

Federal studies confirmed PFAS in Eastern Henrico swamp more than 4 years ago

Tom Lappas

But most private wells in the area are free of the chemicals, new testing shows; 'I've never seen anything like it,' Vithoulkas says of lack of communication from feds



A section of the White Oak Swamp Creek located near several portions at the former Virginia Air National Guard site at Richmond international Airport at which a contractor sampled soil in November 2017. (Courtesy Amec Foster Wheeler/DOD)

The presence of dangerous chemicals known as PFAS in Eastern Henrico, potentially stemming in part or full from former military operations at Richmond International Airport, first was identified more than four years ago and subsequently documented by a federal report in May 2019, but that report apparently never made it to Henrico or state officials.

Neither, seemingly, did a separate federal report from July 2020, which concluded there was a possibility of PFAS in the area.

Instead, county and state officials learned about the chemicals for the first time just about four months ago, after a third report – this one from Newport News Waterworks, which supplies water to the much of the Hampton Roads area – identified their presence in the nearby White Oak Swamp Creek basin.

Local and state officials have been scrambling since then to confirm or disprove the findings of the NNWW testing with more tests of their own and then to take any subsequent necessary actions.

On that front, there's now good news: most of the 260 private wells located near the swamp tested by Henrico County late last year have shown no signs of PFAS, while all but a handful of the ones that did show such signs produced levels far below the U.S. Environmental Protection Agency's lifetime health advisory level of 70 parts per trillion (or ppt).

That's encouraging because it suggests that the chemicals (which do not break down over time) either have not existed in the area long enough, or not in high enough concentrations, to seep deep into the soil and infiltrate drinking water, where they could cause health issues ranging from birth defects to cancer.

But why weren't county officials notified about the chemicals four years ago to begin with? Henrico County Manager John Vithoukas would like to know.

"What's really disturbing to me is that the Department of Defense has known about it for years," Vithoukas told the Henrico Board of Supervisors during its Jan. 22 retreat.

Later, speaking to the Citizen, Vithoukas expanded upon his frustration.

"It's really disappointing, and you have to wonder why the feds took this approach," he said. "I can't tell you how many contacts I've had with state partners, federal partners [about other issues in years past]. This one's just really weird. I've never seen anything like it."

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PFAS are found in a variety of items, including non-stick cookware, stain-resistant pants and certain firefighting foam known as aqueous film forming foam, of AFFF; the latter has been used for years at airports and military operations in training exercises and to help quickly extinguish the type of fires that may occur following an aircraft crash, for example.

Awareness of PFAS and the potential health issues they can cause is relatively new; the EPA didn't establish its lifetime health advisory level for the chemicals until May 2016. Doing so suggested that drinking water with PFAS levels of more than 70 ppt likely was dangerous.

Realizing that many of their military bases used AFFF, federal officials began comprehensive studies of 651 bases about seven years ago to determine whether PFAS were present at or near any of them.

In Henrico, contractors working for the National Guard Bureau and Army National Guard conducted two separate studies between 2015 and 2020 of the former Virginia Air National Guard base at the airport and the current Virginia Army National Guard base there as part of a hunt for possible PFAS contamination.

The former confirmed their presence, while the latter (a less exhaustive study) concluded that they could be present there.



Officials drilled at the former Virginia Air National Guard site in early November 2017 as part of a Department of Defense study of the potential release of PFAS from the site. (Courtesy Amec Foster Wheeler/DOD)

The first study began in 2015 with a preliminary assessment of five potential PFAS release locations (or PRLs) at the former Air National Guard site (which was operational from 1947 to 2008 on 143 acres on the northeastern corner of the airport site) and then continued during a five-day period in November 2017 with the collection of soil, groundwater, surface water and sediment samples from more than 25 locations in and around those five PRLs at the former base.

The study found surface water PFAS levels above federal guidelines at four of the five PRLs and groundwater levels above those guidelines in 10 of 16 individual locations, according to [the 163-page report](#) issued by the study's authors from Amec Foster Wheeler Environment and Infrastructure, Inc.

No elevated levels were found in soil or sediment, but the study's authors concluded that the nearby drainage basin was a migration pathway and that the soil "may be an ongoing source of contaminants to groundwater" and that "there is a potential for [PFAS] migration" downstream of each PRL "toward the White Oak Swamp Creek."

