

## USER STORY: Mining Engineer

“A Day In The Life Of” Series provides an insight to specific roles within the mining world. Gain inside knowledge of what it is like on site. Names and specific details have been altered to protect the confidentiality of our clients.

John is one of eight **Mining Engineers** in the technical services team at a coal mine in Queensland. John uses iVolve’s iControl tool on a day to day basis. With iControl, he has **improved efficiency** through -

- ✓ **Improved Productivity**
- ✓ **Operational Efficiency**
- ✓ **Tracking Productivities & Progress**
- ✓ **Faster/More Precise Execution**

Except for the daily activities described below, a mining engineer’s day is quite unstructured.

### 7am Drive

John works the same 12-hour shift as the majority of personnel on site. At the start of each day he likes to go for a drive through the mine. During this drive he is eyeballing the status of progress compared to design and schedule. He is able to gauge things like wall compliance, if it looks as it should etc.

### 9:15 Meeting

At 9:15am each morning there is a daily meeting he must attend. Here, conversations are focused on dig rates, and the progress of drilling, blasting and loading.

The Senior Engineer brings along the BCM report that Dispatch puts together. This spreadsheet contains information like how many hours diggers have been productive, what they've been digging, and their rate against target. Dispatch put this same report together every day at 9am, 12pm, and 3pm.

### Key Responsibility

Together, John and his back-to-back colleague are solely responsible for mine surface design work, i.e. roads, pads, ramps, walls, dams, dumps, pits, etc. These design surfaces are built in a 3D modelling software. Completed designs are then packaged into another format known as "Project Files" which are compatible with high precision machine guidance systems.

### Each Week

John designs for the whole site on Tuesdays, then creates the Project Files and assigns them to machines on a Wednesday. Thursdays are spent confirming that all the files have reached the appropriate machines and removing old projects.



Ideally machines should only have the project files for the area they are scheduled to work in, but equipment moves around so much that engineers typically assign more files than necessary. John says that he sends all of his dump designs to all dozers, and all of his dig designs go to everything. This way he doesn't need to worry if machines move to new areas without being told.

Mid-week design updates are also common, with a handful a week. These usually need to get out to machines straight away as they are typically in response to a blast. Dozer push for example needs to begin shortly after a blast, once an OB (overburden) Surveyor has been out to take a 3D scan of the blasted area.

### **Scheduling**

In addition to design work and project file management, John also maintains a machine schedule. This is a plan of where machines should be located in any given shift, the type of work they are performing can be inferred from that location. This allows mining engineers to know roughly where machines should be on any given day and they are able to check this easily with iControl.

*"I have iControl open always. Mainly just to keep an eye on where things are, dozers especially. It saves me having to go talk to the guys out in the pit, they know everything, but they have enough to do."*

John uses iControl to see where trucks are dumping. If he notices anything unusual, be it over or underhauling, John will radio the production superintendent or a supervisor to let them know.

John puts together a new schedule every two weeks (short term scheduling), while the Superintendent and Senior Engineer will also review the 16 week schedule. It changes significantly, and the team currently just rolls with any changes until issuing a new short term schedule for the next fortnight. This is something they're ironing out at the moment, with the schedule often not reflecting what is actually happening in the pit.

## Value Propositions

### Efficiency Improvement through -

#### Improved Productivity

John uses iControl to see where trucks are dumping, if he notices that some trucks aren't performing to the production standard he notifies the production superintendent giving the superintendent an opportunity to make real-time improvements. iControl keeps supervisors and management informed, allowing for real-time feedback, keeping production targets on track.

iControl gives John real-time information about the location of all assets across his site. This saves him from driving down to the pit and interrupting engineers for basic information about the location and status of specific machines.

#### Operational Efficiency

John puts together a new schedule every two weeks. Given the everchanging nature of a site, the plan can change frequently. iControl allows John to monitor the progress of the schedule and make informed predictions about the execution of the plan in the short and long term. Access to big data allows for improvement across the site.

#### Tracking Productivities & Progress

Tracking machines and mining progress leads to accurate forecast of design work and project file management and maintenance schedule.

In addition to design work and project file management, John also creates and updates the machine schedule. iControl saves John from travelling to the pit to locate assets as the locations of all assets are illustrated on iControl along with other key maintenance information such as fuel level, events and more.

#### Faster/More Precise Execution

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## iVolve

Established in 1995, iVolve is an Australian industrial technology company delivering real-time machine intelligence to the resources sector enabling our clients to make educated quick decisions to increase productivity, reduce costs and minimise risk.

iVolve's **Mine4D**, records and presents crucial operational data for the monitoring and management of a mining fleet. This provides all levels of the mining operation the knowledge to back smart decisions.

Our experienced R&D team at iVolve are passionate about research and keeping the company at the forefront of innovative, intelligent, yet simple solutions for our customers. As a result, the company has built a solid reputation over the years as a leader in its field.

If there is an opportunity for productivity improvement within your operations, our team are always ready to assist.

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For further information, contact [info@ivoive.com](mailto:info@ivoive.com) or head to the website [www.ivoive.com](http://www.ivoive.com).

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