

ABEL Engineering was one of 5 USA companies that provided well control services to the Kuwait Oil Company to extinguish and control burning and blowing wells in Kuwait. This project began in late June of 1991 and ended in November of 1991. ABEL Engineering maintained an operational team in Kuwait full time and a relief team to give team members days off. Under its contract to the KOC, ABEL provided a full set of firefighting and well control equipment for one firefighting and well capping intervention team. The equipment included the ABEL designed capping machine, called the "ABELIZER", which is a hydraulic powered capping wagon useful for multitasked functions such as stinging in, cutting off wellheads, hoisting BOPs for capping and conveying other tools to the wellhead such as venturi tubes. ABEL Engineering was the only USA company to take advantage of the jet technology, when they utilized the Hungarian twin Mig-21 jet powered fire extinguishing machine to control a large lateral fire. In all ABEL controlled 42 wells in Kuwait and the Neutral Zone in 64 operational days for an overall average of 1.52 days per well.



"ABELIZER": Selfpropelled Hydraulic Capping Machine

**HOUSTON FABRICATION PHASE:**

Equipment fab:	28 Jun to 1 Aug
Equi. delivered:	1 Aug 92
Fabrication period:	36 days
Air shipments	5 Aug 91 & 12 Aug 91

**WAFRA FIELD (Neutral Zone):**

Typical well was 2800 ft TVD, 9000 ppm H<sub>2</sub>S  
 24 deg API gravity crude, flows 100-4000 BOPD

Arrived in Wafra:	10 Aug 91
Wafra rig up phase (w/air lift):	<u>22 Aug 91</u>
Wafra rig up w/ air freight	12 days

Total wells controlled in Wafra	31
Total operational days in Wafra	34
Wafra average per day	1.10 days/well

**SUMMARY of ABEL's KUWAIT WELL CONTROL PROJECT:**

Wells controlled that were on fire: Wafra:	6
	Burgan 11
Gushing wells controlled: Wafra	24
	Burgan <u>1</u>
total wells controlled	42

**BURGAN FIELD OPERATIONS:**

Typical well was 4800 ft TVD, trace to 9000 ppm H<sub>2</sub>S 36 deg API gravity crude, flows 14-26,000 BOPD est.

Arrived in Burgan:	26 Sept 91
Burgan rig up phase completed:	<u>31 Sept 91</u>
Burgan rig up w/ fabrication	5 days

Days waiting on weather, smoke, wind	4 days
Longest well	8 days
Shortest well	8 hours
Average move on and rig up time:	7.5 hours

Wells controlled in Burgan	11
Total operational days in Burgan	30
Avg. days /well in Burgan	2.72 days/well