

STANDARD OPERATING PROCEDURE (SOP)

Overland Logistics & Heavy Fuel Oil Transit: Al-Qa'im – Al-Bukamal to Baniyas Port

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1 Route Map, Border Crossings & Checkpoints

Standard Transit Corridor: All road tanker transport carrying Heavy Fuel Oil (HFO) originating from Iraqi loading points (Nasiriyah, Basra, Baghdad) bound for the Baniyas export terminal must transit exclusively via the official **Al-Qa'im (Iraq) – Al-Bukamal (Syria)** border crossing.

[Iraqi Loading Point] → M11 Highway → Al-Qa'im / Al-Bukamal Border → Deir ez-Zor Highway → Tadmur (Palmyra) → Homs → Baniyas Oil Terminal

Route Point	Distance (from Border)	Required Operation / Mandatory Action
Al-Qa'im Border (Iraqi Side)	0 km	Manifest document audit, customs valuation, T-1 transit permit issuance, and electronic sealing.
Al-Bukamal Border Post (Syrian Side)	5 km	Initial technical inspection, Syrian insurance issuance, road transit fee payment, and convoy integration.
Deir ez-Zor Checkpoint	160 km	Seal integrity check, transit timeslot logging, and fleet refueling.
Tadmur (Palmyra) Security Bottleneck	370 km	Mid-route inspection, security escort handover, and technical audit of heating coil systems.
Homs Logistics Hub	520 km	Traffic splitting toward Baniyas Port and final synchronization of shore tank storage capacity.
Baniyas Oil Terminal	610 km	Quality & Quantity (Q&Q) sampling, weighbridge scale verification, discharge, and receiving receipt issuance.

2 Fleet Technical Specifications & Fuel Handling Protocols

Standard Road Tanker Specifications

- **Nominal Capacity:** 30,000 to 36,000 Liters (~20 to 24 Metric Tons).
- **Tank Shell Material:** Thermal-insulated carbon steel (min. 5mm thickness) to prevent fuel temperature drop across desert transit.
- **Internal Heating System:** Mandatory steam/oil heating coils for connection to Baniyas terminal steam lines if cargo temperature drops below 50°C.
- **Discharge Hardware:** 3-inch or 4-inch bottom discharge valves equipped with dual-valve mechanical and hydraulic locks.

Viscosity Control & Temperature Management

Iraqi Heavy Fuel Oil is loaded at 55°C – 65°C. To prevent gelling across the 600 km desert route:

- **Max Allowable Transit Window:** 72 hours from departure at Al-Bukamal border to entry at Baniyas Terminal.
- **Destination Steam-Injection Protocol:** If cargo temperature drops below 45°C, fleet units must connect to shore steam lines for 45–90 minutes prior to manifold pumping.

3 Cargo Loss Standards & Anti-Pilferage Protocols

Transit Loss Tolerance (Shrinkage)

- **Allowable Thermodynamic Loss:** Maximum **0.3%** of total volume (accounting for thermal contraction & evaporation).
- **Discrepancy Penalties:** Losses exceeding 0.3% are classified as "Unauthorized Deficit." The monetary equivalent is deducted from carrier freight payouts based on FOB Fujairah spot rates.

Sealing & Tracking Requirements

- **Triple RFID Cable Seals:** Manholes, bottom discharge valves, and sampling ports must be secured with high-security serialized digital cable seals.
- **GPS Transponder Mandate:** Continuous GPS tracking paired with door-open and temperature sensors. Any detour from the designated M11 / Deir ez-Zor corridor constitutes a security breach.

4 Deadhead Return Optimization (Empty Fleet Return)

Empty return journeys account for over 40% of operational overland costs. The standard turnaround workflow is structured as follows:

Fuel Discharge at Baniyas → Tank Contamination Audit → Standard Tank Wash (If Changing Cargo) → Return Escort Integration → Al-Qa'im Border Clearance

Tank Washing Standards

If tankers plan to carry backhaul light distillates (e.g., diesel), full solvent washing and 120°C high-pressure steam cleaning are mandatory at Baniyas washing stations.

Reverse Escort Protocols

Empty tankers do not require heavy armed escorts. Fleet units return in 50-vehicle batches under a single-entry Return Transit Permit within a 24-hour window to Al-Qa'im.

5 Document Checklist & Customs Dossier

Drivers and freight forwarders must assemble the physical and digital compliance dossier prior to dispatch from Al-Qa'im:

- ☐ **Certificate of Origin (COO):** Officially legalized by the Baghdad Chamber of Commerce and Ministry of Foreign Affairs.
- ☐ **International Transit Manifest (Form T-1):** Containing verified seal serial numbers, driver credentials, and truck VIN.
- ☐ **Quality & Quantity Certificate (Q&Q):** Issued by an accredited independent inspection agency (e.g., SGS/BIVAC) at the Iraqi loading terminal.
- ☐ **Syrian Transit Insurance Policy:** Providing coverage for road traffic accidents and environmental spill liabilities.
- ☐ **Baniyas Terminal Discharge Authorization (SCOT):** Confirmation of shore tank storage allocation to prevent vessel/truck demurrage at the port.