

BPI LOAD GUIDE:

THE PRIMER BROCHURE

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THE EVOLUTION OF SHOTSHELL PRIMERS

Shotshell primers have undergone significant evolution over the decades, with the market and products continually changing. There may never be a final destination in this journey, but this ongoing development ensures that there will always be more work to do.

BPI has been importing Cheddite CX50 and CX1000 primers for many years. During periods of shortage, finding various primers became nearly impossible. At one point, the only primer available in the U.S. was the Cheddite 209, also known as the CX2000. As Cheddite has expanded its operations, numerous cartridge manufacturers worldwide have requested different primers for their commercial loads. Currently, Cheddite produces four distinct shotshell primers: the CX2000, CX2000 Hot, CX1000, and CX50. We are able to import a variety of these primers as reloading components.

A BRIEF HISTORY OF .410 PRIMERS

Over the years, several manufacturers have offered .410 primers as reloading components. Notably, Remington (with its Remington .410 Primer) and Fiocchi (with the 615 Primer) provided .410 primers to the reloading market. However, both manufacturers discontinued these offerings many years ago.

IDENTIFICATION OF CHEDDITE PRIMERS

Cheddite provides specific physical characteristics to help identify their primers:



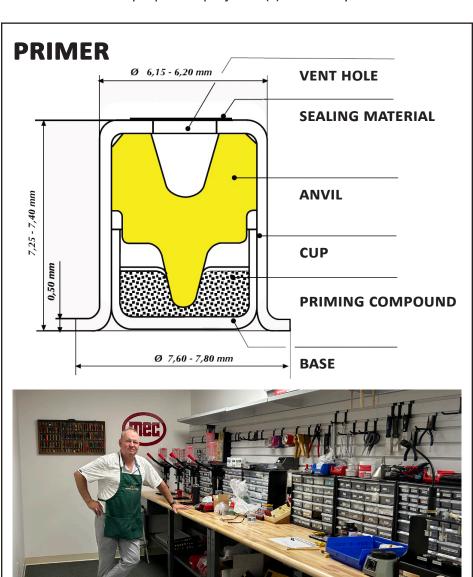
- **1. CX2000 (Cheddite 209):** Features a copper-plated battery cup with blue varnish on top of the flash hole.
- **2. CX1000 (Cheddite CX1000):** Has a brass-plated battery cup and blue varnish on top of the flash hole.
- **3. CX50 (Cheddite CX50):** Comes with a brass-plated battery cup and red varnish on top of the flash hole.

COMPONENTS OF A 209 SHOTSHELL PRIMER

A typical 209 shotshell primer consists of several key components, each playing a crucial role in its function:

- **1. Cup:** The outer casing of the primer, usually made of metal (often brass or aluminum). It holds the other components together and provides a surface for the firing pin to strike.
- 2. Anvil: A small metal piece located inside the primer cup, positioned directly beneath the primer's explosive compound. The shotgun's firing pin crushes the priming compound against the anvil. This crushing action then ignites the priming compound. The anvil's purpose is to provide a hard surface for the compound to be compressed against.
- **3. Priming Compound:** This sensitive explosive material ignites when the firing pin strikes the anvil. The priming compound typically consists of a mixture of lead styphnate, barium nitrate, and other chemicals that ensure quick and reliable ignition.
- **4. Sealing Material:** Often a type of sealant or crimping material, this component helps keep moisture out of the primer and helps to secure the anvil and priming compound in place.
- **5. Base:** The bottom integral part of the primer cup itself, which is often crimped or sealed to hold the components together and provide a surface for installation into the shotshell.

These components work in unison to ensure that the primer ignites reliably when struck, providing the necessary spark to ignite the gunpowder in the shotshell and propel the projectile(s) effectively.





LOADING LESSONS: PRIMERS IN BRIEF A CLOSER LOOK AT A KEY COMPONENT

We've seen the market for shotshell primers all but dry up. Hard times to be sure, but the fact is, we've been here before. In 2013 the market saw a similar dry patch for purchasing primers - and that was in an era without widespread global plague and antagonistic Russian heads of state to roil the markets. Even so, a buying craze ensued and primers disappeared from store shelves, from distributor warehouses and from manufacturers' inventories.

Nearly a decade later, here we are again. Erratic production schedules during the COVID lockdown, struggles getting manufacturing back up to speed, all under heightened demand, translate into serious availability issues. "(The) capacity is just not there," said Joel Sandstrom, Senior Primer Chemist for the Federal Cartridge Company, during a telephone interview in March of 2022. "Demand is so high Federal is running hand-to-mouth. The supply chain is crazy. We can't get anything!" Once again,

the serious handloader, bent on peak, predictable performance from his handloads, is left in a consumer lurch.

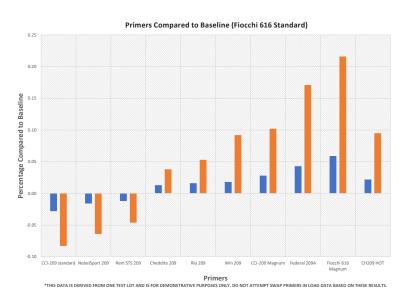
We all have our favorite lab-tested load recipes we are loathe to part with. To paraphrase a line from an old Stephen Stills song, "When you can't prime with the primer you love, can you prime with the one you're with by fudging load data?" Without hesitation, the answer is, "Of course not." Here's why. Chemists, inventors and entrepreneurs have been working on how to best make a handheld charge of powder go bang since the mid-14th century. The

wizardry of the matchlock, the wheel lock, then the flintlock's shower of sparks was a technology march spanning nearly 500 years. The technology went to relative warp speed beginning in 1805, when a Scotsman, Presbyterian minister and ardent wildfowler Alexander Forsyth, came up with the mercury fulmi-

progression from a simple fuse inserted into the barrel's breech to the mechanical

