

# MARSHALL WILLIAMS TAKES A LOOK AT SOME UNUSUAL 12GAUGE FACTORY LOADINGS THAT CONTAIN .410 GAUGE SHOT PAYLOADS

(Edited by Nick Wilson)

## AGUILA'S MINISHELLS, 12 GAUGE SHELLS CONTAINING .410 SHOT CHARGES

Short shells and small shot charges are not exactly new. As the great variety of small gauges indicates, many shooters want, like, or need smaller, lighter recoiling guns.

These products usually are aimed at ladies, young shooters, and old men who grow feeble. (Like ALOOF's members!) At one time, rather than make small bore guns, top-of-the-line British gun designers preferred to meet this need with a smaller, lighter 12 gauge gun.

The basic reason was a belief that 12 bores pattern better than smaller bores even when using small shot charges. By going to a 12 gauge shell just two inches long and using shot charges on the order of 13/16 and 7/8 ounces, the British two inch 12 bore could weigh a scant five pounds in the lightest examples, have the lines, balance, and many of the swing characteristics of a full size 12 gauge gun, yet still hold weight and recoil to 28 gauge levels.

For many years, the concept of such short shells has been treated as a quaint notion from other times. However, in about 1995, Industrias Tecnos SA de CV of Cuernavaca, Mexico, an innovative Mexican ammunition manufacturer decided to take short shells a step further. Or shorter. They developed a new 12 ga shell called the Minishell to be sold under the brand name "Aguila." With a fired length of 1-3/4" and an overall loaded length of just 1-1/2," the Minishell goes to lesser lengths than anyone has ever gone before. In fact, the shell for the slug load



Three of the unusual 20 round Boxes of Aguila Minishells

is just 1 5/8 inches long, probably the shortest 12 gauge shell of all time.

The manufacturer's idea was the same as that of the late 19th. Century English gunmakers, to create a lighter recoiling shotgun, but the intended purpose was not game guns for the distaff, young, and feeble, but for law enforcement and the military. The lighter milder recoil results in less pain in the shoulder, less fear in the new shooter, and quicker recovery after the shot. What makes the Minishell so particularly attractive to police and military organizations is the increase in firepower. A short barreled riot gun with extended magazine normally holds seven or eight standard length 2 3/4 inch shotgun shells, but it can hold 12 of the short shells. The manufacturer also notes that one can grab a lot more shells in his hand and carry a lot more.

There is a trade off. The short shotgun shell can not hold the weight of lead that the longer shells hold, and this is especially so with both fine shot and buckshot. However, the buckshot load is adequate for most tasks, and, as appears below, the slug load is more than adequate.

The buckshot shell is a duplex load containing four (4) #1 buckshot, .300 inch diameter, and seven (7) #4 buckshot, .24 inch diameter at an advertised velocity of 1200 fps. The only fine shot load is 5/8 ounce of 7 1/2s at an advertised velocity of 1175 fps.

The Aguila Minishell's slug weighs 7/8 ounce. Although heavier weights are available in the 2 3/4 inch 12 gauge shell, a common standard 12 gauge slug also weighs 7/8 ounce. The trade-off in the minishell is velocity. Aguila advertises a muzzle velocity of 1250 fps for their Minishell slug. Common 7/8 ounce 12 gauge slug velocities run as high as 1800 fps, but "managed-recoil" slugs for law enforcement have velocities similar to the Minishell. The lower velocity has proved adequate for Police or Military applications.



**View of loaded shell, fired shell, two neat little plastic mini-wads, and cutaway showing well made three piece design with separate base wad.**

One concern with the extremely short shell is its reliability in shotguns commonly found in police departments and military stores. The manufacturer singles out the Winchester Model 1200/1300 pump shotgun as having proved entirely reliable with the tiny shells. As the highly regarded FN police shotgun is essentially the same design, it shares the Model 1200/1300's reliability with the Minishells. All other designs require some modification to their elevators for complete reliability.

I tried the shells in several pump shotguns, including the Remington Model 870, the Ithaca Model 37, and the current Browning BPS. All proved troublesome. The shells are short enough that, when the magazine spring pops them into the receiver, they can flip into odd positions, sometimes vertical and sometimes completely inverted.

The Minishells have not proven reliable in any common automatic shotguns.

