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Lead and Zinc: The "Gold" of World War II and Picher, Oklahoma  
May 1<sup>st</sup>, 1942 to June 30<sup>th</sup>, 1947

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History Theory and Practice  
Dr. Lawson  
4-24-12

“Yesterday, Dec. 7, 1941 - a date which will live in infamy - the United States of America was suddenly and deliberately attacked by naval and air forces of the Empire of Japan.” This was a quote from Franklin Roosevelt, one of the most recognized presidents of the United States, and it was the starting point of the events which would proceed after this day. Because of this event, the U.S. found the need to get involved in the midst of one of the bloodiest conflicts in modern day history. America and the world were brought together in the common cause of stopping Japan and Germany from all out domination of the world. But looking much deeper, the situation that the U.S. itself in was about so much more than the war; the war was one of the reasons that the American economy came from the depths of the Great Depression that dominated the 1930s. From the war, there was a rise in the economy as a total war mobilization.

It seemed like almost overnight when the U.S. shifted from the depth of the Great Depression into a shockingly well-oiled war time economy known also as a total war mobilization. This means that not only did the government and the U.S military prepare for war, but also every other sector of the U.S. economy, including the average Joe. All of the people and businesses around the country began to shift in a direction that would give the U.S. every advantage possible in being successful in the war to come. Food stamps were printed in order to begin rationing supplies so the troops could have the important things. Rationing was important that the men had everything they needed to win the war and to know that they had full support back home. Industries like Ford and Chevrolet begin to make tanks, airplanes, and other military equipment instead of private vehicles. Women even stepped up to fill in for their husbands and sons in the workforce to help arm the troops to the best of their abilities.

Importantly the mobilization affected the mining industry. Every mine was called into action, even the mines found in the small town of Picher, Oklahoma. Picher, Oklahoma was a part of what was known as the Tri-State Mining district which was formed around 1850. It consisted of the Southwestern part of Missouri, the Southeastern part of Kansas, and the Northeastern part of Oklahoma where Picher could be found. From around 1850-1950 it was one of the major lead and zinc mining areas in the world; it produced about fifty percent of the zinc and about ten percent of the lead that was used in the United States. Picher, Oklahoma was founded in 1913 after the discovery of lead and zinc ore by Harry Crawford's claim.<sup>1</sup> The town was named after O.S. Picher, the owner of the Picher lead company. The town site was developed nearly overnight after the lead and zinc ore was discovered.<sup>2</sup> Situations like this were not uncommon at all: the same thing would happen when the railroads were being built. When a promising-looking area was found, it was almost like clockwork how a town would pop up in hopes of hitting it big.

The Picher mining field consisted of the entire area of Southeastern Cherokee County, Kansas and Northeastern Ottawa County, Oklahoma. The Picher area became the most productive lead and zinc mining fields in the Tri-State district producing over twenty billion dollars' worth of ore from 1917-1947. The Picher area was one of the leading producers of ammunition during both World War I and World War II. The mining practices used in the Picher mines were the practices commonly "referred to as random room-and-pillar, where rooms were excavated and pillars were left to support the mine roof. Approximately 1,200 vertical mine

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<sup>1</sup> Industrial Archaeology & History, *Oklahoma Mines, Industrial Archaeology & History*. <http://www.miningartifacts.org/Oklahoma-Mines.html> [accessed April 21, 2012]

<sup>2</sup> *Ibid.*

shafts between 90 and 350 feet were sunk to intercept the main ore horizons.”<sup>3</sup> Within a short period of time, Picher found itself working in overdrive, mining upwards to 6,923,570 tons of zinc and 850,000 tons of lead due to an ever increasing demand in these metals.<sup>4</sup> As mentioned above the metals that became Picher’s “gold” were zinc and lead. It was these metals, along with copper that the Advisory Committee agreed upon in September of 1940 that became the basis for the Government stimulus plan set up from May 1<sup>st</sup>, 1942 to June 30<sup>th</sup>, 1947 known as the Premium Price Plan.<sup>5</sup>

