RECOVERING LOSS FROM FINE ORE CIRCUITS

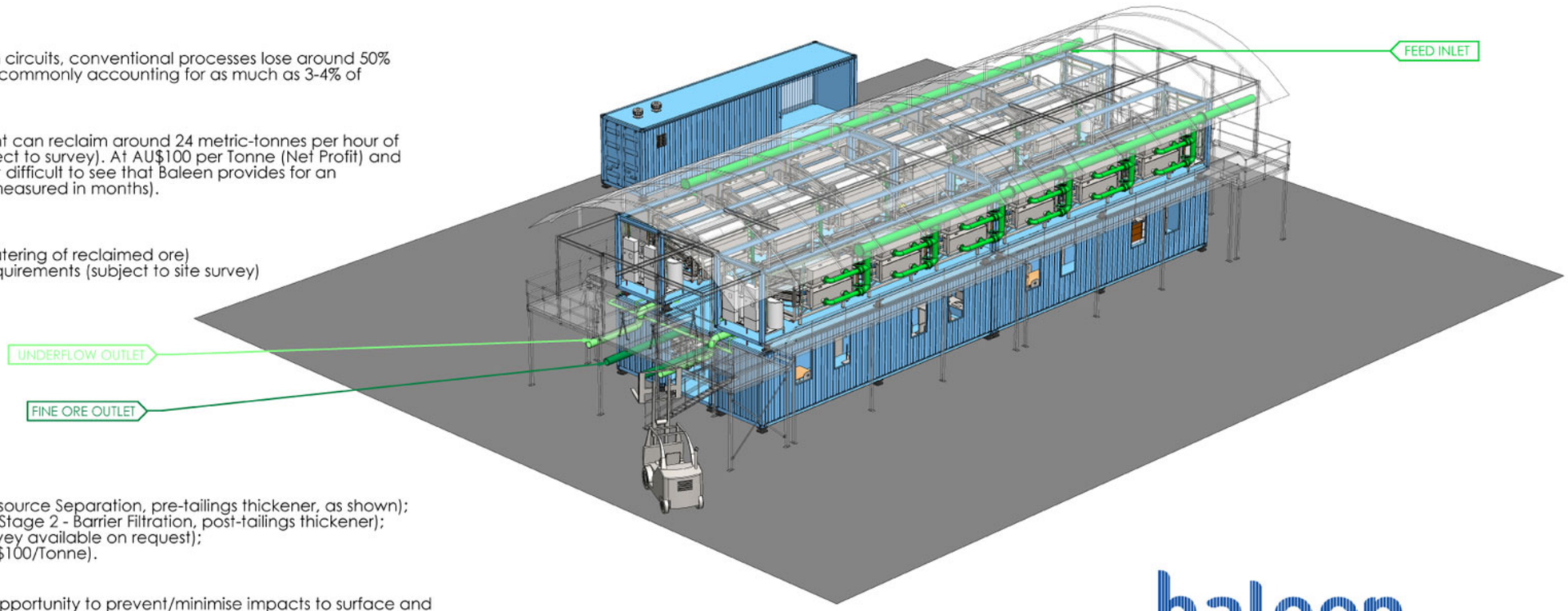
Use of screenbowl centrifuges, hydrocyclones and Jameson cells during beneficiation equals lost ore and lost profits !

The Problem:
In fine coal and graphite beneficiation circuits, conventional processes lose around 50% of clean ore at 325-mesh (45-microns) commonly accounting for as much as 3-4% of saleable ore lost to tailings.

The Solution:
One Baleen '480-Series packaged plant can reclaim around 24 metric-tonnes per hour of fine ore prior to tailings thickener (subject to survey). At AU$100 per Tonne (Net Profit) and 7,000 operating hours (Per Year) it's not difficult to see that Baleen provides for an extremely solid return on investment (measured in months).

