



Fact Sheet

Aquifer Protection Permit P-105903

Place ID #2940, LTF #38295

SIGNIFICANT AMENDMENT
EVERGREEN MAINTENANCE CENTER

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an aquifer protection permit for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to A.A.C. R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer.

I. FACILITY INFORMATION

Name and Location

Permittee's Name:	Evergreen Maintenance Center Inc.
Mailing Address:	Evergreen Maintenance Center, Inc. Pinal Air Park Road Marana, AZ 85653
Facility Name and Location:	Evergreen Maintenance Center Paint Stripping Rack and Water Recycling Plant Pinal Air Park Road Marana, AZ 85653

Regulatory Status

- The Evergreen Maintenance Center is an existing facility.
- A Notice of Disposal (NOD) was submitted on February 4, 1985.
- A Notice of Violation (NOV) was issued on May 4, 2001
- An APP was issued on February 28, 2003.
- A significant amendment was issued on September 26, 2003.
- An other amendment was submitted on October 20, 2005.
- A minor amendment was issued on October 5, 2007.
- The NOV was closed on April 8, 2009

The NOV issued on May 4, 2001 and closed on April 8, 2009 required a Site Characterization Report (SCR) due to soil gas exceedances in the area of the Aircraft Paint Stripping Rack (APSR) and documentation of the APSR liner repairs. EMC supplied the SCR and documentation of the APSR liner repairs in February 2008.

The SCR along with the documentation of the APSR repairs has been approved by the ADEQ project engineer.

Facility Description

The site currently occupied by the EMC has been used as an aircraft facility since 1942. EMC, acquired a lease for the site in 1975 and has operated the air center since that time. Site activities include maintenance, testing, and repair of commercial aircraft. A part of the operation consists of stripping and repainting aircraft. The APSR, was placed in operation in 1988, and is currently used to wash and remove paint from aircraft. Approximately 20 aircraft per year, from 1988 to 1998, were stripped of paint at this facility. The process employed during the 1988 to 1998 period generally consisted of dissolving paint off aircraft using dichloromethane. An average stripping operation included approximately 440 gallons of dichloromethane-based stripper, 75 gallons of A-C brightener, 80 gallons of urethane paint and chromate containing primer, and 50 gallons of chromic acid (e.g., Alodine). This effluent stream was passed through the treatment facility adjacent to the APSR.

From 1998 to the present, a paint-stripping product containing formic acid, benzol alcohol, and mineral oil has been used exclusively on the APSR. The typical effluent stream from the stripping of an aircraft includes approximately 440 gallons of formic acid paint stripper, 70 gallons of A-C brightener, 80 gallons of urethane paint, 50 gallons of chromic acid, and 50 gallons of Alodine. From 1998 to the present, the average number of aircraft stripped at the facility has been approximately 6 per year.

Approximately 60 aircrafts per year are washed and degreased on the APSR using a degreasing agent known as Astromat orange. Astromat orange has been used exclusively at the facility for degreasing since 1990. EMC management, through the APSR Manager's memo of August 6, 2001, has strictly forbidden the use of chlorinated solvents at the APSR.

The APSR consists of a 12-inch thick concrete pad with an 8-inch concrete curb surrounding the work area. Process solutions are removed from the transmission line sump using a pump with a suction line placed in the sump. There are four holding tanks on site, with an aggregate capacity in excess of 70,000 gallons. Process solutions pumped from the sump are placed into one of these four holding tanks, depending on the remaining capacity. The same process is used for solutions removed for the LDRS. LDRS solutions are also placed in the same holding tanks. When holding tanks reach 90 percent capacity, an Arizona-certified industrial wastewater hauler is employed to empty the tanks and haul the waste off-site. Samples of the wastewater indicate that it is industrial waste water.

Geology

The EMC site is located within the Basin and Range physiographic province of Arizona which is characterized by northwest trending mountain ranges separated by gently sloping alluvial valleys. The mountain ranges are generally composed of crystalline and/or lithified basement rocks, whereas the alluvial valleys are composed of unconsolidated to well cemented sedimentary deposits.