The report recommended additional investigations to evaluate the concentrations of PFAS in the groundwater at each PRL and testing farther upstream and downstream to determine if other sources could be contributing PFAS to the area. It is unclear whether the National Guard Bureau completed any such follow-up studies.

In [a 64-page report published in July 2020](#), the second study, conducted in 2019 and 2020 for the Army National Guard of the 94-acre ANG site in the southeastern corner of the airport, detailed 10 possible sources of PFAS there. They included the ANG site itself; the Air National Guard base; the Richmond Fire Academy site on Beulah Road; the airport's fire department; private hangars operated by Altria Group, Inc., the Virginia Department of Aviation, and the FBI; and airplane crashes at the airport in 1996, 2008 and 2012.

Army operations at RIC began in 1964 and continue there today.

The DOD, however, never communicated any of its findings directly to Henrico County, the Virginia DEQ, the Virginia Department of Health or even other federal agencies, email communications obtained by the Henrico Citizen appear to show.

The Citizen analyzed hundreds of emails between county and state officials about the PFAS situation between October and December 2021; none suggested that any of those officials had been aware of the chemicals' presence in Eastern Henrico until October, when the NNWW report alerted them.

NNWW officials found PFAS in the White Oak Swamp last year while attempting to track their source after discovering them farther downstream in the Chickahominy River basin (which supplies water to the Newport News region). Their quest began in 2019 but test results didn't confirm their preliminary findings of PFAS in the swamp until October 2021. They notified state officials then, but Vitoulkas was miffed that they hadn't notified Henrico officials sooner.

"Newport News was digging around the swamp, and they don't pick up the phone? That's a courtesy that should have occurred, but for whatever reason it didn't," he said.

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Once county and state officials learned in October of the possibility that PFAS existed in the local waterways near the airport, they mobilized quickly to begin their own testing quickly.

The VDH and DEQ found PFAS levels in the region that exceeded the U.S. Environmental Protection Agency's February health advisory level of 70 parts per trillion; in some spots, they were 30 to 40 times higher, according to Ron Harris of the NNWW.

Henrico Public Utilities officials identified 170 private wells within a one-mile radius of the RIC property line and offered to test each of them for PFAS at no cost to the property owners. Most accepted, Public Utilities Director Bentley Chan told the Citizen, and roughly 100 other property owners with wells nearby but outside of that radius also asked if theirs could be tested. The county obliged.

"We wanted to be good stewards. . . and good members of the community and help address those concerns," Chan said. "We didn't say no to anyone who came to us and asked for a test within that area."

In total, tests at only about 40 or 45 of the private wells detected any PFAS, Chan said, and only several showed levels higher than 20 or 30 ppt – well below the EPA's health advisory level.

The other two or three wells returned PFAS results so far above those of adjacent properties and the EPA's health advisory level that county officials don't believe they are accurate and are conducting additional analysis.

"It's suspect to us," Chan said.

Officials have mailed letters and test results to the majority of people whose test results showed no PFAS, Chan said, while letters to the rest of those property owners and the ones whose results showed low levels will be sent shortly.

There was no immediately discernible geographic pattern among the wells that did show signs of PFAS, Chan told the Citizen. Virginia Department of Health officials are conducting follow-up research to determine whether those wells have any other similarities, such as the level of their depths, he said.

At about the same time the county began testing private wells late last year, the Virginia DEQ also partnered with the U.S. Geological Survey to embark upon a \$180,000 water and environmental testing effort in the White Oak Swamp Creek basin to learn more about the PFAS present there, where they are located specifically and how long they might have been there. That multi-phase study of surface water, sediment and fish tissue (all but \$20,000 of which is funded by the state) is ongoing, with results expected later this spring.

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When the DOD began evaluating 651 of its military bases for the presence of

PFAS, it established a number of guidelines about the process that should occur in each of those communities.

Among them: that the DOD would work “in collaboration with regulatory agencies, communities, and other stakeholders” throughout the process and that when it “detects elevated levels of PFAS that may pose an unacceptable risk to human health, it uses an outreach strategy to promptly notify affected community members.” Those include communications to potentially affected communities, partnering with local regulatory and governmental organizations, hosting public meetings, alerting and engaging with the media, messaging through social media and updating community leaders.