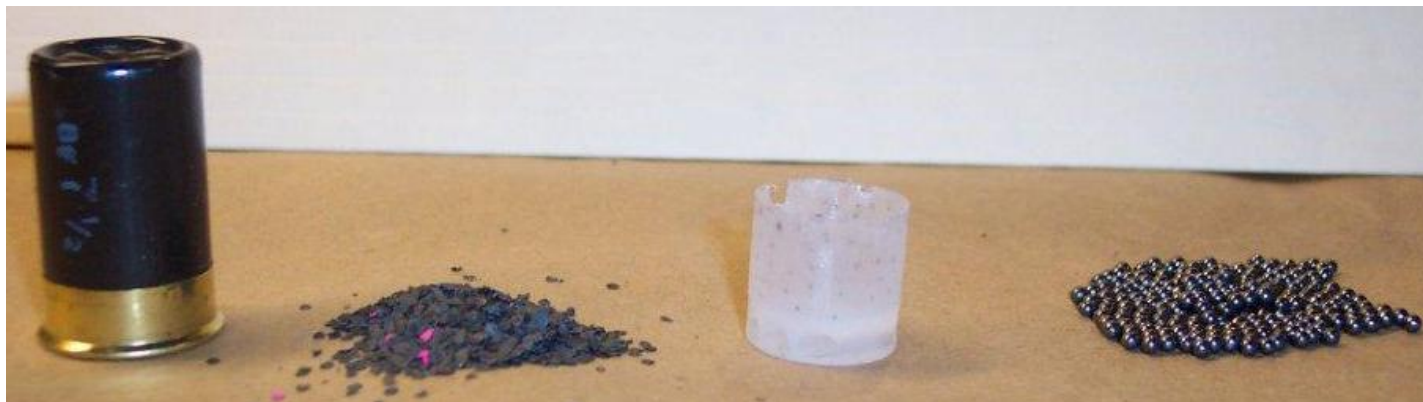
The manufacturer recognizes the problem and a shotgun specifically for the Minishell is a possibility.

The manufacturer notes that Minishells are loaded to the same SAAMI specs as 2-3/4" or 3" shotshells, and develop similar pressure in the chamber of 12ga shotguns. They specifically warn that MINISHELLS should NEVER be used in signal/flare guns or any other firearm other than those approved by SAAMI for standard 12 gauge shotgun shells. Failure to comply with this may result in injury or death to the user or others. (It also may result in a violation of the National Firearms Act of 1934 which regulates shotguns with barrels less than 18 inches long.)

I am fond of small bore shotguns and usually do well with the light shot charges, 1/2 ounce in the .410 and 3/4 ounce in the 28 gauge. The Minishell's 5/8 ounce of 7 1/2s splits the difference and was too inviting to pass up, so I purchased a case just to see what I could do with them. It turns out that I can do quite a bit with them.

For my first effort, I went to friend Lee Brenneman's Golden Meadows Sporting Clays range at Bittinger, Maryland. Golden Meadows is a most delightful range offering both a "Twister" set up and Lee's idea of sporting clays. Lee's idea is not exactly five stand, but there are five shooting stations, and Lee uses 11 automatic traps around the field throwing targets which offer a great and challenging variety of shots with little walking.

My maiden trial with the Minishells was on sporting clays. In deference to the light shot charge and light recoil, I used my lightest 12 gauge over and under, an older Browning Citori Superlight with 28 inch barrels and fixed modified and full chokes. At six and one-half pounds, it still is substantially heavier than a British two-inch gun. Recoil energy of a standard target load in a six and one-half pound gun is 25.1 ft. lbs.; recoil energy shooting the Minishells is just 7.3 ft. lbs.



**Bird shot load showing neat little wad, powder, which obviously is some type of Red Dot, and 5/8 oz. Of good quality and very hard 7 1/2s.**

As many shots would be simply too far for the Minishell's light shot charges, or so I thought, I decided to use the Minishells only on targets which I could shoot within about 25 yards. My first pair were report doubles included an incomer which would get within 25 yards and a crossing shot which would not.

Accordingly, I loaded the Superlight with a high speed 7/8 ounce load in the modified bottom barrel and a Minishell in the full choked top barrel. I then called "Pull." As the long crosser sailed by at about 35 yards, I mounted the gun, swung in front, and pulled the trigger. I heard a gentle "pop," felt no recoil, and saw as fine a break as I could hope for. Then I took the incomer, heard a lusty bang, felt recoil, and saw a clay target totally disintegrate.

