



FLOW TECH SYSTEMS, INC.



Mobile Fueling Depots



Mobile Fueling Depot Features:

- Two 4" Blackmer pumps
 - 25 hp explosion proof motors
 - Wired with timers and low level shutdown system to prevent damage if left on
- Complete filtration system
 - Filters fuel down to 10 microns and completely removes water before fuel enters the tank from the transport delivery truck
 - Fuel is filtered down to 5 microns as it is pumped out of the tank to each filling station
 - Optional kidney loop system provides continuous filtration
- Fully contained Eaton double wall tank
 - Various fuel capacities
 - 12,000 gallon
 - 20,000 gallon
 - 30,000 gallon
 - or two tank piggy-back option
- Cummins diesel generator
 - 125kW to 175kW of power
 - Weather proof enclosure
 - Sound attenuated to 63 dBA
 - Capable of powering a lunch facility, air compressor, etc.
- LAS Fluid Management System (optional)
 - Automatic vehicle identification and hour meter capturing
 - Controls dispensing
 - Records transactions
 - Monitors tank levels

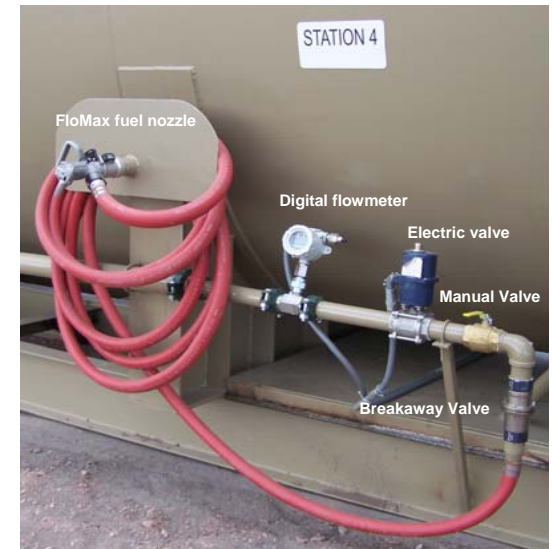


Six separate fueling stations

- **Four Heavy Equipment Stations**
 - Simultaneously delivers 120 gpm at each station
 - Each station equipped with the following components:
 - Digital flowmeter – measures volume and flow rate
 - Electrically actuated 2" ball valve – provides leak/spill protection
 - FloMax 2" breakaway valve – eliminates costly fuel drive-offs
 - FloMax 2" nozzle – durable light-weight construction
 - Equipment *should* be equipped with 2" FloMeg Non-pressure Overflow Protection System to eliminate tank pressurization and overfilling on the equipment.
- **One Fuel Truck Station**
 - Capable of filling fuel trucks at 400 gpm
 - Fuel trucks *must* be equipped with 3" FloMeg Non-pressure Overflow Protection System.
 - Each station equipped with the following components:
 - Digital flowmeter
 - Electrically actuated 3" ball valve
 - FloMax 3" breakaway valve
 - FloMeg 3" nozzle – dry break connection eliminates fuel spills
- **One Light Vehicle Station**
 - Station equipped with the following components:
 - Small fuel pump – delivers 15 gpm
 - Digital flowmeter
 - Electrically actuated 2" ball valve
 - Splash fill nozzle – with automatic shutdown

One transport delivery offload station

- **Offload Station**
 - Tank fill line equipped with one electrically actuated 3" ball valve and one FloMax 3" breakaway valve
 - Equipped with a high level overflow protection system to eliminate tank overfilling
 - Transport delivery trucks use onboard pumps to offload fuel



FloMax 2" Breakaway Valve



FloMax 2" Fuel Nozzle



FloMeg 3" Fuel Nozzle



FlowTech CONSTRUCTION PROCESS



Move tank in to shop



Construct fuel platform for front and back of tank



Weld platforms to tank skid



Attach components to fuel platforms



Wire in motors, electric valves, etc.



