

Mining: Yield, XP and Speed

What to mine, what to perk, and how fast it actually goes on **this** server. 7 Days to Die **3.2.0** (Steam build 24994542). Every number extracted from Data/Config on the live install and the game assembly.

How mining XP actually works

Traced through `GameUtils.collectHarvestedItem` and `Progression.AddLevelExp`:

XP = (harvested item's material **Experience**) × **number of items received**
then × `XPMultiplier` (sandbox) × **PlayerExpGain** for tag "Harvesting"

Mining XP follows yield, not hardness. A block's HP is irrelevant to the XP it pays — only how many items it hands you, and what those items are made of. That single fact drives everything below, and it is why every +harvest perk also carries a matching **–harvest XP** penalty: the two multiply.

XP per unit, by resource

resource	XP/unit	resource	XP/unit	resource	XP/unit
Silver / Gold / Diamond	160	Lead	6	Coal	6
Nitrate Powder	6	Oil Shale	6	Small Stone	2
Brass	2	Iron	1.6	Clay Soil	1.6
Crushed Sand	1.4	Snowball	1.4		

Gems are the outlier at **160 XP each** — but they only drop if you have read **Art of Mining Vol 1 (Lucky Strike)**, which is what switches that drop on at all. Without it the chance is exactly zero, not merely small.

Every block worth mining

Sorted by **XP per point of block HP** — the honest measure of levelling speed, since HP is what your time is spent on. *XP/block* counts only the drops that always fire.

block	HP	XP/block	XP per HP	tool	main yield
Lead Ore	600	328	0.547	pickaxe	Lead ×50; Small Stone ×14
Coal Ore	600	328	0.547	pickaxe	Coal ×50; Small Stone ×14
Potassium Nitrate	600	328	0.547	pickaxe	Nitrate Powder ×50; Small Stone ×14
Oil Shale Ore Deposit	600	328	0.547	pickaxe	Oil Shale ×50; Small Stone ×14
Iron Ore	600	196	0.327	pickaxe	Iron ×105; Small Stone ×14
Stone	500	110	0.22	pickaxe	Small Stone ×55
Sand	100	18.6	0.186	shovel	Crushed Sand ×11; Clay Soil ×2
Dirt	200	35.2	0.176	shovel	Clay Soil ×22
Desert Ground	180	27	0.15	shovel	Clay Soil ×9; Crushed Sand ×9
Destroyed Stone	200	29.6	0.148	pickaxe	Small Stone ×12; Crushed Sand ×4
Gravel	200	29.2	0.146	shovel	Small Stone ×9; Crushed Sand ×8
Forest Ground	250	35.2	0.141	shovel	Clay Soil ×22
Burnt Forest Ground	250	35.2	0.141	shovel	Clay Soil ×22
Snow	160	15.4	0.096	shovel	Snowball ×11
Asphalt	2500	54	0.022	pickaxe	Small Stone ×27
Concrete Terrain (POI)	2500	54	0.022	pickaxe	Small Stone ×27

Coal, lead, nitrate and oil shale ore are the best XP in the game — identical 600 HP and identical 328 XP, because all four pay 50 units of a 6-XP resource plus 14 small stone. **Iron ore is the trap**: 105 units feels generous, but iron is only 1.6 XP each, so the same 600 HP pays just 196. Mine iron for iron; mine coal for levels.

Where to spend perk points

All four live in **Strength**. Values shown at rank 1 → max rank.

perk	needs	what it gives	notes
Miner 69'er	Strength 1→7	Block damage +30% → +150% Stamina per swing −8% → −25%	The speed perk. Also raises entity damage and boosts the odds of finding harvesting tools, their magazines and Art of Mining books.
Mother Lode	Strength 1→7	Harvest yield +20% → +100% Harvest XP −10% → −40%	The yield perk. Despite the XP penalty it is still a net XP gain — see the box below.
Junk Miner	Strength 1→10	Yield +20% → +100% on junk	Applies to the perkJunkMiner tag — pallets, forges, cobblestone, military barriers. Not ore, not dirt.
Strength Mastery	Strength 10	Rank 2: unlocks a 5% brass drop from every ore block Rank 3: +50% tool entity damage	The brass drop is 100–400 per proc and is worth 2 XP a unit. It is switched off entirely until rank 2.

The Mother Lode question, settled. $XP = Experience \times count$, so doubling your yield doubles the base XP; the perk then removes 40% of it. Net at rank 5: $2.00 \times 0.60 = 1.20$ — you finish with **double the ore and 20% more XP**. Every stacked harvest bonus behaves the same way. Max everything (Mother Lode 5, Miner Helmet Q6, Vol 3 coffee, all 7 volumes read) and you reach **$2.6 \times yield \times 0.50 XP = 1.30 \times XP$** . There is no configuration where taking harvest perks loses you levels.

