

GETTING STARTED AS A WATER WELL DRILLER

Site selection, permits, rig choice, crew and first jobs — the honest version, condensed from the free 8-lesson Water Well Driller Academy at aurorarigs.com/learn/.

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Read this first. Drilling is skilled, licensed, capital-intensive work. This guide teaches how getting started actually works; it is not an offer, a course certificate, or a promise of income. Nobody can honestly promise what you will earn: that depends on your market, your ground, your licences and your work. Anyone who guarantees drilling income is selling you something.

1. START WITH THE WATER, NOT THE RIG

New drillers shop for rigs first. Professionals start with demand and geology — the rig is the last decision, not the first.

- **Who needs wells near you?** Farms and livestock keepers, growing villages and peri-urban plots beyond the water grid, schools, clinics, small industries, NGOs and government programmes. Walk your area and count unmet demand before you spend anything.
- **What is the ground?** Soft sediments, weathered rock, hard basement rock — each needs a different drilling method and a different budget. Read existing borehole records if your water authority keeps them; talk to drillers two districts away (not your direct competitors).
- **Is a survey possible?** A hydrogeological or resistivity survey before drilling is the professional norm and the cheapest insurance against a dry hole. Lesson 1 of the Academy (Finding groundwater) covers how siting works.

2. LICENCES AND PERMITS COME BEFORE METAL

Almost everywhere, drilling is regulated twice: **you** must be authorised to drill, and **each borehole** must be permitted. Names and offices differ by country and state, but the pattern is the same:

Usually required	Where to check
Driller registration / licence	National or state water authority; in the US, the state water well contractors' licensing board
Borehole / drilling permit per site	Water authority or district water office, before mobilisation

Water abstraction (use) rights	Water resources regulator — the well owner's duty in some places, the driller's paperwork problem in all of them
Business registration, tax ID, insurance	Business registry; an insurer who knows drilling or construction risk
Environmental / setback rules	Minimum distances from latrines, septic tanks, fuel stores and boundaries; protected-area restrictions

Start the paperwork early — approvals can take weeks — and keep copies on the rig. Drilling without a permit can mean a sealed borehole, a fine, and a reputation you cannot repair. Lesson 2 (Licences & permits) shows how to find your local rules.

3. CHOOSING THE RIG: MATCH DEPTH, GROUND AND POWER

DEPTH: BUY MARGIN, NOT BROCHURE NUMBERS

Rate the rig **30–50% deeper** than your deepest planned well. Ratings are set in favourable ground; margin absorbs deeper aquifers, harder formations and the wells you have not planned yet.

METHOD FOLLOWS GEOLOGY

- **Mud rotary** — soft and medium formations, larger diameters; needs water and mud management on site.
- **DTH (down-the-hole) hammer** — hard rock; needs a compressor sized to the hammer and depth.
- **Combination rigs** — run both; the flexible choice where geology changes between jobs.

POWER FOLLOWS YOUR SITES

Electric rigs powered from the grid or a generator at the wellhead — with the travel drive on battery — cut fuel logistics and noise, and suit farms, towns and institutions. Internal-combustion configurations remain available where a contract or site requires them, specced to the destination's emission rules (e.g. EU Stage V / US EPA Tier 4 Final). Ask what power your typical site can actually supply before you choose.

THE AURORA RANGE, WITH PUBLISHED FOB PRICES

Prices below are the public FOB ranges (China main ports) from aurorarigs.com model pages. Your real startup figure is the **landed** cost — add freight, duties and clearance in the Academy's startup calculator (aurorarigs.com/learn/startup-calculator/).

Model	Best suited to	Published FOB range (USD)
TerroCore ZY-25	Portable core & exploration drilling	\$28,000 – \$38,000
TerroCore ZY-40	Portable core & exploration drilling	\$48,000 – \$62,000
Aquilon 180T	Electric crawler water well rig	\$78,000 – \$92,000
GeoTherm G260	Geothermal boreholes	\$95,000 – \$115,000
Aquilon 300E	Electric water well rig (to 300 m class)	\$118,000 – \$138,000
BlastMaster B80	Blast hole drilling (43–64 mm)	\$135,000 – \$158,000

Aquilon 450C	Combination water well rig	\$168,000 – \$195,000
NaviDrill H18	Horizontal directional drilling	\$185,000 – \$220,000

Ranges depend on configuration; final specification and quotation are per order. Lesson 3 (Drilling methods & choosing a rig) is the full version of this section.

