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Prospects for gas well output at Pittsburgh International have dimmed

Summary: In February 2013, the Allegheny County Airport Authority (ACAA) signed a lease with CNX Gas Company LLC to drill wells into the shale formations at Pittsburgh International Airport (PIT). That lease included bonus payments and royalties for gas produced. The ACAA, at the time, offered to use the proceeds to lower airline rates. This *Brief* looks at the production of those wells, the outlook for production and airport revenue from the operations thus far. Production data come from Pennsylvania Department of Environmental Protection and financial data from the ACAA Annual Comprehensive Financial Reports (2015 through 2021).

The lease included a nonrefundable bonus payment of $45.1 million to be paid to the ACAA from 2013-2018. After that the lease became year-to-year with royalties being paid as gas is extracted. It also contains "ground rent payments" for undeveloped acreage. In 2021, royalty revenue was $8.2 million and the ground rent payment was $320,000 for total gas drilling revenues of $8.51 million. In 2020 total revenue was only $5.56 million.

Well production

Drilling began in July 2014 when ground was broken on six wells with an additional eight in September. Twelve more were added in January 2015 for a total of 26 wells. The six wells from July 2014 began producing in June 2016 and over the last seven months of the year produced a total of 4.9 million Mcf (thousand cubic feet). Perhaps the delay in production was the result of a steep drop in the price of natural gas. It fell 38 percent from 2014 to 2015, an annual average of $4.42 to $2.66 per Mcf. It didn't surpass the $3 mark until late 2016. The table below shows annual production totals.

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mcf (millions)	0	0	4.91	19.90	22.01	16.09	11.15	8.87	8.54 (est.)
# wells producing	0	0	6	14	14	14	14	14	14
# active wells	14	26	26	26	26	20	20	20	18

In 2017 the number of producing wells rose to 14 in March as the wells started in September 2014 became productive. In 2017 the average annual price was $3.11. The production total rose to 19.9 million Mcf—tripling output with the additional wells. In 2018, those same 14 wells produced 22.01 million Mcf, the high-water mark since drilling began and a 10.6 percent increase over 2017.

Then production began to decline.

In 2019, production came in at 16.09 million Mcf—a decline of 26.9 percent from a year earlier. It then fell even further in 2020 to 11.15 million Mcf (30.7 percent) and again to 8.87 million Mcf in 2021 (20.4 percent). All output was from the same 14 wells that were drilled in 2014. Interestingly, none of the 12 wells drilled in 2015 have produced to date. And in 2019, six of the 12 were made inactive, reducing the number of active wells to 20.

In 2022, through August (most recent figures), production had reached 5.7 million Mcf—projecting out to just 8.54 million Mcf for the year. This represents a further reduction of 3.8 percent. Two more wells from the 2015 slate were also made inactive, lowering the total number of active wells to just 18. The lack of output from the 2015 wells, but kept on the active list for several years, suggests they were deemed to have relatively small output and revenue potential and would have required a very high market price to economically justify starting production. The deactivations in 2019 and 2022 indicate that hopes they will ever be profitable have waned dramatically even as the average annual price of natural gas in 2021 rose to $3.76, the highest average since 2014.

Moreover, given that production of the 2014 wells has fallen continuously since 2018, combined with the facts that no new wells have been started since 2015 and eight of the ones drilled that year have been deactivated, it is reasonable to conclude that the future of natural gas production and gas revenues at PIT is growing dimmer each year.

Revenues

From the 2021 ACAA annual comprehensive financial report, "Net revenues from the natural gas lease have been used to reduce airline rates and charges and for capital expenditures, including economic development, at the Airport."

Upon signing the lease in 2013, ACAA received $7.14 million as part of the bonus payment. That increased to $9.07 million in 2014 and then $10.19 million in 2015, for a total of $26.41 million without any of the wells producing. Once production began in 2016, gas drilling revenues were boosted by royalty payments ($3.2 million) and reached $13.92 million. According to ACAA, through 2016 "all bonus and rent payments covering the initial term were received."

The peak revenue from gas was reached in 2017 when ACAA collected $25.98 million from gas production ($15.3 million in royalties) and ground rental payments. Even though 2018 represented the height of gas production, gas revenues fell 26 percent to $19.27 million—$17.2 million in royalty payments—as rental payments dropped. Revenues then fell sharply to $10.12 million in 2019 ($9.8 million in royalties) and then even further to $5.56 million ($5.2 million in royalties) in 2020 before rebounding to $8.51 million in 2021—the lowest gas drilling revenue since the lease was signed in 2013. The prospects for 2022 appear a little brighter as the price has climbed 81 percent from 2021 (through August 2022).

As noted above, revenues were pledged to "reduce airline rates," among other uses. In the explanatory section of the comprehensive financial reports, the ACAA mentions that some of the money is allocated to reducing airline rates. In 2014 and 2015, the ACAA dedicated about half of the gas revenues to reducing airline rates—$5.2 million of $10.19 million in 2015 and $4.9 million of $9.07 million in 2014. In 2016 that ratio was a bit higher ($8.4 of the $10.7 million bonus payment). In 2017 and 2018, a total of $7.2 of $12.8 million was allocated for this purpose.

The ratios began to fall as the terminal modernization plan was approved in 2017 and natural gas drilling revenues were pledged to be part of the financing plan to pay for the nearly $1.4 billion, and climbing, project. With drilling revenues of $10.12 million in 2019 and another $5.56 million in 2020, the ACAA allocated $3.8 million to airline rate reduction and $7.9 million in capital projects—most likely the new terminal project. The 2021 comprehensive report does not show how much of the revenues were dedicated to airline rate reduction.

Conclusion

Natural gas drilling at Pittsburgh International Airport provided the ACAA with a substantial upfront payment but has not provided much in terms of royalties as production has trailed off dramatically since the peak in 2018. While CNX still has the right to drill more under the terms of its contract, it is uncertain how much more gas reserves are beneath the property in light of the slowing production and deactivation of wells. In that regard however, the ACAA and CNX came to a new agreement earlier in the year that will permit CNX to drill more wells in the deeper Utica Shale formation over the next five years. The ACAA has agreed to have post-production costs taken from their royalties in return to have more wells drilled with the potential to continue the royalty revenue stream.

This will become more problematic as the ACAA needs cash to pay for the ambitious and questionable terminal project. With passenger counts not recovering to pre-pandemic levels, operating revenues are not going to cut it alone. Raising airline charges would be self-defeating and it's also likely another infusion of federal money from pandemic relief will not happen. Money from the Build Back Better legislation is more likely.

In sum, it looks increasingly likely that PIT's natural gas revenues will not be a major source of revenue over the next 20 to 30 years to service the enormous debt issued to build the new terminal.

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