The Art of Mining — 7 volumes

Miner 69'er raises the odds of finding these until the set is complete. Reading all seven adds the completion bonus on top.

vol	name	effect
Vol 1	Lucky Strike	Switches on gem drops entirely. Raw diamond 0.5%, silver 1%, gold 0.7% per ore block — each worth 160 XP . Base chance without this book is zero.
Vol 2	Diamond Tools	Unlocks the diamond tip mod: −5% → −30% tool wear.
Vol 3	Coffee	+10% ore yield while a coffee buff is active and holding a mining tool (−5% harvest XP). Conditional — plain mining gets nothing.
Vol 4	Blackstrap	Unlocks Blackstrap coffee: +25% stamina regen vs +20% for normal, and far longer.
Vol 5	Pallets	Unlocks bundle recipes for stone, wood, iron, oil shale, nitrate, lead, brass and coal — the practical fix for hauling.
Vol 6	Avalanche	−50% damage from collapsing blocks.
Vol 7	Damage	+10% block damage with mining tools.
All 7	One Shot (set bonus)	+20% ore yield (−5% harvest XP).

Tools, and how long a block actually takes here

This server halves player block damage. Sandbox options BlockDamage and TerrainDamage are both set to **50%**, and terrain (ore, dirt, stone, sand) runs through TerrainDamagePercent. Every hit count below already includes that.

tool	block dmg	stamina	hits: coal ore (bare Q6)	hits: coal ore (Q6 + perks)	note
Stone Shovel	38	16.2	22	11	Earth only.
Iron Shovel	62	20.3	13	7	Earth only.
Steel Shovel	100	24.7	8	4	For dirt/sand/snow only — shovels are the earth tool.
Iron Pickaxe	42	18.4	17	9	The workhorse until steel.
Steel Pickaxe	85	26.4	9	5	Best per-swing tool for ore and stone.
Auger	22	—	32	17	No stamina at all — runs on gas cans. Lowest damage per hit but fires continuously, so it wins on sustained throughput.
Stone Axe	22	8	32	17	Counts as a mining tool for Vol 3's coffee bonus.

"Q6 + perks" = quality 6 plus Miner 69'er rank 5 (+150%) and Art of Mining Vol 7 (+10%). Miner Gloves add a further +50% at Q6 but **only against ore** — they are tagged ore, which dirt and stone do not carry. All these percentages add together before multiplying, so the gloves take a kitted steel pickaxe from 4 hits to 3 on coal ore.

Gear that matters

Miner armour set (Q1 → Q6)

Helmet +5% → +30% ore yield. **Gloves** +5% → +50% block damage against ore. **Outfit** -5% → -30% stamina per swing. **Full set bonus** -10% → -35% tool wear. Cost: it is heavy armour — -7.5% mobility per piece and **+20% noise**, which on this server (smell set to Nightmare) is a real risk underground.

Mods

Tempered Blade +5% → +30% block damage. **Diamond Tip** (Vol 2) -5% → -30% wear. **Ergonomic Grip** -5% → -30% stamina. Structural Brace adds more durability.

Coffee

Coffee +20% stamina regen, **Blackstrap** +25% and roughly double the duration. Either one also unlocks Vol 3's +10% ore yield while you hold a mining tool — so coffee is a yield item here, not just an endurance one.

Clay soil, specifically

Clay is 1.6 XP a unit, so it is poor levelling — but it is the bottleneck resource for forging and farm plots, and the fastest sources are not where most people dig.

source	clay each	HP	XP per HP	note
Dirt	22	200	0.176	Best ground source. Lowest HP per clay of any terrain.
Forest Ground	22	250	0.141	Same 22 clay, 25% more HP. Also gives plant fibres.
Burnt Forest Ground	22	250	0.141	Identical to forest ground.
Desert Ground	9	180	0.150	Half the clay, plus 9 crushed sand.
Sand	2	100	0.186	Barely any clay — mine sand for sand.
Farm plot block	22	—	—	Harvesting your own farm plots returns the clay.
Pallet bags (POIs)	30–40	low	—	The fastest clay in the game. Tagged perkJunkMiner, so Junk Miner doubles it to 60–80 a bag, and they break far faster than 200 HP of dirt. Warehouses and construction sites.

Note that **Mother Lode** does not help pallet bags and **Junk Miner** does not help dirt — they read different tags (oreWoodHarvest vs perkJunkMiner). If clay is what you need, Junk Miner plus a POI run beats any amount of digging.

The short version

To level fastest

Mine **coal, lead, nitrate or oil shale ore** — 328 XP per block, the best XP per HP in the game, and 67% more XP than iron ore for the same effort. Take Mother Lode: it pays for itself twice over.

To gather fastest

Steel pickaxe at quality 6, Miner 69'er 5, Vol 7 read, Miner Gloves on — 3 hits per ore block even with this server's 50% terrain damage. An auger trades per-hit damage for continuous fire and zero stamina, so it wins over a long session.

For iron

Mine iron ore for the iron, not the levels. 105 units a block is the best raw throughput of any resource.

For clay

Junk Miner and pallet bags, not a hole in the ground.

Free XP you may be missing

Read Art of Mining Vol 1 — gems are 160 XP each and cannot drop at all until you do.

Watch out

Miner armour is +20% noise and this server runs smell on Nightmare with 250% incoming damage. Mining loud and deep is how people die here.

Sources: blocks.xml (yields, HP via material), materials.xml (Experience, MaxDamage), items.xml / item_modifiers.xml (tools, armour, mods), progression.xml (perks, book volumes), buffs.xml (coffee). XP formula confirmed in Assembly-CSharp.dll: GameUtils.collectHarvestedItem → Progression.AddLevelExp → EffectManager.GetValue(PlayerExpGain, tags="Harvesting"). Server sandbox options read from the live server log. Generated 2026-09-12 against the live 3.2.0 install, Steam app 294420 build 24994542.