



Technica Mining


Transforming the Culture of Equipment Utilization and Maintenance

sofvie

March 20, 2024

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ABOUT TECHNICA

Technica Mining is one of Canada's leading mining and construction companies.

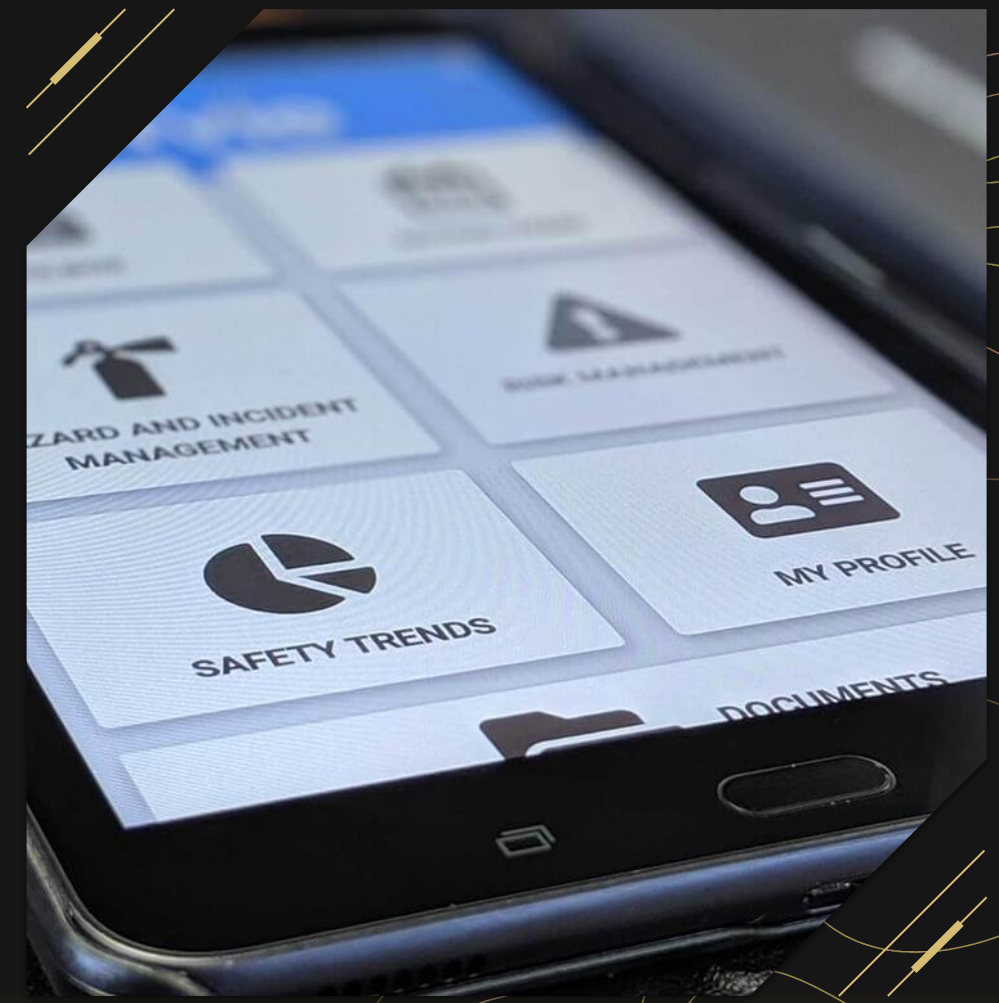
We are setting the new standard in world-class workforce safety and project excellence in underground and open pit development, construction, maintenance and operation.



ABOUT SOFVIE

Sofvie Inc. is a company specializing in mining health and safety.

Our flagship product, sofvie, a safe performance platform, along with our services, bring workers home every day.



Equipment Management

What is Utilization?
What is Availability?



Proactive versus Reactive

- Great Communication → High Availability
- High Availability → High Utilization
- High Utilization → Great Performance

A New Paradigm - We can do it!