Remove tank from shop and finalize construction of Mobile Fueling Depot



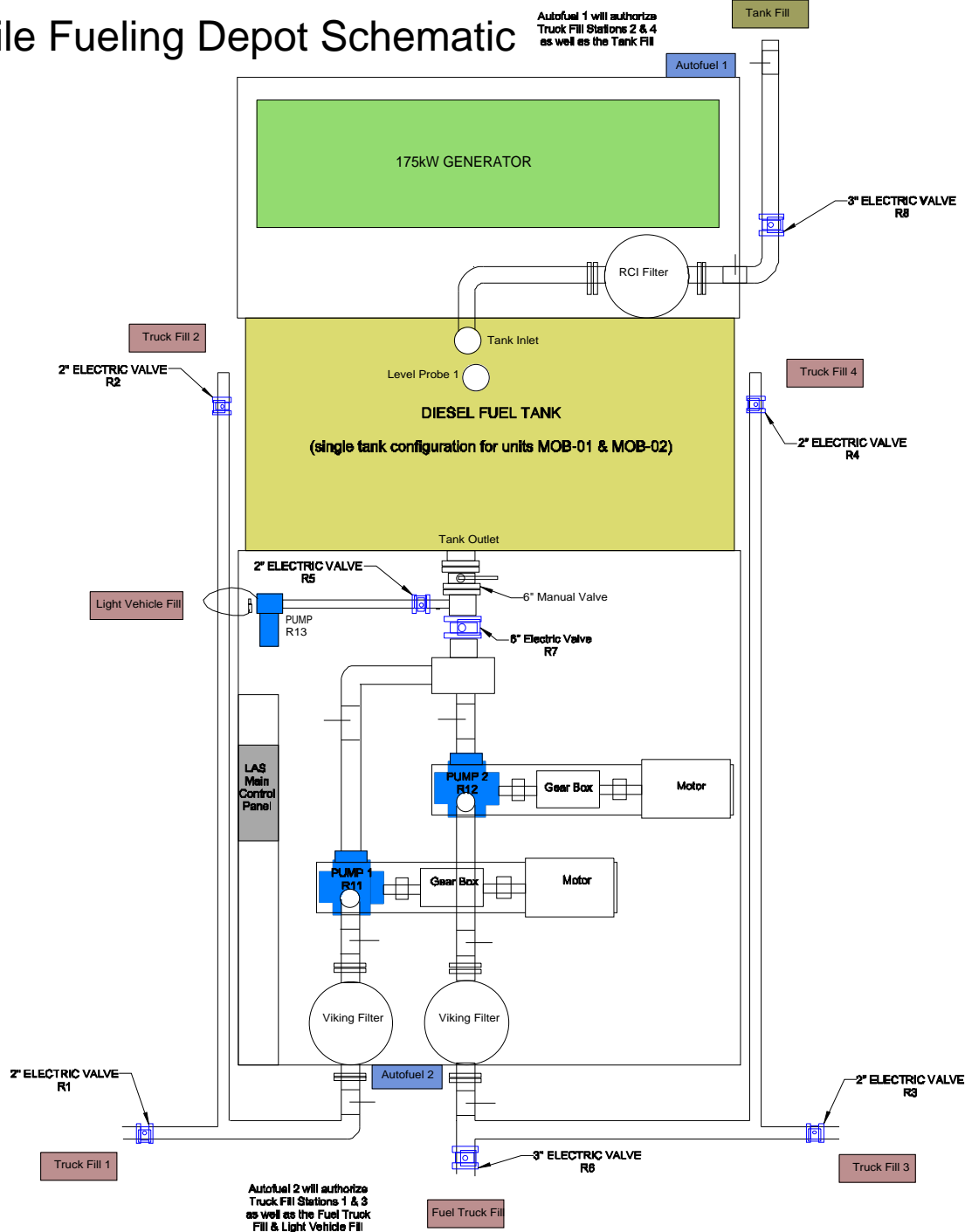
Load completed Depot on to tail roll truck



Deliver Depot to mine site ready for use

FlowTech will construct a Mobile Fueling Depot to meet the specific needs of your operation

