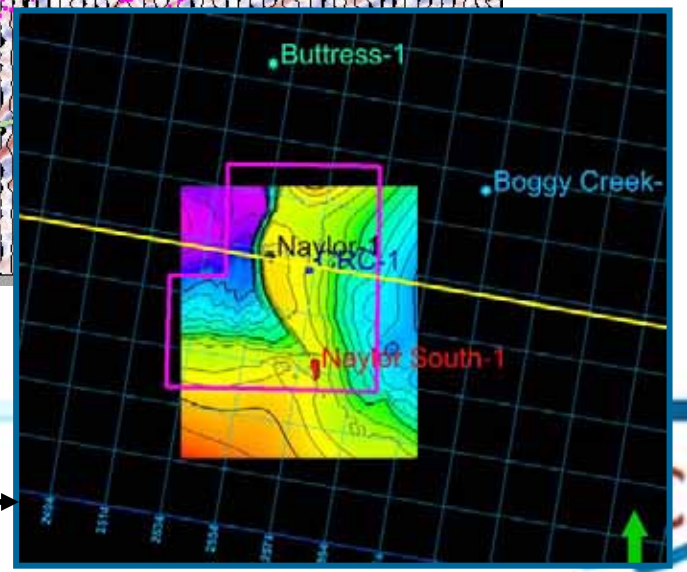
- History match with actual production data to validate model.



IL 2428 2463 2478 2503 2528 2553 Random line 2578 2603 2628 2653 2678 2703 2728 2753 2778 2803 2828 2853 2878 2903 2928
 XL 10173



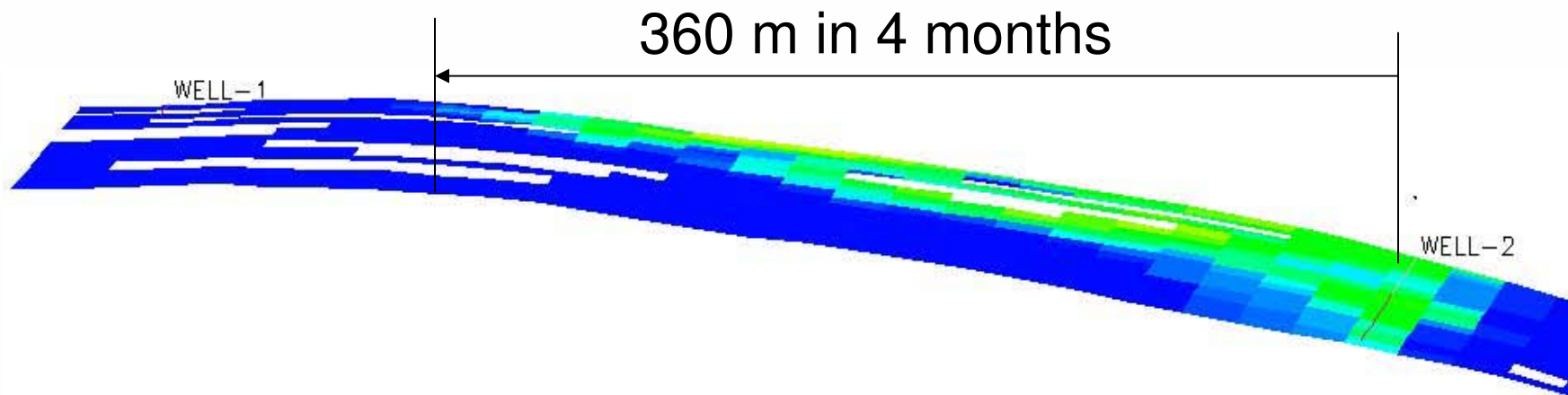
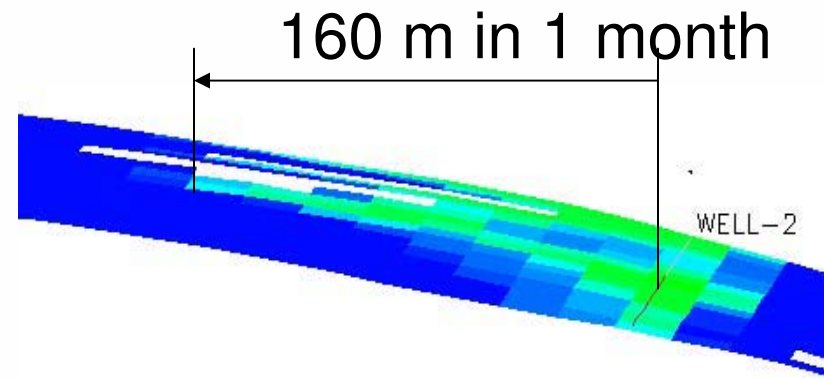
Naylor-1 CRC-1 Boggy Creek-1