4. PLAN THE MONEY BEFORE THE MONEY PLANS YOU

- **Cost the whole start, not the machine.** Rig + freight + duties + licences + tools and spares + a support vehicle + working capital for the first slow months. The Academy calculator (free, no sign-up) adds it up with your own figures and prints its formulas.
- **Know your cost per metre.** Fuel or power, crew (including your own pay), bit and hammer wear, casing you supply, moving between sites — divide one well's full cost by its depth. Never quote below it.
- **Take a deposit before you mobilise.** Customary structures split payment across deposit, drilling and completion. Agree it in writing, with the dry-hole rule (below) spelled out.
- **Write the dry-hole rule down.** Even well-surveyed holes can fail. Who pays for a dry or low-yield borehole — per-metre billing, a reduced completion fee, a second attempt — must be settled before the rig leaves the yard, not argued at the fence afterwards.
- **Keep a repair reserve.** Hydraulics, hammers and rods wear. A driller with no reserve is one breakdown away from a refund queue.

5. CREW: SMALL, TRAINED, AND PAID ON PAPER

Role	What they own
Driller (lead)	The hole: method, parameters, safety calls, the drilling log. This is you, or the most experienced person you can hire.
Driller's assistant(s)	Rod handling, mud mixing / compressor watch, site housekeeping, casing runs. Two assistants is a common crew for a mid-size rig.
Driver / logistics	Moving the rig, water and fuel runs, spares. On small crews this is an assistant's second hat.

Train every crew member on the kill switch, rotating-part discipline, high-pressure air and hose whip, dust, and lifting — before the first paid job, not after the first injury. Lesson 5 (Safety on the drill site) is the checklist version. Pay wages formally and on time: the crew that trusts your payroll stays for the hard jobs.

6. YOUR FIRST JOBS: BORING IS GOOD

1. **Start close to home**, on surveyed sites, in ground you understand. A modest well completed to standard beats an ambitious failure two districts away.
2. **Quote in writing:** depth basis, diameter, casing specification, what happens on a dry hole, what the price excludes (pump, tank, reticulation), and the payment schedule.

- 3. **Log every metre.** Use the Academy drilling log template: formations, water strikes, casing, yield test. The log is your memory, your warranty evidence and your best sales document.
- 4. **Finish the well properly** — casing, gravel pack, sanitary seal, development and a pumping test, as in Lesson 4 (Building a well that lasts). A well is finished when it yields tested water, not when the hole is deep enough.
- 5. **Hand over properly:** log copy, yield result, care instructions, your phone number. Then ask — plainly — who else near them needs water.

7. RECORDS AND REPUTATION COMPOUND

Keep every log, permit and test result filed by well. Service the wells you drilled; a pump swap five years on is paid work and an advertisement in one. Do not over-pump an aquifer for a short-term result, and never oversell a yield the test did not show — in drilling country, your last well is your reference for the next ten. Lesson 8 (Sustainability & reputation) goes deeper.

YOUR FIRST 90 DAYS – CHECKLIST

☐	Survey demand and geology within your working radius; list 20 real prospects by name
☐	Confirm your driller licensing route and per-borehole permit process, in writing, from the authority
☐	Run your startup and per-well numbers in the Academy calculator with local prices
☐	Choose the rig class by depth margin, geology and site power; get a landed-cost quotation
☐	Agree your written quote template, deposit policy and dry-hole rule
☐	Assemble and safety-train the crew; print drilling logs and acceptance checklists
☐	Book the first job close to home, on a surveyed site — and log it like it matters, because it does

Free, and staying free: the Academy's 8 lessons, this guide, the rig acceptance checklist and the drilling log template at aurorarigs.com/learn/. Verified Aurora rig owners also get a free Driller Page — your own webpage and directory listing that sends customer inquiries straight to your phone, at no commission and with no annual fee for as long as you run an Aurora rig.

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