

Cromer Unit #4
2018 Annual EOR Report

Executive Summary

In 2018 oil production in the Cromer Unit #4 averaged 111.6 m³/d (702 bbl/d) totaling 40.5 e³m³ (254.9 mbbbl). Annual production had a massive incline of 185 % from 2017 to 2018 using the average yearly production, however using the production from December 2017 to December 2018 the production declined by 10.5%. By the end of 2018 cumulative oil production from the Cromer Unit #4 was 67.9 e³m³ (427.3 mbbbl). The unit is currently still under primary production and, as of yet, has had no water injected into the producing formations.

In December 2018 there were 16 producing oil wells and no active water injectors in the unit. In 2018, an additional two wells were drilled within the unit.

Discussion

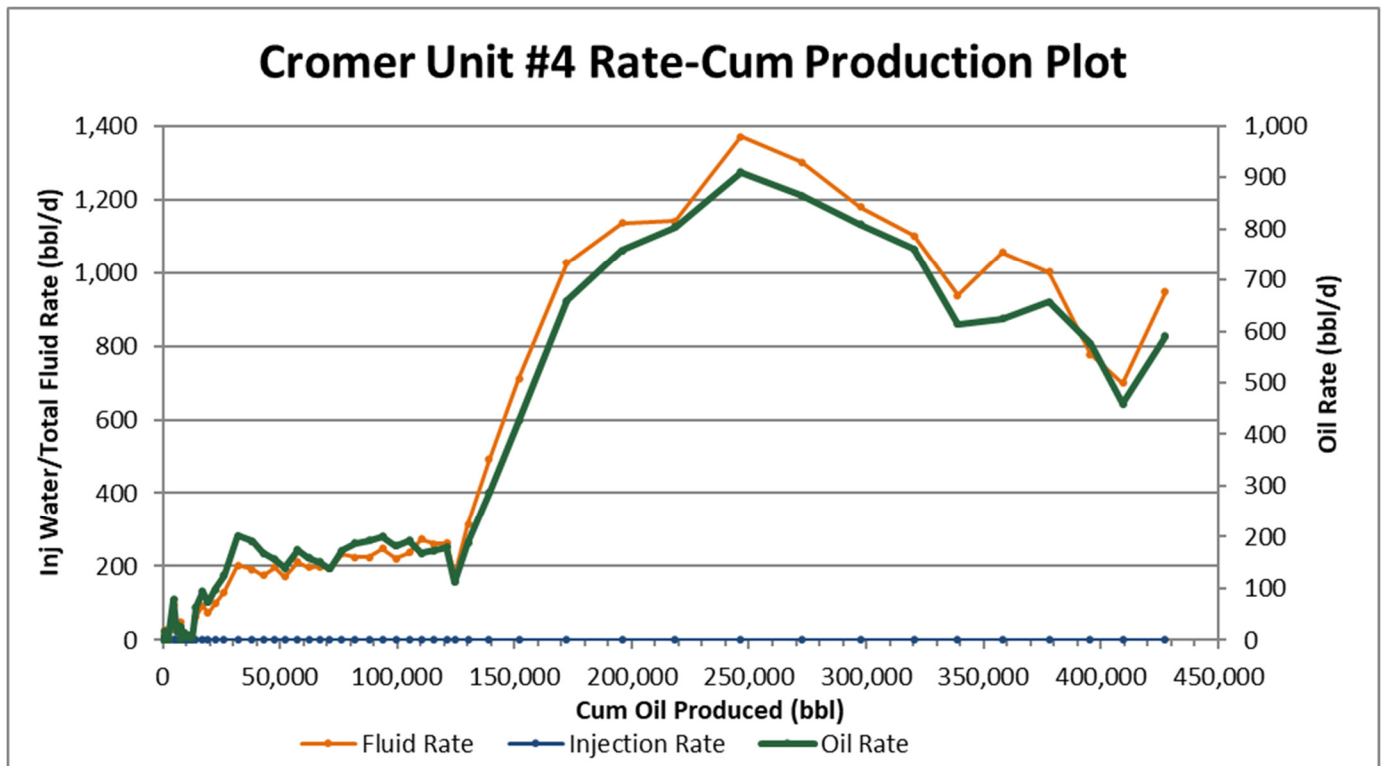
The Cromer Unit #4 was created as a unit in 2018, with the intention of further development through the implementation of a waterflood scheme.

In 1954, one vertical producer was drilled, resulting in minimal recovery and another vertical was drilled a year later and left dry and abandoned. In 2006, a relatively unsuccessful open hole horizontal well was drilled. In the following years Corex was active drilling horizontal wells and completing with hydraulic fractures, resulting in much more successful wells. The intention is to progress to secondary recovery methods after a period of primary production. This unit has a low recovery factor and further development through waterflood will increase the recovery. In 2018, the producing WOR was $0.6 \text{ m}^3/\text{m}^3$.

