

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

April 7, 2011

In Reply Refer To: WTR-7

Bob Weihe, Owner  
MYD Samoa, Inc.  
P.O. Box 7684  
Pago Pago, Tutuila, American Samoa 96799

**Re: September 29, 2010 Clean Water Act Inspection  
And Termination of EPA Administrative Order CWA-309(a)**

Dear Mr. Weihe:

Enclosed is the April 7, 2011 report for our September 29, 2010 inspection of MYD Samoa. Please submit a short response to the findings in Sections 1 through 4 of this report to EPA and ASEPA, by **June 30, 2011**. The main findings are summarized below:

- 1** The October 1, 2010 reissuance of the NPDES permit resolves all provisions of the September 19, 2008 EPA Administrative Order. **Therefore the Order is terminated.**
- 2** The NPDES permit requires implementation of a number of best management practices ("BMPs") that were previously established in the EPA Order. These BMPs were for the most part found to be ineffectively implemented. There were deposits of blasting grit on the dry dock deck indicating a failure to dry sweep after each shift. There were deposits on the pier side landings confirming the failure to replace tsunami-damaged wind break curtains. The dry dock deck exhibited some wear and damage. The tsunami-damaged sea wall and curbing along the waterfront were unrepaired thereby allowing drainage to bypass the permitted siphon sump outfalls. Also there were numerous accumulations of oily debris, grit, trash, and excavation soils exposed to rain water contact.
- 3** Sampling has not been fully conducted. The self-monitoring requirements for the Order were for the most part unfulfilled. The first quarterly discharge monitoring report under the new NPDES permit also has not been received.

I appreciate your helpfulness during this inspection. I remain available to you and to ASPA to assist in any way. Please do not hesitate to call me at (415) 972-3504, or by e-mail at [arthur.greg@epa.gov](mailto:arthur.greg@epa.gov).

Sincerely,

*Original signed by:*

Greg V. Arthur  
Clean Water Action Compliance Office

cc: Lt. Matt Vojik, ASEPA



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**REGION 9**

**CLEAN WATER ACT COMPLIANCE OFFICE**

**NPDES COMPLIANCE EVALUATION INSPECTION**

NPDES Permittee: MYD Samoa, Inc.

Facility: Satala Shipyard  
P.O. Box 7684, Pago Pago, Tutuila Island, American Samoa  
(NPDES Permit No. AS0020026)

Receiving Water: Pago Pago Harbor

Date of Inspection: September 29, 2010

---

Inspection Participants:

US EPA: Greg V. Arthur, CWA Compliance Office, (415) 972-3504

ASEPA: LCDR Matt Vojik, USPHS, (684) 633-2304

MYD Samoa: Bob Weihe, Owner, (684) 644-4123

Report Prepared By: Greg V. Arthur, Environmental Engineer, USEPA Region 9  
April 7, 2011

---



## 1.0 Scope and Purpose

On September 29, 2010, EPA conducted an NPDES compliance evaluation inspection of the MYD Samoa, Satala Shipyard. The purpose was to ensure compliance with the NPDES permit and applicable Federal regulations covering the discharge of non-domestic wastewaters and storm water runoff into waters of the United States. A secondary purpose was to determine the effects of the September 2009 tsunami on the shipyard's compliance with the September 19, 2008 EPA Administrative Order as well as to further verify the conditions in future NPDES permit. In particular, it was to ensure:

- Classification in the proper Federal category;
- Application of the correct standards at the correct sampling points;
- Application of effective best management practices;
- Consistent compliance with the standards and best management practices; and
- Fulfillment of Federal self-monitoring requirements.

The Satala Shipyard is one of the dischargers of storm or industrial wastewater to waters of the United States whose compliance was assessed as part of evaluations of the NPDES permitted discharges in American Samoa conducted in 2010. Inspection participants are listed on the title page of this report. Arthur conducted the inspection on September 29.

## 1.1 Background

The Satala Shipyard is a ship repair yard sited on the northeastern side of Pago Pago Harbor in the village of Satala. MYD Samoa provides ship repair to tuna fishing and processing ships, mostly 80 to 180-foot long liners and 250-foot purse seiners, as well as various smaller vessels. Ship repair involves two cradle dry docks, berthing piers, and shops for carpentry, hose repair and testing, sheet metal fabrication, machining, welding, electrical work, and painting. MYD Samoa does not rebuild engines or accept oily wastes (including ships bilge and ballast waters) from shipboard sources. See Sections 1.3 and 1.4 on pages 3 through 8 and 5 for further description of on-site processes.

