

2.1.1 MITU Technology



CBA pioneered and developed the MITU soil treatment technology. CBA is the sole developer and user of this specialized technology which currently holds six United States Patents and has several pending International Patents. The patents include a broad spectrum of claims ranging from apparatus to a number of treatment processes performed by the technology on multiple contaminants. Clients who select CBA will benefit by contracting with the sole designers and users of the technology, which eliminates potential infringement issues of other treatment technologies.

The MITU was developed and patented by CBA, and has been successfully operated since 1993. The MITU technology has been adapted to several sizes of heavy equipment to meet various treatment objectives. Currently, several different models of the MITU are in operation; each model provides a different treatment depth and production rate.

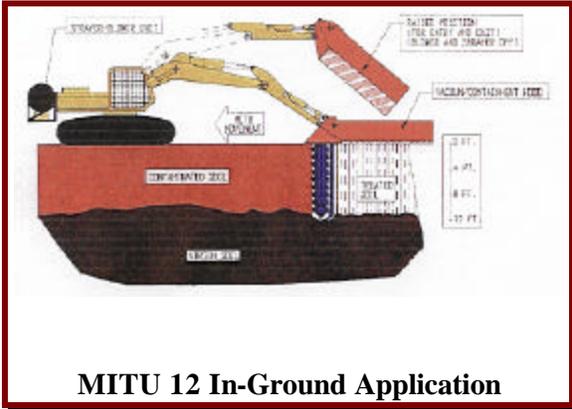
The appropriate MITU model is selected based upon site constraints, type of soil and subsurface conditions, volume of contaminated soil, and budgetary concerns.

The MITU units are very flexible in terms of performing soil treatment; various modifications and accessories can be added or eliminated to accommodate treatment goals and site constraints. The units primary functions are to conduct; single or multiple subsurface or surface injections of chemical reagents and/or hot air; soil mixing operations, off-gas emissions collection and treatment. The MITU utilizes a vacuum system to capture off-gases beneath a vapor collection hood; the gases can be conveyed for treatment by various methods, such as activated carbon or thermal oxidation.

The MITU technology is capable of performing in-situ treatment at depths of up to 30 feet below grade. All of the units utilize various modified trenching heads to perform soil treatment/mixing. This unique application and process offers several distinct advantages over conventional mechanical soil mixing devices. First, the MITU effectively breaks up the soil density, allowing the addition of chemical reagents in virtually any type of soil. Secondly, the medium and large MITU units are not significantly hampered by subsurface debris; the largest MITU can penetrate solid rock. Thirdly, the units are relatively easily mobilized to almost any location. Finally, as previously mentioned, the MITUs are capable of treating both organic and inorganic wastes through the simultaneous addition of chemical reagents and hot air.

2.1.1.1 MITU 12

On this model, the modified trenching head is mounted on a track excavator. This is the most widely used MITU unit, as it is capable of treating both in-situ, to a depth of 12 feet below grade, or ex-situ (stockpiles) as high as 8 feet. The MITU 12 is extremely versatile and can maneuver fairly easily given various site constraints.



MITU 12 In-Ground Application



MITU 12 In-Situ Metals Stabilization and VOC Removal - Arcade, NY

2.1.1.2 MITU-LVR

This model consists of a large track trencher outfitted with a specialized rotating drum attachment. This track trencher has the capability of cutting to a depth of 4 feet with a trench width of 11 feet. This machine is fairly compact when the trenching boom is in the ground; it is only approximately 20 feet long at this point. This unit is typically equipped with a vapor collection hood and auxiliary heat system.

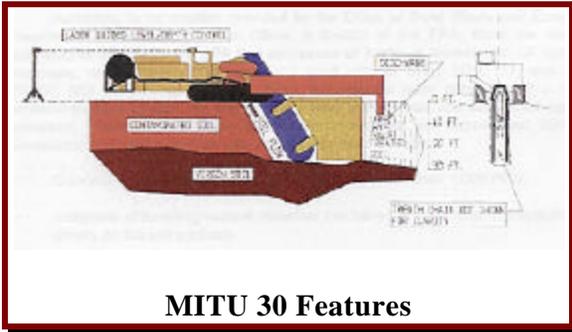


MITU-LVR

The MITU Rotating Drum is fairly easily mobilized to most site locations. The unit is compact enough to allow for excellent maneuverability on projects which have very little operating space. This unit is ideal for soils requiring extensively high heat (up to 800 °F) and aggressive soil breakdown (i.e. hard clay). The unit also performs very well at chemical addition and mixing. The MITU Rotating Drum can achieve production rates well in excess of 1000 cubic yards per day.

2.1.1.3 MITU 30

This model consists of a large track trencher equivalent or similar to the TRENCOR® 1860HD track trenching machine which has been specially modified for in-situ soil remediation projects. This unit is capable of reaching depths of 30 feet below grade while performing immediate backfill or transfer of soils to a dump truck for removal/staging. The MITU 30 is an extremely large powerful machine capable of very high production rates.



MITU 30 Features



TRENCOR® 1860HD