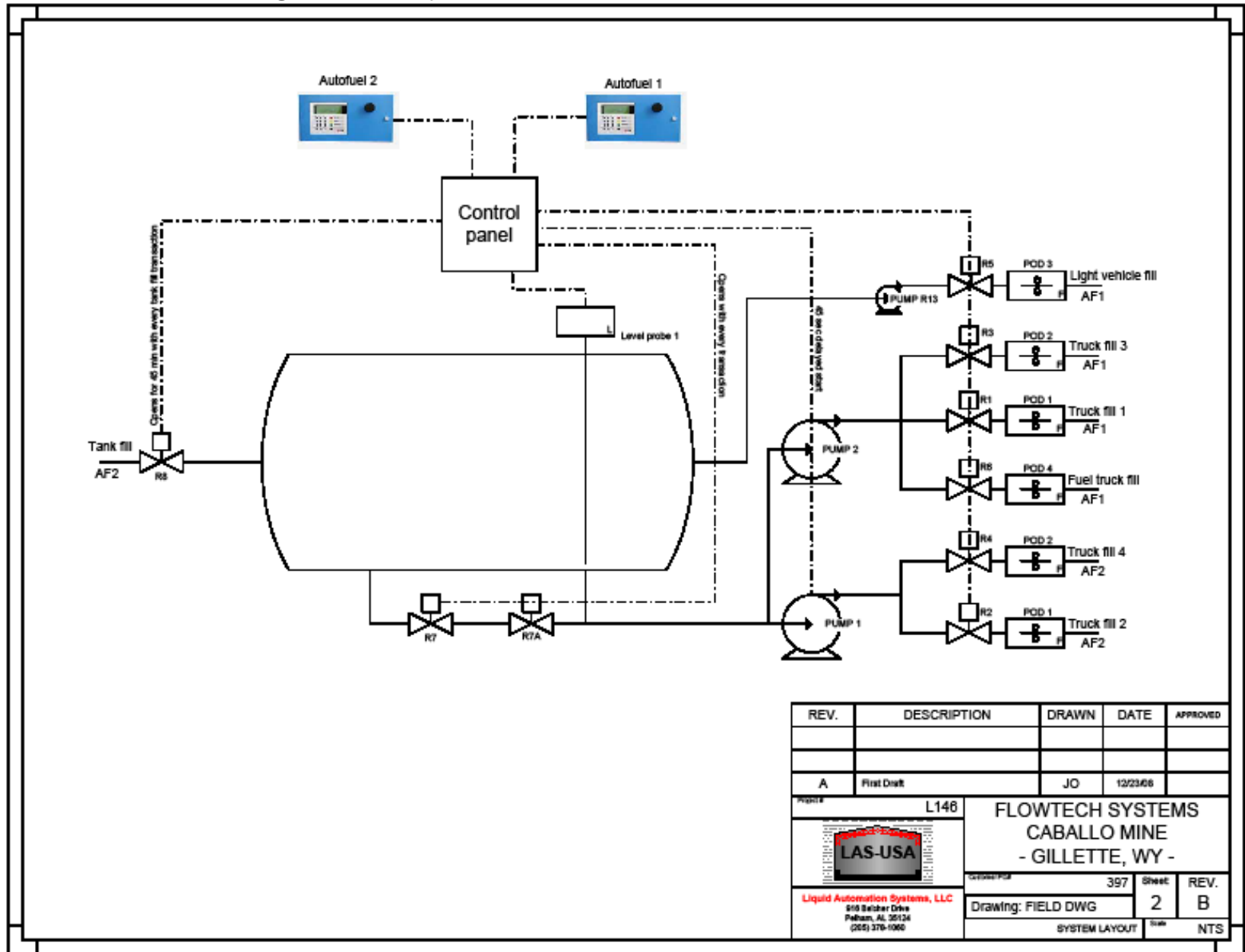
FlowTech Mobile Fueling Depot Schematic



Autofuel 1 will authorize Truck Fill Stations 2 & 4 as well as the Tank Fill

Autofuel 2 will authorize Truck Fill Stations 1 & 3 as well as the Fuel Truck Fill & Light Vehicle Fill