“At the end of 1941 two facts stood out 1) the requirements for copper, zinc and to a lesser degree lead, were rising at an accelerated rate; and 2) domestic production of these metals could not be materially increased without establishing price scales that would make profitable the mining of the marginal ores.”<sup>6</sup> So, on February 23<sup>rd</sup>, 1942, President Franklin Roosevelt signed off on the Quota Committee, who on May 1<sup>st</sup>, 1942, eventually passed the administrative order 516-3, also known as the Premium Price Plan.<sup>7</sup> It is hard to really grasp as to why copper, lead, and zinc became so important. In this day in age, they do not seem like they are any more special than any other thing, especially now that we have so much Nano technology and high speed computers. However not so many years ago these three metals were the driving force behind the wars against both Europe and Japan.

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<sup>3</sup> James S. and Susan W. Aber, *Picher, Oklahoma: Legacy of Mining*, Aber. <http://www.geospectra.net/kite/picher/picher.htm> [accessed April 21,2012]

<sup>4</sup> Scrap book

<sup>5</sup> H.E. Olund and S.A. Gustavson, *History of the Premium Price Plan: For Copper, Lead, and Zinc, 1942-47* Bureau of Mines, 1950: 4 and 6

<sup>6</sup> *Ibid.*, 3

<sup>7</sup> *Ibid.*, 4

Lead became so important because of its “softness and extreme workability, high specific gravity, desirable alloying properties, low metal cost and high recoverability, high boiling point and low melting point, good corrosive resistance, and impenetrability by short wave radiation.”<sup>8</sup> This was very important at the time, especially with a lot of the advances that were found and used during this particular war. The fact that it was both cheap, fairly easy to find in abundance, and easy to work with made its demand much higher.

Zinc was mostly used for giving metals like steel and iron a protective coating through a hot-dip galvanizing process. It was also used for die-cast products, which is basically a heavy duty stencil for products that need to be a certain shape and size as hot metal comes out of an extruder.<sup>9</sup> Although Picher had nothing to do with copper, it was used in the Premium Price Plan. Copper’s conductivity, which was fundamental to the spectacular growth of the electrical industry and all associated industries relying on electricity for light, power, and heat. Copper was also quite durable and corrosive resistant.<sup>10</sup> Other than being used in making tanks, some of “the byproducts from the treatment of copper include: iron, lead, zinc, nickel, cobalt, gold, silver, platinum-group metals, selenium, tellurium and arsenic.”<sup>11</sup>

What exactly did the Premium Price Plan really do for those involved with the mines? To put it as simply as possible, the Premium Price Plan was set up at the beginning of World War II and it continued until mid-1947. During that time, it was set up to boost the prices for copper, zinc, and lead because those were the metals that were in such high demand, due to their quite

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<sup>8</sup> U.S. Department of the Interior. Bureau of Mines. *Mineral Facts and Problems*, by Staff, Bureau of Mines. Bulletin 630, Bureau of Mines, 1965

<sup>9</sup> *Ibid.*, 1083

<sup>10</sup> *Ibid.*, 263

<sup>11</sup> *Ibid.*, 263

useful properties, at the time of the war. This government backed plan was particularly helpful for Picher, Oklahoma because it was known for its abundance in both lead and zinc that were found in the mines of that area.

The Government also gave an allowance to the plan that made Picher even more profitable than it was originally, this allowance also allowed a profit increase for crude metals that were mined in Picher. This would have given Picher an increase in production and in profits. Picher mined a zinc concentrates of about 60% that sold 29.7 cents per ton and lead concentrates of about 80% that sold 41.8 cents per ton.<sup>12</sup> It is important to remember that during this time these prices were exceptional compared to our economy today. With prices like these, mines all over the U.S. that mined these types of metals would have found themselves in a position to hire more workers due to the extreme increase in demand. The owners of the mines would have had an increase in profits like they probably have not seen since the first world war from 1914-1918. There is no information as to whether the increase in prices brought an increase in wages for the miners themselves.