Pre-requisites:
- 1-mm (18-mesh) top size in-feed
- Vacuum Belt Filter (for further dewatering of reclaimed ore)
- Concrete foundation and Utility requirements (subject to site survey)

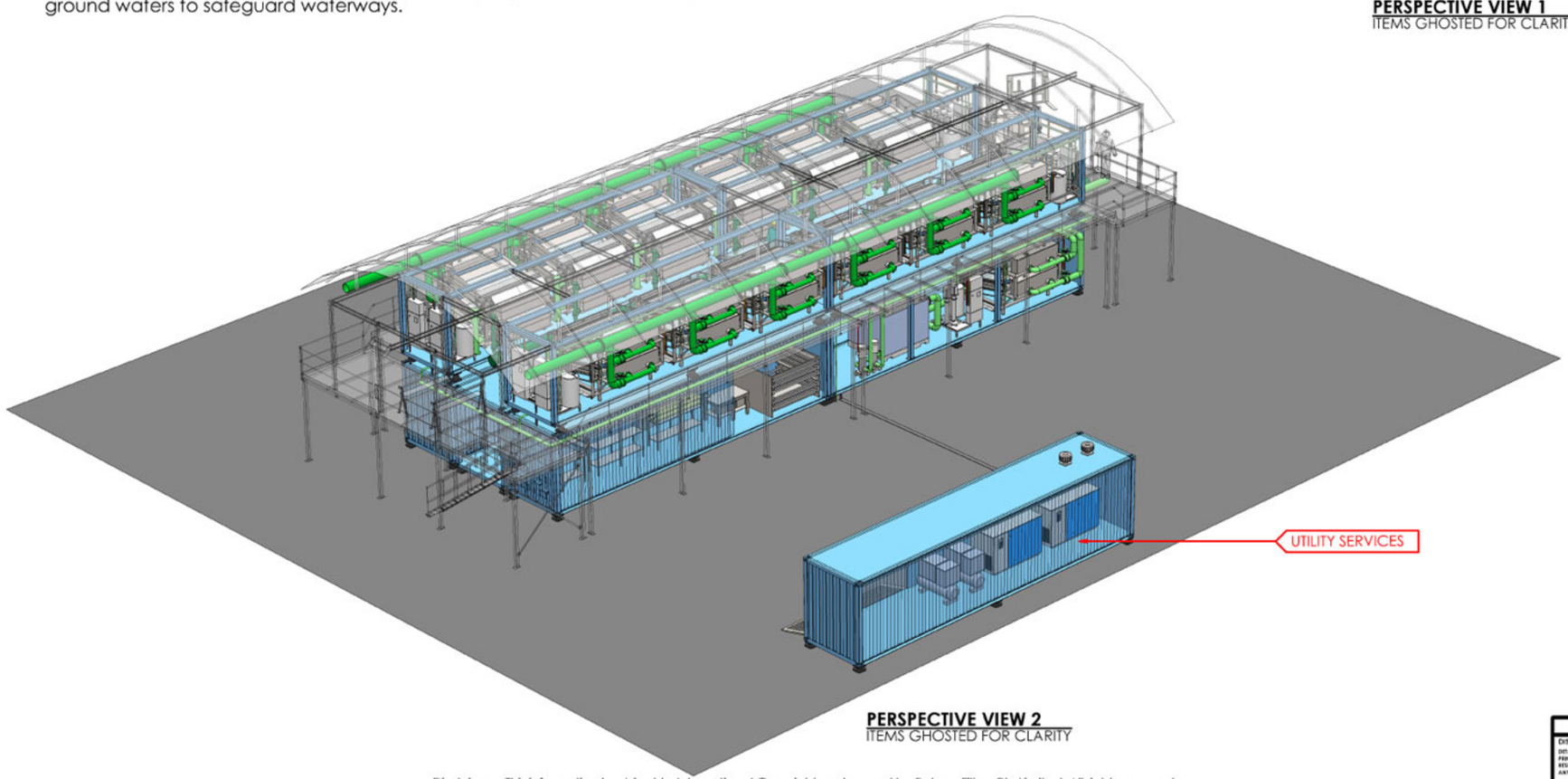
Nota Bene:
AU$100 = US$71.50 (Sept '15)



PERSPECTIVE VIEW 1
ITEMS GHOSTED FOR CLARITY

Industry Benefit:
Near 100% fines recovery (Stage 1 - Resource Separation, pre-tailings thickener, as shown);
Near 100% water recycle opportunity (Stage 2 - Barrier Filtration, post-tailings thickener);
Dramatic cost-base reduction (site survey available on request);
Rapid Return On Investment (Basis: AU$100/Tonne).