EPA issued NPDES permit No. AS0020036 to MYD Samoa for the Satala Shipyard on September 17, 2010, to be in effect starting October 1, 2010 and to expire on September 30, 2015. EPA issued the 2003 version of NPDES permit No. AS0020036 to Southwest Marine of Samoa. Ownership of the Satala Shipyard transferred from Southwest Marine to MYD Samoa on August 1, 2007. On September 19, 2007, MYD Samoa, and not Southwest Marine, submitted the application for renewal of the NPDES permit 26 days late. The NPDES permit therefore was not administratively extended. Therefore, MYD Samoa has operated the Satala Shipyard without an NPDES permit in effect since the expiration of the permit on February 8, 2008 until the current permit took effect on October 1, 2010.

On September 19, 2008, EPA issued an Administrative Order, based on the May 29, 2008 EPA inspection report, in order to establish corrective actions to control and limit the discharges of shipyard pollutants into the harbor. The EPA inspection report identified significant and widespread shortcomings with the on-site contamination source controls



resulting in at least two violations of the Clean Water Act. First, there was the direct loss of blasting grit and paint chip debris through gaps in the dry dock decking into the harbor. Second, there were multiple discharges of contaminated wastewaters into the harbor from the exposure of numerous shipyard sources (such as blasting grit, paint chip debris, outdoor storage areas for trash, oil stained roadways), to contact with storm water drainage. As a result, the EPA Order specifically required MYD Samoa to (1) capture and control all discharges of process wastewaters, wastes, spent sandblasting grit, paint chips, paint overspray, and storm water drainages to the harbor from the dry docks, (2) minimize rainwater contact with all sources of contamination, (3) capture contaminated wastewaters for alternative disposal, and (4) self-monitor for a year.

A follow-up EPA inspection report issued on September 29, 2009 documented the progress of MYD Samoa toward completion of the Order, and outlined proposed modifications of the Order. However, American Samoa suffered a tsunami on that day which changed the conditions at the Satala Shipyard and thus nullified the findings of both the 2009 inspection report and the proposed modifications to the Order. See Section 2.0 on page 11 for further descriptions of requirements of the NPDES permit and the 2008 Administrative Order.

## 1.2 Facility SIC Code

MYD Samoa is assigned the SIC code for ship building and repairing (SIC 3731).

## 1.3 Facility Description

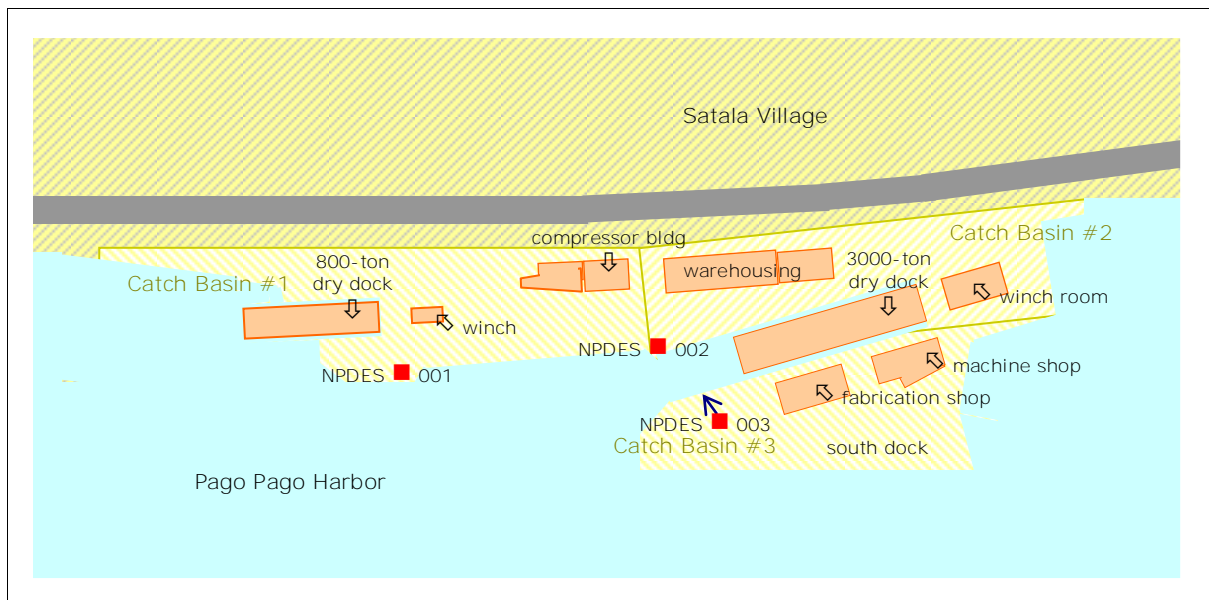
On the date of this inspection, the shipyard had significant unrepaired damage still evident from the tsunami that hit one year before. See Figure 1.3 on the next page the facility layout.