Hmm?

It seemed that in examining my gun, one of the kibitzers had reset the selector to fire the top barrel first. That error was fortuitous, though. The solid break at about 35 yards gave me the confidence to try the Minishells on targets that were a little farther away than I would have tried otherwise.

I continued to shoot the Minishells only when I thought the target would be in range, but I now thought the range was easily thirty yards in the Browning. I would guess I shot them on 2/3 of my targets and finished the round with a satisfactory if unspectacular score. I did not feel that the Minishells had cost me any targets.

After the sporting clays, I tried a round of "Twister." For those who have not shot this fun and exciting game, it is a blast and a good test of skill. Lee's Twister set up has a five station platform about ten feet high with a wobble trap mounted under each end station. The usual squad consists of five shooters and they shoot in rotation like trap. At each station, the shooter takes a single, followed by a report pair, followed by a true or simultaneous pair. The traps are set with full horizontal and vertical wobble. Horizontally they throw in any direction within an included angle of 90 degrees; vertically they throw any angle from flat level skimming the ground to a high angles above 30 degrees. Either trap may be used for any shot. Fun? You bet. Fast? Oh, yes.

I have shot this game with .410 Skeet loads and 28 gauge Skeet loads. The target selection is entirely the luck of the draw. Since targets can go in opposite directions or side-by-side, and can go high-low, low-low, or low-high, or high-high, scores depend a little on where the targets go. The hardest targets probably are true pairs which go in opposite directions. The time between shots makes the second target a very long shot. I had the bad luck to get four out of five true pairs like this,



**Topper throwing the Major a high hard one in the Judge's back yard.  
Gun is the Winchester "Ranger," a variant of the well designed Model 1200-1300 series.**

and I missed the second bird on each. My final score was a 20/25, and I felt it represented my shooting for the day. I certainly did not blame the lightweight shells.

My next opportunity to try the Minishells came a couple of weeks later when I went Skeet shooting with friend Dick Sluss. Dick is a real aficionado of light 12 gauge loads and generally has his pockets filled with an assortment of 12 gauge shells containing 13/16, 3/4 and 7/8 ounce loads. He saw

nothing unusual about my load, even though the shells were a bit short. I chose a Ruger Red Label Sporting clays gun with 30 inch barrels and Skeet chokes. I no longer get to shoot Skeet regularly, and it affects how smooth my swing is. I did not shoot well, breaking a couple of rounds in the low 20s, but all misses were my fault. When I hit, the breaks were as good as could be expected.

I next had an opportunity to shoot the Minishells during a visit with my youngest daughter in Maine where the good people at the Scarborough (Maine) Fish and Game Club always are kind enough to let me shoot with them. This time I had the pleasure of an IDPA match with my daughter. After it was over, I sneaked down to the trap range with just time enough for one round of 16 yard singles. I used my old 870 Skeet/trap gun and broke another 20/25. Again, I do not fault the shells. To be sure, the ranges reached out to the practical limits of the 5/8 ounce shot charge, but I hit hard rights, hard lefts, and straight-aways. These usually are the longest shots. I just shot poorly and missed five of the others.

Both the Ruger and the old 870 weigh seven and one-half pounds. Recoil energy of a standard target load in a gun of this weight is 21.7 ft. lbs.; recoil energy with the Minishells is just 6.7 ft. lbs. Man, it ain't even a tap.

Just as I was wrapping up this article, Topper and the Major came to my house for a weekend and provided me with two new opportunities. First, the Major owns a Winchester "Ranger" pump gun which is a basic Winchester Model 1200/1300. At my request, he brought it along with his new Browning Cynergy. We tried the Minishells in the Ranger and they worked flawlessly. The experience left me convinced that the Model 1200/1300 has the best-controlled feed of any pump I have tried.

The examination also reminded me that, even though in 1964 the gun writers universally reviled the Model 1200 as an unworthy replacement for Winchester's venerable Model 12, the Model 1200 was and is a great shotgun design. Recently both Winchester and the Model 1200 have had a spotty history, but the design continues as the basis of the FN Tactical Police Shotgun.