The EMC facility is located within the Tucson Active Management Area (AMA) and is underlain by thousands of feet of basin fill deposits within the Santa Cruz River Valley, near the northern end of Avra Valley. Soil borings completed at the site, indicate silty sand with gravelly sand, with intermittent layers of clay or clayey silt to approximately 208 feet below ground surface (bgs).

Surface Water/ Flood-plain Information

There are two major surface water features near the facility; the Santa Cruz River and the Los Robles Wash. The Santa Cruz River is located over one mile to the west of the facility. The Santa Cruz River flows in this area consist of treated effluent from wastewater plants in the winter, and summer flows consist predominately of storm runoff. Between storms, the channel is dry. Los Robles Wash is located approximately 2.2 miles to the west of the facility. The APSR facility is not located within the 100-year flood plain.

Groundwater

The site is located in the Santa Cruz Watershed. The depth to groundwater at the site is approximately 185 feet below ground surface (bgs) as measured in an on-site groundwater monitoring well. The gradient is toward the northwest. The groundwater has risen approximately 16 feet over a six year period (2001-2007), which is attributed to the decrease in groundwater usage for agricultural purposes. Groundwater quality information indicates that nitrate near the site is in excess of the Aquifer Water Quality Standards (AWQS) since the inception of groundwater monitoring, (beginning in 1997).

EMC installed three, but currently operates only one of two water supply wells. Well #3 is currently providing water for the facility and is located approximately 3,000 feet northeast of the APSR facility. One of the wells has been abandoned, (Well #1), and the other well (Well #2) was operated in the past, but is not being actively pumped at this time. Well #2 is on stand-by for fire suppression use.

Site Characterization Results and Conclusions

Six soil borings were advanced using at hollow stem auger in December 2007. Three vertical extent borings were drilled below the central drain and the transmission pipeline of the APSR. Three lateral borings were located peripherally to the APSR. The six borings were advanced to a total depth of 60 feet bgs, and samples were collected at 10, 20, 30, 40, and at the 50 feet bgs intervals.

Each soil sample that was collected was screened at an on-site mobile lab using Method 8021B for benzene, toluene, ethylbenzene, xylene (BTEX) compounds and solvent screening (Tetrachloroethylene, Trichloroethylene 1,2-Dichloroethylene). The samples were also analyzed using X-Ray Fluorescence (XRF) for screening purposes only, to analyze for antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel and zinc. The extractant used in the preparation for the BTEX and solvent scan was shipped to a fixed lab for VOCs and SVOCs using Method 8260 and 8270. The powder prepared for the XRF in the mobile lab was preserved and tested using Method 6010 and 7471 for Resource Conservation and Recovery Act (RCRA) metals and mercury.

Arsenic, cadmium, chromium, and lead were found in the soils beneath the APSR using the XRF method, however all metal detections using the fixed based lab resulted in no exceedances above the residential soil remediation levels (rSRLs). The laboratory analytical results for VOCs and SVOCs indicated that the results were non-detect for all constituents tested.

The results of the soil sampling indicate that at this present time, no further action is required as it relates to contingency actions for soil gas sampling in the APP. The requirement for soil gas sampling has been removed from the permit since the facility was upgraded with a Leak Detection Recovery System (LDRS) trench, and that soil sampling results did not indicate the presence of VOCs at the locations sampled. There are currently no soil gas standards in Arizona at this time. When the soil gas concentrations were converted to soil concentrations, the result indicated the concentrations were below the rSRLs as reviewed by the Waste Program Division. The soil gas sampling probes will remain at the site, to be activated if chlorinated solvents are used at the site for the stripping of paint from aircraft in the near future, or other contingency action warrants the need.