3000-Ton Cradle Dry Dock - The larger of two cradle dry docks was found on this inspection to be functioning but peripherally damaged by the tsunami. The cradle dry dock consists of a split 50x300-foot platform mounted on rolling stock. The dry dock rolls down a marine railway that extends into and is submerged under the harbor. Ships are positioned over and then fixed on hauling blocks to the cradle, which is winched up the railway up and over the water. An electric winch engine and gearing is housed at the head of the dry dock. Gearing travels through a basin pit filled with lubricating oil. The dry dock work involves depainting, painting, hydroblasting, fitting, repairs, and fabrication. Vessels under repair have hulls made of fiberglass, aluminum, or steel. Sandblast depainting uses copper-slag grit. The deck consists of removable plywood and planking without perimeter curbing. Roofing felt is added under new plywood to better fill in the gaps between the planking on the deck directly over harbor water. The dry dock has framing and rigging that allows the unfurling of portable curtains around the dry dock to capture painting overspray and windborne blasting debris.

On the date of this inspection, evidence of unrepaired damage from the tsunami included failure of both ends of the 3000-ton dry dock seawall, destruction of the outboard wind break curtains, deck planking loss, and the washout of the winch gear box lubricating pit. See Photos #1, #2, #3, and #4 in Section 1.5 of this report on pages 8 and 9.



**Figure 1.3**  
MYD Samoa Satala Shipyard Layout



800-Ton Cradle Dry Dock - The smaller of the two dry docks was found on this inspection to be decommissioned and awaiting repair as it was in the previous year, with additional unrepaired tsunami-caused damage, and debris accumulation around and under the dry dock. The landings around the 800-ton dry dock are within the storm water drainage watershed referred to as Catch Basin #1. MYD Samoa hopes to repair and commission the 800-ton dry dock back into service at an undetermined future date. The design of this dry dock is similar to the larger one. See Photos #7 and #8 in Section 1.5 of this report on page 9.

South Dock - Ships berthing takes place next to the shipyard in an area called the South Dock extending south of the 3000-ton Dry Dock and the harbor, within the storm water drainage watershed referred to as Catch Basin #3. Extensive unrepaired tsunami-caused damage to the South Dock sea wall was still evident with structural concrete fracturing along the waterfront, and debris, excavation soils, and scrap awaiting removal. See Photos #5 and #6 in Section 1.5 of this report on page 9.

Fabrication Shop - Sheet metal fabrication and welding work is performed in a covered-but-open building located near the South Dock just south of the 3000-ton dry dock within the storm drainage watershed referred to as Catch Basin #3. The metal fabrication work includes sheet metal shearing, welding, rolling, and bending. The EPA inspector found there to be nearly no scrap and materials exposed to the rain along the outside of the building. The cement driveway between the shops and the dry dock appeared to slope from the shops toward the dry dock and the gap that opens to the harbor waters below. See Photo #2 in Section 1.5 of this report on page 8.

Machine Shop - Machining operations are conducted in a second covered-but-open building located near the South Dock adjacent to the Fabrication Shop south of the 3000-ton dry dock