Benefit to the Environment:
Baleen provides for near zero tailings opportunity to prevent/minimise impacts to surface and ground waters to safeguard waterways.



PERSPECTIVE VIEW 2
ITEMS GHOSTED FOR CLARITY

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Functional Description:
Baleen is readily integrated into existing operations using gravity pipework with recovered oversize (clean ore) delivered to vacuum belt filter and undersize (gangue) gravity returned to tailings thickener. For efficient operation, the feed density should be less than 20% solids by-volume (or 28% solids by-weight). Plant capacity and performance is a function of feed density, % oversize, % near size, micron rating and slurry constituency. More than 2-years of continuous service in this industry have confirmed that Baleen consistently yields a clean ore at between 6 to 9 percent ash only.

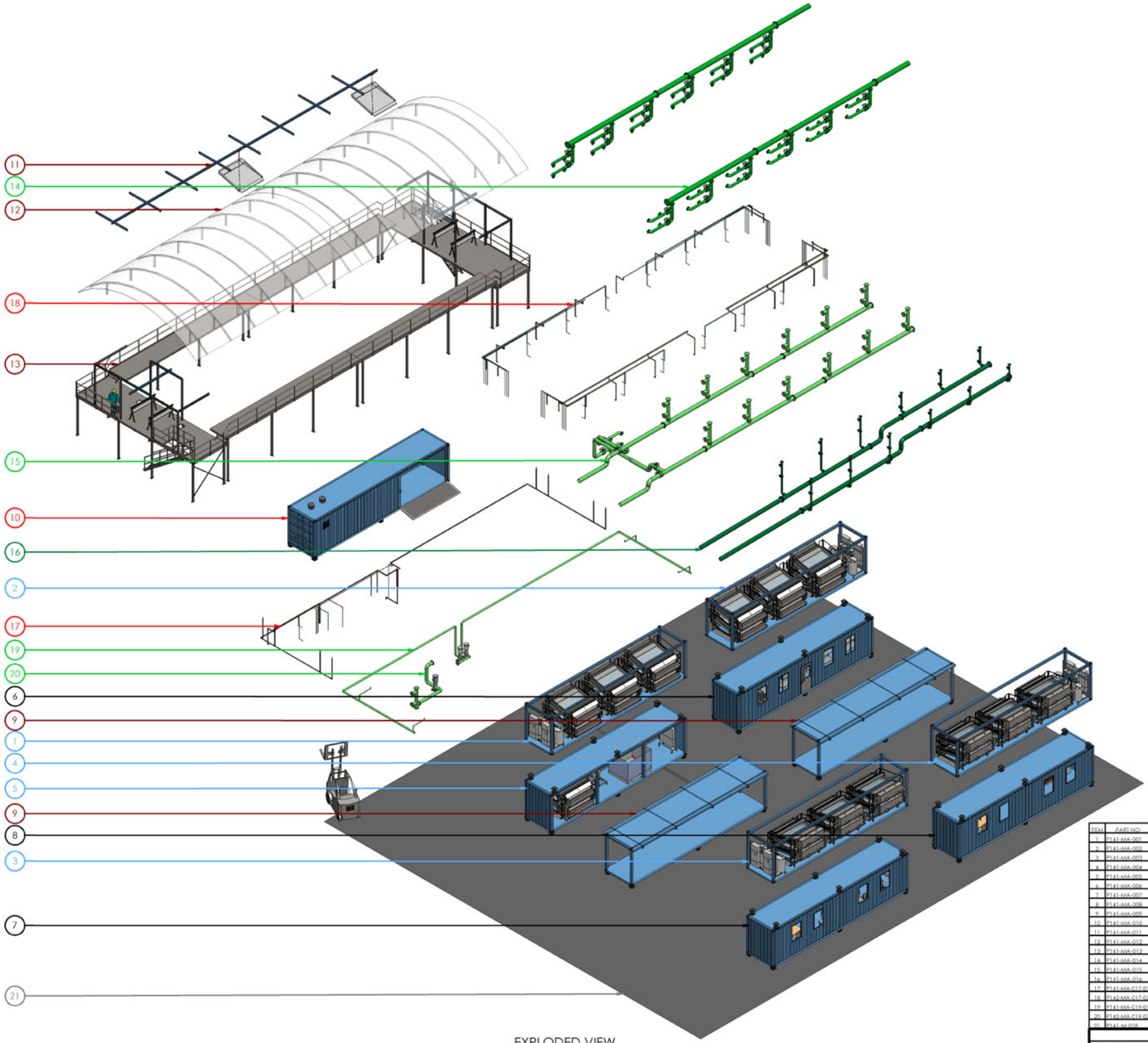
Product Features:
- Major part change-out in 15-30 minutes
- 'Hot-Swap' automation to alleviate operational downtime
- Low service requirement Vs conventional mine equipment