Elements	Reactive	Proactive
Approach	<ul style="list-style-type: none"> • Chaotic & Messy 	<ul style="list-style-type: none"> • Strategic & Researched
Environment	<ul style="list-style-type: none"> • Often at the mercy of the location of a breakdown • Equipment towing likely 	<ul style="list-style-type: none"> • Commonly performed in a safe space such as a shop or service bay • Can consider offsite work
Emotion	<ul style="list-style-type: none"> • Stress & Anxiety 	<ul style="list-style-type: none"> • Cool, Calm & Collected
Culture	<ul style="list-style-type: none"> • Peer Pressure • Inter-Department Turmoil 	<ul style="list-style-type: none"> • Aligned • Supportive
Cost	<ul style="list-style-type: none"> • High – Premiums due to single source 	<ul style="list-style-type: none"> • Low – Ability to follow procurement best practices
Schedule	<ul style="list-style-type: none"> • High Impact – Cause / Effect of spontaneous failures 	<ul style="list-style-type: none"> • Low Impact – Can leverage tools such as the 7/21 schedule
Availability	<ul style="list-style-type: none"> • Lower – Downtimes extended due to lag in procurement, staffing and location of breakdown. 	<ul style="list-style-type: none"> • Higher – Tooling, parts and staffing usually available to perform the repairs

Equipment Care – A Case Study

A client reached out to Technica to produce 220,000 tons of Nickel Ore from their Ore Body.

The Arrangement was to supplement a shortfall in Ore feed to their mill.

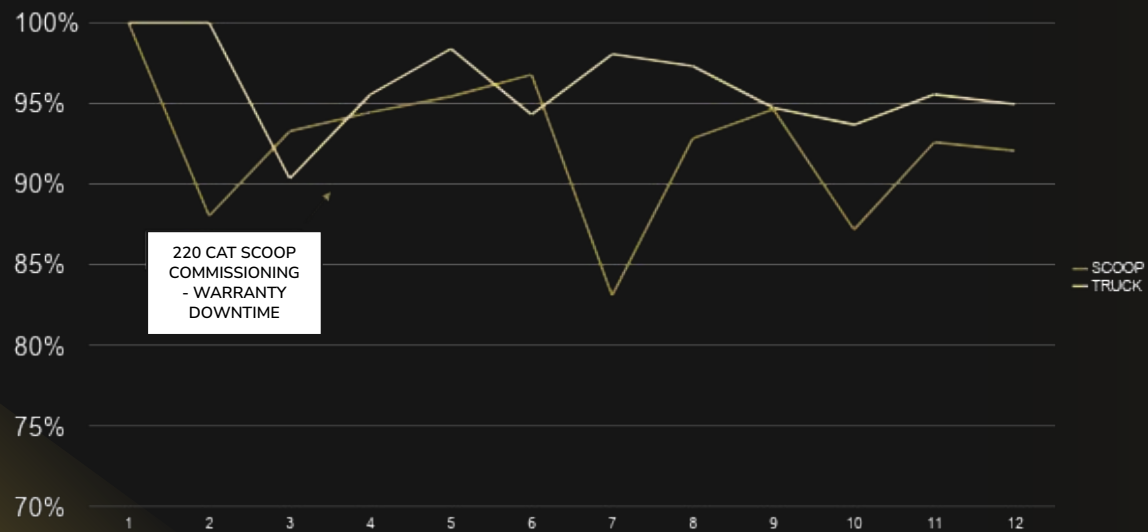
Technica was successful in this proposal process and that is when the work began.

Time to challenge the status quo!