LAS Fluid Management System Schematic



REV.	DESCRIPTION	DRAWN	DATE	APPROVED
A	First Draft	JO	12/23/08	

Project # L146

**FLOWTECH SYSTEMS
CABALLO MINE
- GILLETTE, WY -**

397 Sheet REV. 2 B

Drawing: FIELD DWG

SYSTEM LAYOUT

NTS



Liquid Automation Systems, LLC
818 Satcher Drive
Pellham, AL 36514
(205) 376-1060

FloMax 2" Fuel Nozzle

Features

- Durable, Lightweight construction
- Flows up to 180 gpm
- Built in swivel
- Rotating cuff
- Firm fit on receiver
- Easy to clean & repair
- \$1000 (new), \$435 (repair)



FloMax Breakaway Valve

Features

- 2" Valve flows 300 gpm
- Breaks and seals at 420 ft-lbs
- 3" Valve flows 475 gpm
- Breaks and seals at 500 ft-lbs
- Easy to repair and reuse
- 2" Valve \$584; 3" Valve \$876; Rebuild Kit \$32.50



Cameron MCIII Digital Flow Analyzer

Features

- Explosion proof
- Easy-to-read LCD displays
- Simultaneous indication of fuel rate and total volume
- Extensive log archival capacity
- External reset switch with daily log viewing capabilities
- Flow Analyzer \$1,736
- Turbines: 2" – \$1,308; 3" – \$2,112; 4" – \$2,800



RCI Fuel Purifier

Features

- Removes all solid particles down to 10 microns including oxides, dirt and all other impurities with a density greater than the fuel.
- Preheats the paraffin contained in all fuel, providing superior lubrication of equipment fuel systems including injector pumps, injectors and cylinder walls.
- Flows up to 400 gpm
- \$6,363 (no filter elements necessary)

Maintenance

- Drain fuel from the Purifier at regular intervals, depending on fuel usage.
 1. Open drain valve located at the bottom of the RCI Purifier. Purge or drain contaminants until clean fuel is observed.
 2. Close drain valve and resume operation.



Viking Fuel Filter

Features

- Removes all solid particles down to 5 microns
- Flows up to 500 gpm
- Epoxy coated on inside and out with carbon steel housing
- Requires eight elements
- Housing \$6,829; elements \$324 per case of six

Maintenance

- Change the filter elements when elements reach 25 psi pressure differential or when flow resistance occurs.
 1. Isolate the filter by closing the incoming and outgoing valves.
 2. Open the vent on the top of vessel and partially drain fuel from 1" valve on the side of housing.
 3. Remove the lid and swing out of the way.
 4. Remove filter elements and replace with new.
 5. Replace lid to operational position.
 6. Open incoming and outgoing valves and bleed air from valve on top of vessel.



Cummins Generator Set

Features

- kW Standby Ratings: 125, 150 or 175 @ 60 Hz
- Cummins heavy-duty 4-cycle engine - delivers reliable power with low emissions and fast response to load changes.
- Electronic control system provides total system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.
- Weather protective enclosure, sound attenuated to 63 dBA.
- 125 kW \$30,000 to 175 kW \$42,000



Maintenance

- See maintenance summary.

Blackmer 4" Pump

Features

- Positive displacement sliding vane rotary pump
- Constructed of ductile iron
- Capable of pumping up to 400 gpm
- Maximum pump speed 640 RPM
- \$6,600 (new)



Maintenance

- See maintenance summary.



Mobile Fueling Depot Benefits:

- Achieve fuel location flexibility in current and future mining operations with a skid mounted, self-sufficient Depot designed to be pulled from one location to another.
- Increase safety of mine personnel and contractors without sacrificing production.
- Maximize productivity of equipment and personnel.
- Optimize equipment performance with cleaner fuel.
- Avoid costly expenditures required to construct a permanent fuel facility.
- Decrease environmental impacts and remediation costs.
- Boost fuel storage capacity to buffer fuel market fluctuations.
- Track fuel usage, maximize service intervals, manage wet stock and monitor productivity.

U.S. Diesel Price Since 1998