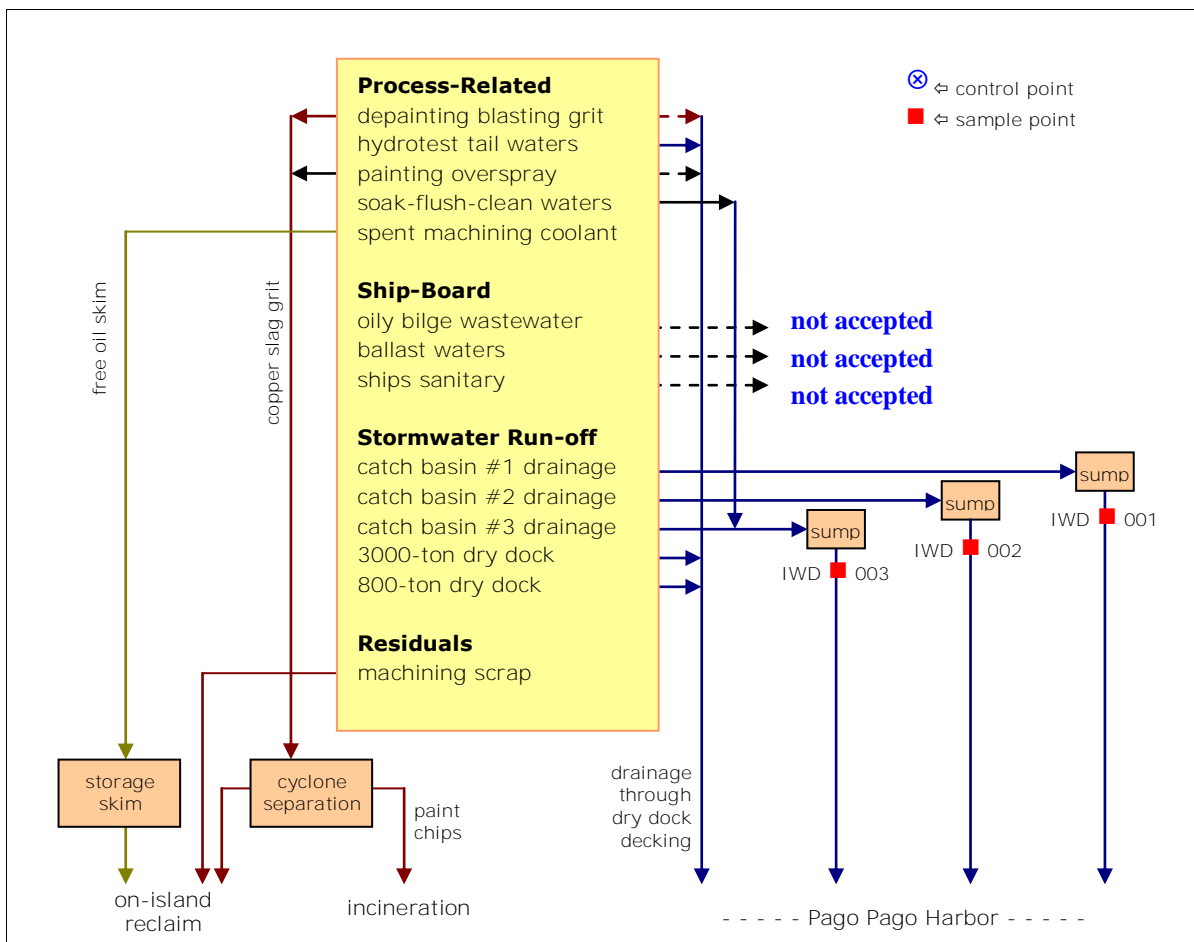
within the storm drainage watershed referred to as Catch Basin #3. The metal machining operations include lathe turning, sawing, milling, and drilling, using synthetic cutting fluids.

Other Operations - The buildings between the 3000-ton Dry Dock and the road include warehouses and a compressor building. This inspection did not involve a walk-through of the covered-and-enclosed warehouse buildings, nor the covered-but-open compressor building. In the 2009 inspection, the compressor building was found to house two compressors, a diesel fuel tank within secondary containment, and used battery storage also within secondary containment.

### 1.4 Facility Wastewater Sources, Handling and Discharge

MYD Samoa generates process-related wastewaters and storm water run-off from shipyard and shipboard sources. Wastewater sources and controls at MYD Samoa were found during this inspection to be essentially the same as they were in 2009.

**Figure 1.4**  
 MYD Samoa Shipyard – Configuration of Wastewater Control



US EPA ARCHIVE DOCUMENT





#### 1.4.1 Shipboard and Shipyard Sources

MYD Samoa accepts no shipboard sources of process-related wastewaters such as ballast, bilge, and ships sanitary wastes. Shipyard sources of process-related wastewaters include hydroblasting, painting, sand blasting, grinding, fabrication, machining, chemical cleaning and hose flushing, and hydrotesting. See Figure 1.4 on the previous page.

- Depainting and Grinding Grit - Depainting involves hand grinding and high-pressure blast abrasion of paint using copper slag grit. MYD Samoa can employ a number of BMPs to control and capture spent grit and grinding residuals, including (1) laying down plywood planking on the dry dock decking during grit blasting, (2) broom sweeping of spent grit and residuals into piles, (3) unfurling curtains to keep the grit on the dry dock deck, (4) underlayment of new plywood with roofing felt, and (5) temporary use of plastic sheeting on the plywood surface. MYD Samoa also vacuum cyclone separates paint chips from the spent grit with the grit hauled by truck to a landfill under ASEPA approval and the paint chips incinerated on-island.