Performance

Mining equipment averaged 90% availability throughout the project



Performance (contd)

Prime Movers averaged 95% availability throughout the project

Lateral development was completed with 6% overbreak

Maclean Bolter Availability – 89%

Haulage Truck Availability – 91%

Scoop Availability – 90%

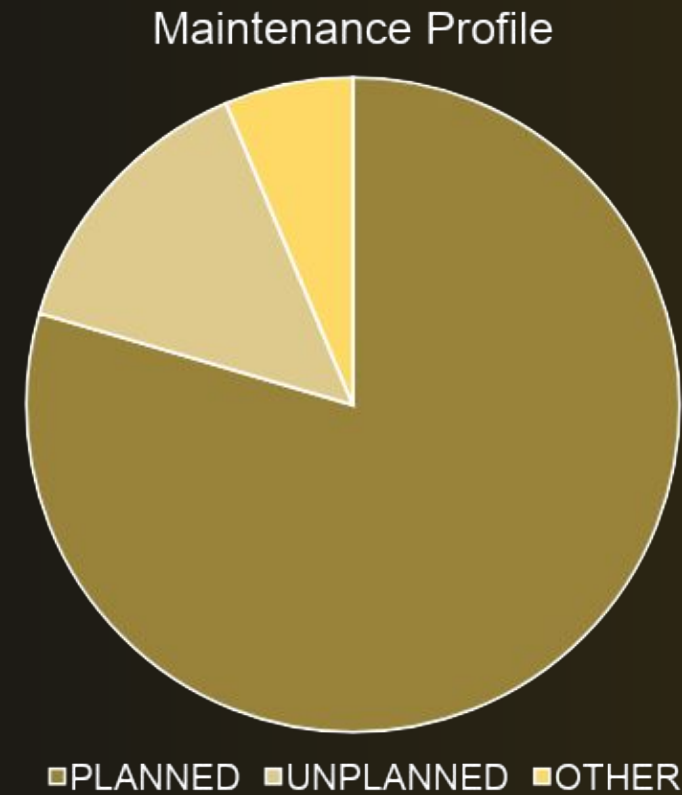
Sofvie was heavily leveraged as the communications tool to ensure issues with equipment were translated into Action and repairs to ensuring high availability of equipment was maintained.



Maintenance on the go!

80% of all work and effort was proactive and planned

14% of all work and effort was reactive



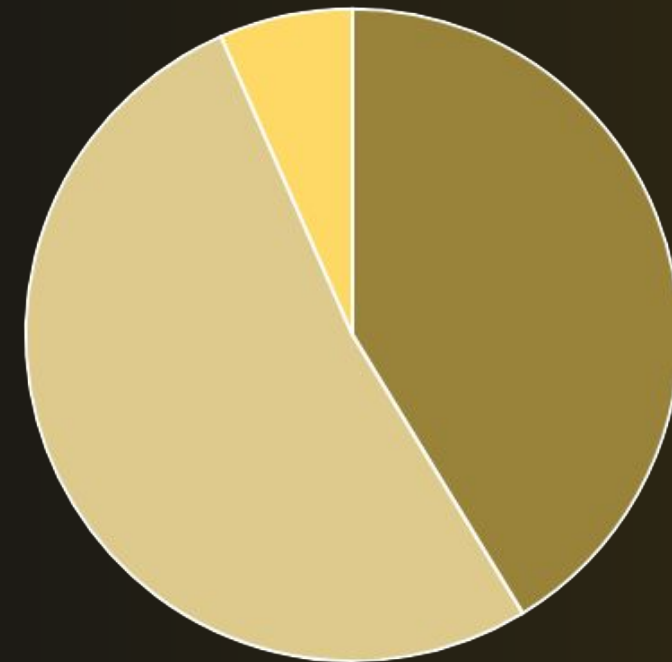
Maintenance cost highlights!

Less than 7% of all cost were allocated to sub-contractors:

- Planned NDTs
- Planned FireSuppressions
- Equipment Major Service Support

When you have time, you can research and execute internally.

