Telestack
Mobile Bulk Material Handling

TECHNICAL SPECIFICATION

TCL 431 - Tracked Conveyor

THE POWER TO MOVE MATERIALS™

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COMPANY PROFILE

Telestack Limited was formed in 1999 to supply **MOBILE** Bulk Material Handling Solutions. Based in the United Kingdom, Telestack operates from a modern 32000 square metres site where we have combined the experience and knowledge of Loughside Engineering and Telestack to develop a range of **MOBILE** Bulk Material Handling Solutions.

Our **MOBILE** solutions offer significant operating cost savings compared to traditional methods of material handling (wheel loaders, haul trucks, static conveyors) , as well as providing Environmental, Health and Safety and other benefits. We have over 600 installations to date in 6 continents around the world, this proves that we can deliver on our promises and it is this proven track record that ensures many of our customers are repeat customers.

Over the years we have invested significantly to ensure that:

- We have the design knowledge and expertise to meet the specific requirements of our customers. Our design engineers travel the world visiting our equipment in the field from Chile to Russia to India to Middle East to Australia etc to learn from our customers on how we can continue to improve our designs and performance

- We are in control of the complete process, as within our factory we design, manufacture, fully assemble, and test EVERY machine. Only after the machine and all its functions are fully tested do we "dis-assemble" at our factory into containers and ship to the customer.

- Unlike many competitors, we do everything under one roof – we do not outsource fabrications to lower cost countries etc and "hope" it will all fit when it gets to site

- We are on site during installation to ensure a fast and efficient assembly of our equipment and your system will typically take 2-3 weeks from the containers arrive until you are ready to go to work

- Our factory engineers are on site to ensure that the equipment is properly commissioned with material flowing over the belts achieving the performance our customer expects

- We have an aftersales structure and team in place so we can quickly solve problems to ensure the safe and efficient operation of our equipment in the field

- We have a global network of dealers/ agents that ensure you a fast and efficient response.

- We have an externally audited Quality Management System that is audited to ISO 9001:2008 International Standards. As an ISO 9001:2008 registered company we understand the importance of delivering equipment that meets or exceeds our customers expectations. Our process emphasises the importance of understanding what the customer wants and being in a position to offer advice based on our experience

- The robust designs and the unique assembly designs ensure that our equipment will have a much higher resale value that competitors as it can be easily dis-assembled, packed into containers and shipped anywhere in the world to work in a port, mine, quarry, rail yard, power station, steel mill etc

- We are competitive on price, without compromising on quality and our ability to support customers pre-sale and in aftersales

Telestack has been successful in establishing a reputation as a supplier of choice with many blue chip companies around the world including:

- BHP Billiton	- Cemex	- Mechel	- Port of Panama
- Rio Tinto	- CRH	- Suek	- Port of Vostochny
- Jindal Steel	- Eurovia	- Nibulon	- Port of Alexandria
- London Mining	- Holcim	- Ural Kili	- Port of Gangavaram
- Norilsk Nickel	- La Farge	- Rusal	- Port of Brisbane
- PT Bumi	- Tarmac	- Fortescue	- Port of Coquimbo
- Tata Steel	- Van Oord	- Fomento	- Port of Belfast
- Thyssen Krupp	- Peter Hambro	- Tata Steel	- Port of Dhamara
- Xstrata	- Severstal	- Larsen + Toubro	
- Arcelor Mittal	- Anglo American	- Ennstone/Bredon Aggregates	

Global engineering consultants/EPC contractors who value their reputations are among our clients. In nearly all cases we design a system to suit their specific needs but the designs are based on our TRACK RECORD of similar designs/proven designs.

Other OEMs often specify/purchase Telestack equipment as part of their own systems solution because of our reputation of consistently delivering on our commitments. Unlike many of our competitors, our conveyors are designed for the onerous demands of mining applications and this is why we are an approved supplier of equipment that meets Western Australian Mining Standards AS 4324.1. Our designs and structural integrity are verified and certified by an independent 3rd party.

We would gladly welcome you to visit existing installations around the world in North America, South America, Europe, Africa, Asia, Oceania. Include a visit to our facility in the UK so you can see the company and meet the people behind the Telestack name to give you even greater confidence in our ability to deliver on our promises.

