China takes on big risks in its quest for shale gas

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question is whether those short-term risks threaten to undermine China's long-term goal. The energy industry around the world has faced criticism about the economic viability of vast shale projects and the environmental impact of the fracking process. But interviews with residents of six hamlets here where drilling is being done, as well as with executives and experts in Beijing, the United States and Europe, suggest that China's search poses even greater challenges.

In China, companies must drill two to three times as deep as in the United States, making the process significantly more expensive, noisier and potentially more dangerous. Chinese energy giants also operate in strict secrecy; they rarely engage with local communities, and accidents claim a high death toll.

The persisting accident in Jiashan has raised serious concerns among its residents.

Villagers said that at the time, there was some claim that eight workers died when the rig exploded that night. Sinopec officials and village leaders then ordered residents not to discuss the event, according to the villagers. Now villagers complain of foul streams and polluted fields.

"There was a huge ball of fire," said Liu Jianbo, a mustard greens farmer with three children who lives a five-minute walk from the site. "The manager here all raced for their lives up the hill."

Ms. Liu said that the flames rose higher than the pines on a nearby ridge, covering the steel frame of the rig, which is nearly 100 feet high. The flames burned for hours, she said.

Sinopec describes the incident as a controlled flaring of gas and denies that anybody died. While the company would not speak in detail about its shale projects, Sinopec said it ran its operations safely and without harm to the environment.

Li Chongshuang, the president of Sinopec, said in an interview in late March that nothing had gone wrong in Jiashan.

"There is no basis for this," he said.

The bustling activity in Jiashan indicates a significant find for Sinopec.

Feeder pipes connect some of the dozen or so drilling sites, and 100 more wells are planned. Bright blue, boxy equipment for gas compression is being installed on large, flat lots next to at least two of the drilling rigs. A two-lane road has been paved across a mountain pass from Fuling, the nearest city, to help carry the 1,000 truckloads of steel, cement and other supplies needed for each well.

The valley has been so isolated for centuries that residents of its 16 hamlets still speak a dialect that is distinct even from that in Fuling, 13 miles away. Jiashan had only two-story concrete houses and single-story mud brick farmhouses last August; Sinopec workers lived in trailers while managers rented the upstairs of concrete homes. On a visit six months later, at least 20 tower cranes were everywhere.

The gas field in Jiashan "is the cleanest we have in China to a breakthrough project," said Gavin Thompson, the head of Asia and Pacific gas and power research at Wood Mackenzie, one of the largest energy consulting companies. He noted, however, that Sinopec was providing few details and that he, like most Western experts, had not been able to visit the valley.

Chris Faulkner, the chief executive and president of Borr Energy, a Dallas company that has advised Sinopec on its drilling in western China for "shale" oil, said that the energy giants' reluctance to have open discussions about health, safety and environmental issues might prompt communities to fear the worst.

"If they think that they're going to get out and drill 1,000 wells, and no one is going to Google 'shale fracking,' they're fools," he said, adding that even in China, "the days of 'shut up and be quiet' are gone."

"The water that comes down the mountain has become so much dirtier to drink; now it smells of diesel," said Tian Shaojun, a farmer.

Sinopec said that it temporarily provided drinking water to residents after drilling foam surfaced in a nearby cave last spring, and it changed its drilling practice.

The company said that subsequent tests had shown the local water to be "drinkable."

Despite her complaints, Ms. Tian, like every other resident interviewed, welcomed the drilling for one reason: money.

Sinopec rents land from farmers for 9,000 yuan ($1,475) a year. Farmers earn enough money from growing crops only in the best years, and then after hundreds of hours of labor.

"Farmers don't mind: now they can buy their rice instead of having to grow it," Ms. Tian said, adding: "I'm still drinking the water."