The Premium Price Plan was set up in such a way that it did not necessarily apply to everyone. For a mine to be a part of the Premium Price Plan, the owner needed to fill out an application set up by the government to be accepted into the program. The main application for new mines was the form OTC-OWMR-PPP-37; this was mailed to all mines along with one of four other applications, depending on the type of mine it was. The other four types of applications were; form WPB-1572 for medium to large sized operations with previous operating history and that was, form WPB-2822 small mines shipping ore directly to custom mills or smelters, form WPB-2465 that was very small mines with no prior operating history, and finally

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<sup>12</sup> H.E. Olund and S.A. Gustavson, *History of the Premium Price Plan: For Copper, Lead, and Zinc, 1942-47* Bureau of Mines, 1950, 5

there was a special application just for the Tri-State area, the same application Picher would have filled out, it was a modified form of the application for larger mines it was form WPB-1699.<sup>13</sup> A possible reason that the Tri-State area had its own special application was because it produced so much of the nation's lead and zinc that the government formed the Tri-State district its own application so that it could get through the red tape faster for production to begin more quickly and so that the "precious" metals could be used more quickly than that of the other mines. It just goes to show that when the nation is at war, even places as small as Picher could keep up with the "big dogs" of the nation with no problem.

It can only be assumed that the reason for these applications was so that the price increases were only for mines with a certain amount of output or for mines of a certain size. During this time, there was so much money going into the war that the government had to issue bonds to the public so that the country would have enough money to fund the war. Because of this, they would not have had the money to give the mines in the U.S. the same specialized prices, as the ones that would produce enough to make it worth the government's while to pay the extra price in order to keep up with the demand of the war. It would be very interesting to find out how many mines applied for the Premium Price Plan, and out of those numbers how many were accepted or were declined the offer.

"On December 14<sup>th</sup>, 1942, at a meeting that was attended by the main representatives of the Department of Commerce, Metals Reserve Company, MRC, Office of Price Administration, OPA, and the War Production Board, WPB, it was agreed that the Premium Price Plan should be extended until July 31<sup>st</sup>, 1945."<sup>14</sup> This decision was made when the U.S was in the middle of the war with Japan and Germany. Many supplies were being demanded with accelerated speeds as

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<sup>13</sup> *Ibid.*, 9

<sup>14</sup> *Ibid.*, 3



men were laying down their lives for the better of the nation and the better of the world. Along with the extinction of the Premium Price Plan there were also price increases for copper, lead, and zinc to try and keep up with the demand that the war was creating for the country. The country was in the midst of total-war mobilization, and while it was increasing greatly, it was also a struggle for the people. With the rationing of supplies for the soldiers, the buying of bonds to help the government fund the war that was aiding U.S. deficit spending, and the overall added stress of sending the American sons overseas to die for a cause that was not always our own America was feeling the effects of the war all over.

By this time, the draft was well underway and was affecting everyone the same, whether they were rich or poor. All men were getting drafted and sent overseas and Picher, Oklahoma, and the rest of Ottawa County was no different. The accelerated production in the mines still went on, despite the loss of man power to the hells of war. Because of the draft and much of the work force going overseas, production found itself in a tough spot.

By 1944 lead in particular had hit a snag. Because of the extreme lack of manpower, production from the domestic mines which was the principle source of new lead supply continued to decline. This forced the government to use their stock pile of refined lead, the government stock piles were steadily reduced from this. Under the newly revised order, the government prohibited the use of lead for creating storage batteries, cable coverings, tetraethyl a heavy oily poisonous liquid  $Pb(C_2H_5)_4$  used especially formerly as an antiknock agent, and for ammunition that was not for military use only. On the brighter side, when it came to zinc, despite

the critical manpower shortage that plagued all mines, the government was still able to relax its grip, making zinc more readily available for U.S. citizens.<sup>15</sup>

Like in the First World War, many women stepped up in factories and other lines of work to take over for the men that were fighting in Europe and Japan, allowing tension to grow on the home front as women demanded that they should get paid the same wages as the men since, they were doing men's work with the men's hours. There was nothing that could be found stating that the mines were any different from the rest of the work force, but women probably stepped up to fill in where needed as the U.S. fought in the war.