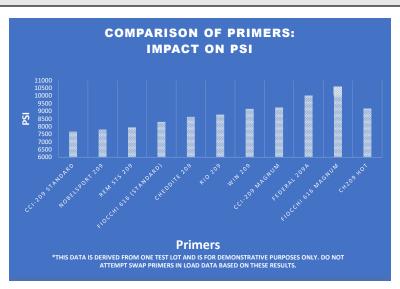
ardent wildfowler Alexander Forsyth, came up with the mercury fulminate cocktail that would later be incorporated into the copper percussion cap. Under the patronage of various wunderkinds of the Industrial Age, the percussion cap, literally and figuratively, caught fire. Within 30 years, Samuel Colt had cribbed the ratchet-and-pawl indexing of a sailing ship's revolving windlass into the manufacture of repeating percussion cap firearms. America's Civil War would give birth to the rimfire ammunition of the seven-shot Spencer repeating rifles, and by the 1870s, centerfire cartridges with their integrated primer were in common use in developed nations around the globe. In the most basic sense, the modern primer simply condenses the percussion cap system. In the original "cap and ball" firearm, the copper cap was snugged onto a post called a nipple. When the gun's trigger was pulled, the hammer dropped

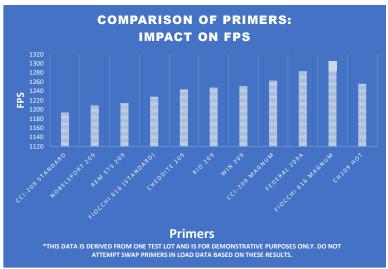
on the cap. That "percussive" action struck against the anvil-like rim of the nipple, which detonated the cap and drove a searing flame, focused by the nipple's tight channel, into the charged chamber or breech of the firearm. The modern primer radically reduces that process in space and lock time for reliable ignition measured in millionths of seconds. Inside the primer's cup-like base rests a highly volatile explosive mix resting beneath the anvil feature. When the firing pin dents the primer cup, it grinds the explosive compound against the anvil and ignites a molten slag driven through the cartridge's



flash hole. Those fiery forces ignite the actual propellant in the cartridge or shotshell.

"The goal," says Federal's Sandstrom, "is to get the ignition slag burning all the powder at the same time without increasing the pressure through the primer. We want to use the least





amount of primer for a given load. This is what maximizes the performance of the propellant in relation to pressures." Joel Sandstrom is quick to point out that performance primer selection is a matter of mating the character of a particular primer to the specific density and burn rate of particular powders: "The history of our (Federal 209) primer goes back to the 1930s, which is when long-range duck loads were pioneered. 'Magnum' loads arrived, and propellants went from single-base to double-base and then we had more compacted powder. (Those powders) needed more 'oomph' from the primer to ignite this mass of propellant." Sandstrom says this is when the battery cup came into vogue. "The outer battery cup takes the place of a pocket in a metallic casing. The anvil seats against the igniter compound, but they needed more space, which was the new 209 battery cup. The '209' came from the size of the cup, which is about .210" diameter."

For our comparison tests, we selected reloading components that would demonstrate the varied strengths of eleven different 209 primers. It begins with the straight-walled, translucent-tube 2-3/4" 12-gauge Fiocchi hull. For the propellant, we chose one of our favorites for consistency, Hodgdon Universal powder (24.5 grains). We dropped 1-1/8 ounces of

shot into a BPI "Competition Special Short" wad, a target or light game number with a generous cushion section. The load was closed with an 8-point fold crimp. We loaded a test set of shotshells using the Fiocchi 616 standard primer under the above recipe, computed the average velocity and pressure of this load, and came up with a baseline of 1,228 f.p.s. in velocity and pressures coming in at 8,301 p.s.i. We replicated the test ten more times, switching out only the primer, in order to get a series of test-load averages. Our lab results ranged from velocities of 1,194 f.p.s. and pressures of 7,665 using the mild-mannered CCI-209 standard primer (2.8% below the baseline velocity, 8.3% below the baseline pressures), to the sizzling 1,305 f.p.s./10,582 p.s.i. readings registered by the Fiocchi 616-Magnum primer: nearly 6% above our baseline velocity and a whopping 21.6% higher pressures. In this particular test series, no loads exceeded SAAMI MAP (Maximum Average Pressure). However, this test series demonstrates the variability of these ten primers given the same set of components in testing conditions.

In the throes of any kind of commodity shortage, resourceful people suffer least. Nobody can wave his or her favorite shotgun wand and create primers out of thin air. However, all of us can make the best use of whatever primers are available by searching lab-tested reloading recipes

written precisely for whatever components we do have on hand. After all, the only "rules of thumb" we follow in reloading are those created in science. That includes never substituting any components, including primers, for those in vetted recipes published by reputable, professional sources.

LOADING LESSONS, CONTINUED: CHEDDITE 209 "HOT" PRIMER

The Cheddite 209 "HOT" Primer has been like a unicorn in the reloading world. We heard about this mythical beast, but we've never been able to test it because it has ONLY been available to cartridge manufacturers. Late in 2022, BPI received a rare shipment of Cheddite hulls primed with the Cheddite 209 HOT primer. The "HOT" primer is quite a bit hotter than Cheddite's standard CH209 (CX2000) primer.

20-GAUGE

To demonstrate how the Cheddite 209 HOT primer change can affect a given load, the ballistic lab loaded a test series with only the primer as a control in the lab test. We tested the exact same load with the two different Cheddite primers. The results of the standard Cheddite 209 are below, but the Cheddite 209 HOT load was over pressure. The results of the 209 HOT load in this particular 20-gauge series showed a 1.9% in-



crease in velocity and a 13.4% increase in pressure. After more testing, the load was finally reduced 10.9% to 19.6 grains of Steel® propellant. In another 20-gauge bismuth load, the 209 HOT primer increased velocity by 3.1% and pressures by 13.3%. These data do NOT imply that there exists a standard by which existing loads may be adjusted.

It just doesn't work that way.

We've also loaded other configurations with lead shot and non-toxic shot. Our lab has noted differing reactions to this primer with different powders. Generally, the HOT primer raises pressures MORE with slow-burn-rate powders and this is because these powders are ignited more efficiently by the HOT primer. Of course, that is the design intent of this primer — especially in cold weather. Magnum primers are intended to ignite compacted payloads of slow-burn powder quicker and with more efficiency. With fast-burn powders, magnum primers won't really improve ignition quality; they will just raise chamber pressures without yielding performance benefits.

WARNING: DO NOT USE THE CHEDDITE 209 HOT PRIMER IN LOAD DATA THAT SPECIFIES THE STANDARD CHEDDITE 209 PRIMER. As always, NO SUBSTITUTIONS.

