

CATALYTIC CONVERTER ASSAY/SMELTING FLUX

To be used when you suspect platinum in your ore or material to be smelted.

1. If assaying an ore sample, be sure that your ore is a representative sample of your ore vein. Take chips and rocks from the entire surface of the vein and drill the vein if possible.
2. Pulverize the ore into a powder (80 mesh or finer) and stir the powdered ore thoroughly.
3. Measure out 29.16 grams of ore (this is an Assay Ton) or material to be smelted. **
4. Mix 6 ounces of the Platinum Group Metals Flux formula with the material and place into a crucible. Use at least 6 ounces of the Flux, to ensure a proper collector is present for your PGMs. If smelting larger amounts of material, be sure to use a 6 to 1 ratio.
5. Fire crucible at 2000°F for 1.5 hours (The crucible must remain in the furnace for 1.5 hours after the furnace reaches 2000°F).
6. Using tongs remove the crucible from the furnace and pour its entire contents into a pouring mold.
7. When the slag in the pouring mold has cooled, there will be a lead button at the bottom of the slag. Break this loose from the slag.
8. Pound the lead button with a hammer until the slag is broken off. Most assayers pound the lead button into a cube. A small amount of slag will adhere to the lead as powder. This will give no trouble.
9. Place the lead on a cupel and place the cupel into the furnace at 1700°F. until the lead has all been absorbed into the cupel or volatilized into the air, leaving the precious metals as a small bead in the cupel.
10. Weigh the bead, or measure its size.

NOTE: If you used 29.16 grams of ore material, then for each milligram your bead weighs, there is 1 ounce of precious metals in your ore. But remember at this point the bead is gold, silver and platinum so you must go on to standard separation methods before you will know the exact gold, silver and platinum content.

WARNING: Assay fumes are poisonous. An assay furnace must not be used indoors unless under a ventilated hood.

NOTE: Wear gloves and goggles when doing assays and smelting.
Goggles or face shield must be worn at all times. Hot slag can splatter !!

** To do a ½ assay ton , use 3 oz of flux and 14.58 grams of ore.
For each mg bead = 2 toz/ton.

“Recovery gets simpler, not more complex.....”

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