

# ONE MACHINE, SEVERAL SOLUTIONS

Savannah Adkins-Heron,  
Terramac, USA, explores the use  
of rubber tracked carriers on pipelines.

**P**ipeline construction is not for the weak. Like the crews, the equipment needed to meet pipeline demand must be powerful and efficient. When equipment meets those requirements and offers versatility and reliability in the field, that's the golden ticket. Low ground pressure and good traction are essential for traversing the expansive terrain variation on challenging pipeline right-of-ways (ROWs). Terramac rubber-tracked crawler carriers possess each of these elements making them an adaptable equipment solution for tackling pipeline projects.

Traditionally, wheeled trucks and steel-track carriers have been the go-to equipment option for many pipeline applications, but contractors discovered that productivity can suffer when these heavy-duty haulers get stuck in wet and muddy terrain. Terramac rubber track crawler carriers are specifically designed for operating on steep grades and working angles where standard trucks and wheeled vehicles can't. Loaded, they exert minimal ground pressure between 5.3 – 8.3 psi which allows for greater weight distribution and flotation to traverse poor ground conditions. Furthermore, when compared to traditional equipment, the smaller footprint of Terramac carriers creates less soil disturbance and need for remedial repair work which helps protect project budgets.

Support equipment and the interchangeability of attachments has also become an incentive for utilising crawler carriers on pipeline projects. Terramac's are multi-purpose in that they are built with a frame that easily accommodates a variety of specialised pipeline equipment. Anything that can be seen on the back of a truck can be outfitted onto one of Terramac's carrier models. With carrier sizes ranging between 6 - 14 t there is an equipment combination suitable for every step of the pipeline.

## Clearing

Clearing vegetation along the pipeline ROW creates a path for the pipeline and establishes the ROW for transporting materials and equipment during the construction process. Customising Terramac carriers with cranes helps to accomplish this task with more flexibility while maneuvering in and out of densely thick terrains and provides the strength and dexterity to lift, drag, and haul brush.

## Potholing

Identifying existing utility lines before trenching and laying pipe is done through potholing, and Terramac equips track units with a variety of vacuum excavation products. One partner, Vacuum X-Traction Products, offers a variety of vacuum excavation systems for precisely this. Terramac's RT6 carrier with VXS-240-4 is a small and compact version that applies 2400 CFM's and has a 4 yd waste tank making it agile on pipeline right of way. The RT14 carrier with VXS-500-6 is large and durable





Figure 1. The Terramac RT14 crawler carrier with flatbed lays mats on a pipeline ROW.



Figure 2. Hauling large sandbags up steep terrain requires a Terramac RT9 crawler carrier to get the job done.

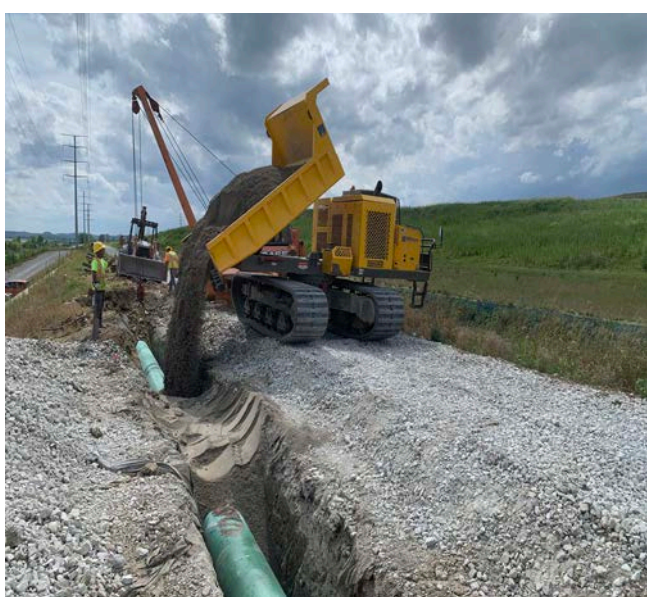


Figure 3. Rotating functionality enables the Terramac RT14R to haul and dump materials while traversing terrain.

allowing it to utilise 5200 CFM's with a 6 yd waste tank for potholing in more dense ground conditions. Regardless of size, the vacuum excavator paired with a crawler carrier improves the potholing process by providing contractors a safer, faster and more cost-efficient exposure of the pipelines.

“Crawler carriers are widely used for potholing along the pipeline for their nimble movement on all terrain types. They simply don't get stuck like wheeled semi-trucks that were previously used,” says Chris Holomon, Enviro Services.

### Hauling and transport

Material transport is easily accomplished with Terramac carriers due to their lighter footprint and incredibly powerful hydraulic system. Rubber track carriers offer a variety of bed styles to accommodate items such as sandbags, dirt, mats and more which are typically transported between access points along the ROW. Rock beds and convertible beds are ideal for moving various types of materials whereas flatbeds lead the way on pipeline projects by hauling mats in preparation for heavier equipment to come through.