CARBON SEQUESTRATION LEADERSHIP FORUM



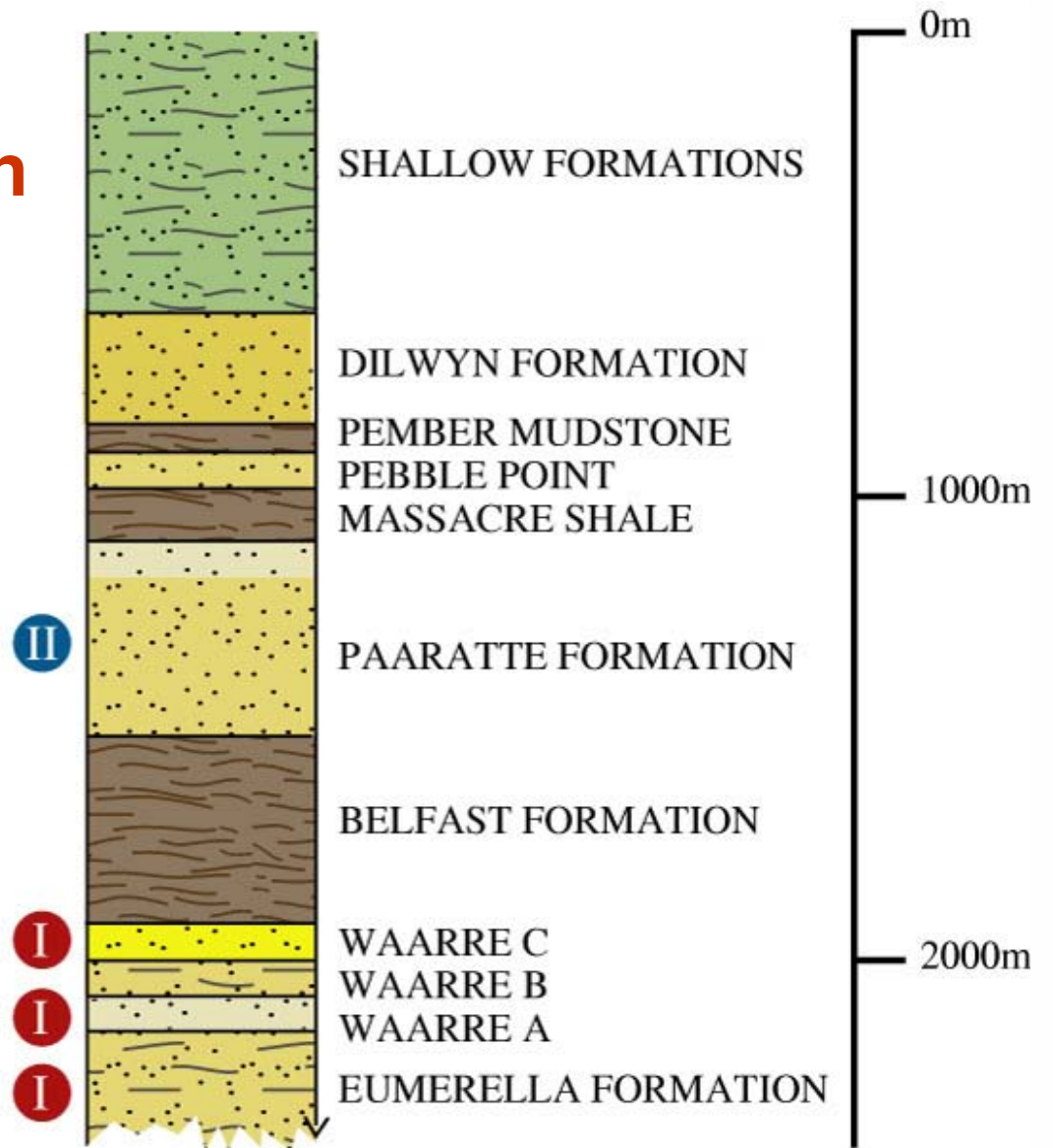
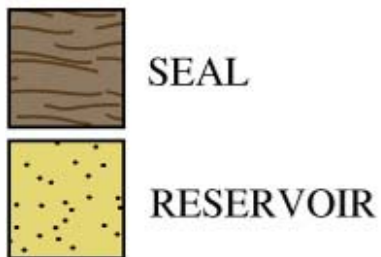
Migration Velocity



