

Case Study

Product Development: Dragline Bucket Stand

A **mine operator** required a safer and more efficient method to **support dragline buckets** during maintenance, particularly at the **bucket lip**, where most maintenance occurs. **Raising the lip** simplifies access and improves workflow.

Engineering Solution

AE Young Engineers designed a **bucket stand** that:

- **Can be positioned using a dozer** for ease of use.
- **Is not placement-sensitive**, allowing the dragline to position the bucket without precise alignment.
- **Utilizes readily available equipment** for quick setup and removal.



Dragline Bucket On Ground, No Access To Teeth For Servicing

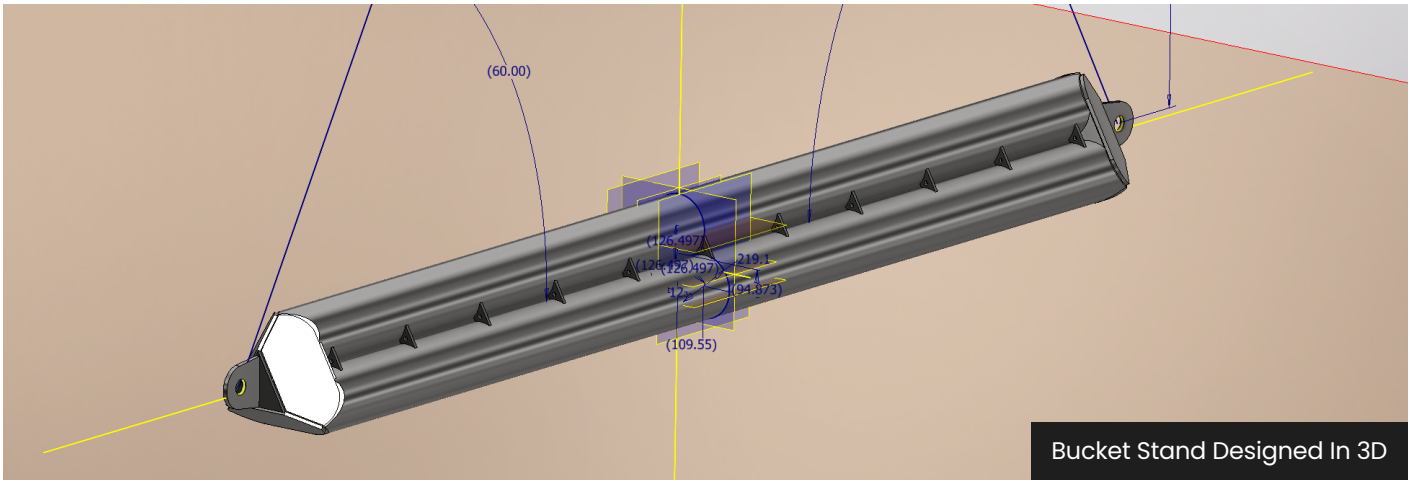


Bucket Scanned With Stand Geometry Designed

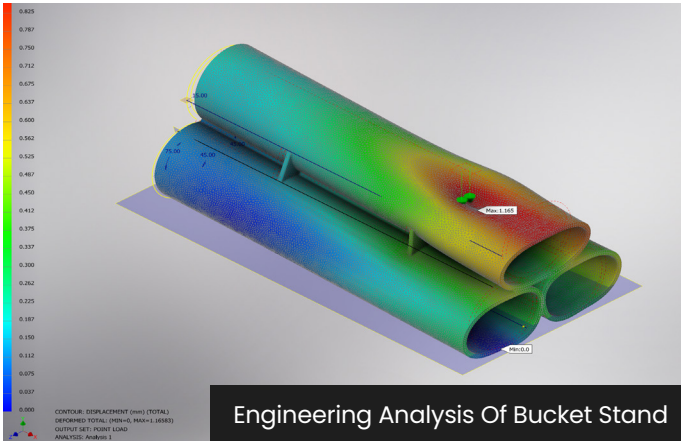
Development Process

- ✓ **Stakeholder collaboration** to define operational needs.
- ✓ **3D modeling using scan data** for precise fit.
- ✓ **Structural analysis** for relevant load cases.
- ✓ **Ongoing client consultation** to ensure suitability.

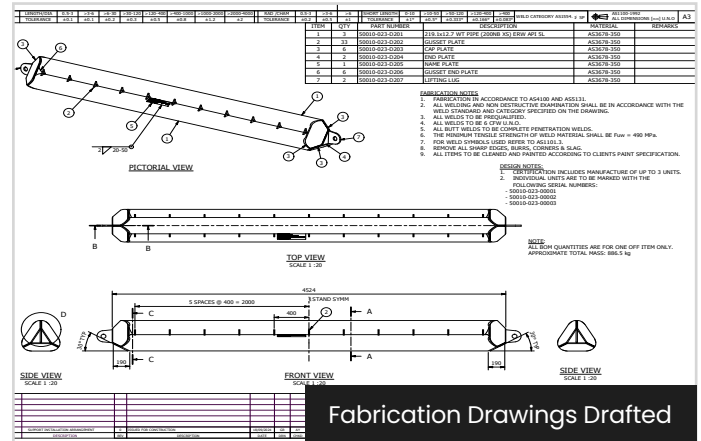
The final design provided a **safe, efficient, and user-friendly** solution for **dragline bucket maintenance**.



Bucket Stand Designed In 3D



Engineering Analysis Of Bucket Stand



Fabrication Drawings Drafted



Bucket Lip Raised While Sitting On Stand



Bucket Supported By Stand



Bucket Supported By Stand



Bucket Supported By Stand