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Oil Water Separator Guidance Training Support Package OWSG/TSP 2006 JSEM Conference 20 – 23 March

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OWSG/TSP Background

- OWSG/TSP was jointly developed by the CWASSC and USAEC
- Issued to the services in 2001
- Program implemented at Fort Bliss 2002
- Program implemented at Fort Hood 2004



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Purpose

- Provide a comprehensive training program for the troops involved with vehicle maintenance at motor pools.
- Foster an understanding of the technical aspects of oil water separation.
- Identify any potential Pollution Prevention and Best Management Opportunities.
- Provide a tool for the management and maintenance of OWSs at the installation level.
- Understanding CWA pretreatment requirements.
- Reduce CWA violations.



Abstract Goals

- Review the OWSG/TSP implementation at Fort Bliss.
- Review the OWSG/TSP implementation at Fort Hood.
- Description of changes to the OWSG/TSP making it more user friendly.
- Discussion of the OWSG/TSP External Support Options document developed by USAEC in 2006.



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Fort Bliss

- Fort Bliss had raw sewage backing up into their wash racks and bays.
- Fort Bliss had no inventory of OWSs or maintenance program to identify problems.
- 100% of the OWS contents were routinely shipped off-site for disposal.



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Fort Bliss

- Program identified (53) OWSs and three (3) grease traps during the inspection/inventory phase.
- Fort Bliss developed a maintenance and treatment program.
- Eliminated sewer violations, such as hydrocarbon pass through
- Provided a P2 solution minimizing off-site water disposal and maximizing water conservation.
- Personnel received OWS awareness training.



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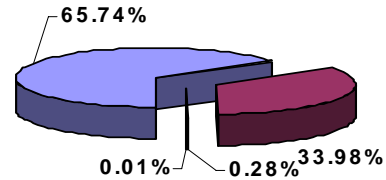
Environmental Update Article Fort Bliss Spring 2004

Fort Bliss Puts Oil/Water Separator Maintenance on Wheels by David Jevons

- **In spring 2002, Fort Bliss initiated a contract to use an onsite treatment technology developed in Australia and also used in the United States and Thailand. The process uses a “plant on wheels” to separate oil from water using centrifugal, gravitational and inertial forces, like water spinning down a drain.**
- **The program was designed to address recurring complaints by units regarding lack of maintenance of OWS through routine cleaning, inspection and proper maintenance of these structures.**
- **Oil separation is achieved through a five-stage process without using disposable filters. The patented filter is made from the ash of burned sugar cane stalks. A 24-foot truck carries the unit, and an additional smaller vehicle holds equipment to complete the cleaning process. The result meets drinking water standards. The unit can handle 100,000 gallons of contaminated water in an eight-hour day. The treatment process also includes a wash cycle for OWS sediments collected during the process, capturing more oil for later recycling. The cleaned sediments are used for landfill cover.**
- **In addition, the process returns clean treated water to the separator. Previously, the installation recharged the OWS with fresh water and sent the dirty wastewater and sludge offsite. This state-of-the art program contributes directly toward the Defense Department goal of continuous reduction of waste. Moreover, it allows each OWS to be inspected during the treatment process.**
- **The contractor is piloting a way to produce adobe paving tiles from clean sediments. If the test is successful, these pavers could be used in xeriscape landscaping and post beautification projects at Fort Bliss.**
- **In addition, the maintenance contractor is integrating site-specific training for proper separator operation based on recently developed maintenance manuals. The U.S. Army Environmental Center OWS train-the-trainer education program led to this initiative.**



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Recycled Water	65.74%
Washed Sediment	33.98%
Recycled Oil/Fuel	0.28%
Waste Sludge	0.01%

Fort Bliss Directorate of Environment
 To Schedule Cleaning or Inspections
 Please call (915) 568-0558
 or
 Fax (915) 568-1333

**FORT BLISS DIRECTORATE
 OF ENVIRONMENT
 WASTE CARE SERVICES:
 OIL WATER SEPARATOR
 MAINTENANCE AND ON-SITE
 TREATMENT**



PROGRAM MANAGER:
 David E. Jevons (915) 568-0558
CONTRACT SUPPORT:
 Enviremedial Services Inc.,
 915-726-6825



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BACKGROUND

Before the Oil Water Separator (OWS) Program was implemented at Fort Bliss, OWS were problematic. Infrequent maintenance was the primary contributor.