On June 25<sup>th</sup>, 1946 the 79<sup>th</sup> Congress met together in the first session to discuss the Premium Price Plan, and they came up with public law 88 which extended the plan by one more year bringing the plan to its final end on June 30<sup>th</sup>, 1947, about two years after the end of WWII<sup>16</sup>. When the Premium Price Plan ended in June of 1947 there was a bill brought up in Congress known as the Allen Bill, this bill was a continuation of the Premium Price Plan that Congress passed on July 26<sup>th</sup>, 1947. What the Allen Bill does not say how long the bill extended the Plan but when the bill went before President Truman, he vetoed the bill and the Premium Price Plan was never brought up again.<sup>17</sup> At the end of the war in 1945, lead was still in serious trouble despite the huge reduction in military requirements immediately following the victory in both the European and Pacific phases of the war. The supply of lead available for industrial

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<sup>15</sup> U.S. Department Of the Interior. Bureau of Mines, *Minerals Yearbook 1944*, under the direction of E.W. Pehrson, Chief Economics and Statistics Branch. U.S. Government Printing Office, Washington, 1946

<sup>16</sup> U.S. Congress. Congressional Record. 79<sup>th</sup> cong., 2d sess., 1946. Vol. 92, pt. 6.

<sup>17</sup> U.S. Department Of the Interior. Bureau of Mines, *Minerals Yearbook 1945*, under the direction of E.W. Pehrson, Chief Economics and Statistics Branch. U.S. Government Printing Office, Washington, 1947

consumption throughout 1945 was seriously short of demand. It continued to be regulated by the government and was still under the Premium Price Plan by this time.<sup>18</sup> As for zinc, despite operational problems contingent upon reconversion from wartime to peacetime basis and a persistent shortage of mine and smelter labor, the zinc industry continued to fulfill both civilian and military needs. By 1945, even though zinc was still under the Premium Price Plan, zinc no longer had any federal government controls on it.<sup>19</sup> As mentioned above, after the war, lead continued to fall in demand to the point where if it was not for the government, the mines would have lost everything because of the decline of lead, but zinc also continued to stay pretty steady and strong.

Even with lead falling dramatically, it is not specified as to why the Premium Price Plan continued. It can be assumed that the Premium Price Plan was still enacted, and production was still limited after WWII to help curb inflation as the economy slowly returned to a consumer-based economy rather than total war mobilization. With the troops returning home, and with plenty of wartime jobs, cash was plentiful. Without careful regulation, however the limited supply left behind after all of the rationing could have fetched outrageous prices as a result of increased demand without government stepping in.

The mines, including in Picher, would have been able to work at full capacity now after all of the troops were back. The men that were returning home from war would return to their lives that they had left behind and the work force all over would be outrageous as the men took back over for the women, and places like Ford and Chevrolet would go back to the products that they were making before the war broke out. As the Premium Price Plan began to come to an end

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<sup>18</sup> U.S. Department Of the Interior. Bureau of Mines, *Minerals Yearbook 1945*, under the direction of E.W. Pehrson, Chief Economics and Statistics Branch. U.S. Government Printing Office, Washington, 1947

<sup>19</sup> *Ibid.*

in 1947. the price and the demand for copper, lead and zinc began to fall as the U.S. began to settle down and the economy balanced out right before things would once again heat up during the Korean War from 1950-1953. But despite the beginnings of the Cold War against Russia and Communism, the Premium Price Plan would not resume after it ended in 1947 and after it was terminally vetoed by President Truman in July of that year.