A map shows the site of the former Virginia Air National Guard Base at Richmond International Airport, as outlined in a 2019 groundwater monitoring report prepared for the Air National Guard Headquarters in Maryland.

The DOD established a policy in September 2020 that required agencies under its umbrella “to seek to enter into agreements with municipalities or municipal drinking water utilities adjacent to military installations to jointly share drinking water monitoring data for PFAS and other emerging contaminants of concern.”

But with one exception, there is no evidence that any of those federal actions ever occurred here.

And it wasn’t until Varina District Supervisor Tyrone Nelson’s Dec. 2 community meeting about the topic that either group of officials learned about that exception – letters that the National Guard Bureau had sent to some area residents last April, indicating that PFAS sampling conducted by the DOD had found elevated levels of the chemicals there.

At that meeting, Sandston resident Ann V. Goggin presented Nelson [with the letter](#) she had received Apr. 15 from National Guard Bureau Environmental Division Chief Elaine Magdinec, who wrote that the agency's tests showed PFAS levels ranging from 11.3 ppt to 2,270 ppt – the latter more than 32 times higher than the EPA's health advisory standard of 70 ppt.

It is unclear how many Henrico residents received similar letters, or when; repeated email and voice mail requests by the Citizen to the NGB for details during the past two months have gone unanswered.

Magdinec's letter also indicated that the "the Byrd Field ANGB will coordinate its investigation with the appropriate state regulators and provide opportunities for public participation" and directed Goggin [to a U.S. Air Force Civil Engineer website](#) for further information.

It's unknown which state regulators the letter was referencing or whether such communications or public participation opportunities ever occurred, though no evidence of either was apparent in the state communications analyzed by the Citizen.

Earlier this week, officials from Henrico, Richmond and the state met in person with officials from the airport and military, Chan told the Citizen, to review recent findings and share information.

"I believe that there are some other ongoing studies that we will be made aware of," Chan said.

* * *

Even before the PFAS issue arose, county officials had been working to devise plans to extend water and sewer service to all portions of the county currently not served by either. Now, they intend to make the White Oak Swamp Creek region the first to receive that service.

During the board's Jan. 22 retreat, Chan told supervisors that it would cost \$80 million to run 40 miles of water lines to the entire area; the county already has budgeted for associated sewer lines there, he said.

"We think we can program that in. . . to make it happen," he said.

If all funds were available at once, it would take about 24 to 36 months to install all the lines in the region, he said.

Typically, it would cost property owners roughly \$20,000 apiece to connect their homes to run extension lines from their property and connect to the county's water and sewer lines, Chan said, but Henrico officials want to use a combination of federal American Rescue Plan funds and county water and sewer credits to apply toward those costs so that property owners would not incur the fees themselves.

"You're not talking about significant amounts of money on an annual basis – \$500,000 to \$1 million," Vithoukaskas told supervisors. "What you would be able to do, though, is incrementally and over time get to all of the septic and be able to extend water as far as you possibly can. You'd have to have concentrations of development, but I think you could pretty much cover most of the county taking this approach."

Environmental groups that sued Henrico, alleging Clean Water Act violations, now challenging judge's ruling

Tom Lappas

Chesapeake Bay Foundation, James River Association disagree with court's conclusion that county can't be subjected to additional civil penalties



The two environmental organizations that [filed a citizen lawsuit in December against Henrico County](#), alleging that the county has repeatedly violated the Clean Water Act during the past three decades, now are challenging the decision of a federal judge who ruled in April that their suit could not subject Henrico to civil financial penalties because the county already was facing such penalties from the state.

In their suit, the plaintiffs – the Chesapeake Bay Foundation and the James River Association – alleged that Henrico committed “a series of pollution violations over many years” by allowing repeated failures of its sewer system and water reclamation facility in Varina, which resulted in tens of millions of gallons of raw sewage escaping into the James River and feeder streams and creeks. They sought the imposition of “equitable relief” – in essence, a court ruling requiring the county to take certain actions to address the pollution – and civil penalties, including the plaintiffs’ legal fees and the potential implementation of fines against Henrico from the state.