To find out more please visit www.telestack.com or contact us on info@telestack.com

TCL 431 Conveyor

The TCL 431 is a track mounted fully mobile conveyor designed to work at production rates of up to 400tph. As mobile crushers and screens constantly get larger with increased throughputs, transport restrictions have not allowed for their on board conveyors to increase in size and length to cope with higher tonnages. Track conveyors fulfil this need by providing much larger stockpile capacity and at the same time improve plant mobility by removing material from the processing equipment.

TCL 431 Typical Applications

- Stockpiling from secondary crushers and screens.
- Stockpiling crushed stone, sand and gravel, mineral ores.
- Stockpiling construction and demolition waste, top soil, coal, grain etc.
- Receiving crushed material and stockpiling safely over a quarry face/bench.
- Working as part of a mobile system on short to medium term projects.
- Ship and truck loading.

TCL 431 Key Advantages

- Removes the need for a dedicated wheel loader to constantly remove material from the crusher, screen or shredder.
- Reduces fuel cost by up to 75%
- Reduces operating cost by up to 70%
- Removing / reducing loading shovel movements reducing operating cost.
- Reduces screener idle time increasing production.
- Reduces face excavator idle time increasing production.
- Production rates of up to 400tph.
- Hydraulic folding head section allowing for compact road transportation.
- Typical set up time of under 10minutes.
- Hydraulic tail section height adjustment whilst at the same time maintaining head drum height ensuring maximum stockpile capacity.
- High specification machine designed for ease of maintenance commanding an excellent resale value at project conclusion.

TCL 431 - Working Dimensions (see pages 15 - 20)

	Metric	Imperial
• Main Conveyor Length (Drum Centres)	31m	102’
• Machine working Length (19º)	30m	97’ 6”
• Discharge height (19º)	12.3m	39’ 11"
• Feed in height (Lowest Position)	1.66m	5’ 5”
• Feed in height (Highest Position)	3.35m	10’ 11"
• Operating Width	2.95m	9’ 7"
• Stockpile capacity at 19º	5,035 Tonnes	5,539 Ton
• Stockpile capacity at 19º	3,147 m^3	4,117 yd^3

TCL 431 - Transport Dimensions (see pages 15 - 20)

	Metric	Imperial
• Transport Length (Head Folded)	22.86m	75’
• Transport Length (Head & Tail Folded)	17.59m	57' 2"
• Transport Width	2950mm	9’ 7"
• Transport Height	3470mm	11' 3"
• Overall Weight	21 Tonnes	46,297 lbs

Unit can also be transported in 2 x 40' High Cube containers. (more information on page 15)

TCL 431 - Key Features

- High throughput of up to 400 tph (440 Ton / hr)
- Maximum distance between tracks and head drum, for optimum stockpiling capacity
- Maximum lump feed size of up to 125mm (5")
- Front and rear adjustable telescopic to obtain desired discharge or feed in height
- Engine protection shutdown system
- Counter weight built into feed boot area to give integral strength and stability in working position.
- Folding head and tail section for ease of transport
- Paint specification, Cream: RAL 7032, Red: RAL 3001
- Options available

Please note:

1) Tonnages quoted are based on free flowing material with a density of 1.6 Tonne /m^3 (100 lb/ft^3). If a specific tonnage is required this should be discussed with the factory.
2) Ideal working angle for conveyor is 16º - 23º
3) All possible steps have been taken to ensure the accuracy of this publication, however due to continual product development we reserve the right to change specifications without notice

Stockpiling Capacity

Figures based on material with a bulk density of 1.6tonnes per m^3 (100 lb/ft^3) Stockpile angle of repose 37°.

Angle of Conveyor Belt (Degrees)	Stockpile Height		Stockpile Capacity (Volume)		Stockpile Capacity (Mass)	
	(m)	(ft)	(m^3)	(yd^3)	(Tonnes)	(Ton)
26°	14.43	46' 11"	5540	7250	8865	9770
23°	13.36	43' 10"	4400	5755	7035	7755
20°	12.18	40'	3335	4360	5330	5875
17°	10.96	35' 7"	2430	3175	3885	4285
14°	9.82	31' 11"	1745	2285	2795	3080

Feedboot

Feed-boot and Hydraulic Support Legs

Adjustable rear telescopic for variable feed in height. Hydraulic support legs under feed area.