Technology Features:
- FAT certified, ready-to-install plant
- Packaged and transported in customised 40-ft containers
- Self-contained, suitable for remote deployment
- 'Connect and Use' within 28-days from delivery
- Complete pipework, framework and utility services
- Locked-in process-performance monitoring
- Instrumentation and monitoring for full auto-operation
- Detailed design (PFD, P&ID and 3D CAD modelled)
- No chemical or potable water requirement for operation
- Online density/flow log of recovered ore volume
- Compliant to ISO safety, electrical and building codes

DESIGN FOR MANUFACTURE

DISCLAIMER: DETAILS ACCURATE AT TIME OF PRINTING. BALEEN FILTERS PTY LTD RESERVES THE RIGHT TO CHANGE ANY DETAILS.	DRAWN: SER	BALEEN FILTERS PTY LTD	PROJECTION	DESCRIPTION: MINE RESOURCE RECOVERY
	DATE: 21/10/2015			PROJECT: COAL FINES
	CHECKED: YRO	PO BOX 1189, NORTH ADELAIDE SA 5006 AUSTRALIA. Tel: +61 8 8354 4511 Fax: +61 8 8354 4522 email: info@baleenfilters.com	SCALE: NTS	DRG No.: P141-480-001P
ALL DIMENSIONS IN mm UNLESS OTHERWISE INDICATED	DATE: 21/10/2015			SHEET No.: 1 of 3 REV

Near 100% Ore Fines Recovery from Beneficiation Circuit = Process water recycle opportunity = Reduced Water demand (by as much as 95%)



EXPLODED VIEW

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COLOUR KEY BALOON ITEMS

- BALEEN FILTER PLANT
- CONCRETE FOUNDATION
- SUPPORT STRUCTURE
- INFLOW PIPEWORK
- OUTFLOW PIPEWORK
- COAL FINES PIPEWORK
- UTILITY SERVICES
- PERSONNEL/PLANT ROOMS

Notes:
1. Refer to Product Proforma, model B4015S for filter details.
2. Refer to Product Proforma, model PCU(AS) for utility details.
3. For further information please contact your local Baleen representative.