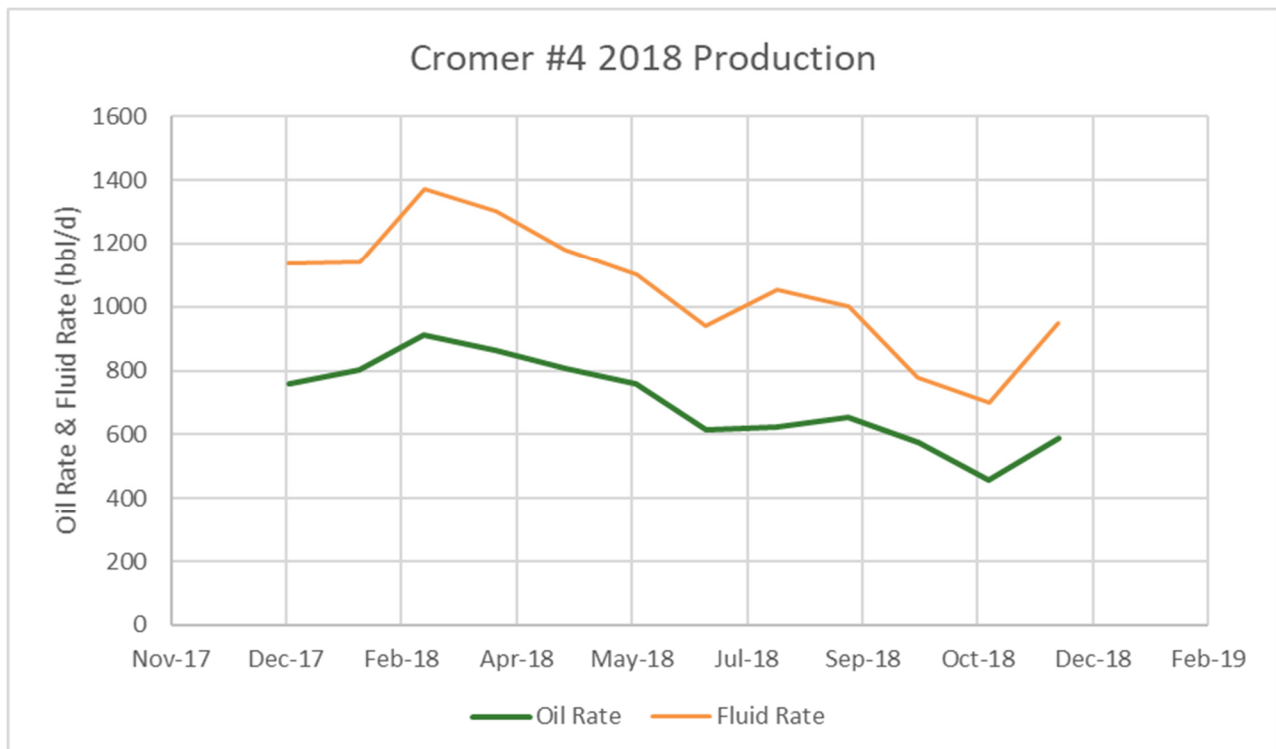
Significant events in 2018 are as follows:

- July 2018, drill the 104/16-24-009-28W1/00 horizontal well in the Flossie formation.
- October 2018, drill the 104/09-24-009-28W1/00 horizontal well in the Flossie formation.

Cromer Unit #4 – Rate vs Cum Oil Production



Cromer Unit #4 – Rate vs Time



2018 Reservoir Pressure Surveys

No pressures have been taken in this unit since the history of its inception. It is estimated that the initial reservoir pressure is around 7,500 kPa and the bubble point around 2,000 kPa. With the recent rapid development in the unit and the inter well spacing the reservoir pressure is likely dropping significantly. When effects of a decline in pressure is seen, the implementation of a waterflood will be advantageous. Due to the nature of the rock in this area and the lower permeability recording accurate pressures are difficult.

2018 Well Servicing

UWI	Unit	Licence	Operation	Date	Objective
103/16-24-009-28W1/00	CROMER #4	10377	Pump Repair	2018-01-09	
100/10-13-009-28W1/00	CROMER #4	10697	Initial Completion	2018-01-24	DALY COMPLETION
102/10-13-009-28W1/00	CROMER #4	10780	Initial Completion	2018-01-24	DALY COMPLETION
100/15-13-009-28W1/00	CROMER #4	10698	Clean-out	2018-02-28	
102/15-13-009-28W1/00	CROMER #4	10775	Clean-out	2018-03-03	
104/16-24-009-28W1/00	CROMER #4	10975	Initial Completion	2018-07-26	FLOSSIE COMPLETION
104/09-24-009-28W1/00	CROMER #4	11017	Initial Completion	2018-11-05	FLOSSIE COMPLETION