Henrico officials countered by filing a motion Jan. 6 requesting dismissal of the entire suit on grounds that the U.S. District Court lacked the proper jurisdiction to rule on it and that portions of the suit failed to state relevant claims under federal rules of civil procedure.

In an April 11 memorandum opinion, Judge David J. Novak of the U.S. District Court for the Eastern District

of Virginia agreed in part with both sides, concluding that while the plaintiffs' request for equitable actions of enforcement could proceed, no civil financial penalties could be levied against the county through the lawsuit.

The latter, he wrote, was because the Virginia Department of Environmental Quality already had begun its "prosecution" of Henrico for the failures of its sewer system – a process that involved such penalties. The Clean Water Act, he wrote, precludes a citizen lawsuit from seeking additional civil penalties in such a case if a government agency already had initiated "diligent prosecution" of CWA violations.

The plaintiffs, however, now are challenging that ruling ahead of a scheduled Aug. 16 settlement conference date established by Novak. They contend that in fact the state did not diligently prosecute Henrico because it hadn't enacted any penalties against the county for its most recent violations by the time the lawsuit was filed, nor did the state's subsequent prosecution actions address the concerns noted in the lawsuit or include deadlines for Henrico to comply with Clean Water Act standards.

Assuming the suit is not settled, it would proceed to a bench trial (during which a judge, not a jury, hears a case and issues a decision) beginning Dec. 12.

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In his April opinion, Novak wrote that the state's prosecution process began June 24, 2020 – when the DEQ held an enforcement conference by phone with Henrico Public Utilities Director Bentley Chan in response to its issuance of six notices of Virginia Pollutant Discharge Elimination System permit violations against the county between Sept. 3, 2018 and June 3, 2020.

In the months after that phone call, the DEQ and Henrico officials negotiated and eventually agreed upon [a consent order](#) that required the county to:

- pay civil penalties of \$207,680;
- complete a series of upgrades designed to prevent future pollution incidents to the Varina water reclamation facility by Dec. 15, 2028;
- complete 28 separate sewer rehabilitation projects, each with individually scheduled deadlines between Dec. 1 this year and Dec. 15, 2028. (Ten of the projects listed in the order actually were completed prior to the order's effective date.)

In total, the work will cost the county more than \$200 million, Henrico Deputy County Manager for Operations Steve Yob told the Citizen.

But CBF and JRA attorneys challenged Novak's conclusion, filing a motion May 10 for reconsideration on the grounds that a "private, closed-door meeting" didn't meet the legal definition of "commencement of an enforcement action."

"If such a private meeting is to be considered adequate, the bar for citizen plaintiffs would be hidden from the public, imposing an undue burden," they wrote in a challenge to the decision.

The plaintiffs also contend that since Henrico County Manager John Vithoukas didn't formally sign the order until Aug. 25, 2021 – two weeks after they notified the county of their intent to file a lawsuit – the DEQ's prosecution hadn't actually occurred yet. (The DEQ didn't finalize the order until Dec. 14 last year – eight days after the CBF and JRA filed their suit.)

Novak disagreed, but following the plaintiffs' motion for reconsideration gave them until May 27 to depose Chan about his initial enforcement conference call with the DEQ in June 2020. They did so and now have until May 31 to submit a supplemental brief in support of their earlier motion. Henrico then will have until June 14 to file a response to the motion and brief, and the plaintiffs will be able to respond once more by June 20.

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The civil penalties to which Henrico agreed in December required it to pay a fine of \$51,920 by mid-January of this year and then to spend \$155,760 on the completion of a supplemental environmental project by Oct. 1, 2024 that would include expanding the county's public wastewater infrastructure to serve certain properties that currently use private septic systems.

The 18 remaining sewer rehabilitation projects Henrico is required to complete involve a variety of upgrades

such as sewer pipe replacement, rehabilitation of sanitary sewer lines and relocation of sewer lines along various waterways including Upham Brook, Gillies Creek, Rocky Branch, Little Westham Creek, Almond Creek, Thorps Branch, Horsepen Branch and White Oak Swamp. The enhancements will address issues the aging system currently faces, such as leaky sewer lines.