1. Problems included:
 - a. raw sewage backing up into wash racks and maintenance bays.
 - b. Pass through of hydrocarbons into the sanitary sewer.
2. No individual identified as OWS care provider.
3. 100% OWS contents shipped off-site for disposal.
4. No water conservation while recharging OWS.



THAT IS THE OWS MAINTENANCE AND TREATMENT PROGRAM?

The OWS maintenance and treatment program is a service that is available to all Team Bliss members and contractors. Customers can request the service through a DRMO contract, developed by Directorate of Environment, and will be provided with the following:

1. Inspection of OWS's 4x per year
 - a. Preparation of work orders for corrective actions by DPW.
 2. Cleaning of OWS 2x per year (minimum)
 - a. Skim oil/fuel for recycling
 - b. Remove/treat water using on-site mobile package plant (5-stage)
 - c. Store clean water in portable tank
 - d. Remove/wash sediment
 - e. Pressure wash walls
 - f. Recharge OWS
 - g. Test sediments prior to use as daily landfill cover.
 3. Follow up on corrective actions completion.

PURPOSE

Our purpose at the Directorate of Environment is to provide an OWS maintenance and treatment service that:

1. Supports motor pool washing operations with a properly operating OWS
2. Provides a pollution prevention solution that minimizes off-site disposal and maximizes water conservation
3. Eliminates sewer violations, such as hydrocarbon pass through
4. Results in full customer satisfaction





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BENEFITS OF THE FORT BLISS PROGRAM

- Clean and recycle the wastewater back to the OWS (eliminating the need for OWSs to be recharged with fresh tap water)
- Recover the waste for recycling (oily water is not recyclable)
- Treat the removed sludge to landfill standards (for onsite disposal)
- Clean OWS at least once a year, but as often as required (for one fixed cost)
- Inspect OWSs quarterly and maintain operational status
- Report to Department of Energy (DOE) all volumes of waste removed, recycled, treated and disposed
- Report OWS maintenance and repair problems (to be corrected by DOE)
- Reduce waste disposed offsite, with reduced transportation and disposal liabilities

WASTE MINIMIZATION

- Water cleaned: **159,650 gallons** (previously sent as waste)
- Recycled oil and fuel: **3,350 gallons** (previously sent as waste)
- Sediment cleaned: **15,350 gallons** (previously sent as waste)
- Oil sludge sent as waste: **150 gallons**
- Waste minimization: 99.9 percent

Note: This data reflects the cleaning of 33 out of 56 OWSs to date.



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Fort Hood

- Fort Hood had no inventory of OWS's
- Fort Hood had no maintenance program to identify ongoing problems.
- Personnel had a vague understanding of the OWS and its limitations.



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Fort Hood

- Program identified (120) OWSs during the inspection/inventory phase.
- Adopted GIS technology to provide datum point location of all OWS inventoried.
- Integrates the OWS inventory into a web-based database to store inspection, maintenance records, reports, and system drawings.
- Personnel received appropriate training.



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Environmental Update Article Fort Hood Winter 2006

Tool Streamlines Oil/Water Separator Operation

U.S. Army Environmental Center

Out of sight, out of mind—this is the status of oil/water separators on many installations. Even though oil/water separators are usually located within the main cantonment areas, such as motor pools and aircraft hangars, environmental managers often find it difficult to answer the most basic questions about them.

The Joint-Service Oil/Water Separator Guidance/Training Support Package is a comprehensive oil/water separator management tool designed to streamline management, support the Clean Water Act and save money.

It provides users with a basic explanation of how an oil/water separator works and the effects of certain types of discharges on the separator, and includes pollution prevention activities proven to improve the operation of a separator or eliminate its need altogether. The package also covers separator operation, maintenance and inspection information.