Feed in (Min)	1.66m	(5' 5")
Feed in (Max)	3.35m	(10' 11")
Width	1.6m	(5' 1")
Length	1.9m	(6' 4")
Steel	6mm	(1/4")

Rollers / Impact Bars

Combination rubber lagged impact rollers and impact bars,

Rubber lagged impact rollers are used for extra protection against falling material

Impact bars along sides to eliminate material spillage.

Incline Conveyor

Incline Conveyor

Heavy duty lattice frame design incline conveyor to deal with larger lump sizes.

Lattice frame design gives excellent structural strength while minimising weight.

Hydraulic Folding Head Section

The TCL 431 features a hydraulic folding head section allowing for compact road transportation.

The folded section rests on impact bars for transport to eliminate transport damage.

Folding Tail Section

For more compact transport, the rear tail section can be folded over when the feedboot is removed.

The folded section is hydraulically operated and rests on impact bars for transport to eliminate transport damage.

Belting

1000mm (40") or 1050mm (42”) wide

EP 400 3 ply, 4 +2mm belting

Rollers

102mm (4”) diameter troughing rollers sets.

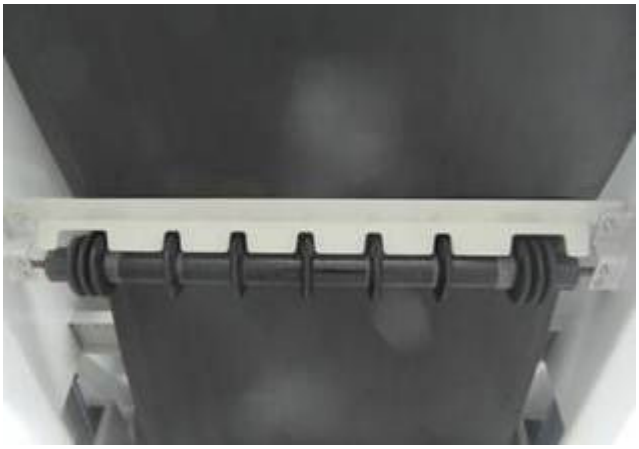
Wing roller angle adjustable.

Return Rollers

150mm (6") diameter disc return rollers.

Less chance of material build up compared to traditional plain return roller.

Includes profiled steel nip guard as standard



Incline Drive

Twin Brevini hydraulic drive motors and gearboxes for increased torque.

Tracks

Tracks

Heavy Duty FL4 Tracks

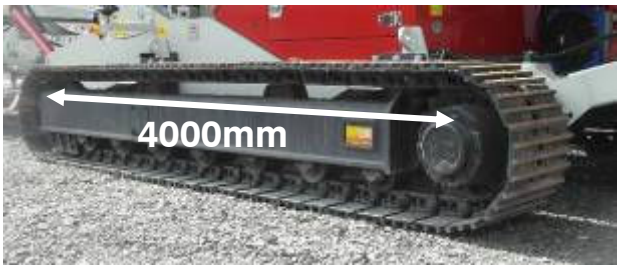
Longitudinal centres: 4000mm

Track shoe width: 400mm

Drive: Two integral hydraulic motors

Tensioning: Hydraulic adjuster, grease tension

Tracking: Push button pendant type (dog lead)



Chassis

Chassis

Heavy duty structural steel chassis, with integrated webbed plate design for the rear telescopic mountings.

All moving joints have incorporated heavy duty bosses for increased strength and wear characteristics.

Engine

Engine

Engine: CAT 4.4 Mechanical Engine

Cooling: Water cooled

Power: 75 kW (100 Hp)

Engine Control Panel

Start up system with safety features (fully fused and fault display).
Engine monitoring, tracking system and conveyor switch gear integrated into the one panel.
Standard electrical PCB microprocessor technology with led indication.
Up to13 fault indication settings.
Faults are logged on led indicators until resolved.
LED indicator self test executed every time unit is switched on.
One place label using standard symbols
Full frequency certified CE, FCC, AU and Japanese remotes systems.

Diesel Fuel Tank

Steel fabricated fuel tank complete with fill level gauge and lockable filler cap.