Operating Cost Distribution

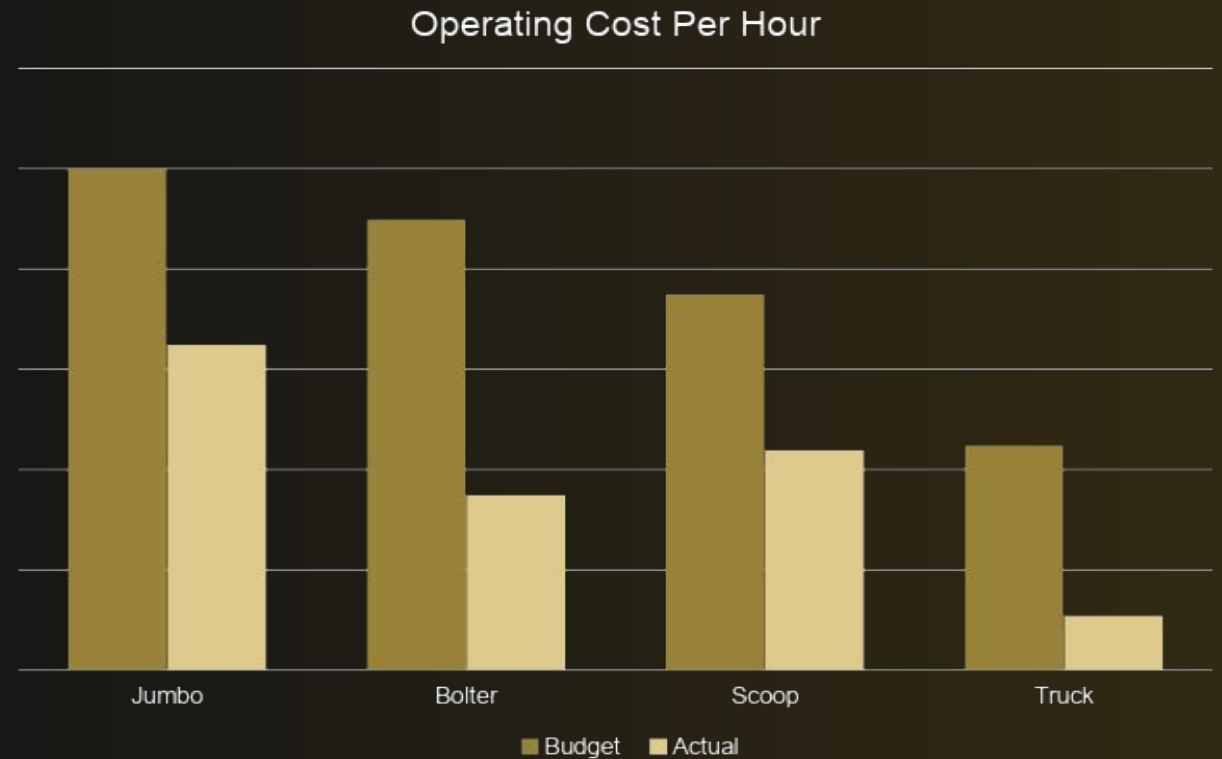


■ Labour ■ Parts & Consumables ■ Sub-Contractors

Slash those operating costs!