LOAD #11495 (LEAD SHOT)

HULL: Cheddite 20ga 3" PRIMER: Cheddite 209 HOT

PROPELLANT: Alliant Steel® 19.6 grains WAD: CSD20 2.75" + N720 (over powder) SHOT: 1-1/4 ounce lead shot (547 grains)

FOLD CRIMP: w/OS20 overshot

1148 FPS (MUZZLE) | 11,600 PSI

LOAD #11506 (BISMUTH SHOT)

HULL: Cheddite 20ga 3" PRIMER: Cheddite 209 HOT

PROPELLANT: Hodgdon Lil' Gun® 29.5 grains WAD: BP2092 + 1/8" 28ga cork wad (in shotcup) SHOT: 1-1/8 ounce SpheroBismuth shot (492 grains)

BUFFER: BP Original 10 grains FOLD CRIMP: OS20 overshot

1257 FPS (MUZZLE) | 10,500 PSI

LOAD #11490 (BISMUTH SHOT)

HULL: Cheddite 20ga 3" PRIMER: Cheddite 209 HOT

PROPELLANT: Hodgdon Lil' Gun[®] 32.3 grains WAD: TPS20 2.75 + 1/8" 28ga cork wad (in

shotcup)

SHOT: 1-1/8 ounce SpheroBismuth shot (492

grains)

BUFFER: BP Original 12 grains FOLD CRIMP: OS20 overshot

1247 FPS (MUZZLE) | 9800 PSI

LOAD #11504 (STEEL SHOT)

HULL: Cheddite 20ga 3" PRIMER: Cheddite 209 HOT

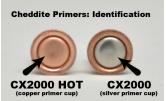
PROPELLANT: Hodgdon Longshot* 18.5 grains WAD: BP2092 + 1/8" 28ga cork wad (in shotcup)

SHOT: 7/8-ounce steel shot (382 grains)

FOLD CRIMP: OS20 overshot

1240 FPS (MUZZLE) | 10,900 PSI





REMEMBER: THESE LOADS ARE A TEST SERIES WHICH ONLY DEMON-STRATES THE DIFFERENCE BETWEEN PRIMERS IN THESE PARTICULAR LOADS. DO NOT ATTEMPT TO CORRELATE THIS INFORMATION IN AN ATTEMPT SWAP PRIMERS. THIS KIND OF INFORMATION CAN ONLY BE DETERMINED IN A BALLISTIC TESTING LABORATORY.

LOAD #11658 (BISMUTH SHOT)

HULL: Cheddite 12ga 3"

PRIMER: Cheddite 209 standard

PROPELLANT: Hodgdon Longshot® 30.0 grains

WAD: BP1253

SHOT: 1-1/4 ounce SpheroBismuth shot (547 grains)

BUFFER: BP Mix #47 18 grains FOLD CRIMP: OS20 overshot

1275 FPS (MUZZLE) | 8200 PSI

LOAD #11658.2 (BISMUTH SHOT)

HULL: Cheddite 12ga 3" PRIMER: Cheddite 209 HOT

PROPELLANT: Hodgdon Longshot® 30.0 grains

WAD: BP1253

SHOT: 1-1/4 ounce SpheroBismuth shot (547 grains)

BUFFER: BP Mix #47 18 grains FOLD CRIMP: OS20 overshot

1325 FPS (MUZZLE) | 9745 PSI (+15.9%)

12-GAUGE

To demonstrate how the Cheddite 209 HOT primer change can affect a given 12-gauge load, the ballistic lab also loaded the following test series with only the primer as a control in the lab test. We tested the exact same load with the two different Cheddite primers. The first test utilized 1-1/4 ounce of bismuth shot with the BP1253 wad. The results of the 209 HOT load in this particular 12-gauge series showed a 3.7% increase in velocity and a 15.9% increase in pressure. In a separate lead shot load, the results of an identical 1-3/8 ounce 12ga 3" load showed a 5.8% increase in velocity and a 26.8% increase in pressure. In this load weight range, we can expect to see Longshot loads become a bit "jumpy." The CH209 HOT primer magnifies this characteristic.