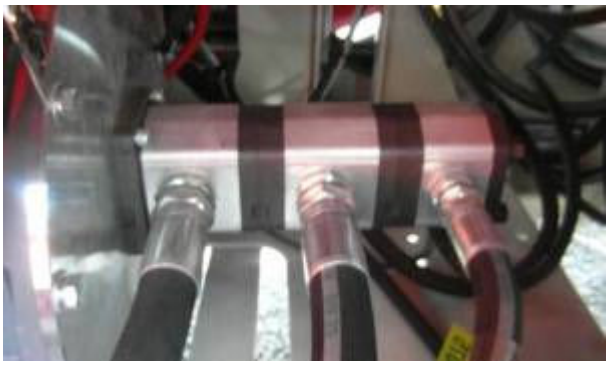
Capacity: 200 litres
52 gallon (USA)

Hydraulics

Hydraulic Pump

Triple pump system

Easy access for maintenance to all hydraulic components such as pumps, filters, tanks, valves etc.



Hydraulic Tank

Steel fabricated hydraulic tank complete with fill level gauge and lockable filler cap.

Capacity: 340 litre
90 gallon (USA)

Oil type: Grade 32

Options

Feedboot Liners

Bolt in 20mm (4/5") rubber wear liners.

Bolt in 6mm (1/4") mild steel liners.

Bolt in 6mm (1/4") hardox wear liners.

Flared Feedboot Extension

Flared steel feedboot extensions to increase the target area and capacity of the feedboot.

Straight Feedboot Extensions

350mm straight feedboot extensions to increase the height and capacity of the feedboot.

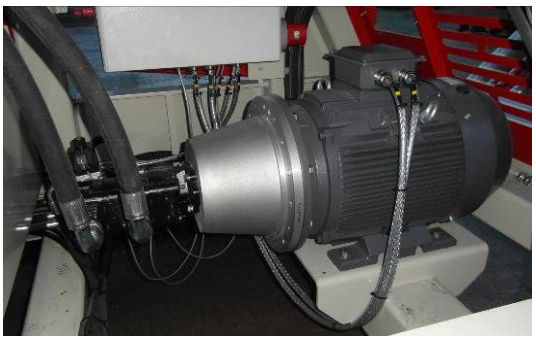
Feedboot Fall Break System

Bolt in fall break system to stop larger pieces in the material hitting the belt and causing damage to the conveyor.

Dual Power

An electric motor and control panel can be mounted on the machine to run using electric power. Machine can also run using the diesel engine when required.

- Diesel engine used to run tracks
- Control Panel mounted within the engine canopy.



All Electric Conveyor

The standard hydraulic motor can be replaced by an electric motor with directly mounted gearbox. The diesel engine is still required to power the tracks, fold out the head section etc. When the machine is in the working position the engine can be disengaged and the machine switched to electrical power.

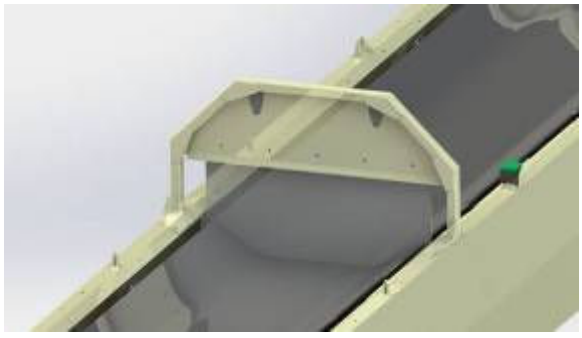
Radio Remote Control

Option 1:
Radio remote control to start/stop incline and operate tracks.

Option 2:
Radio remote control to start/stop incline, operate tracks and to raise/lower head and tail section.

Anti Roll Back

4 x sets of anti roll back can be fitted to the incline conveyor to prevent material from rolling back down the belt when a steep inclines.



Belt Weigher

Integrated belt weighing system, with control panel.

Optional USB data logger.

Dust Suppression System

Dust suppression system is used with materials that are likely to create a lot of dust.

The system has dust covers running the full length of the conveyor and a head chute with rubber sock.

Conveyor Side Skirting

Bolt on rubber side skirting up the length of the conveyor to avoid material spillage.

Over Band Magnet

Bolt on over band magnet to extract magnetic objects from material as it travels up the conveyor.