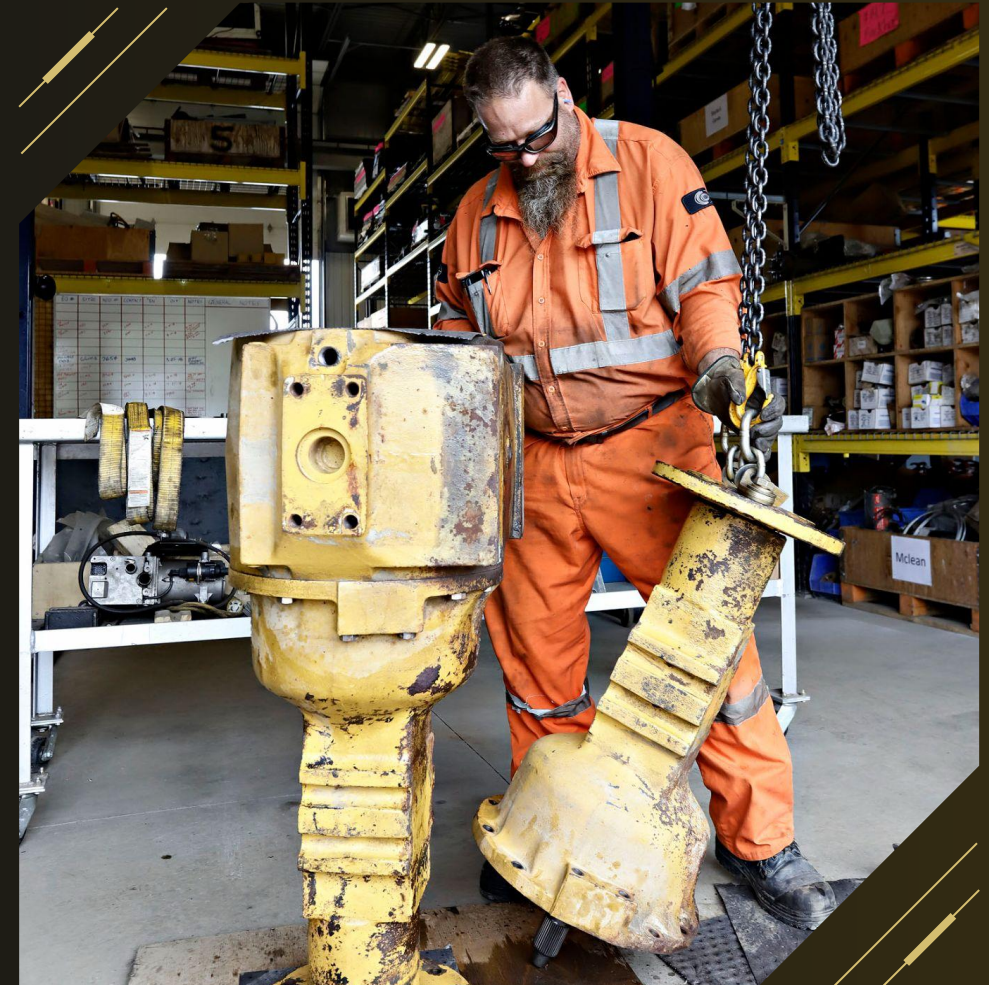
Operating costs achieved were almost 50% lower than budgeted

Higher equipment utilization results in diluted operating costs



Integrated Maintenance

- Integrated maintenance - is a comprehensive approach that unifies all maintenance activities, contracts, and strategies under one system and management team.
- How is this even possible?
- Integrated maintenance provides transparency, focus, and agility by offering a complete view of available teams, maintenance tasks, and resources.



Communication & Energy



8/25/23, 8:43 AM Report - Pre-Op - 197822

Header

Submission ID	197822	Submission Date	2023-08-24
Submitted By	Richard, Marc A	Date	2023-08-24
Site	Coleman Mine	Department/Job	TG223033
Area/Level	1530B	Supervisor	Supervisor, Client
Workplace	4945		

Scissor Truck 114

Pre-Op

Shift	Days
Engine hours (Start of shift)	236
Comments or Defects	None

Questions

Inspect battery cables (terminals, covers, connection)	Ok
Check engine oil level - fill if required	Ok
Inspect battery, mounting and top rubber deflector	Ok
Walkaround inspection (tire, rims, studs, damage)	Ok
Check operation of steering	Ok
Check fuel level - fill if required	Ok
Brake test (service, park and/or emergency)	Ok
Check condition of engine belts, intake, exhaust system	Ok
Check hydraulic oil level - fill if required	Ok
Inspect fire extinguisher	Ok
Check hydraulic hoses (leak), safety chains and hose clamps	Ok
Check warning system	Ok
Check horn	Ok
Check antifreeze level - fill if required	Ok
Condition & operation of seats (suspension & adjustment)	Ok
Condition & operation of seatbelts (latch mechanism, adjust)	Ok
Condition of radiator & fan/fan guard	Ok
Check lights, switches, gauges, controls	Ok
Grease machine & fill reservoirs	Ok
Wheel chocks (2)	Ok
Check safety interlock systems	Ok
Check condition of air filter, canister and indicator	Ok
Check condition of footholds, handholds, steps & landings (clean and green)	Ok

