

NPEP Through the Probe Mobile Laboratory Specifications

Capacity:

1. The following mobile laboratory (lab) trailer or equivalent is being considered for this task to be provided for shared use: A model EW 1824 Wells Cargo mobile laboratory (lab) trailer, modified by the addition of a lab body, and TTP PE equipment, and additionally loaded with 5 PM2.5 Portable FRM sampler sets, which is estimated to weigh no more than 6000 pounds. If the mobile trailer described above is not provided, then an equivalent mobile laboratory unit will be provided.

- b. **Notice:** Light-weight pick-up trucks having four wheels and mini-vans have proven through experience by this program to be unsafe for this application. The recommended safe tow capacity rating is 1 ton. Due to the weight and design of these mobile lab trailers, the potential may exist for swaying from passing vehicles such as semi-tractor-trailers, sudden wind gusts, and wet slippery roads.

Ground and Height Clearance, and Safe Operation:

The overall length of the mobile lab trailer is 18 feet plus the length of the back bumper/step/plate and the front A-frame which carries the auxilliary gas fuel tank and the trailer hitch; or, an approximate total length of 20.5 ft. The overall width of the trailer is 8 ft. The interior height of the trailer is 7ft. The ground clearance is 6"-10" from the ground level to the bottom of the trailer. The overall height of the trailer is 10.5 ft. The driver/operator shall consider the additional height of the roof platform (approximately 4"- 6" of plywood base), as well as the added height when the railings are locked in the erected (up) position (safety railings add approximately 30 " to the height) for clearance. The main additional trailer height, with the railings locked in the down position, is equal to the height of the 2 AC Units' exterior housings.

Caution shall be taken when operating/driving the tow vehicle with or without the mobile lab trailer to and from the assigned locations or sites. The operator/driver shall comply with all State, Federal, and Local motor-vehicle administration driving and towing regulations, laws, and/or work rules or standards.

Ground clearance for the mobile lab trailer shall be considered due to the jacks or steps which require them to be raised prior to and during movement and transport of the trailer. Overhead Clearance, such as, before entering beneath bridges and underpasses, approaching overhead road signs and traffic signals, driving underneath trees (on and off-road), overhead power-lines and any other hanging obstructions, clearance for entrance to buildings/warehouses for parking, and other overhead or side-way obstacles that may be encountered.

Trailer Hitch and Safety Equipment:

1. Significant weight shifts in the trailer body can contribute to sway, and sway can lead to loss of control. The stability of the mobile lab trailer can be improved in all cases by the application of sway (stabilization) bars including a weight distribution hitch added to the basic hitch. Since the addition of this equipment there have been no incidents. The tow vehicles routinely used for this application have both the weight-distributing and sway stabilization bar apparatus in addition to their basic hitch. The basic hitch for this application is a minimum of a Class #3 ball-type hitch, with a 2 5/16th inch hitch ball.

The contractor shall follow the vendor specifications. According to the current vendor literature, the normal GVWR for the loaded Wells Cargo Model EWW 1824, 18 ft long tandem (twin) axle, 4 ton model is 10,000 pounds. For this application, it has been planned for normally less than 6,000 pounds, loaded, including the platform weight.

In addition to the use of 1) preplanning, thinking and looking ahead while driving, 2) general caution in driving, and 3) the use of both stabilization bars and weight distributing apparatus, in association with an 4) appropriate hitch and emergency brake trigger device, 5) careful immobilization, distribution and balancing of the weight of items in both the tow vehicle and the trailer are critical in minimizing weight shifts that could increase the possibility of sway and destabilization in general.

The fuel tank for the auxilliary generators for the trailer is located such that it adds weight to the ball (tongue) of the hitch. Field experience across the country indicates that the safest and most practical way to use the mobile lab is to operate with less than a full tank, usually between half and three quarters full.

2. The mobile lab trailers have electric brakes, and chains(5/16" safety chain with Clevis Safety Slip Hook and Latch) to connect to the hitch, two (2) cables that connect to either side of the hitch, and disconnect in the event of loss of control of the trailer. A disconnection will trigger the trailer's electric brakes in that emergency situation. To ensure operation of both the trailer lights and the electric brakes, the tow vehicle should have a 7-lead wire harness connector that will operate electric trailer brakes. An added Safety feature to include extended side-view mirrors is highly recommended to allow the driver to see around the 8 foot width of the basic trailer body .

Pictures of Mobile Laboratory