ITEM	PART NO.	ITEM DESCRIPTION	QTY
1	P141-MA-001	CONTAINER A (B4015S x 3, PCU(A) x 2)	1
2	P141-MA-002	CONTAINER B (B4015S x 3, PCU(A) x 2)	1
3	P141-MA-003	CONTAINER C (B4015S x 3, PCU(A) x 2)	1
4	P141-MA-004	CONTAINER D (B4015S x 3, (PCU(A) x 2)	1
5	P141-MA-005	CONTAINER E (SERVICES, B4015S x 1, PCU(A) x 1, 5m3 FILTRATE TANK, MAIN DISTRIBUTION BOARD, PUMPS 4" MAIN TO 2" EACH)	1
6	P141-MA-006	CONTAINER F (WORKSHOP/SPARES STORE)	1
7	P141-MA-007	CONTAINER G (CONTROL ROOM)	1
8	P141-MA-008	CONTAINER H (PERSONNEL MESS)	1
9	P141-MA-009	CONTAINER I (CENTRE GROUND & FIRST FLOOR PLATFORM)	2
10	P141-MA-010	CONTAINER J (UTILITY SERVICES - GEN SET x 2, COMPRESSORS x 2, FORKLIFT)	1
11	P141-MA-011	GANTRY SYSTEM (SCREEN FRAME EXCHANGE)	2
12	P141-MA-012	CANOPY (SHELTER STATION)	2
13	P141-MA-013	FULL WALKWAY/STAIR ASSEMBLY	1
14	P141-MA-014	FEED INLET PIPING (12", 8", 6") - TBC	1
15	P141-MA-015	UNDERFLOW OUTLET PIPING 18", 10"L - TBC	1
16	P141-MA-016	FINE ORE OUTLET PIPING (4", 10") - TBC	1
17	P141-MA-017-01	SERVICES CONTAINER E AND A THRU D (POWER 3PH-20kW h 60Amp EACH SET, RECLAIM WATER, AIR 12CFM 48psi)	1
18	P142-MA-017-02	SERVICES CONTAINER A THRU D (POWER 3PH-40kW h 120Amp, WATER, AIR 40CFM 48psi)	1
19	P141-MA-019-01	RECLAIMED FILTRATE TO PCU(A) x 8 POTABLE WATER FOR START-UP ONLY	1
20	P142-MA-019-02	FILTRATE OUTLET TO RECLAIMED WATER TANK	1
21	P141-MA-018	REINFORCED CONCRETE SLAB	1

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DRAWN: SER
DATE: 14/09/2015
CHECKED: YEO
DATE: 14/09/2015