8/25/23, 8:43 AM Report - Pre-Op - 197822

Check transmission oil level (engine running) - fill if required	Ok
Inspect fire suppression system (tank, hoses, actuators, nozzles)	Ok
Check condition of rops/fops and fasteners	Ok
Check condition & operation of stabilizer jacks	Ok
Condition of work platform, railings, and slides	Ok
Condition of ladders, entry gate & dismounting handrails	Ok
Operation of remote start up/shut down (if equipped)	Ok
Check condition of platform lock mechanism	Ok

Pre-Op Photos

Photo Reference	Photo Reference
2023-08-24 08:10:17	Front
2023-08-24 08:10:45	Back
2023-08-24 08:10:27	Left
2023-08-24 08:10:11	Right

Post-Op

Level End Shift	1530B
Workplace End of Shift	4945
Engine hours (End of Shift)	236.7

Additional Details

Submission ID	244640	Submission Date	2024-03-25
Submitted By	Cadger, Shane	Date	2024-03-24
Site	Creighton Mine	Department/Job	T5224001
Area/Level	7680L	Supervisor	Reeves, Todd
Workplace	7680 shop		

Service Summary

000 - Other, Non-Mobile

Unit ID	Unit Make/Model	Unit Hours	Equipment Status
0		0.00	Other - Non-Mobile Work

Work Completed

Line up, cage down/up

Work Order / Purchase Order	Work Order Item	Service	Travel	Delay
		1.00		

Pictures of Service Provided

No Data Available

200 - Planned Maintenance - Service

Unit ID	Unit Make/Model	Unit Hours	Equipment Status
17-575	Scoop	14679.00	Running

Work Completed

Complete Bucket lip install. Remove lifting lug from new bucket to install on old bucket. Old lip is in 7680 by the refuge. House keeping and good status for new crew coming in. Got the shop cleaned for cable pull in AM.