Their visit also provided me with an opportunity to observe some non-small bore shooters trying the Minishells. I have a manual trap with full wobble, both side-to-side and up-and-down and my back yard faces a valley where winds make targets unpredictable and the wobble trap makes them even more so.

Nevertheless, using the Ranger as well as their usual 12 gauge guns, the Major's aforementioned Cynergy and Topper's Ruger Woodside, neither missed any shots, including doubles, with the Minishells.

Both commented on the light recoil and the light sounding report, but said nothing about the breaks being weak or the shells lacking range. Not being small bore shooters, they did not have my concerns about range and just shot the targets. I felt it was a pretty good indication that the shells are more effective than one expects.

As any .410 or 28 gauge shooter could tell you, light shot charge breaks targets and kill birds to useful ranges while minimizing recoil and its effects. The Minishells allow one to introduce new shooters, especially the recoil conscious, to shotguns without going to the expense and trouble of buying a small gauge gun. They provide experienced shooters with an opportunity to shoot lightweight hunting guns without suffering from the fatigue that accompanies a long day of fighting recoil, and, most of all, they are a lot of fun to shoot.

## MEASUREMENTS, WADS, GROUPS, PATTERNS, AND OPINIONS.

### **SHELLS:**

All of the Aguila Minishells have lightly ribbed black plastic tubes, a plastic base wad, and apparently real brass heads, the metal is non-magnetic. The primer appears to be a standard 209

type with battery cup, but a magnet will not pick it up so there are no ferrous metals in the shell's construction.

The slug is roll crimped, but the fine shot and buckshot shells have star or pie crimps. I find this somewhat surprising because roll crimps require about 1/8 inch less of the case mouth than star crimps. In 12 gauge, a roll crimp would allow an extra 1/8 to 3/16 ounce of shot to fit into the shell.

### SLUG LOAD:



**Fired buckshot shell next to roll crimped slug shell showing that slug case is 1/8 inch shorter; un-fired slug wad designed with nose to fit hollow base of slug; un-fired slug; fired slug found in shale bank backstop with wad still attached; fired wad found on ground where it had dropped from its slug. Slug accuracy was good.**

As noted, the slug load uses a roll crimp and the fired length of the shell appears a trifle shorter than the other two shells, almost exactly 1 5/8 inches. I pulled the load from one shell and found the slug to be a smooth-sided, hollow base projectile .692 inches in diameter, .630 inches long, and weighing 381 grains. As 7/8 ounce is 382.8 grains, this is as close as it gets.

The wad is a solid based affair shaped so that the front end fits inside the slug's hollow base. The bottom side is slightly dished, but not cupped. Weighing 34 grains, it is rather heavy. I recovered one slug fired into a shale bank that still had the wad in place and I recovered one wad without its slug. Whether they separated in flight or whether the impact displaced them, I cannot tell.

The powder charge was 25 grains of some type of ball powder, but I have no way to identify it.

I fired five slugs over the chronograph, three with an old Ithaca Deerslayer with 20 inch slug barrel and two from my old 870 with Poly-Choke. The average velocity at ten feet was 1060 feet per second (fps) for an energy of 953 ft. lbs. Four of five slugs, two from each gun, landed in a group of four inches at point of aim. The fifth landed two inches higher but that was shooter error. This level of power and accuracy would be good enough for short range deer hunting.

I suspect that this slug and wad design would benefit from a rifled barrel, but I had none in which to try them.