Schematic Stratigraphic Column of Otway Basin

KEY

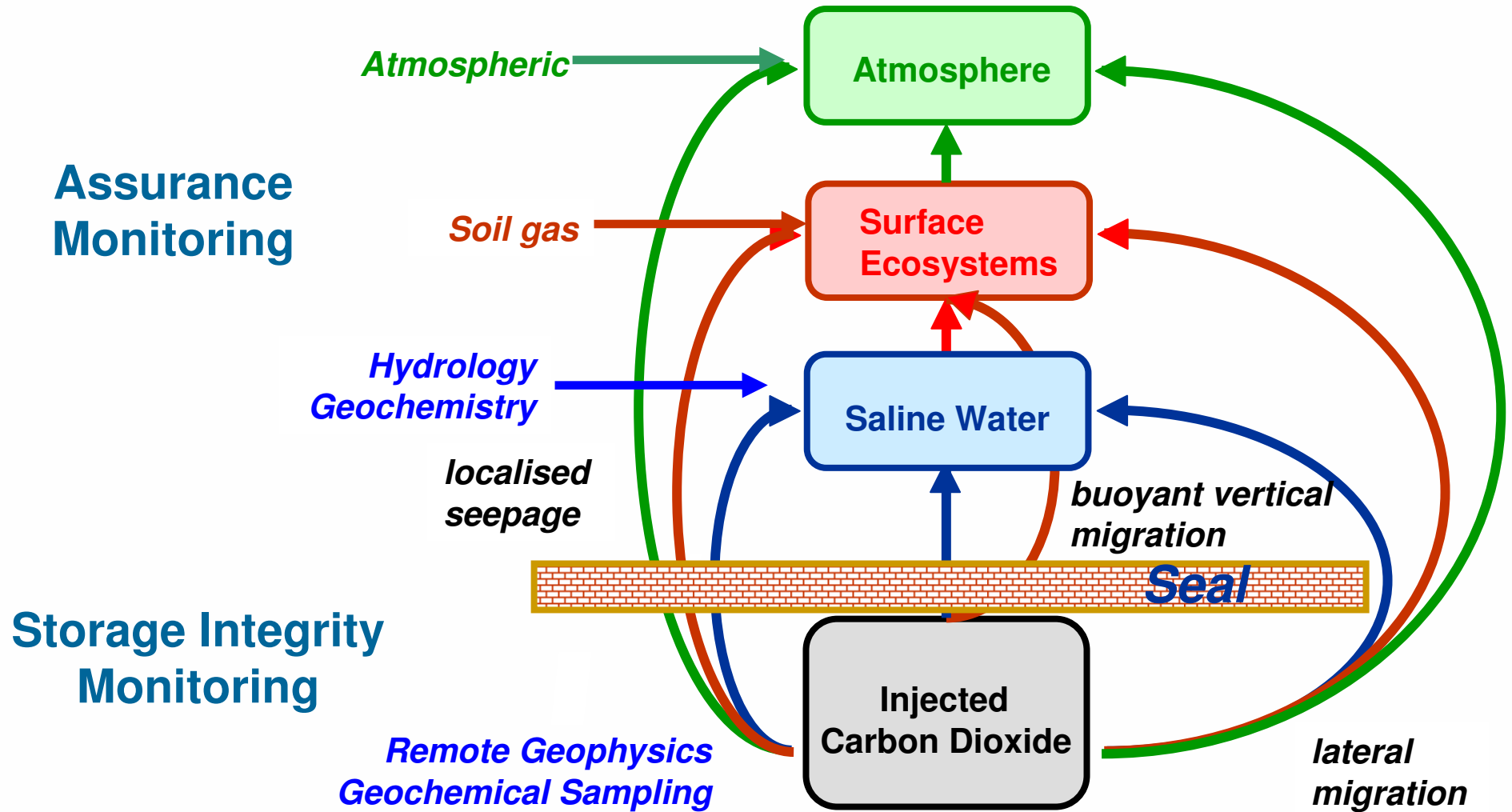
- I PHASE I INJECTION
- II PHASE II INJECTION