	PRIM	IER CON	IPARIS	NI NC	AN I	DEN	ITIC	AL	LOAD*	
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	CCI-209 standard	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11183	1194	7665	-2.8%	-8.3%
12ga 2.75"		Comp Special Short	1 1/8	Universal					1	
2/2/2022			492	24.5						
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	NobelSport 209	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11176	1209	7800	-1.6%	-6.4%
12ga 2.75"		Comp Special Short	1 1/8	Universal	·				2	
2/2/2022			492	24.5						
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	Rem STS 209	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11181	1214	7938	-1.2%	-4.6%
12ga 2.75"	Kem 313 203	Comp Special Short	1 1/8	Universal	τοια ο μι.	11101	1217	7550	3	-11070
2/2/2022		Comp openiar onor c	492	24.5					Ĭ	
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hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI 9201	ref: 11175 BASELINE	
Fiocchi 12ga 2.75"	Fiocchi 616	CS12S	Lead #7 1 1/8	Hodgdon	Fold 8-pt.	11175	1228	8301	BASELINE 4	l
2/2/2022	(standard)	Comp Special Short	492	Universal 24.5					4	
2/2/2022			492	24.5						
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	Cheddite 209	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11182	1244	8629	1.3%	3.8%
12ga 2.75"		Comp Special Short	1 1/8	Universal					5	
2/2/2022			492	24.5						
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	Cheddite 209 HOT*	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11182	1285	9755	4.4%	14.9%
12ga 2.75"		Comp Special Short	1 1/8	Universal					6	
2/2/2022			492	24.5						
hull	primer	wad	shot/size/oz/grains	powder/grains	crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
Fiocchi	Rio 209	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11180	1248	8770	1.6%	5.3%
12ga 2.75"		Comp Special Short	1 1/8	Universal					7	
2/2/2022			492	24.5					1	
hull		wad	shot/size/oz/grains	powder/grains		Load #	FRC @ 21	DCI	0/ -f Dlin FDC	% of Baseline: PS
	primer				crimp/note	Load #	FPS @ 3'	PSI	% of Baseline: FPS	% of Baseline: PS
					Fold 0 mt	11170	1251	0142	4 99/	
Fiocchi	Win 209	CS12S	Lead #7	Hodgdon	Fold 8-pt.	11179	1251	9143	1.8%	9.2%
Fiocchi 12ga 2.75"			Lead #7 1 1/8	Hodgdon Universal	Fold 8-pt.	11179	1251	9143	1.8%	
Fiocchi 12ga 2.75" 2/2/2022	Win 209	CS12S Comp Special Short	Lead #7 1 1/8 492	Hodgdon Universal 24.5					8	9.2%
Fiocchi 12ga 2.75" 2/2/2022 Hull	Win 209 Primer	CS12S Comp Special Short Wad	Lead #7 1 1/8 492 Shot/Size/Oz/gr	Hodgdon Universal 24.5 Powder/Gr.	Crimp/Note	Load #	FPS @ 3'	PSI	8 % of Baseline: FPS	9.2% % of Baseline: PS
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Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75"	Win 209 Primer	CS12S Comp Special Short Wad	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal	Crimp/Note	Load #	FPS @ 3'	PSI	8 % of Baseline: FPS	9.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75"	Win 209 Primer	CS12S Comp Special Short Wad CS12S	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7	Hodgdon Universal 24.5 Powder/Gr. Hodgdon	Crimp/Note	Load #	FPS @ 3'	PSI	% of Baseline: FPS 2.8%	9.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75"	Win 209 Primer	CS12S Comp Special Short Wad CS12S	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal	Crimp/Note	Load #	FPS @ 3'	PSI	% of Baseline: FPS 2.8%	9.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022	Primer CCI-209 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5	Crimp/Note Fold 8-pt.	Load #	FPS @ 3'	PSI 9240	8 % of Baseline: FPS 2.8% 9	9.2% % of Baseline: PS 10.2%
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi	Primer CCI-209 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains	Crimp/Note Fold 8-pt. crimp/note	Load # 11178	FPS @ 3'	PSI 9240	% of Baseline: FPS 2.8% 9 % of Baseline: FPS	9.2% % of Baseline: PS 10.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75"	Primer CCI-209 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short wad CS12S	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/Size/oz/grains Lead #7	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon	Crimp/Note Fold 8-pt. crimp/note	Load # 11178	FPS @ 3'	PSI 9240	% of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3%	9.2% % of Baseline: PS 10.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022	Primer CCI-209 Magnum primer Federal 209A	CS12S Comp Special Short Wad CS12S Comp Special Short wad CS12S	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains Lead #7 1 1/8 492	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt.	Load # 11178	FPS @ 3' 1263 FPS @ 3' 1284	PSI 9240 PSI 10019	8 % of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1%
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75"	Primer CCI-209 Magnum primer Federal 209A	CS12S Comp Special Short Wad CS12S Comp Special Short wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 Shot/Size/oz/grains Lead #7 1 1/8 492 Shot/Size/Oz/gr	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5 Powder/Gr.	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt. Crimp/Note	Load # 11178 Load # 11184 Load # 11184	FPS @ 3'	PSI 9240	% of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3%	9.2% % of Baseline: PS 10.2% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75"	Primer CCI-209 Magnum primer Federal 209A	CS12S Comp Special Short Wad CS12S Comp Special Short wad CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains Lead #7 1 1/8 492	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt.	Load # 11178 Load # 11184	FPS @ 3' 1284 FPS @ 3'	PSI 9240 PSI 10019	% of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10 % of Baseline: FPS	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75"	Primer CCI-209 Magnum primer Federal 209A	CS12S Comp Special Short Wad CS12S Comp Special Short wad CS12S Comp Special Short Wad Wad Wad	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/Size/oz/grains Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5 Powder/Gr. Hodgdon	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt. Crimp/Note	Load # 11178 Load # 11184 Load # 11184	FPS @ 3' 1284 FPS @ 3'	PSI 9240 PSI 10019	% of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10 % of Baseline: FPS 5.9%	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1%
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 Liga 2.75" 2/2/2022	Primer CCI-209 Magnum primer Federal 209A Primer Fiocchi 616 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short Wad CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt. Crimp/Note Fold 8-pt.	Load # 11178 Load # 11184 Load # 11177	FPS @ 3' 1284 FPS @ 3' 1305	PSI 9240 PSI 10019 PSI 10582	8 % of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10 % of Baseline: FPS 5.9% 11	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1% % of Baseline: PS 21.6%
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi	Primer CCI-209 Magnum primer Federal 209A Primer Fiocchi 616 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 Shot/Size/Oz/gr Shot/Size/Oz/gr Shot/Size/Oz/gr	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt. Crimp/Note Fold 8-pt.	Load # 11178 Load # 11184 Load # 11177	FPS @ 3' 1284 FPS @ 3' 1305	PSI 9240 PSI 10019 PSI 10582	8 % of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10 % of Baseline: FPS 5.9% 11	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1% % of Baseline: PS 21.6% % of Baseline: PS
Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 hull Fiocchi 12ga 2.75" 2/2/2022 Hull Fiocchi 12ga 2.75" 2/2/2022 Liga 2.75" 2/2/2022	Primer CCI-209 Magnum primer Federal 209A Primer Fiocchi 616 Magnum	CS12S Comp Special Short Wad CS12S Comp Special Short Wad CS12S Comp Special Short Wad CS12S Comp Special Short	Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492 shot/size/oz/grains Lead #7 1 1/8 492 Shot/Size/Oz/gr Lead #7 1 1/8 492	Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5 powder/grains Hodgdon Universal 24.5 Powder/Gr. Hodgdon Universal 24.5	Crimp/Note Fold 8-pt. crimp/note Fold 8-pt. Crimp/Note Fold 8-pt.	Load # 11178 Load # 11184 Load # 11177	FPS @ 3' 1284 FPS @ 3' 1305	PSI 9240 PSI 10019 PSI 10582	8 % of Baseline: FPS 2.8% 9 % of Baseline: FPS 4.3% 10 % of Baseline: FPS 5.9% 11	9.2% % of Baseline: PS 10.2% % of Baseline: PS 17.1% % of Baseline: PS

*THIS DATA IS FOR DEMONSTRATIVE PURPOSES ONLY. DO NOT ATTEMPT SWAP PRIMERS IN LOAD DATA BASED ON THESE RESULTS.