Those improvements, as well as the ones planned at the water reclamation facility itself, should prepare the county's system to handle wastewater effectively for decades to come, Yob told the Citizen.

"We believe in cooperation with the DEQ that we've got a good program and we're going to get the facility up to meeting the needs of both the environment and our citizens," he said.

The facility's age (it opened in 1989) coupled with unprecedented rainfall (two of the three years during which Henrico had its most recent egregious violations were among the three wettest years in recorded history here, Yob said) created a unique set of circumstances that led to many of the violations documented in the lawsuit.

The suit alleged that between September 2016 and June 2021, nearly 240 individual overflows caused by the county's system dumped more than 66 million gallons of raw, untreated sewage into the James River and its tributaries – most of that amount (49 million gallons) in 2018. Henrico previously was fined twice by the DEQ – in 2003 (\$25,500) and 2010 (\$29,500) for violations related to sewage overflows that released higher than allowable limits of various pollutants (including nitrogen, suspended solids, ammonia, and chlorine) into local waterways.

A sanitary sewer system, like the one in use in Henrico, carries only sewage and not stormwater; such systems only overflow when there is a defect or blockage. Some other localities, like Richmond, have older "combined" sewer systems that carry both stormwater and sewage in the same pipes.

Henrico's planned enhancements to its water reclamation facility include replacing all components of its primary clarifiers (the first filters that remove large wastewater materials), its secondary clarifiers (which remove smaller materials) and its final filters (the last layer of filtration that cleans the water before it is returned to the river), Yob said.

Other enhancements will include the installation of new motors, gear boxes and sludge-processing burners, he said. Much of the new material will be stainless steel, he said, which should last much longer than the current standard steel components in use. One challenge with the process is that the enhancements must be made while the system continues to operate, he said.

"I wish I could say that I could snap my fingers and those would be done, but it's a little more complicated than that," Yob said.

Many of the projects already had been identified as critical needs by county officials in the past, Yob said, "but certainly the fact that we now have an agreement with DEQ on a schedule and the actual items we are going to fix does lend some urgency to getting it done."

‘We’re giving it all back’

Tom Lappas



Henrico County Manager John Withoukcas announces plans to provide a tax credit to county vehicle owners, during a May 6 press conference at the western government center, while Henrico Finance Director Sheila Minor looks on. (Tom Lappas/Henrico Citizen)

Relief is on the way for Henrico vehicle owners, after many were hit with staggering increases in their first-half personal property bills in recent days.

Henrico County will reimburse vehicle owners a total of \$20.4 million later this year and delay the due date for first-half tax payments by 60 days, to Aug. 5, in an attempt to mitigate the much-higher-than-anticipated valuations of personal and business vehicles registered in the county. Henrico County Manager John Withoukcas and Henrico Finance Director Sheila Minor made the announcements during a press conference Friday morning at the county’s western government center.

The credit amounts to a 52-cent reduction of the county’s personal property tax rate – from \$3.50 to \$2.98 per \$100 of assessed value. Most vehicle owners will not receive a reimbursement check, though; they’ll just see lower second-half personal property tax bills in October (due in early December). Those who have paid their total annual tax in full will receive refund checks.

The owner of a vehicle valued at \$12,000 can expect to see a total credit of \$62.40 for the year. Someone whose vehicle is valued at \$25,000 will receive a \$130 credit.

The plan awaits two separate votes by the county’s board of supervisors to authorize it – the first May 10, at which supervisors will vote to extend the first-half due date to Aug. 5, and the second later this summer, after a new state law allowing localities to return excess personal property tax revenue to citizens takes effect July 1.

As part of the county’s current fiscal year budget, which ends June 30, county finance officials had budgeted last year for an expected 15% increase in personal property tax revenues, anticipating that the value of used vehicles would rise because of a microchip shortage that was slowing new car production.

But after they completed their assessment of all vehicles in the county this March, they found that the average assessment actually had risen by 35%, Minor said. That amounted to an estimated \$20.4 million in unexpected revenue – money that the county now intends to return.

“I want to be clear – this is not the county’s money,” Vithoulkas said. “We did not budget those values, and the revenue that comes from the values. . . that belongs to our taxpayers. Our board of supervisors, all five, want to return this money – every single penny – to its rightful owners, the taxpayers of Henrico County.