CARBON SEQUESTRATION LEADERSHIP FORUM

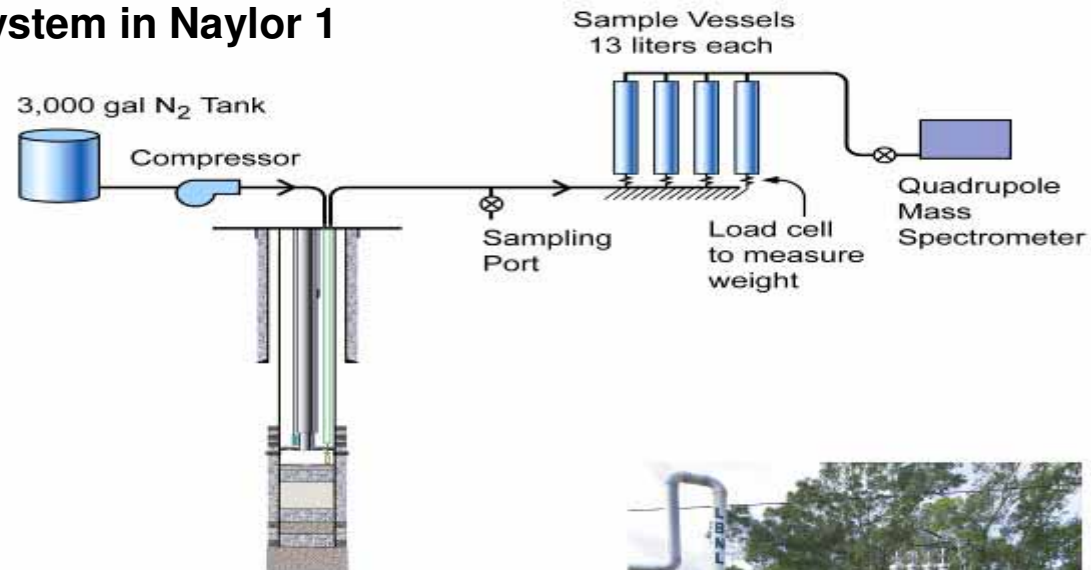


Monitoring and Verification



Lawrence Berkeley National Laboratory U Tube Fluid Sampling System

Potential of installing a U tube
sampling system in Naylor 1



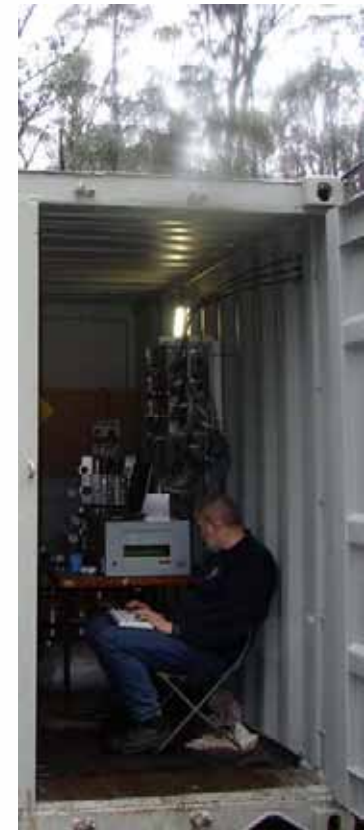
Atmospheric Monitoring

Monitor CO₂ in the atmosphere and define the sources

- To detect, attribute and quantify CO₂ emissions to the atmosphere
- Measurements of CO₂ concentration (continuous)
- Measurements of other gases and isotopes (including tracers)
- Measurements of CO₂ fluxes
- Interpretation with transport and dispersion models
- Integration with subsurface work - soil, hydro, geochemistry....



Flux Tower



Lo-Flo*



CARBON SEQUESTRATION LEADERSHIP FORUM



International Comparison

	Geological Data Availability		Baseline data	Reservoir Geochem	Geo-physics	Ground water monitoring		Soil Gas	Atmos	Containment Risk Ass. prior to project start
	Regional	Reservoir				Hydrology	Geochem			
West Texas	<input checked="" type="checkbox"/>	Largely confidential		very limited	limited					
Alberta Basin	<input checked="" type="checkbox"/>	limited		very limited						
Sleipner	<input checked="" type="checkbox"/>	limited	limited		<input checked="" type="checkbox"/>					
Weyburn	<input checked="" type="checkbox"/>	Largely confidential	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			limited		
Frio	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	limited	limited	limited		
Japanese	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					

