USE CASE

Recovering condensate in gathering lines

This case focuses on a declining gas field in Central Asia. As gas cooled in the gathering lines, water and hydrocarbon condensate dropped out and pooled, holding back the wells causing gathering line back pressure. Eight Innopipe inline separators can now catch up to 1,500 bbl/d of these condensed liquids where they form. The system also separates the valuable condensate from the water.

Quick Facts

Industry	Gas processing	**Solution**	Eight Innopipe 2-phase inline separators (8", 10" and 12"), each with a 42" 3-phase collection reservoir that separates condensate from water
Location	A gas field in a former Soviet republic in Central Asia, operated by a Canadian producer	**Timeline**	Built in Canada in 8 to 10 weeks to fit airfreight weight and size limits. Shipping by air expedited delivery to weeks rather than months.
Challenge	Gas cooling in the gathering lines condensed water and hydrocarbons. These liquids pooled and put backpressure on the wells in a declining field.	**Results**	Up to 1,500 bbl/d of condensed liquids can be captured. Condensate recovered separately, from water.

The Challenge

Gas leaves the well carrying water and hydrocarbons as vapour. As it moves through a gathering system, it cools and loses pressure, so some of that vapour turns into liquid. Water condenses, and heavier hydrocarbons drop out as condensate. These liquids collect at various points.

In this field, condensed liquids build up in the gathering lines and can put back pressure on individual wells. This potentially holds back gas production in cases where lines reach full flow capacity.

The liquids were also a missed opportunity. The condensate is a valuable product, but only once separated from water.

The operator needed a way to remove the condensation inside its existing lines. The solution had to:

- Keep the lines piggable
- Match the field's operating and design pressures
- Arrive on a tight schedule

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The Solution

The operator didn't want condensed liquids travelling to the end of the line, so it installed Innopipe directly in the gathering lines. Eight 2-phase inline separators (8", 10" and 12") were each paired with a 42" x 16' three-phase collection reservoir, rated 1,200 psi at 120°F.

In fast-moving gas, condensed liquid travels as a thin film around the pipe wall. Ordinary drips only catch liquid along the bottom of the pipe. Innopipe's engineered slots let the film exit through the wall and drain to the reservoir, while the gas flows on with minimal pressure loss.

Inside each Innopipe collection reservoir, advanced internals give each liquid phase more retention time, so the condensate separates cleanly from the water. The units were sized to fit airfreight limits, which shortened delivery.

Results

The solution delivered measurable benefits, including:

- **Condensation captured at the source:** about 1,500 bbl/d of condensed liquids can be removed from gathering lines on a regular basis, instead of pooling at low points.
- **Condensate recovered as a product:** the 3-phase reservoirs split the captured liquids into water and saleable condensate.
- **Higher production per well:** with the condensed liquids gone, backpressure on each well dropped and the wells flow more freely.
- **Room to grow:** the system can handle up to 1,500 bbl/d, so it can take more condensation as field conditions change or wells are added.
- **Faster, lower-cost deployment:** shipping by air took weeks instead of 1.5 to 3 months. The lighter design also reduced capital, construction and foundation costs.
- **Repeat business:** the operator plans to use Innopipe as it expands production and testing. In February 2025, OilPro shipped three more 10" high-pressure piggable drips, with 3-phase collection vessels, to this Central Asian client.

Key Outcome

By catching condensation where it forms, instead of letting it pool in the line to form slugs, the operator turned a liquid problem that was limiting production into more gas, and a condensate stream it can sell.

Customer quote: “Innopipe helped remove liquids in our gathering lines, thereby removing backpressure on individual wells and improving per-well gas production... This technology should be considered by anyone optimizing gas gathering and gas transmission lines.” (Canadian producer, Central Asia)