BALEEN FILTERS PTY LTD
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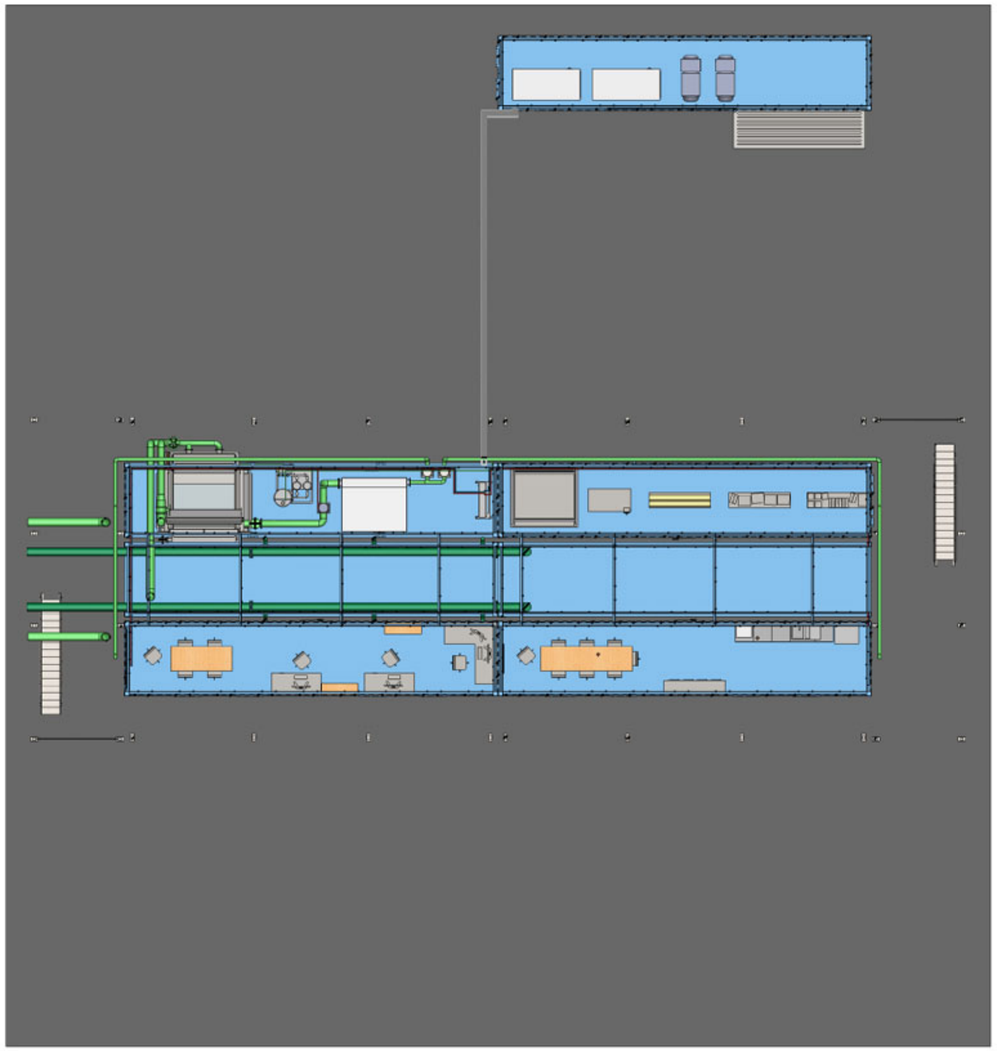
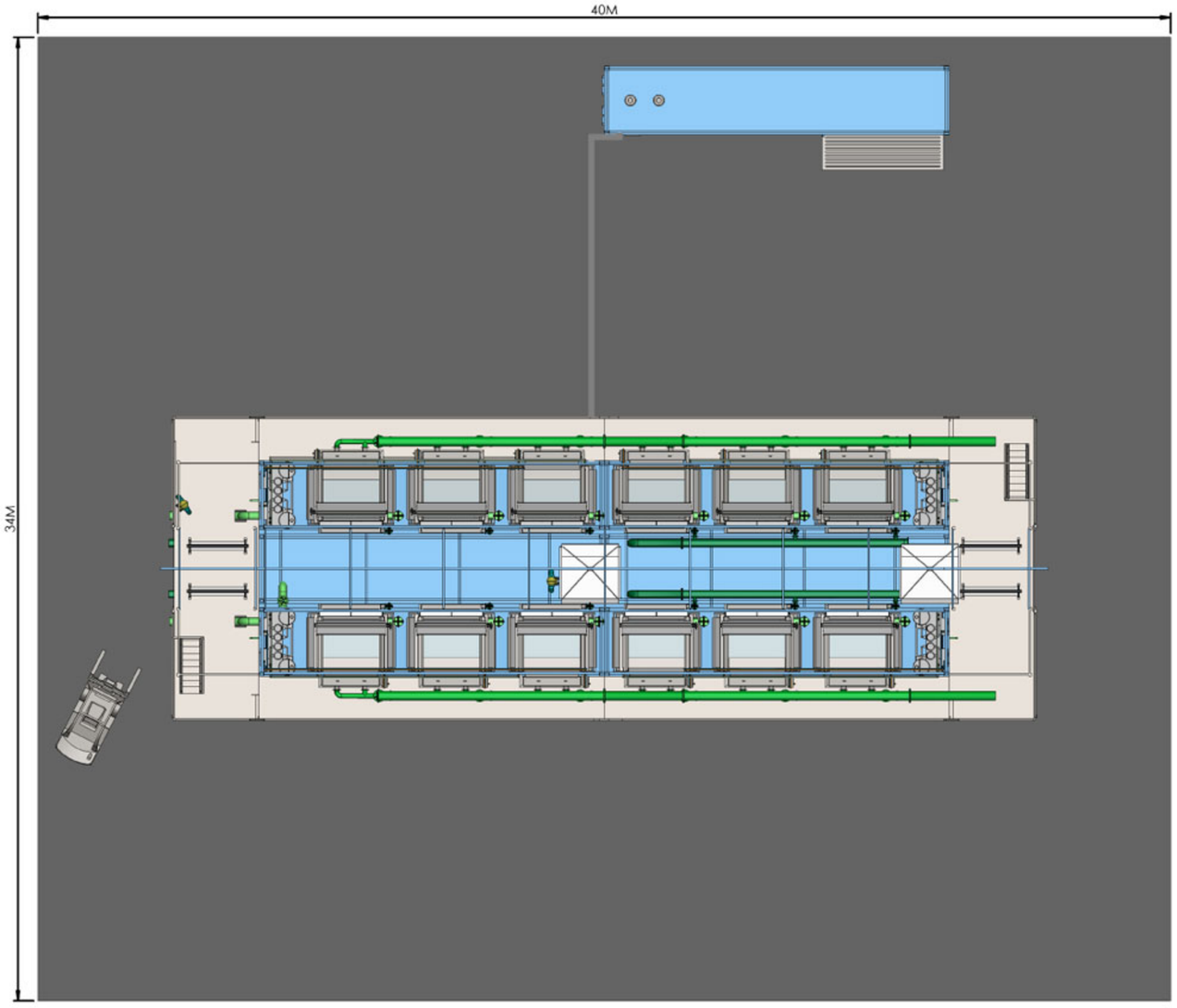
Tel: +61 8 8354 4511 Fax: +61 8 8354 4522
email: info@baleenfilters.com