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						.410-	BORE •	2" LENGTH •	LEAD SHOT • ROLL CR	IMP						
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-11228001	410	2.00	Cheddite	CH209	Lil' Gun	12.8	(3) NC410			0S410	Lead #9	7/16	191.4		9400	1156
250224-11228002	410	2.00	Cheddite	CHCX50	Lil' Gun	12.8	(3) NC410			0S410	Lead #9	7/16	191.4		8280	1115
250224-11230002	410	2.00	Cheddite	CH209	Lil' Gun	13.1		BX410		0S410	Lead #9	7/16	191.4		8400	1210
250224-11230003	410	2.00	Cheddite	CHCX50	Lil' Gun	13.1		BX410		0S410	Lead #9	7/16	191.4		7475	1164

						.410-B	ORE • 2	-1/2" LENGTH	• LEAD SHOT • ROLL C	RIMP						
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-11247007	410	2.50	Cheddite	CH209	Lil' Gun	13.2		MG410		0S410	Lead	1/2	218.8		11400	1221
250224-11247008	410	2.50	Cheddite	CHCX50	Lil' Gun	13.2		MG410		05410	Lead	1/2	218.8		10500	1187

					.410-	BORE	• 3" LEN	IGTH • BPX D	EVASTATOR SHOT • FO	LD CRIMP						
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-12576	410	3.00	Cheddite	CH209	Alliant 410	13.4		TPS410		OS410	BPX-12	1/2	218.8		9280	1275
250224-12576.2	410	3.00	Cheddite	CHCX50	Alliant 410	13.4		TPS410		0S410	BPX-12	1/2	218.8		8725	1220
250224-12574	410	3.00	Cheddite	CH209	H110	19.0		TPS410		OS410	BPX-12 #6	1/2	218.8		10200	1438
250224-12574.2	410	3.00	Cheddite	CHCX50	H110	19.0		TPS410		OS410	BPX-12#6	1/2	218.8		8100	1295
250224-12575	410	3.00	Cheddite	CH209	Lil' Gun	14.2		TPS410		OS410	BPX-12	1/2	218.8		12380	1330
250224-12575.2	410	3.00	Cheddite	CHCX50	Lil' Gun	14.2		TPS410		0S410	BPX-12	1/2	218.8		11200	1240

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				.41	0-BORE •	3" LE	NGTH •	SPHEROTUNG	STEN ORIGINAL-15 SHO	T • FOLD	CRIMP					
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-12593	410	3.00	Cheddite	CH209	Alliant 410	9.6		TPS410			ST Original-15 #7	5/8	273.4		8805	983
250224-12594	410	3.00	Cheddite	CH209	Alliant 410	10.8		TPS410			ST Original-15 #7	5/8	273.4		9000	1025
250224-12595	410	3.00	Cheddite	CH209	Alliant 410	11.4		TPS410			ST Original-15 #7	5/8	273.4		11745	1137
250224-9950013	410	3.00	Cheddite	CHCX50	Alliant 410	12.0		TPS410			ST Original-15 #7	5/8	273.4		10900	1173
250224-12602	410	3.00	Cheddite	CH209	Lil' Gun	12.0		TPS410			ST Original-15 #7	5/8	273.4		11822	1109
250224-9947014	410	3.00	Cheddite	CHCX50	Lil' Gun	14.0		TPS410			ST Original-15 #7	5/8	273.4		12650	1215



						.410-	BORE •	3" LENGTH • 9	STEEL SHOT • FOLD CR	IMP						
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-3660.1	410	3.00	Cheddite	CHCX50	Alliant 410	12.0		TPS410			Steel #7		150.0		7600	1165
250224-3661.1	410	3.00	Cheddite	CHCX50	Alliant 410	15.0		TPS410			Steel #7		150.0		8200	1345
250224-3657.2	410	3.00	Cheddite	CHCX50	Blue Dot	11.0		TPS410		0S410	Steel #7		150.0		12300	1410
250224-12706.2	410	3.00	Cheddite	CH209	Lil' Gun	14.0		TPS410		0S410	Steel #7		150.0		10600	1412
250224-12706.1	410	3.00	Cheddite	CHCX50	Lil' Gun	14.0		TPS410		0S410	Steel #7		150.0		9400	1330
250224-3663.3	410	3.00	Cheddite	CH209	Lil' Gun	15.0		TPS410		0S410	Steel #7		150.0		11500	1515
250224-3663.2	410	3.00	Cheddite	CHCX50	Lil' Gun	15.0		TPS410		0S410	Steel #7		150.0		10100	1410
250224-12710.2	410	3.00	Cheddite	CH209	Lil' Gun	16.0		TPS410			Steel #7		150.0		13100	1600
250224-12710.1	410	3.00	Cheddite	CHCX50	Lil' Gun	16.0		TPS410			Steel #7		150.0		11000	1545
250224-12708.2	410	3.00	Cheddite	CH209	Longshot	8.0	NC410	TPS410		0S410	Steel #7		150.0		12500	1280
250224-12709.1	410	3.00	Cheddite	CH209	Longshot	8.6	NC410	TPS410		0S410	Steel #7		150.0		13300	1335
250224-12708.1	410	3.00	Cheddite	CHCX50	Longshot	9.0	NC410	TPS410		0S410	Steel #7		150.0		12000	1250
250224-3658.1	410	3.00	Cheddite	CHCX50	Steel	10.5		TPS410		0S410	Steel #7		150.0		11000	1415
250224-3659.1	410	3.00	Cheddite	CHCX50	Steel	11.5		TPS410			Steel #7		150.0		11800	1500

					.41	0-BOR	E • 3" LI	ENGTH • TUN	GSTEN-18 SHOT • FOLD	CRIMP						
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-12577	410	3.00	Cheddite	CH209	Alliant 410	14.5		TPS410	(3-4) FW 1/4" x .281" in base		Tungsten-18 #9	1/2	218.8		7435	1250
250224-12577.2	410	3.00	Cheddite	CHCX50	Alliant 410	14.5		TPS410	(3-4) FW 1/4" x .281" in base		Tungsten-18 #9	1/2	218.8		6700	1150
250224-12588	410	3.00	Cheddite	CH209	Lil' Gun	16.5		TPS410	(3-4) FW 1/4" x .281" in base		Tungsten-18 #9	1/2	218.8		11600	1414
250224-12603	410	3.00	Cheddite	CH209	Lil' Gun	18.0		TPS410	(3-4) FW 1/4" x .281" in base		Tungsten-18 #9	1/2	218.8		13045	1481
250224-12603.2	410	3.00	Cheddite	CHCX50	Lil' Gun	18.0		TPS410	(3-4) FW 1/4" x .281" in base		Tungsten-18 #9	1/2	218.8		12770	1431
250821-12637	410	3.00	Cheddite	CH209	Lil' Gun	13.5		TPS410	(3) FW 1/4" x .281" in base		Tungsten-18 #9	2/3	280.0	5gr Mix #47	13000	1200
250821-12638	410	3.00	Cheddite	CHCX50	Lil' Gun	13.5		TPS410	(3) FW 1/4" x .281" in base		Tungsten-18 #9	2/3	280.0	5gr Mix #47	12450	1168
250224-11457014	410	3.00	Cheddite	CH209	Win. 296	13.6		TPS410	(2) FW 1/4" x .281" in base	0S410	Tungsten-18 #9	11/16	300.8		9500	950
250224-11457015	410	3.00	Cheddite	CHCX50	Win. 296	13.6		TPS410	(2) FW 1/4" x .281" in base	OS410	Tungsten-18 #9	11/16	300.8		7700	933
250224-12584	410	3.00	Cheddite	CH209	Win. 296	15.0		TPS410	(2) FW 1/4" x .281" in base	OS410	Tungsten-18 #9	11/16	300.8		11900	1175