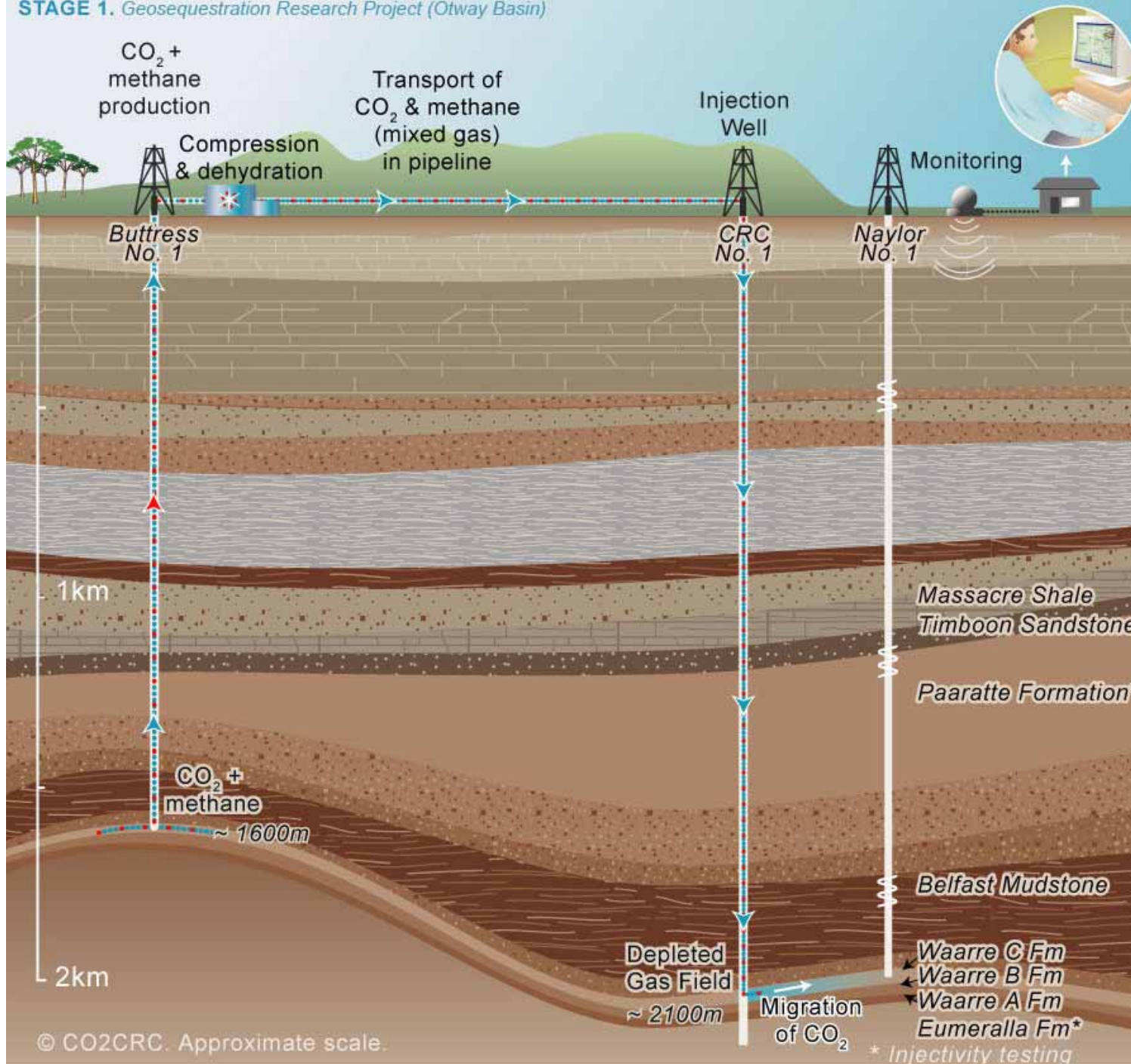


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Frio	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	limited	limited	limited		
Japanese	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					
Proposed OBPP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



STAGE 1. Geosequestration Research Project (Otway Basin)