Transport Information

The TCL 431 can be transported in a number of ways :

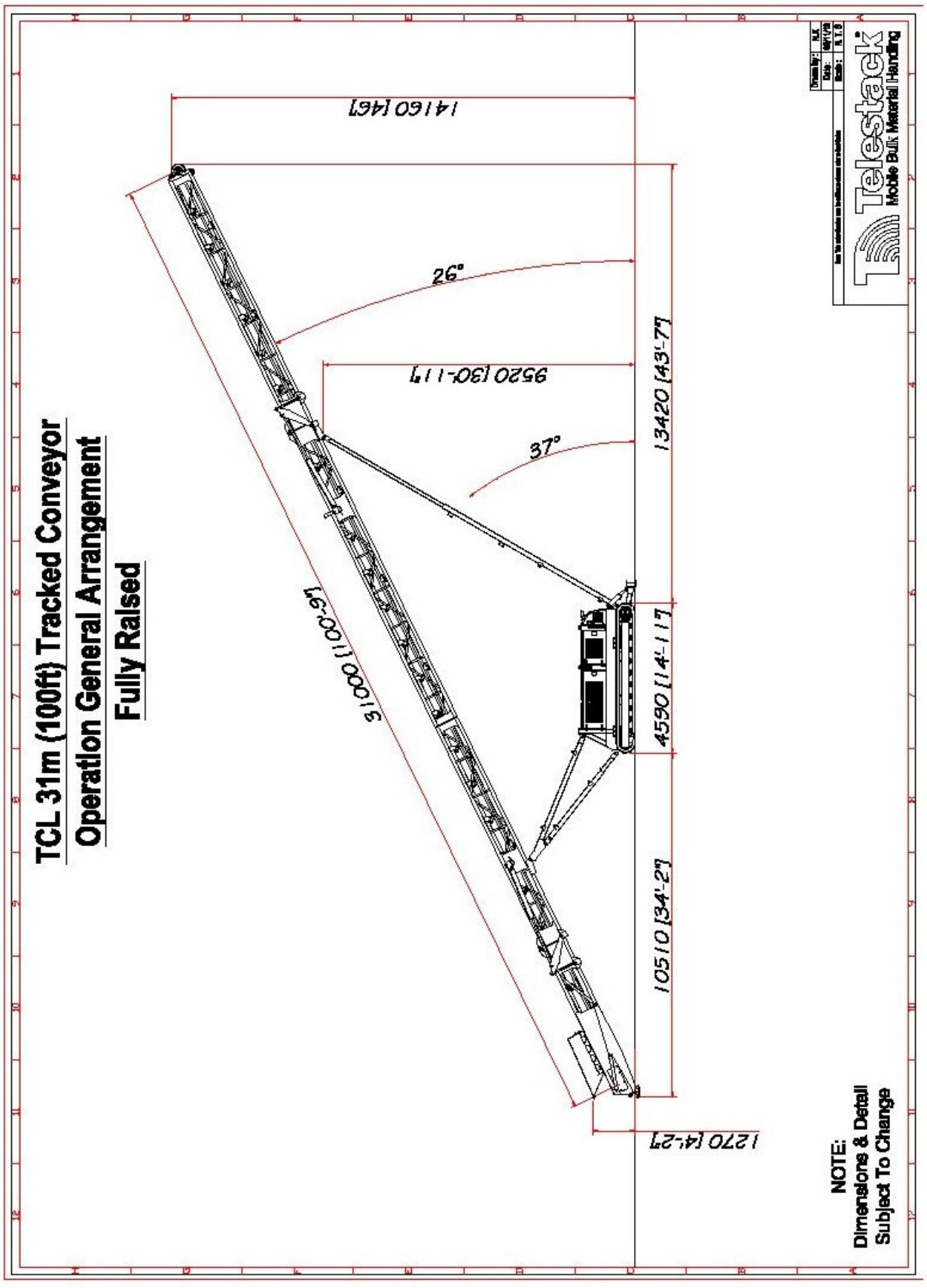
- Unit on 1 x Low Loader / Ro Ro (with head section & tail section folded over)
- Unit in 2 x Euro Liner (with head section & tail section folded, tracks removed)
- Unit in 2 x 40' High Cube Container (with head section & tail section folded, tracks removed)