World War II was the last official war that the U.S. Congress would declare, and from it many great advances would be developed from the war. Technology, medical practices, and most other aspects of daily life were transformed and America became a well-oiled machine following the war. It was able to send supplies across the seas to countries that needed them, and learning from our mistakes following WWI, the U.S. stayed and aided Europe in the rebuilding process since its entire infrastructure was decimated. This time around, Europe would not fall into another great depression that would lead to the rise of yet another great, but very deadly, leader with an agenda of his or her own.

On the home front, much of daily life in the U.S. returned to normal as the troops came home and the citizens returned to the lives that they once had. As for copper, lead, and zinc, the demand for them did lessen temporarily following the war especially for lead, but the use for them did not lessen at all. In fact, the use for them became ever more expanded following the war, especially for copper and lead. Copper with its amazing conductivity, became essential in everyday life. Lead, with its great workability and corrosive resistance, would also be used greatly, particularly with it being the main ingredient in the creation of ammo and other weapons used around the world.

As for the town of Picher, Oklahoma, it enjoyed a time of great prospering during the war as the demand for its lead and zinc were incredibly high. But as the war ended, Picher begin to

notice a decline in the demand and an extreme decline in sales. This dramatic change was really seen around 1950 as the mining production almost came to a halt. By about 1957 many of the mines had ceased operating because there were no longer any sales going on, which meant that many people became unemployed and the town itself began to die off into the ghost town that it is today. In 1970 the last mine around the Picher, Oklahoma area closed and with it the last of the little town died with it.<sup>20</sup>

At the end of it all is this: the type of information that should be known? The reason that the Premium Price Plan was the topic that was chosen is because it is important to remember that, even though war is a terrible thing, and many lives can be taken by its ravages, it can also bring great prosperity for those involved. The Premium Price plan was important for this country because it showed the country that it could have faith in its government. The government saw the need that the country needed and it acted in a very efficient manner. The government saw that lead, zinc, and copper were in high demand and instead of making them harder to get, the government came together and not only made it so that the people who needed the metals could get as much as they needed, but they also made it so that the people involved with providing the metals needed could get an even better price than usual for them. The economy at this time was like nothing the people could have ever guessed following the Great depression. The Economy was not like what was experienced in the 1920s following World War I, but something much more efficient.

A possibility as to why this War was able to do for this country the things that it did was because of the simple fact that during this war the U.S. was united as a whole for this common cause of defending their nation and all of the nations involved. Since everyone was united, the

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<sup>20</sup> Industrial Archaeology & History, *Oklahoma Mines*, Industrial Archaeology & History. <http://www.miningartifacts.org/Oklahoma-Mines.html> [accessed April 21, 2012]

country was able to work efficiently and things were able to improve because of that. In every war since then, or Police actions as many like to refer to them as, the nation was divided as some were for them and many more were against them. It was because of this divide that the government and the military stood alone meaning that more and more money was required of the government to fund it and to gain that money the government would have to borrow more and more from other nations to fund the wars that followed WWII.

The Premium Price Plan was one of the many great things that the Government has done for the country that it represents. It was able to work out so well because the mines were able to see the need that the country needed and they banded together to answer America's call and Picher, Oklahoma was one of the mines that was able to exceed the expectations of anyone. It was able to get passed the obstacle of a severe manpower shortage and still be one of the leading producers of lead and zinc that was used by the U.S. Because the Tri-State area was able to work so efficiently with the Government, the country was able to get more than enough metals for the cause of winning the war. Even though in 1944 there was that severe shortage of lead, the end was still able to finish in the favor of the U.S.

It is important to learn about the Premium Price Plan that was set up from May 1<sup>st</sup>, 1942 to June 30<sup>th</sup>, 1947. By learning about this people will be able to see the connection that there is between going to war with a united nation and the booming of an economy that was suffering for a decade before. From this people will be able to learn that even though war can bring a lot of hardships to everyone who is involved, it can also bring much prosperity for many people as they band together.

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