Work Order / Purchase Order	Work Order Item	Service	Travel	Delay
		9.50		

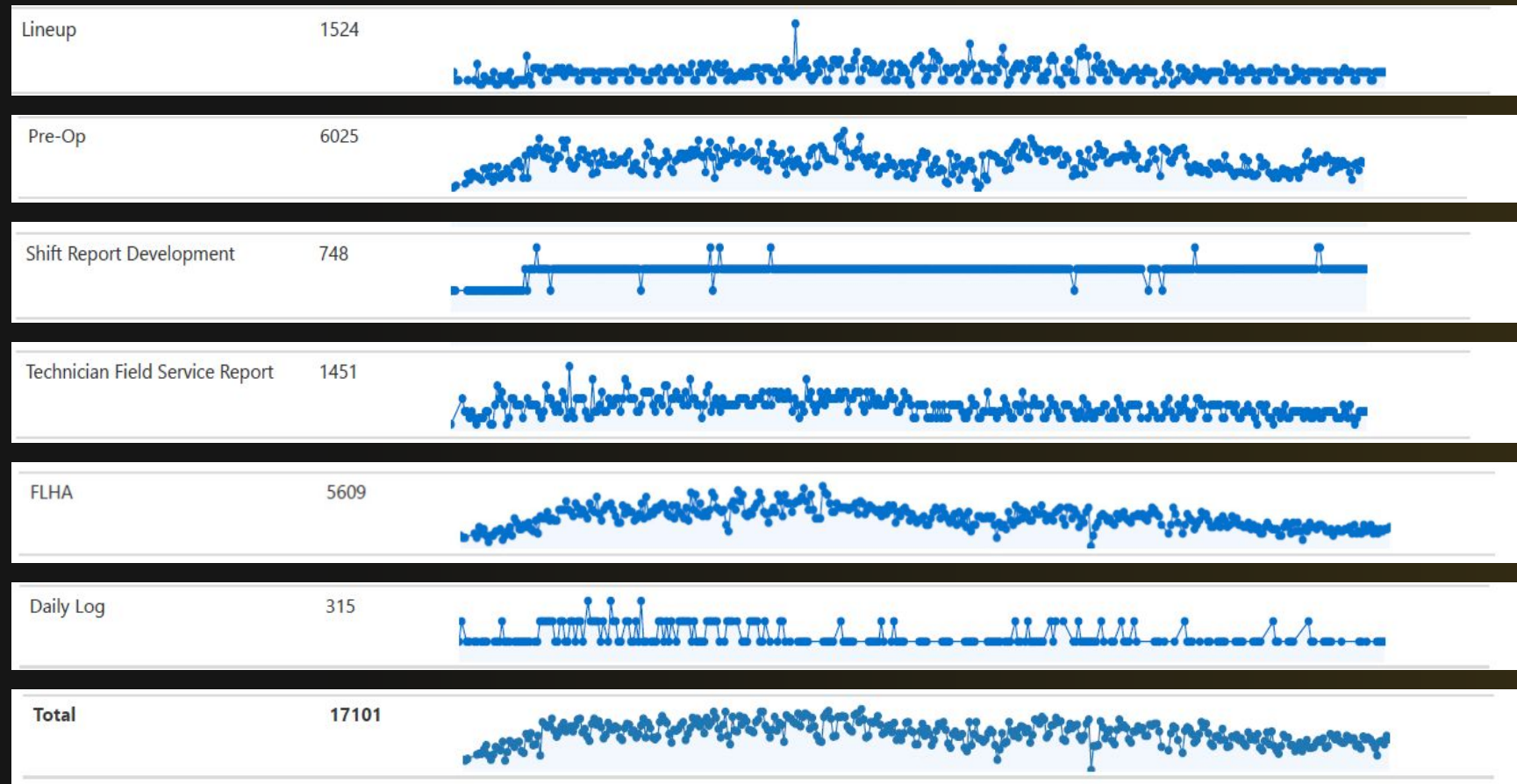
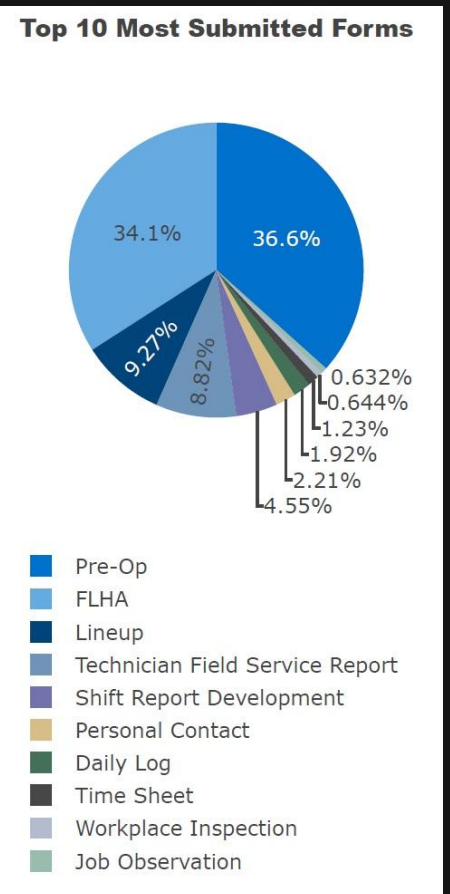
Pictures of Service Provided

Summary

Total Service Hours	10.5
Total Travel Hours	
Total Delay Hours	
Total Hours Worked	10.5

Communication & Energy (avg. 35 people)

KPI's Mar 1 2022 - Mar 30 2023



The Power of Pre-Ops

The workforce submitted 96% compliant pre-ops.

87% of all equipment operating was captured via a compliance pre-op.