					.410-BORE	• 3" I	LENGTH	• TUNGSTEN	-18 SHOT • FOLD CRIM	(CONTINU	JED)					
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
250224-12584.2	410	3.00	Cheddite	CHCX50	Win. 296	15.0		TPS410	(2) FW 1/4" x .281" in base	0S410	Tungsten-18 #9	11/16	300.8		9100	1070
250224-12580	410	3.00	Cheddite	CH209	300MP	13.5		TPS410	FW 1/4" x .281" in base	0S410	Tungsten-18 #9		374.0		9500	1012
250224-12581	410	3.00	Cheddite	CH209	300MP	14.5		TPS410	FW 1/4" x .281" in base	0S410	Tungsten-18 #9		374.0		10800	1043
250224-12600	410	3.00	Cheddite	CH209	300MP	15.0		TPS410	FW 1/4" x .281" in base	0S410	Tungsten-18 #9		374.0		12700	1112
250224-12600.2	410	3.00	Cheddite	CHCX50	300MP	15.5		TPS410	FW 1/4" x .281" in base	0S410	Tungsten-18 #9		374.0		10600	1029

.410-BORE • 3" LENGTH • TUNGSTEN-18 SHOT & STEEL SHOT DUPLEX LOADS • FOLD CRIMP

LOAD OF THE WEEK: .410 3": TUNGSTEN 18.0 & STEEL DUPLEX

The game-changing physics of 18.0 density tungsten has changed some of our perception of duplex loads. Wad volumes and shotshells have been built around pellets of lesser density,

such as steel shot. This is the reason why smallbore shells have really taken the spotlight when it comes to high-density shot. Duplexing two very different shot densities allows us to utilize the proper volume of the shell — even when using high-density tungsten.

Follow instructions carefully and you MUST use a scale. Your shot amounts should not exceed what is listed below. The tungsten goes in first and the steel goes on top. Use an overshot card. NO SUBSTITUTIONS.

LOAD #250224-12601.2

HULL: Cheddite .410 3.00" PRIMER: Cheddite 209 (CX2000)

PROPELLENT: Hodgdon Lil' Gun 12.0 grains

WAD: TPS-410 Wad

FILLER/CUSHION: (1) 1/4" x .281" felt wad in base of shotcup. (Smaller shot sizes may require an additional cork/felt filler wad.) **SHOT DROP #1 (bottom):** 218.8 grains (1/2 ounce) Tungsten-18 #9 SHOT DROP #2 (top): 54.7 grains (1/8 ounce) zinc-plated steel #4

SHOT DROP TOTAL: Not to exceed 274 grains (5/8 ounce)

FOLD CRIMP w/.410 OVERSHOT CARD

RESULTS: 1135 FPS | 13000 PSI

LOAD #250224-12601

HULL: Cheddite .410 3.00" PRIMER: Cheddite CX50

PROPELLENT: Hodgdon Lil' Gun 13.9 grains

WAD: TPS-410 Wad

FILLER/CUSHION: (1) 1/4" x .281" felt wad in base of shotcup. (Smaller shot sizes may require an additional cork/felt filler wad.) SHOT DROP #1 (bottom): 218.8 grains (1/2 ounce) Tungsten-18 #9 SHOT DROP #2 (top): 54.7 grains (1/8 ounce) zinc-plated steel #4 SHOT DROP TOTAL: Not to exceed 274 grains (5/8 ounce)

FOLD CRIMP w/.410 OVERSHOT CARD

RESULTS: 1170 FPS | 12900 PSI

LOAD #250224-12596

HULL: Cheddite .410 3.00" PRIMER: Cheddite 209 (CX2000)

PROPELLENT: Hodgdon H110 16.0 grains

WAD: TPS-410 Wad

FILLER/CUSHION: (1) 1/4" x .281" felt wad in base of shotcup. (Smaller shot sizes may require an additional cork/felt filler wad.) **SHOT DROP #1 (bottom):** 136.5 grains (5/16 ounce) Tungsten-18 #9 SHOT DROP #2 (top): 81.9 grains (3/16 ounce) zinc-plated steel #5 SHOT DROP TOTAL: Not to exceed 219 grains (1/2 ounce)

FOLD CRIMP w/.410 OVERSHOT CARD

RESULTS: 1295 FPS | 10500 PSI

LOAD #250224-12597

HULL: Cheddite .410 3.00" PRIMER: Cheddite 209 (CX2000)

PROPELLENT: Hodgdon H110 18.0 grains

WAD: TPS-410 Wad

FILLER/CUSHION: (1) 1/4" x .281" felt wad in base of shotcup. (Smaller shot sizes may require an additional cork/felt filler wad.) **SHOT DROP #1 (bottom):** 136.5 grains (5/16 ounce) Tungsten-18 #9 SHOT DROP #2 (top): 81.9 grains (3/16 ounce) zinc-plated steel #5 SHOT DROP TOTAL: *Not to exceed 219 grains (1/2 ounce)*