### BUCKSHOT LOAD:

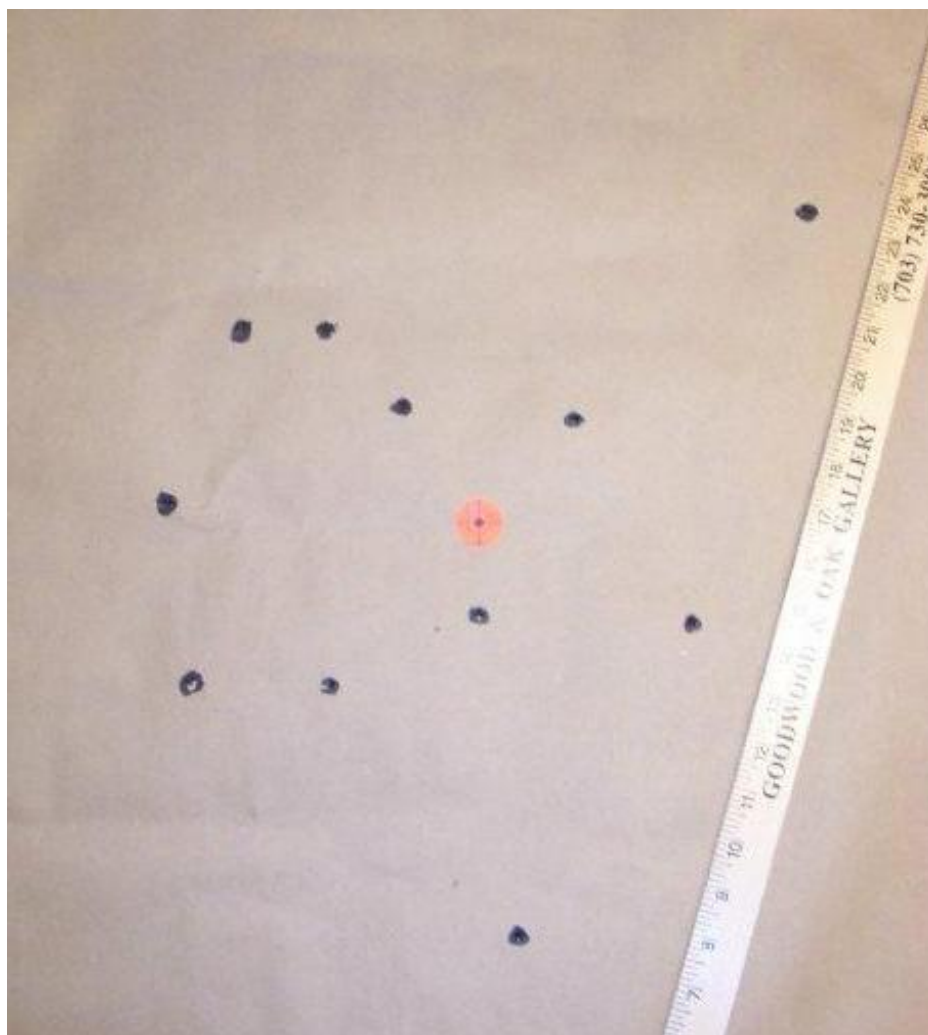
The buckshot load is star-crimped and the over all length of the fired case is 1 3/4 inches. I disassembled one shell and found that the top or front layer of buckshot consisted of seven (7) #4s, each measuring very close to .24 inches. Between the #4s and the wad was a layer of four (4) #1 buckshot, each measuring .299 inches. The seven #4s weighed 142 grains and four #1s weighed 156 grains. Total buckshot weight was 298 grains, or almost exactly 11/16 of an ounce. The single wad looked like a plastic "135 card," but it measured .145 inches thick. It was .724 inches in diameter

and had a wide shallow dimple on both sides. Powder charge was 12.5 grains of some type of Red Dot. It should be remembered that not all Red Dot is canister grade, i.e., what the reloader can buy.



**View of buckshot shell loaded and disassembled.**

**The wad looks much like a plastic .135 card, but with a dimple in the center on both sides.  
The four larger 31 buck are loaded next to the wad and the seven #4 buck are in front.**



**The full choke buckshot pattern is quite small.  
At 25 yards, all pellets are inside of 17 inch circle.**

I chronographed two of the shells and found the velocity to be in keeping with the advertised muzzle velocity of 1200 fps. I also patterned three of the buckshot at 25 yards and got somewhat erratic results.

Two patterns fired through open chokes spread very wide and a couple missed the the 36 inch x 40 inch pattern paper. Of the 11 buckshot, I counted only 9 hits on one pattern and 10 hits on the other. A single pattern shot through a full choke measured 17 inches between widest pellets.

I compared these results with some unrelated tests I did using 2 3/4 inch shells with conventional #00 and #4 buckshot loads. The full choke patterns are comparable, but none of the open choke patterns with conventional buckshot spread more than 33 inches at 25 yards.

The cylinder choke buckshot pattern is extremely wide, only ten of the 11 pellets are on the 36"x40" paper. Author speculates that the extraordinary spread may result from large #1 pellets being behind smaller #4 pellets and blowing through them.