Site	Hours	Pre-Op Hours	% Pre Op Hours	Good Pre-Ops	Total Pre-Ops	% Good Pre-Ops
Site B1	5318	4631	87.1%	1079	1121	96.3%
Encreator	18	17	96.0%	5	6	83.3%
Haulage Truck, 30ton	1942	1823	93.9%	255	262	97.3%
Scoop, 8YD	2040	1851	90.7%	312	318	98.1%
Manitou, MLT625/420 Series	338	281	83.1%	107	109	98.2%
Grader	21	17	80.8%	8	9	88.9%
Scissor, MacLean SL Series	70	56	80.0%	51	52	98.1%
Telehandler Forklift	246	179	73.0%	56	56	100.0%
Bolter	114	83	72.9%	53	56	94.6%
Emulsion Loader	22	15	70.8%	4	7	57.1%
Excavator, 5ton	52	33	63.9%	27	28	96.4%
Total	5318	4631	87.1%	1079	1121	96.3%

“Unit was not getting drill lube due to bad relay and faulty wiring, left hand rail on wing is bent, sig drill hits c-arm when you go to pivot.”

“Bolter is leaking hydraulic oil from levers to control drill functions, included in picture, slow leak but it drains throughout shift.”

Project Sentiments

“Makes it easy to drive results.”

– Luc Lavigne, Supervisor

“Sofvie was and is the quickest tool for this type of communication.”

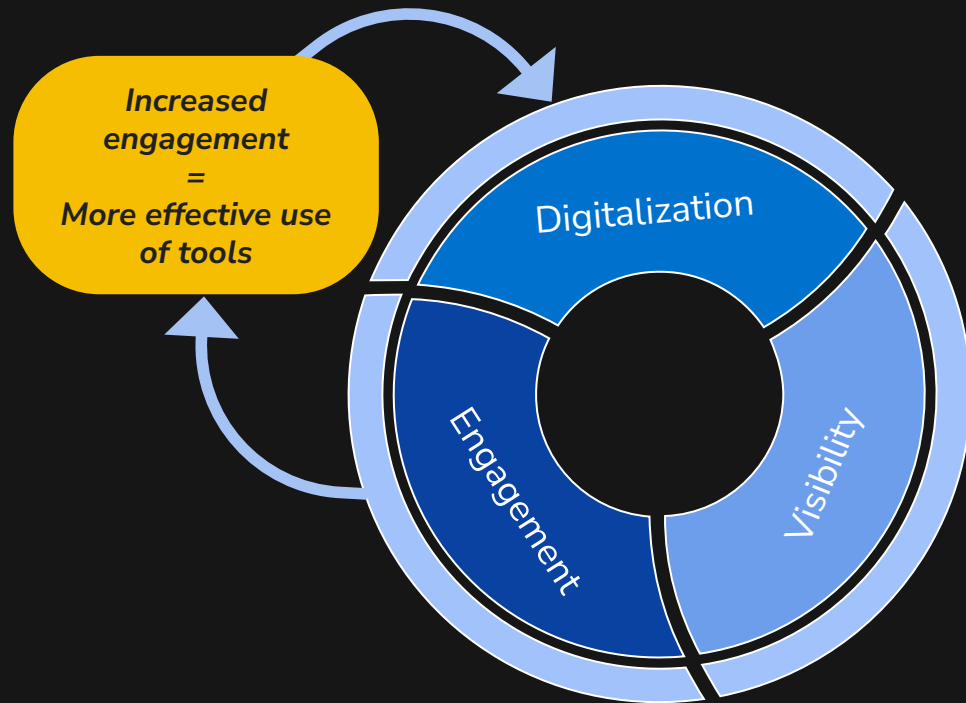
– Craig Allen, Superintendent

“The workforce wants to use it because it has been made important and they can see the importance first hand, it isn’t just another piece of paper that no one will look at again.”

– Dan Arnold, Supervisor



How do we help our clients create such culture?



Digitalization

Sofvie Digitizes your operations and gives the team better tools, helping to find new levels of efficiency and effectiveness.

Visibility

Modernized operations deliver better visibility from the face to the back office, allowing you to see more of the big picture trends and more accurately into the day-to-day operations of your organization.

Engagement

With better tools and greater visibility, you can create an environment where workers feel safe, significant and situated driving increased engagement and empowering everyone to operate at their best.





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