

Plant Status Report

2/22/2021 1730 CT

Cliffside plant startup is complete. We began producing residue gas to Kinder Morgan at 4:00 PM.

Helium production is at 3.2 MMSCFD crude at 70.6% helium with methane down to 2.4%. Calc 2.25 MMSCFD pure equivalent. Expecting production rate to go slightly higher as we continue ramping in Bivins A-6.

Helium pipeline pressure has increased to 949 psig (962 psia) as of 5:30 PM 2/22/2021.

This is the final update for this outage.

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2/22/2021 at 1247 CT

The Bureau of Land Management (BLM) executed emergency repairs to the Booster Compressor that supplies the Crude Helium Enrichment Unit on Saturday Feb 20, 2021. Repair crews and Cliffside personnel cleared a plugged filter screen on the Booster compressor. The old filter screen was removed, and compressor reassembled with a new screen. Contracted work was completed at 2:22 PM Saturday afternoon. The plant began next steps of pressure testing and purging cycles to prepare for full startup. Later Saturday evening, the K200 Booster Compressor was in full operation and cold box in cool down. Helium pipeline pressure was 835 psig (848 psia) as of 2:00 PM on 2/20/2021

The BLM was in production into the helium pipeline at 4:00 PM on Sunday 2/21. Pipeline pressure was at 906 psig (919 psia) and rising 4 pounds per hour. All the higher helium wells were blended into the plant feed gas and flowing at their max rate (except for Bivins A-6). The BLM reached nitrogen specifications at 7:00 AM Monday February 22, but not for the natural gas specifications for delivery to Kinder Morgan. Once the BLM brings down the BTU level of the natural gas down under 1100, we will deliver the natural gas.

As the plant is in helium production into the pipeline this is the final report for this outage.

Additional notifications are planned to let industry know when the Cliffside facility reaches steady state stability and natural gas delivery specifications.

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2/22/2021 at 0730 CT

We began producing into the helium pipeline at 4:00 PM on Sunday 2/21. Pipeline pressure is currently 906 psig (919 psia) and is going up at 4 pounds per hour. All the higher helium wells are in and flowing at their max rate except for Bivins A-6. We will begin to ramp in Bivins A-6 today to repack the pipeline as quickly as possible.

The pipeline pressure reached a low point of 819 psig (832 psia) on Friday 2/19 at 3:00 AM. Strangely, the pipeline pressure began to increase and was up to 846 psig (859 psia) by the time we resumed crude helium production at Cliffside. I do not know which other crude plant was bringing up the pressure over Friday, Saturday, and Sunday, but thank you for helping us out.

Residue gas will begin flowing into the Kinder Morgan pipeline shortly. We reached the tight nitrogen specification at 7:00 AM this morning but still need to bring the BTU level down under 1100.

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2/20/2021 at 2100 CT

The K200 Booster Compressor is running well. The leak testing following repairs was successful. Plant startup is underway with normal feed gas pressure and flow rate. We have about 60 degrees to go in cooling down the cold box. Still hopeful that we can be in production on Sunday.

Helium pipeline pressure is 840 psig (853 psia) as of 9:00 PM on 2/20/2021. (not sure why it went up a little)

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2/20/2021 at 1400 CT

The Bureau is executing emergency repairs to the Booster Compressor that supplies the Crude Helium Enrichment Unit. Repair crews and Cliffside personnel are working to clear a plugged filter screen on the Booster compressor. Nitrogen purges were started overnight and Lock out tag out procedures were underway this morning. While warming and thawing process lines "fixed" most parts of the plant, the booster compressor filter did not clear and was assumed to be plugged.

The Amarillo Field Office support team worked with the Denver based National Operations Center (NOC) contracting group to get an emergency repair contract in place to assist with the removal and replacement of the Booster compressor feed gas filter screen. Contract personnel were on site early this morning to begin permits and lockout. The old filter screen was removed, and it was indeed badly blocked. Reassembly with a new screen was completed at 2:22 PM. Next steps are pressure testing and purging cycles.

Planning to start the K200 Booster Compressor in a few hours. The beginning steps of plant start were successful so we and expect to blend in the Booster Compressor and be producing crude helium into the pipeline tonight. Hopefully, we can be producing Natural Gas to Kinder Morgan by Sunday afternoon.

Helium pipeline pressure was 835 psig (848 psia) as of 2:00 PM on 2/20/2021