Installation

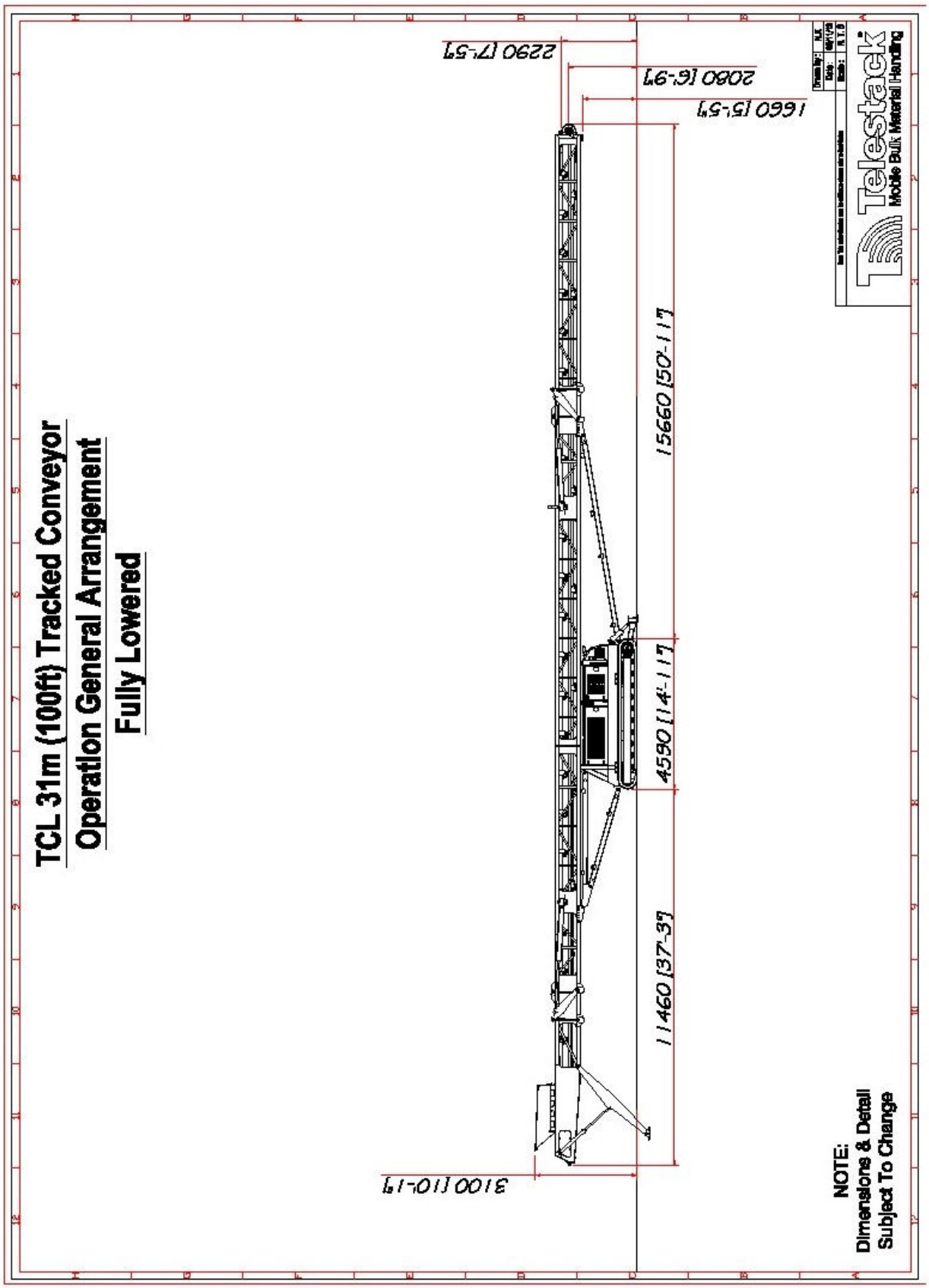
Equipment required for unloading and assembling the TCL 431

- A Telescopic Handler to remove the conveyor from the container. The conveyor will be sitting on skids and using the Telescopic Handler the conveyor is to be pulled from the container.
- Two 10 Tonne bottle jacks. Use the Telescopic handler to lift the conveyor so to fit the bottle jacks underneath. The conveyor needs to be raised 320mm of the ground in order to fit the tracks.