FOLD CRIMP w/.410 OVERSHOT CARD

RESULTS: 1440 FPS | 12310 PSI

LOAD #250224-12597.2

HULL: Cheddite .410 3.00" **PRIMER:** Cheddite CX50

PROPELLENT: Hodgdon H110 18.0 grains

WAD: TPS-410 Wad

FILLER/CUSHION: (1) 1/4" x .281" felt wad in base of shotcup. (Smaller shot sizes may require an additional cork/felt filler wad.) **SHOT DROP #1 (bottom):** 136.5 grains (5/16 ounce) Tungsten-18 #9 SHOT DROP #2 (top): 81.9 grains (3/16 ounce) zinc-plated steel #5 SHOT DROP TOTAL: *Not to exceed 219 grains (1/2 ounce)*

FOLD CRIMP w/.410 OVERSHOT CARD

RESULTS: 1265 FPS | 9200 PSI

					.410-B	ORE •	2-1/2" L	ENGTH • .410	1/4 OZ. THUG SLUG • R	OLL CRIME					
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG)	GRAINS (TOTAL)	PSI	FPS
220819-12641.10	410	2.50	Cheddite	CH209	Lil' Gun	15.0					.410 THUG SLUG	1/4 (approx.)	125	4480	1424
220819-12641.9	410	2.50	Cheddite	CHCX50	Lil' Gun	15.0					.410 THUG SLUG	1/4 (approx.)	125	4260	1378
220819-12641.12	410	2.50	Cheddite	CH209	Lil' Gun	17.0					.410 THUG SLUG	1/4 (approx.)	125	6250	1610
220819-12641.11	410	2.50	Cheddite	CHCX50	Lil' Gun	17.0					.410 THUG SLUG	1/4 (approx.)	125	6050	1552
220819-12641.14	410	2.50	Cheddite	CH209	Lil' Gun	18.0					.410 THUG SLUG	1/4 (approx.)	125	6790	1660
220819-12641.13	410	2.50	Cheddite	CHCX50	Lil' Gun	18.0					.410 THUG SLUG	1/4 (approx.)	125	6600	1602
220819-12641.3	410	2.50	Cheddite	CH209	Lil' Gun	19.0					.410 THUG SLUG	1/4 (approx.)	125	7139	1723
220819-12641.4	410	2.50	Cheddite	CHCX50	Lil' Gun	19.0					.410 THUG SLUG	1/4 (approx.)	125	7008	1667
220819-12641.1	410	2.50	Cheddite	CH209	Lil' Gun	20.0					.410 THUG SLUG	1/4 (approx.)	125	9200	1862
220819-12641.2	410	2.50	Cheddite	CHCX50	Lil' Gun	20.0					.410 THUG SLUG	1/4 (approx.)	125	8120	1754
221125-12657.1	410	2.50	Cheddite	CH209	Lil' Gun	22.0					.410 THUG SLUG	1/4 (approx.)	125	10350	1975
221125-12657.2	410	2.50	Cheddite	CHCX50	Lil' Gun	22.0					.410 THUG SLUG	1/4 (approx.)	125	10160	1911
250124-12684.1	410	2.50	Cheddite	CH209	Longshot	10.0					.410 THUG SLUG	1/4 (approx.)	125	11300	1638
250124-12684.2	410	2.50	Cheddite	CHCX50	Longshot	10.0					.410 THUG SLUG	1/4 (approx.)	125	10400	1502

					.410-B	ORE • 2-1/2'	LENGTH • .410	1/4 OZ. THUG SLUG • I	FOLD CRIMI	P				
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS GAS SE	AL WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG)	GRAINS (TOTAL)	PSI	FPS
130918-12674.4	410	2.50	Cheddite	CH209	Alliant 20/28	10.0				.410 THUG SLUG		125	10670	1558
130918-12674.3	410	2.50	Cheddite	CHCX50	Alliant 20/28	10.0				.410 THUG SLUG		125	9300	1510
130918-12674.6	410	2.50	Cheddite	CH209	Blue Dot	12.0				.410 THUG SLUG		125	8800	1301
130918-12674.5	410	2.50	Cheddite	CHCX50	Blue Dot	12.0				.410 THUG SLUG		125	8000	1225
131030-12675.4	410	2.50	Cheddite	CH209	Pro Reach	12.0				.410 THUG SLUG		125	12387	1792
131030-12675.3	410	2.50	Cheddite	CHCX50	Pro Reach	12.0				.410 THUG SLUG		125	11200	1760
130918-12676.5	410	2.50	Cheddite	CH209	Unique	9.0				.410 THUG SLUG		125	11805	1543
130918-12676.3	410	2.50	Cheddite	CHCX50	Unique	10.0				.410 THUG SLUG		125	9500	1505



					.410-В	ORE •	2-1/2" L	ENGTH • .410	LIGHT GAME SLUG • FO	OLD CRIMI	P				
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG)	GRAINS (TOTAL)	PSI	FPS
BKL110131-12668.1	410	2.50	Cheddite	CH209	Lil'Gun	20.0					.410 LIGHT GAME SLUG		106	8540	1944
BKL110131-12668.2	410	2.50	Cheddite	CHCX50	Lil'Gun	20.0					.410 LIGHT GAME SLUG		106	7800	1730

					.410-B	ORE •	2-1/2" L	ENGTH • .410	LIGHT GAME SLUG • R	OLL CRIMF					
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG)	GRAINS (TOTAL)	PSI	FPS
BKL61110-12661.1	410	2.50	Cheddite	CH209	HS-6	14.0					.410 LIGHT GAME SLUG		106	12250	1922
BKL61110-12661.2	410	2.50	Cheddite	CHCX50	HS-6	14.0					.410 LIGHT GAME SLUG		106	11200	1860
BKL61110-12662.6	410	2.50	Cheddite	CH209	Lil' Gun	18.0					.410 LIGHT GAME SLUG		106	7950	1650
BKL61110-12662.5	410	2.50	Cheddite	CHCX50	Lil' Gun	18.0					.410 LIGHT GAME SLUG		106	7700	1590
BKL61110-12673.1	410	2.50	Cheddite	CH209	Longshot	12.0					.410 LIGHT GAME SLUG		106	11209	1970
BKL61110-12673.2	410	2.50	Cheddite	CHCX50	Longshot	12.0					.410 LIGHT GAME SLUG		106	10211	1900