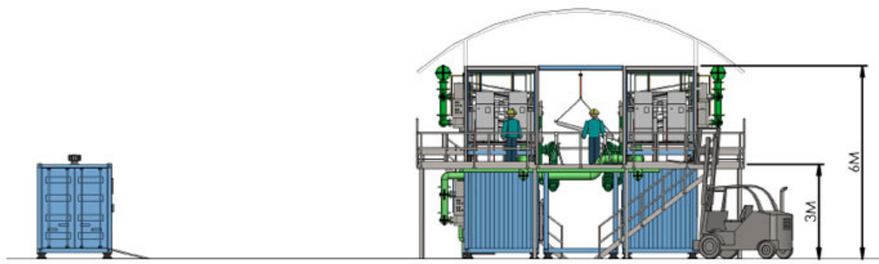
PROJECTION:
DESCRIPTION: MINE RESOURCE RECOVERY
PROJECT: COAL FINES
SCALE: NTS
DRG No.: P141-480-002P
SHEET No.: 2 of 3
REV:



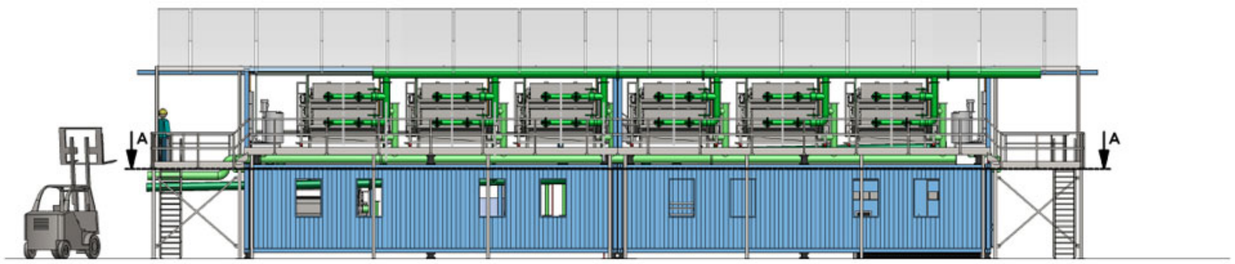
SECTION A - LOWER CONTAINER LAYOUT
SERVICES CONDUIT GHOSTED



PLAN VIEW
CANOPY OMITTED FOR CLARITY



SIDE ELEVATION



FRONT ELEVATION

Notes:
1. Feed inflow is gravity fed to Baleen plant, and underflow/ore outlets are also by gravity.
2. The ancillary works involving concrete foundation (and any bunding requirements) to be provided by the client to Baleen's specifications.
3. Extended concrete surrounds (as shown) required for mobilisation/demobilisation of plant.
4. For further information please contact your local Baleen representative.

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DATE: 14/09/2015
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Tel: +61 8 8354 4511 Fax: +61 8 8354 4522
email: info@baleenfilters.com

PROJECTION
SCALE: NTS

DESCRIPTION: MINE RESCOURCE RECOVERY
PROJECT: COAL FINES
DWG No.: P141-480-003P
SHEET No.: 3 of 3
REV