Construction Progress

Despite the anticipated heavy seasonal rains, significant progress continued to be made this quarter in a number of Project construction categories.

- Construction workers have now welded together and buried about two-thirds of the pipeline. They also started work on the Chad portion of the pipeline.

- The crews on the oil well rigs more than doubled the number of drilled wells, reaching a total of 26 by the end of the quarter.

- Oilfield construction workers started laying flow line and gathering system pipes that will collect crude oil from wells and move it to the central oilfield facility for treatment.

- Steel erection and cement foundation pouring is now underway for virtually every storage tank, pipe support, and building component of the central oilfield facility and the crude oil gathering station at Miandoum.

- Construction of the offshore marine terminal moved well past the 60% complete point this quarter.

**Pipeline**

Construction of the crude oil transportation pipeline reached a major milestone this quarter as the work moved into Chad for the first time. Workers started clearing the 30-meter wide construction right of way at the oilfield end of the pipeline that will transport crude oil to the marine terminal at the coast of Cameroon near Kribi. By starting the work in Chad at Komé, they took advantage of better soil drainage conditions at that end of the pipeline route as compared to the soil conditions near the Chad/Cameroon border. The crews are now working their way south towards a link-up with the Cameroon portion of the pipeline near the border where the route crosses the M’béré River.
• Adding up the work accomplished by the northern and southern pipeline construction spreads, about two-thirds of the pipeline has now been welded together and buried, over 700 kilometers of the 1,070 kilometer total. Pipeline construction continues to advance at an average rate that approaches three kilometers a day.

• About one-fourth of the total right of way for the pipeline has now been reclaimed. Residents have been planting crops on the reclaimed right of way in some areas. Elsewhere, vegetation has started the natural recolonization process on the reclaimed land.

• Over half of the 48 pipeline valves, called block valves, have been welded into place along the pipeline. The block valves make it possible to shut down sections of the line for maintenance or in the event of an emergency. Telecommunications crews have started installing solar-powered equipment for the valves that will allow them to be remotely controlled from the pipeline’s central control room.

Pipeline construction crews began work in Chad this quarter, starting at Komé (inset) and heading south towards the point where the route will cross the M'béré River and the border with Cameroon. The pipeline in the oilfield area stretches into the distance as it runs past an oil well being drilled (top center) and a line of electricity power poles being installed (top right).
Drilling  By the end of the quarter, the crews on the oil well rigs had drilled a total of 26 wells, 19 of them for crude oil production purposes. The remainder of the wells are being used to inject water or well clean-up/test fluids back into the deep underground reservoir, or to explore the limits of the oilfields. Approximately 265 wells will be needed to complete the development of the oilfield area, according to current estimates.

Drilling crews made dramatic improvements this quarter on one of their biggest challenges – reducing the time it takes to move a rig to a new location after work has been finished at a well site.

- The average rig move time has been reduced to two to three days, about half the time it was taking at the close of the second quarter.

- Near the end of the third quarter, the crews set a new record by moving one of the smaller rigs from one location to another in 18 hours and one of the large drilling rigs in 38 hours. The ultimate goal is to average 24 hours for a rig move.

Oil rig crews achieved a major breakthrough this quarter, cutting by half the time it takes to move a rig to a new wellsite.
Approximately 870 millimeters (34 inches) of rain fell in the oilfield area of southern Chad during the third quarter. Although the annual rainy season brought mud, surface flooding, temporary road closures, and poor visibility to the construction sites, progress continued to be made on the various permanent facilities in the oilfield area.

- At Pump Station 1, the first crude oil pumping equipment was set on its foundations. Welding of the steel crude oil storage tanks is nearly complete, and hydrotesting of the tanks is scheduled to take place in the fourth quarter.

- Foundations were poured for the numerous utility poles that will support wires to supply high voltage electricity to equipment throughout the oilfield area.

- Concrete pouring began for the control and administration building at the central oilfield facility.

- All six tanks at the Miandoum gathering station - the first of the oilfield gathering stations - are now under construction and are scheduled for completion by the end of the year.

The first pipeline pump equipment was installed at Komé this quarter (top left). Interconnecting pipes are also being installed at the Central Treatment Facility (top right), and construction began on the office and control room building (lower left). Crude oil tank construction is well underway at the Miandoum gathering station (lower right).
A major logistics milestone was achieved this quarter. The last of the 87,000 lengths of pipe needed to construct the crude oil transportation pipeline have now been delivered to storage yards along the route. This includes the pipe required for building the Chadian portion of the pipeline, which was deposited in a storage yard at Gadjibian.

**Freight Movement**

By the time the Project has been completed, approximately 350,000 metric tons of material and equipment will have been transported. That is the equivalent of moving the entire Empire State Building skyscraper, or 35 Eiffel Towers, or 14 Statues of Liberty.

Moving this freight into position will ultimately require 18,500 truck loads and 17,500 railcar loads. The Project currently has more than 350 trucks under contract in Chad and Cameroon to help transport this freight.

### Logistics Information

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**Offshore Marine Terminal**

Construction of the two key components of the offshore marine terminal moved well past the 60% complete point this quarter.

- The first of two dry dock periods required to refit the tanker that will become the Floating Storage and Offloading vessel was completed. When finished, the refurbished tanker will move under its own power from Singapore to its mooring location near Kribi, Cameroon.

- Erection began in Malaysia of the Single Point Mooring unit for the Floating Storage and Offloading vessel, with assembly underway on the tower, deck and other elements. When completed, the unit will be towed to the offshore marine terminal site near Kribi.

In addition, logistics planning has been completed for the installation of the 12 kilometer undersea pipeline that will transport crude oil on the final leg of its journey from the oilfield area in southern Chad to the Floating Storage and Offloading vessel.
The first of two dry dock sessions was completed this quarter at a Singapore shipyard, advancing the refitting of the Floating Storage and Offloading vessel (top). In this photo the sandblasted, and still unpainted hull of the ship looms above welding crews. Fabrication also moved ahead in Malaysia on the Single Point Mooring unit, which will secure the vessel to the sea floor off the coast of Cameroon near Kribi. The multi-story tall center post of the mooring is shown in the lower left photo and the giant (orange) bearing unit that will allow the vessel to swivel to the optimum position for weathering stormy conditions appears in the lower right photo.