	.410-BORE • 2-1/2" LENGTH • NOE DIABLO .410 SLUG • ROLL CRIMP														
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG) 6	GRAINS (TOTAL)	PSI	FPS
241019-12301.3	410	2.50	Cheddite	CH209	Lil' Gun	17.0		BX410	(2) NC410	05410	NOE DIABLO .410 SLUG	1	125 grains (slug)	8100	1588
241019-12301.2	410	2.50	Cheddite	CHCX50	Lil' Gun	17.0		BX410	(2) NC410	05410	NOE DIABLO .410 SLUG	1	125 grains (slug)	7600	1509
230130-11685.2	410	2.50	Cheddite	CHCX50	Lil' Gun	20.0		BX410	(2) NC410	0S410	NOE DIABLO .410 SLUG	1	125 grains (slug)	11500	1816

	.410-BORE • 3" LENGTH • .410 LIGHT GAME SLUG • ROLL CRIMP														
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG)	GRAINS (TOTAL)	PSI	FPS
BKL61116-12671.3	410	3.00	Cheddite	CH209	Lil' Gun	26.0					.410 LIGHT GAME SLUG		106	11000	2309
BKL61116-12671.2	410	3.00	Cheddite	CHCX50	Lil' Gun	26.0					.410 LIGHT GAME SLUG		106	10100	2079
BKL71111-12672.4	410	3.00	Cheddite	CH209	Lil' Gun	28.0					.410 LIGHT GAME SLUG		106	11538	2383
BKL71111-12672.3	410	3.00	Cheddite	СНСХ50	Lil' Gun	28.0					.410 LIGHT GAME SLUG		106	10500	2265



763-494-9237

	.410-BORE • 3" LENGTH • NOE DIABLO .410 SLUG • ROLL CRIMP														
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	PROJECTILE	OUNCES (SLUG) GRAINS (TOTAL)	PSI	FPS	
241019-12301.3	410	3.00	Cheddite	CH209	Lil' Gun	22.5		LGS .410 CARRIER		0S410	NOE DIABLO .410 SLUG	125 grains (slug)	11900	1965	
241019-12301.2	410	3.00	Cheddite	CHCX50	Lil' Gun	22.5		LGS .410 CARRIER		0S410	NOE DIABLO .410 SLUG	125 grains (slug)	11100	1871	

	.410-BORE • 2" LENGTH • LEAD BUCKSHOT • ROLL CRIMP															
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
BKL241019-12657.2	410	2.00	Cheddite	CH209	Lil' Gun	13.1		BX410			(3) #000 lead buck		211		8800	1153
BKL241019-12657.3	410	2.00	Cheddite	CHCX50	Lil' Gun	13.1		BX410			(3) #000 lead buck		211		7475	1134

	.410-BORE • 2-1/2" LENGTH • LEAD BUCKSHOT • ROLL CRIMP															
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
BK41012-12667.1	410	2.50	Cheddite	CH209	Lil'Gun	15.0	(2) NC410	STUMP			(2) #000 lead buck		134		10155	1561
BK41012-12667.2	410	2.50	Cheddite	CHCX50	Lil'Gun	15.0	(2) NC410	STUMP			(2) #000 lead buck		134		8700	1360

	.410-BORE • 2-1/2" LENGTH • LEAD BUCKSHOT • FOLD CRIMP															
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
BK41012-250825	410	2.50	Cheddite	CH209	H-110	16.0		STRETCH		0S410	(4) #00 lead buck		208		8200	123
BK41012-250825.2	410	2.50	Cheddite	CHCX50	H-110	16.0		STRETCH		05410	(4) #00 lead buck		208		7400	1200
BK41012-12684.1	410	2.50	Cheddite	CH209	Longshot	6.5	NC410	STRETCH		05410	(4) #00 lead buck		208		12250	1100
BK41012-12685.1	410	2.50	Cheddite	CHCX50	Longshot	8.0	NC410	STRETCH		05410	(4) #00 lead buck		208		12100	1165
BKL8072-12653.3	410	2.50	Cheddite	CHCX50	Lil'Gun	36.0		BX410			(1) #000 lead buck		67		9800	2600
BKL8072-12653.2	410	2.50	Cheddite	CHCX50	Lil'Gun	38.0		BX410			(1) #000 lead buck		67		10500	2750
BKL8072-12654	410	2.50	Cheddite	CH209	Lil'Gun	40.0		BX410			(1) #000 lead buck		67		12210	2804
BKL8072-12655	410	2.50	Cheddite	CHCX50	Lil'Gun	40.0		BX410			(1) #000 lead buck		67		10980	2780
BKL80721-12669.1	410	2.50	Cheddite	CH209	Lil'Gun	42.0		BX410		NC410	(1) #000 lead buck		67		12500	2717
BKL80721-12669.2	410	2.50	Cheddite	CHCX50	Lil'Gun	42.0		BX410		NC410	(1) #000 lead buck		67		10950	2660
BKL80721-12670.1	410	2.50	Cheddite	CH209	Lil'Gun	20.0	(2) NC410	BX410			(2) #000 lead buck		134		12413	1740
BKL80721-12670.2	410	2.50	Cheddite	CHCX50	Lil'Gun	20.0	(2) NC410	BX410			(2) #000 lead buck		134		11200	1835



	.410-BORE • 3" LENGTH • LEAD BUCKSHOT • FOLD CRIMP															
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS (GAS SEAL	WAD	FILLERS & INSERTS	OVER SHOT	SHOT SIZE	OUNCES	GRAINS	BUFFER	PSI	FPS
BKL250827-12666	410	3.00	Cheddite	CH209	Lil' Gun	25.0		BX410		(2) NC410	(2) #000 lead buck		146		13360	2101
BKL80271-12653.2	410	3.00	Cheddite	CHCX50	Lil' Gun	28.0		BX410		(2) NC410	(2) #000 lead buck		146		11200	2000
BKL250827-12663.2	410	3.00	Cheddite	CHCX50	Lil' Gun	30.0		BX410		(2) NC410	(2) #000 lead buck		146		12000	2050
BKL250827-12664.3	410	3.00	Cheddite	CH209	Lil' Gun	16.0		BX410		(2) NC410	(3) #000 lead buck		209		12305	1355
BKL250827-12664.2	410	3.00	Cheddite	CHCX50	Lil' Gun	16.0		BX410		(2) NC410	(3) #000 lead buck		209		12200	1305
BKL250827-12664	410	3.00	Cheddite	CH209	Lil' Gun	18.0		BX410		(2) NC410	(3) #000 lead buck		209		12700	1568
BKL250827-12303	410	3.00	Cheddite	CHCX50	Lil'Gun	18.0		BX410		(2) NC410	(3) #000 lead buck		209		12600	1476

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