



CASE HISTORY

NoWAX CASE HISTORY

Location:..... **Atyrau region, Kazakhstan**
 Well type:..... **PC Pump**
 Treatment method:..... **Circulation**
 Wax free production period:.. **13 weeks**

Additional information: due to improved flow efficiency the well started producing at most of its potential, 15m³/day more than before treatment.

Economic benefit: Treatment paid back in 1.5 days, effect lasted 90 days, paid back 60 times, which is Return On Expenses = **6,000%**.
 Additional benefit are less workover, less hot oiling, less broken rods.



NoWAX CASE HISTORY

Location:..... **Atyrau region, Kazakhstan**
 Well type:..... **PC Pump**
 Treatment method:..... **Circulation**
 Wax free production period:.. **11 weeks**

Additional information: watercut reduction 64% to 35%, due to improved flow efficiency the well started producing at most of its potential, oil rate 9.5m³/day more than before treatment.

Economic benefit: Production increase. Additional benefit are less water to handle, less workover, less hotoiling, less broken rods.





CASE HISTORY

NoWAX CASE HISTORY

Location:..... **Atyrau region, Kazakhstan**
 Well type:..... **PC Pump**
 Treatment method:..... **Circulation**
 Wax free production period:.. **still ongoing, 7 weeks**

Additional information: pump efficiency improved.

Economic benefit: Additional benefit are less workover, less hotoiling, less broken rods.





CASE HISTORY

NoWAX CASE HISTORY

Location:..... **Turkmenistan**
 Well type:..... **Gas Lift**
 Treatment method:..... **Bullheading into formation**
 Wax free production period:.. **8 weeks continuous flow, after it well flows intermittently, which may not mean wax**

Additional information: the well had to be mechanically cleaned by gauge cutting every 4 days before treatment.

Economic benefit: less expenses on gauge cutting, oil flow rate stays same 11m³/day



NoWAX CASE HISTORY

Location:..... **Turkmenistan**
 Well type:..... **Gas Lift**
 Treatment method:..... **Bullheading into formation**
 Wax free production period:.. **still ongoing, 10 weeks**

Additional information: the well had to be mechanically cleaned by gauge cutting every 4 days before treatment.

Economic benefit: less expenses on gauge cutting, oil flow rate slightly increased 20m³/day to 23m³/day.



NoWAX Application Results in Gas Condensate Applications

Overview:

Recently guided by a client to a stunning breakthrough in the application potential of **NoWAX**: As a wax remediation product for use in gas condensate.

Luckily this client was so satisfied with **NoWAX's** wax remediation performance in his oil wells that he requested **NoWAX** experimentation on one of his oil wells that experienced regular buildup of wax from.



**Prior to NoWax application.
Production facilities plugged with wax.**

Procedure:

NoWAX was applied by direct injection into the condensate stream as far upstream as possible at a rate of **150PPM** through an existing injection point. As **NoWAX** only functions when thoroughly mixed into a hydrocarbon stream we expected that the gas condensate would act as a proper transportation medium and source of turbulence/agitation for the **NoWAX** to act against the wax precipitation in the condensate and assets.

Result:

- Fifteen minutes after beginning **NoWAX** application, there appeared a very clear cut between the condensate phase and produced water phase.
- High definition thermal imaging focused on areas of heavy deposits showed over a period of 4 days a rise in spot temperatures as the wax dispersed. These temperature checks combined with condensate stream analysis indicated that all wax had been returned to liquid phase and all assets were clean of wax deposits.
- Samples taken from the **NoWAX**-treated condensate showed that even after 4 weeks, the wax was still held in liquid phase.

Conclusions:

- Due to the new liquid-phase wax, separating wax from independent processing has become possible, which is a new economic opportunity.
- The discovery of this new application for **NoWAX** is from the faith of the client to try it. The results are far beyond anything we could have hoped for.
- Along with the fact that **NoWAX** is nonflammable and nontoxic, it is clear proof that **NoWAX** is the new and far superior resolution of paraffin wax precipitation problems.