**CO2CRC
Geosequestration
Research Project
(Otway Basin)**

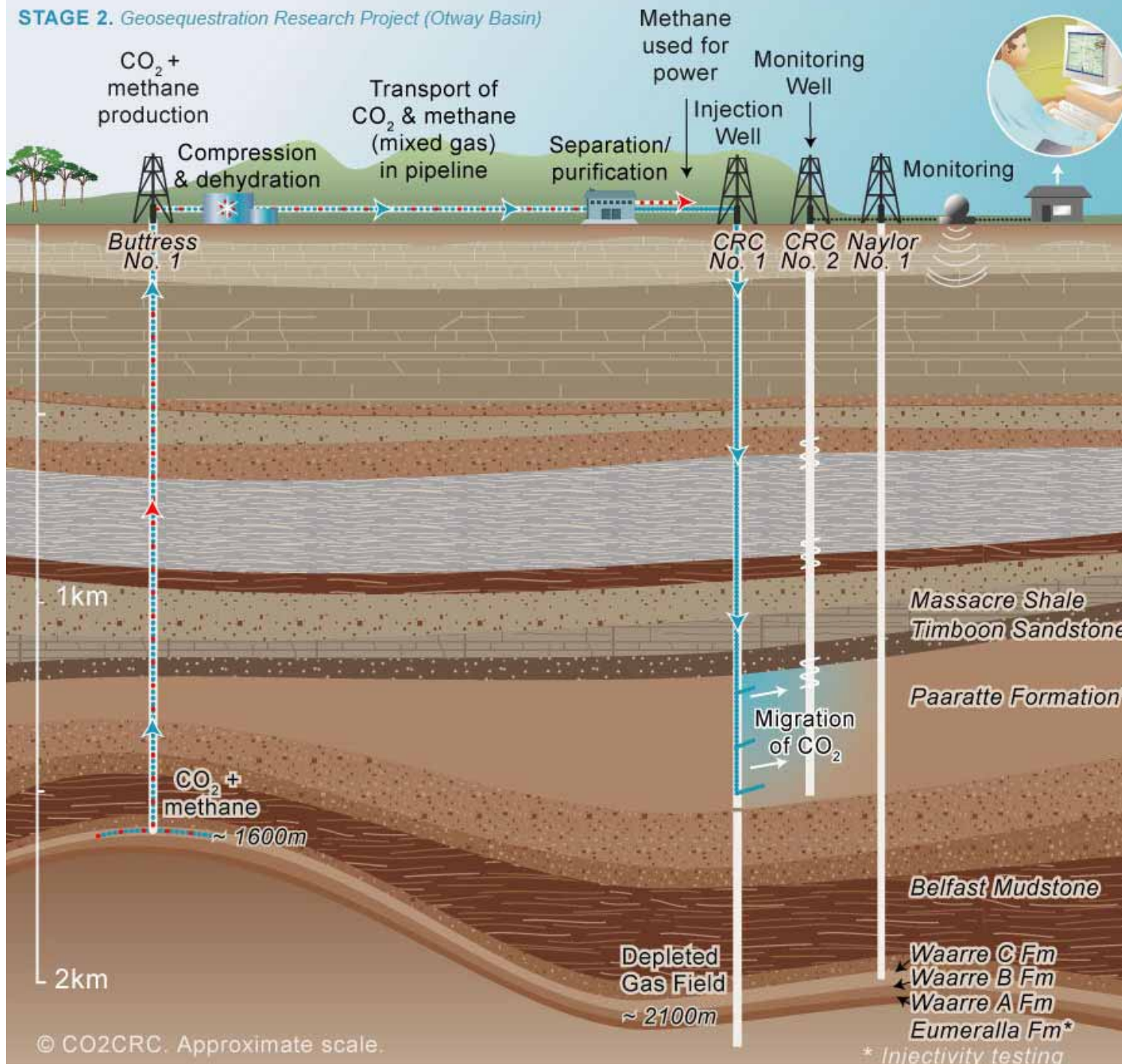
Stage 1

This involves:

- Production of CO₂ - rich gas
- Compression
- Injection into Waarre Fm
- M&V



STAGE 2. Geosequestration Research Project (Otway Basin)



© CO2CRC. Approximate scale.