## **BIRD SHOT:**

The Minishell is available only loaded with #7 1/2s and uses the same 1 3/4 inch case and star crimp as the buckshot Minishell. As noted, a roll crimp would leave enough room inside the case for at least an additional 1/8 ounce of shot.

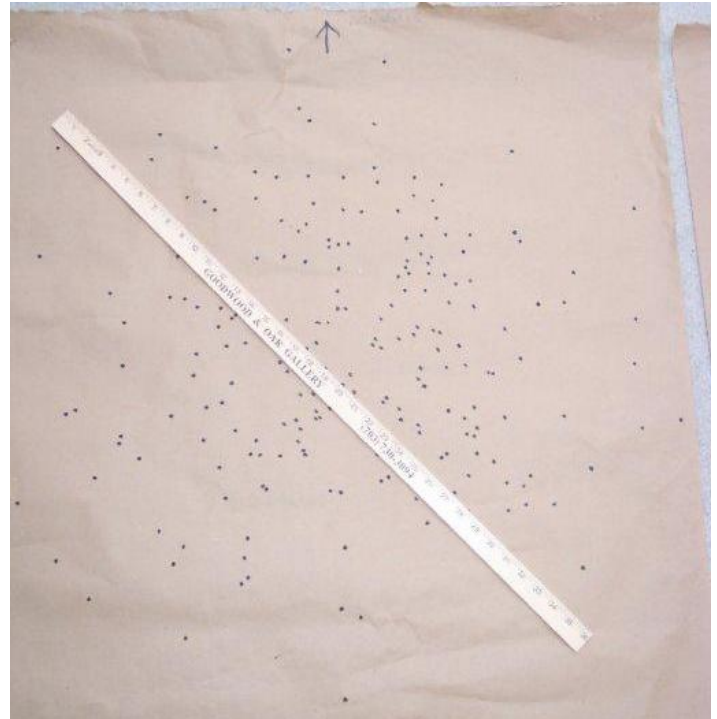
I weighed the shot charge from one shell and found it to weigh 267 grains, almost exactly 5/8 ounce. I counted the number of pellets in this one load and found there were 232 of them. That works out to about 380 pellets in the ounce, a bit light for 7 1/2s but well within manufacturing tolerances.



**Full choke pattern of #7 1/2s at 20 yards.  
Very nice tight pattern.**



**Cylinder choke pattern at 20 yards  
Nice spread; very well distributed.**



The tiny wad has an unslit shot cup and four small holes provide a short compression section between powder and shot. The bottom of the wad shows very slight dishing, but does not form a cup at the edges. The wad weighs 19 grains. Powder charge was 13 grains of some type of Red Dot. Both shells loaded with Red Dot left unburned grains of powder in the chamber and bore.

The advertised velocity is 1175 fps, but I chronographed several shells and determined that velocities were nearer 1275 fps.

### **OPINIONS:**

I wondered about the shot cup having no slits. This is commonly used in long range loads to make patterns tighter. Accordingly, I patterned a couple through my 870 with the Poly-Choke. I now do my patterning at 20 yards and, if I need to estimate a pattern, I use a 15 inch circle. The full choke pattern was tight, at least 80%, but no tighter than other patterns at the same range with the same gun. The cylinder pattern was much more open and compared favorably with other Skeet choked patterns. Both patterns showed good distribution of pellets.

As noted elsewhere in this article, these shells made a different sound, more of a "pop" than a "boom," and I wondered how the noise level compared to that of standard 12 gauge shells. Curiously, my little Boom Stick says the noise level of both loads is the same at the muzzle.

In cylinder bore barrels, the spread of the buckshot is extraordinary. I suspect that having the #1 buckshot behind the #4 buck affects the pattern. The heavier buckshot retains its velocity significantly better and may push the smaller shot out of the way.

Once upon a time, when the muzzle loaders still ruled live pigeon traps, light shot charges sometimes were used to handicap shooters and for quickly breaking ties in shoot offs. The concept might be even more useful in this day of seemingly endless 100 straights.

Although severely restricted in the United States, a shot pistol chambered for the Minishells would make a very useful tool for those who need a small light shotgun for varmints and snakes while offering 12 gauge slug performance with lighter recoil.