Amendment Description

This amendment updates the compliance schedule, incorporates the current permit boilerplate format resulting in numerous format changes throughout, and addresses changing the Alert Levels (AL) and Aquifer Quality Limits (AQLs) for the various VOCs in the permit and removes the soil gas monitoring from the permit based on the results of the site characterization. The permit revises the BADCT that incorporates the new process of storing the aircraft wash water for removal by a contractor to an approved disposal facility. The revised compliance schedule includes discharge characterization and calculation of the alert levels for LDRS liquid flow rate.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The EMC aircraft wash/paint stripping operation process solutions are pumped immediately into four above ground storage tanks. The original drain system installed in 1988 was replaced in 2007 with the addition of a LDRS. Process solutions enter the main transmission line, which is paired with a perforated head reduction line to reduce the head on the primary liner. Both of these lines discharge

into a watertight sump. Process water is removed from the sump, using a pump with a suction line placed in the sump, and is placed into one of the four holding tanks, depending on the remaining capacity. Process solutions are also pumped from the LDRS that is located below the main transmission lines (below the primary liner) but inside of secondary containment. Solutions recovered from the LDRS are also placed in the same holding tanks. The wastewater is shipped via truck off-site storage by an Arizona certified industrial water hauler. Chlorinated solvents are no longer used on the paint stripping rack.

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

Operational Monitoring

EMC shall perform and document a visual inspection for damage to the protective rip-wrap on the surface of the over spray area, the surface water berm that surrounds the facility, the concrete equipment pad and 8-inch high curb that surrounds the pad, and the process solution storage tanks each week. Operations at the site shall be conducted in accordance with the conditions of this permit and with site-specific operational procedures. Copies of this permit and site specific operational procedures shall be maintained at the plant site at all times and shall be available upon request during inspections by ADEQ personnel.

If damage is identified during an inspection that could cause or contribute to a discharge, proper repairs shall be promptly performed in accordance with the permit.

Discharge Monitoring

The permittee shall monitor the process solutions stored in the holding tanks on a quarterly basis. A representative sample of the process solution shall be collected from the storage tank in order to assess the quality of the process solution being shipped off site.

Ambient Water Quality Monitoring

During the first year of operation, quarterly sampling was performed at MW-1 to establish background ambient water quality data for evaluating any long-term changes in quality at the well. Alert Levels and Aquifer Quality Limits for the permit were calculated from this data according to the Compliance Schedule.

Groundwater Impact Monitoring

After completion of the ambient water-monitoring requirement according to Section 2.5.3.2, EAC shall initiate annual groundwater quality monitoring according to Section 4.2, Table 2 of the permit.

Groundwater sampling frequency and parameters may be adjusted by ADEQ if substantiated by valid analytical data collected in subsequent years. A written request for reduction of the sampling frequency and/or written ADEQ approval is required.

Point(s) of Compliance

The Point of Compliance (MW-1) is established at the following monitoring location:

Latitude: 32° 30' 20" North

Longitude: 111° 19' 02" West

IV. STORM WATER AND SURFACE WATER CONSIDERATIONS

There are no storm/surface water considerations required for this facility.

V. COMPLIANCE SCHEDULE

Within 12 months of permit issuance the permittee shall submit the results of the discharge characterization and the calculation of the alert levels for LDRS liquid elevation and flow rate. Within three months the configuration of the HDPE Liner in the over spray, and how it is connected to the concrete APSR pad shall be evaluated. This includes an evaluation of the potential for precipitation falling in the over spray area to flow under the APSR and into the area between the two HDPE liners. If chlorinated solvents will be used at the site ADEQ shall be notified 30 days in advance. The use of chlorinated solvents will require the permittee to submit an amendment. This will require resuming soil gas sampling as well as other applicable permit conditions such as alert levels discharge limitations, contingency actions and sampling tables.

VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

EMC has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

ADEQ requires that appropriate documents be sealed by an Arizona registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

EMC has demonstrated the financial capability necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The estimated closure and post-closure cost is \$377,214 and \$161,621 respectively. The assurance mechanism was demonstrated through A.A.C. R18-9-A203(C)(2). The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The permittee has been properly zoned for the permitted use and the permittee has complied with all Pima County zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(B)(3).

VII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

This is a Significant Amendment to an APP that ADEQ issued previously, in accordance with A.A.C. R18-9-A211(D). The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-109(A))

The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C. R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

VIII. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division – Groundwater Section
Attn: Steve Vevang
1110 W. Washington St., Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771- 4621