**CO2CRC
Geosequestration
Research Project
(Otway Basin)**

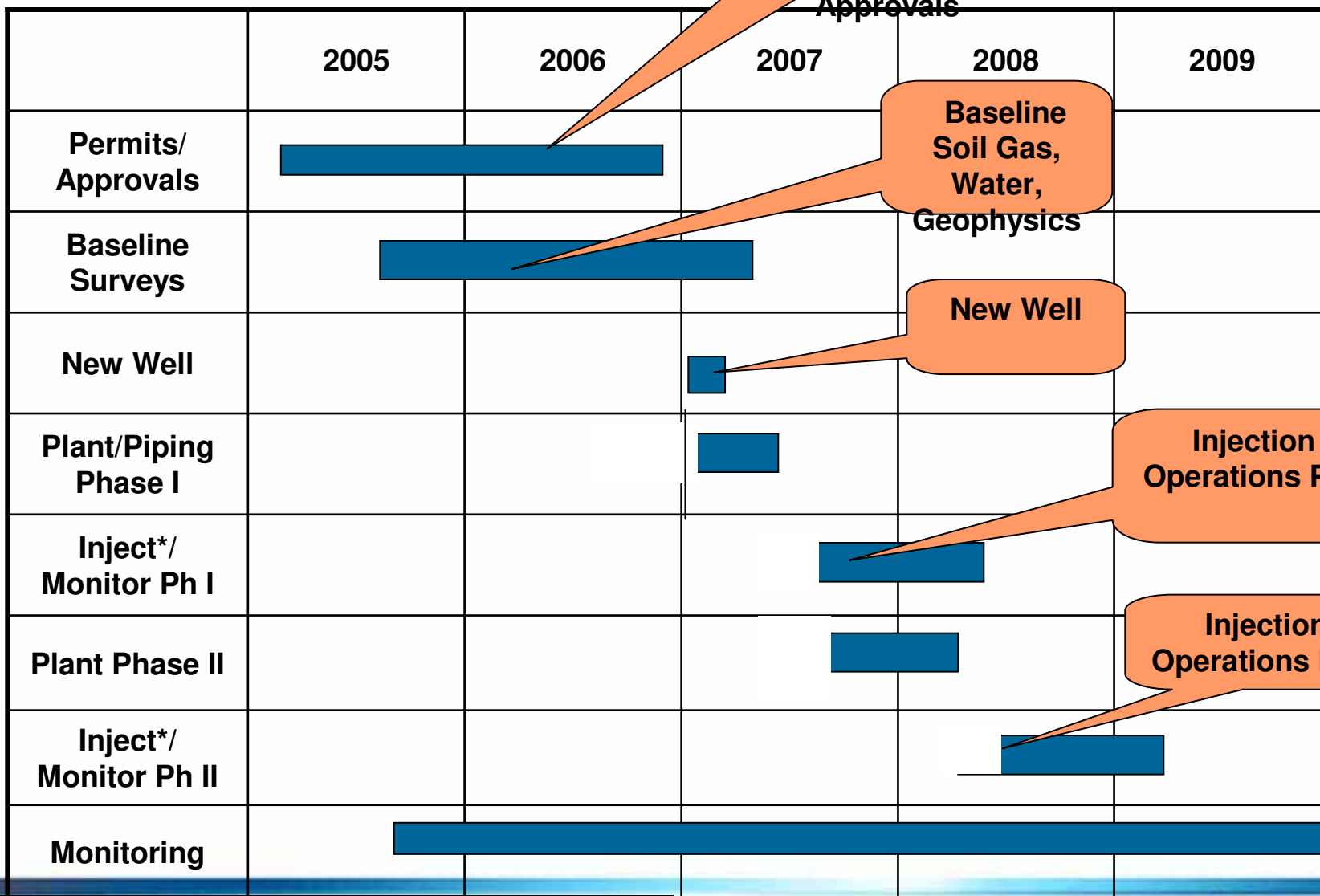
Stage 2

This involves:

- Separation of CO₂
- Injection of pure CO₂ into the Paaratte Fm
- Injectivity testing in the Eumeralla Fm
- M&V



Project Timeline



otway Basin Project already involves a high level of international collaboration particularly with the US Department of Energy through Lawrence Berkeley National laboratories and with Alberta through the Alberta Research Council. In addition, the IEA has recently undertaken a peer review of the monitoring and evaluation program.

I am grateful to Sandeep Sharma and the many researchers in CO2CRC, Sally M. Benson of GSEP (previously LBNL), Larry Myer and colleagues at LBNL and Ernie Perkins, Alberta Research Council, for their scientific contributions

I thank the following for their financial contributions to the project: Australian Greenhouse Office, AusIndustry, CO2CRC Members, CO2CRC Pilot Project Ltd companies, Dept Education, Science, Technology, US Department of Energy, Victorian Dept Primary Industries.