Fort Hood, Texas, used the training package in 2004, in part to help guide a comprehensive study of oil/water separators on the installation.

"The training videos and other information provided are very easy to understand, and we've added some of it to our Environmental Compliance Officer training course," said Riki Young, water program manager in the Fort Hood Environmental Management Branch.

The study documented 111 oil/water separators (now 120) on the installation. The installation is placing the information into a Web-based database and map of all separators. This management tool will store inspection and maintenance records collected using mobile devices with custom forms and barcode scanners.

"What started out as a simple data collection project using the Joint Service Guidance, grew into a comprehensive system that will greatly improve our management of separators on Fort Hood, and ultimately our compliance with wastewater regulations and permits," said Young.

For more information, contact the U.S. Army Environmental Center Compliance Branch at (410) 436-1203, or misha.tumer@aec.apgea.army.mil.



Oil/water separator on Fort Hood



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Fort Hood Management Information System

U.S.ARMY FIIST - Environmental Management Information System

Storage Tanks Oil/Water Separators Parts Washers Grease Traps Septic Tanks

OWS within Map Extent. Click a OWS to view Data.

- 11012W
- 11024W
- 11024W1
- 11043W
- 11043W1
- 13023W
- 13023W1
- 13100W
- 13407W
- 13407W1
- 1347W
- 15005W
- 15005W1
- 15024W
- 15054W
- 15054W1
- 17006W

OWS Locations

- ★ Inspection Past Due
- ★ Due Within 30 Days
- ★ Due > 30 Days & < 120 Days
- ★ All other OWS

LEGEND

- Buildings
- Structures
- Roads
- Road Text
- Large Rivers
- Rivers
- Facility Boundary

Full View ZoomIn ZoomOut Pan Identify Print

Done Internet



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Fort Hood Management Information System

FIIST - Environmental Management Information System

Storage Tanks Oil/Water Separators Parts Washers Grease Traps Septic Tanks

25060W
 26018W
 26027W
 26027W1
 26041W
 30011W
 30018W
 30029W
 32013W
 32023W
 33010W
 332W
 333W
 35009W
 35028W
 35040W
 38008W
 38009W
 38029W
 38033W
 38058W
 38068W
 3830W

INVENTORY DATA			
Bar Code	638	Separator ID	38008W
GPS Latitude	3446881.288	GPS Longitude	614858.0614
Facility Type	Open-Top Simple Gravity Separator	Activity	Vehicle Washrack
Location Desc.	North Avenue and 75th Street	Elevation	
Configuration	Square	Material	Reinforced Concrete
Oil Holding	Integral	Accessibility	Difficult
Discharge	Storm Sewer or Navigable Water	HydraulicLoading	Unknown
Stormwater	True	OperationalDepth	
Stormwater Loading	4280.7416666	Length	10
Width	10	Photos	View OWS Photo!
Comments			

Bar Code	Separator ID	Result Satisfactory	Active Status	Inspect Date	Due Date	Inspector	Cover grates missing/damaged	Effluent Weir Damaged	Evidence of discharge of sediment or POL	Evidence overflow/clogged
638	38008W		Active	12/6/2005 3:21:09 PM	12/30/2005	Robert Traylor				



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OWSG/TSP Guidance Manual

- Attached in your handouts are several of the worksheets that are used to perform the various tasks from the cursory inspection to the physical inventory to the development of the OWS Management Plan.



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Summary and Final Note

- OWSG/TSP is a valuable asset in your Army tool box. It deserves a second look.
- In an environment where environmental funding is becoming more difficult to obtain, the OWSG/TSP could offer your installation a beneficial environmental management tool.
- Bottom line - this program will ensure CWA compliance.



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References/Resources

Joint Service Oil/Water Separator Guidance
Document CD Rom – March 2001, SFIM-AEC-EQ-CR
200010 Available through USAEC TIC
(Technical Information Center) at
410-436-1239 or USAEC CWA POC @ 410-436-7074 or
410-436-1203

External Support Guidance Document developed by USAEC
in the Performance-Based Contracting Model, Document is
currently being distributed to the field for comments.



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QUESTIONS