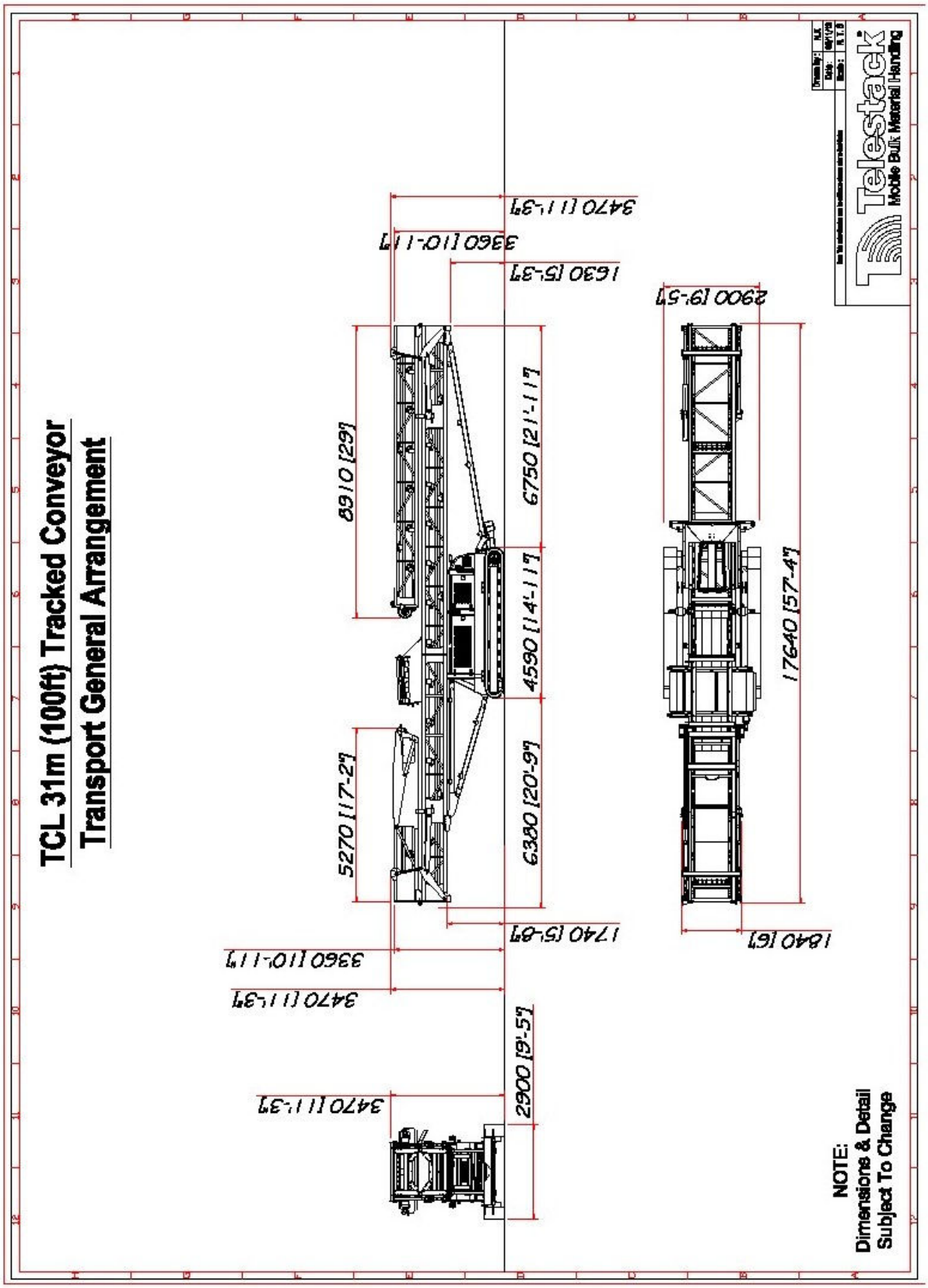
TCL 431 General Arrangement – Fully Raised



TCL 431 General Arrangement – Fully Lowered



TCL 431 General Arrangement - Transport (Head & Tail Folded)



TCL 431 General Arrangement – Stockpiling 19 Degrees