“Over 35 years ago we used to haul material along the ROW with sleds pulled by dozers. Sometimes two pieces of heavy equipment needed to be used,” explains DJ Craven, Vice President of Pipeline Systems Inc. “Crawler carriers allow us to combine these tasks but at a lesser cost because they can be operated by one trained crew member. This results in our crews being much more self-sufficient.”

More recently Terramac expanded their pipeline offerings by building a Terramac RT9 with Hiab X-CLX 058 crane attachment. This is a loader crane that provides a lifting capacity of 5.0 metric t and an outreach ranging from 5.3 m to 11.3 m for lifting and loading heavy stationary equipment along the ROW as well as to hold heating units and weld shacks in place while crew work. The unit features jacks for increased stability and safety and a standard dump bed for multi-purpose functionality.

360° rotation is another feature available on Terramac track trucks that helps improve efficiency and cost savings on pipelines. The Terramac RT7R and RT14R models are supplied with upper frames that rotate allowing materials to be offloaded at any angle or on the go. Units will dump materials directly into the trench when padding the pipeline as well. The amount of time an operator saves by being able to drive in, dump, and drive straight out adds up quickly when you factor in how many loads are being hauled daily. Furthermore, rotating track trucks keep operators in a face-forward position for added safety.

### Personnel transport

Rubber tracked carriers outfitted with 10 man or 25 man personnel carriers make the transport of crew members to and from a jobsite a safe, easy, and efficient task. Personnel carriers are utilised throughout the entire pipeline project – from the clearing crews to the final reclamation crews – for their ability to transport the maximum number of workers with one vehicle while minimising trips over rough, soft, and steep ground conditions.

“One personnel carrier can take up to 25 crew members plus all of their tools and meals safely out to the jobsite and back,” says Eric Rice, Product Analyst. “No need for multiple vehicles that get in the way or get stuck trying to get through. The cabins can also

be enclosed and equipped with heaters to protect crews from the worksite elements, which makes a big difference.”

### Pipeline stringing

Transporting pipe along the ROW requires utmost strength and attention to detail. Crawler carriers equipped with a specialised



Figure 4. The Terramac RT9 crawler carrier hauls a crew, tools and the days supplies to a remote pipeline location.



Figure 5. A compressor on tracks easily moves up and down the ROW as needed to provide services for multiple stages.



Figure 6. The Terramac's RT9 crawler carrier versatility increases when paired with welding equipment.

fifth wheel attachment simplify the pipeline stringing process by pulling the stringing trailer. These specialised carrier units allow the stringing crew to efficiently string the pipe from end-to-end along the ROW, eliminating the need for using heavy haulers that cause soil damage or get stuck in adverse ground conditions while in transit.

### Pipe welding and coating

Crawler carriers are often used as all terrain welding systems. After the stringing and bending are complete, the pipe sections are aligned and need to be welded together. The Terramac RT9 with tac welder unit has become highly useful on pipeline jobsites for its ability to deliver power for up to four welders at one time while also providing the shaded canopy necessary for crew to perfect welds. Terramac's RT6 model offers a similar set up using a custom designed weld decks built to securely fit on the existing flatbed so contractors can easily swap between the two attachments as needed. In addition, crawler carriers can be equipped with sandblasting rigs, air compressors and sandblast pots to make cleaning and coating a simple process for maintaining a pipeline over time. These specialised carrier units allow crews to sandblast the welds and remove any of the initial coating that could have been damaged during the welding process.

### Reclamation

Protecting the environment throughout a pipeline project is extremely important. Restoring the disturbed land to its native state is typically the final stage in a pipeline construction project which requires specialised restoration equipment such as hydroseeding units. When these units are mounted Terramac's low ground pressure track trucks the process becomes very easy and cost-effective.

“After the pipeline construction is complete, we use the Terramac RT14 to haul and replace the topsoil along the ROW and then follow up with the RT14 with hydroseeding unit to seed, fertilise, and mulch the land in one simple process,” says Roger Zacher, Co-Owner at Absolute Reclamation Services.

Other support equipment mounted to crawler carriers for the reclamation stage include straw blowers, bark blowers and water tanks which provide refills to the hydroseeding equipment.

Crawler carriers are also utilised for the installation, maintenance and removal of erosion and sedimentation (E&S) control devices along the ROW.

“Due to the flotation from the units' rubber tracks, we are able to safely maintain the E&S devices with minimal environmental damage and disturbance to the soil. Once we achieve 70% growth on the ROW, we can go back in and remove all the E&S devices,” says Zacher. “At this stage, landowners may also want the wood chips removed from their fields and pastures located along the ROW. We utilise the crawler carrier to haul all of that material back out, so the crews finish the job with little evidence they were ever there working.”

While Terramac specialises in manufacturing one type of equipment, the rubber tracked crawler carrier, that one machine produces unlimited solutions for pipeline contractors conquering the most challenging projects presented on the ROW. 