“We’re giving it all back.”

		Assessed Value \$ 25,000			
Total (Annual) Tax Due	\$	875.00			
Qualified Car Tax Relief	<u>(280.00)</u>				
Net Due from Taxpayer, before Credit		595.00			
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"> <td>1st Installment (now due August 5)</td> <td></td> <td style="text-align: right;">297.50</td> </div></div>			1st Installment (now due August 5)		297.50
2nd Installment (due December 5)	(130.00)	<u>167.50</u>			
Net Due from Taxpayer, after Credit		465.00			

➔

PP Tax Credit

130.00

as % of Net Due

22%

The owner of a vehicle assessed at \$25,000 can expect a \$130 tax credit, which will be reflected on the second-half personal property tax bills distributed in October. (Courtesy Henrico County)

The plan took shape quickly – just within the past few days – after county officials received hundreds of angry calls, texts, emails and social media messages from taxpayers stunned by the sudden increases in the vehicles’ valuations – and associated taxes.

The county is not legally permitted to change tax bills after they’ve been issued, but thanks to a bill passed unanimously this year by the General Assembly and signed into law last month by Gov. Glenn Youngkin, it can return excess personal property tax revenue to taxpayers. It expects to become the first to do so – just as earlier this year it became the first to return excess real estate tax revenue to taxpayers, taking advantage of a 2005 law to do so.

In total between the two reimbursement plans and the reduction of the county’s real estate tax by 2 cents per \$100 of assessed value, the county will return \$51 million to its taxpayers, according to Henrico officials.

“This is unprecedented – to match the unprecedented economic difficulties we are experiencing,” Vithoulkas said. “We are committed to being good stewards and doing what is right by our taxpayers. That is our promise.”

The issue of rising used-car values is not unique to Henrico – it’s happening nationwide. And county vehicle owners are buffered more than those in other localities by an already-low personal property tax rate (Henrico’s is the lowest in the Richmond area and tied with Williamsburg for the lowest in the Central Virginia region).

Still, all five members of the board of supervisors have been inundated by calls and messages from frustrated and angry residents in recent days, prompting the county to act.

In total, there are about 400,000 registered to individuals or businesses in Henrico that are subject to the tax, according to Minor. Henrico assesses their value using data from JD Power, and the valuation process takes place as close to the issuance of the first-half tax bills as possible, to capture the most accurate data, she said. (Some localities bill vehicle owners for their entire annual property tax at once, but Henrico for years has split the tax into two payments – one due in June and the other due in December – as a way to make it more palatable for taxpayers.)

That the county is able to return more money to taxpayers is a sign of the its financial strength. Henrico weathered the worst of the pandemic financially without significant dips in revenue and has seen better-than-expected revenues since.

Through the first eight months of the county’s fiscal year (which ends June 30), it was pacing nearly \$81 million over the level of local and state sales tax revenues that its conservative budget anticipated. The budget projected \$734.1 million in local tax revenue and \$393.6 million in state tax revenue, but Henrico is on pace for \$806.6 million in local revenue and nearly \$402 million in state revenue by June 30 – totals that did not include the additional \$20.4 million in personal property tax revenues the county is now planning to return.

Spurred by the 1997 “no car tax” campaign promise of gubernatorial candidate and former Henrico Commonwealth’s Attorney Jim Gilmore, Virginia began phasing out its car tax the following year after Gilmore’s inauguration as governor. But the promise never fully materialized.

The General Assembly approved a five-year phase out of the tax (from 1998 through 2002), but when money became tight in 2002, lawmakers opted against completing the phase-out, deciding instead to freeze the tax-relief rate at 70% (meaning vehicle-owners would remain on the hook for the other 30% of assessed value).

Two years later, the General Assembly voted to freeze the total amount of tax relief the state would provide to localities to mitigate the vehicle tax at \$950 million annually, beginning in 2006. It’s remained at that level ever since, meaning that as the number of registered vehicles in the state has grown, the available amount of tax relief for each one has shrunk. In some localities, some vehicle-owners now are responsible for about 70% of the tax themselves.

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