

# How New Hope Group built a single source of spatial truth to protect compliance and operational decisions at the New Acland Coal Mine.



## OVERVIEW

New Hope Group's New Acland Coal (NAC) Mine in Queensland manages the full range of surface mining activities - excavation, overburden management, environmental compliance, and mine planning. At a site of this scale and regulatory complexity, spatial data is not a background function. It determines where equipment operates, what land can be cleared, and what falls within an Environmental Authority boundary. Get it wrong and the consequences are not administrative. They are legal, operational, and reputational.

When NAC came out of Care and Maintenance in 2023, the team made a deliberate decision: the paper-based permit process that had run since the mine opened was no longer acceptable. They engaged COSOL to replace it entirely.

## THE STORY IN NUMBERS

200M

Maximum positional error created by datum misalignment under the old process

63

Permits now managed digitally, end-to-end, with full audit trail

Decades

Of paper-based permit management replaced with a single, cloud-based spatial record

50 Years

Combined GIS and spatial data experience in COSOL's specialist team

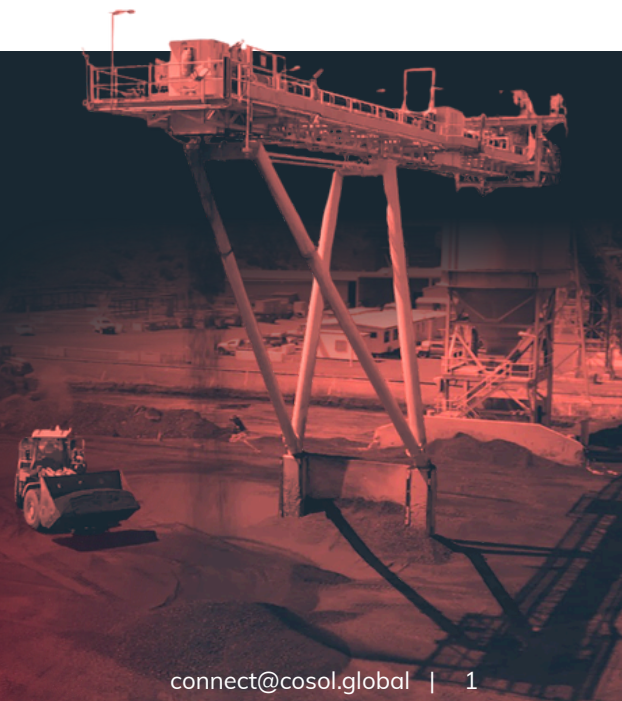
## THE CHALLENGE

Martin Leggat, Short-Term Mine Planner and Surveyor at NAC, described the process plainly:

*"It was a paper-based thing. We had all sorts of troubles losing the actual paper copies, permits not going to the right people, the right checks weren't being made. There were a lot of shortcuts that were being taken."*

Those shortcuts had real consequences. The site operated on AGD 84 datum while government departments required GDA 94 or GDA 2020. At mine-site scale, that difference produces positional errors of up to 200 metres. Mining activity could push outside the Environmental Authority boundary. A drill hole could land on a neighbouring property.

*"We were close to making some mistakes which would have led to us breaching our Mining Approvals.", shared Martin.*



## THE SOLUTION

COSOL's GIS team was engaged to design and implement a cloud-based solution built on [Esri ArcGIS](#) - a Permit Management System and Spatial Viewer that together put a single, verified spatial record at the centre of every decision made on site.

### RELIABLE DATA

Every approval is now traceable. Every spatial file attached to a permit is validated before the workflow advances. Datum conversion happens automatically on data ingestion, eliminating the coordinate misalignment that had previously created near-miss compliance risk.

*"There's always that record of it now. When it starts, what stage it's at, and when it's completed." — Martin Leggat, New Hope Group*

Environmental constraints are captured at the point of permit creation. Standards are enforced by the system, not by memory.

### RELIABLE TECHNOLOGY

The solution was built on Esri ArcGIS, deployed as a cloud-based platform accessible across the entire site. ArcGIS Pro now supports annual mine planning workflows previously handled in separate mining software. Direct export capability enables data sharing with third-party CAD packages and government agencies. The platform has since been adopted by New Hope Group's sister company, Bengalla, extending into field-based environmental data capture.

### RELIABLE ADVICE

COSOL's GIS specialists, with a combined 50 years of experience in spatial data and asset management, designed the solution around one principle: the correct outcome must happen by design, not by following the right process from memory. The permit workflow was rebuilt from the ground up. The result is a system in which the right answer is the only available answer at every stage. Martin's experience of the team's depth of knowledge reflected that directly:

*"I haven't come up with a question that hasn't been able to be answered yet. Which is fairly impressive, considering the vast size of ArcGIS." — Martin Leggat, New Hope Group*

### RELIABLE PARTNERS

The New Hope Group team arrived with no prior ArcGIS experience. COSOL built his capability progressively alongside the system, checking in regularly and adjusting in real time rather than after go-live.

*"When we started off the process, there was never a shortage of information flow. If we needed to tweak it, we'd tweak it now rather than when the system was in place."*

*"There's very few companies that would make themselves available and work around our time zone as well." — Martin Leggat, New Hope Group*

*"The COSOL team are obviously the right people for the job. Everyone had their place, they knew what they were talking about, and it all came together in the one package." — Martin Leggat, Short-Term Mine Planner, New Hope Group*



CASE STUDY

MINING

## THE IMPACT

NAC now operates from a single, verified source of spatial data. The environmental team runs constraint checks directly through the Spatial Viewer without routing requests through the survey team. Annual mine plans are produced in [ArcGIS Pro](#). External data sharing is straightforward.

"We have a lot more confidence in the decisions that are made as a result of the spatial data, because we know what is on that system is correct."

And the platform's potential is far from exhausted: "We are now finding more and more uses for the system and I don't think we have really scratched the surface of its capabilities," shared Martin.



**If we were to breach our Environmental Authority by mining in the wrong spot or drilling on someone else's property, you've got the legal backlash, the civil backlash from the neighbours, reputational damage. For what it supplies and the confidence that it gives us, it was really a no-brainer to do it.**

— Martin Leggat, Short-Term Mine Planner, New Hope Group

## KEY BUSINESS OUTCOMES

- ✓ Paper permit process replaced with a fully digital, auditable spatial workflow
- ✓ Datum conversion errors eliminated through automated coordinate alignment on data ingestion
- ✓ Environmental team now self-sufficient for constraint checking across all planning decisions
- ✓ Single source of truth established with controlled data entry and full audit trail
- ✓ Annual mine plans now produced in ArcGIS Pro, removing a separate software dependency
- ✓ Platform adopted by sister company Bengalla following NAC's successful implementation



## COSOL: When Reliability Matters

COSOL is built on one belief: in asset-intensive industries, reliability is everything. We're a trusted, data-led asset management partner - known for our deep expertise, dependable delivery, and ability to keep critical assets performing at their best.



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