Spent grit would contain copper slag and various types of marine paint chips which incorporate, as antifoulants, copper oxides (up to 70%), copper thiocyanates, and in the past, arsenic, mercury, or tributyltins. Clean copper slag consists of 55% iron oxide, 35% silica, 3% aluminum oxide, 0.42% copper, and inert materials. Grinding produces paint dust and fiberglass, aluminum, or iron dust from the hulls. Painting overspray would have the same composition as the marine paint chips.

On the day of this inspection, these BMPs were observed to have not been effectively deployed. In particular, (1) some plywood decking was damaged exposing some gaps to the harbor beneath; (2) the deck was not swept; (3) there were deposits of grit on the deck and adjacent piers; and (4) the wind break curtains were missing on the windward side of the dry dock. Spent grit blown to the dock edges cannot be captured until MYD Samoa installs new curtains. See Photos #2, #3, and #4 in Section 1.5 on pages 8 and 9.

- Hydroblast Tail Waters – In response to the EPA Order, MYD Samoa indicated that hydroblasting on-site involves the high-pressure water spray removal of only sea growth, slime, and salinity from ship hulls. Hydroblast tail waters cannot be collected because the dry dock decks are not curbed and sealed and there are no controlled methods of wastewater disposal. As a result, hydroblasting can be expected to generate an uncontrolled discharge of process-related wastewater that drains through the gaps in the deck to the harbor, with a water quality expected to be similar to sea growth-entrained sea water.
- Painting Overspray - MYD Samoa paints marine finishes on ships below and above the water line. The dry dock BMPs include unfurling of the portable curtains around and above the area to be painted in order to prevent the drifting of overspray to the air and harbor. On the days of this inspection, MYD Samoa indicated that the portable curtains on the windward side of the deck were lost during the tsunami.
- Flushing-Cleaning-Hydrotesting Wastewaters – MYD Samoa indicated that only hose flushing is performed on-site and only at times. Hose flushing was not observed during





this inspection. After the EPA Order, MYD Samoa added a BMP of confining hose flushing to the pier side shops for discharge through the NPDES permitted points. Tail waters from hose cleaning and hydrotesting could be expected to contain caustic, phosphoric acid, bleach as disinfectant, and dislodged residues.

- Machining and Fabrication - The machining and fabrication shops, located on the pier, and under cover, generate spent machining coolants, metal chips, and metal scrap. The spent coolant is collected into recycling barrels to skim tramp oil for on-island reclaim. Scrap metal is collected for delivery to the on-island scrap metal dealers. None of these waste streams would be expected to reach the harbor waters.
- Ship-Board Waters – In response to the EPA Order, MYD Samoa indicated that it does not accept any oily bilge, ballast, or ships sanitary wastewaters from the ships at berth or in dry dock. Typical bilge waters are oily and entrain lead and copper. Ballast waters are sea water. Ships sanitary are similar to septic tank domestic sewage. The ships themselves must make their own arrangements to handle these wastewaters.

#### 1.4.2 Storm Water Drainage

Storm water run-off would be expected from both dry docks, and the three drainage areas referred to as Catch Basins #1, #2 and #3. All of the shipyard sources and the drainage areas have the potential either to produce contaminated contact wastewaters or to discharge pollutants into the harbor. Drainage could contain free and emulsified oils, suspended solids, lead, or copper. There were no specific sources of arsenic, mercury, or PCBs identified during this inspection. MYD Samoa is not designed and does not have the capability to provide any wastewater treatment beyond make-shift oil interception. MYD Samoa also does not have non-domestic connections into the domestic ASPA sewers. As a result, the wastewater controls can only be through operational best management practices ("BMPs"). See Figure 1.4 on page 5 of this report.

- Catch Basin #1 Drainage – Catch Basin #1 includes the piers and landings around the 800-ton dry dock and two buildings. Catch Basin #1 was observed to have significant pollutant sources left exposed to contact with storm water run-off and to have tsunami-damaged curbing along the waterfront. In particular, there were (1) uncovered trash and barrel piles, (2) a covered but ineffectively boomed grit debris pile, (3) oil staining on the pavement leading from the blasting grit debris pile to the uncurbed gap around the 800-ton dry dock, (4) oil staining on the concrete near the discharge sump, and (5) tsunami-damaged curbing along the waterfront west of the discharge sump. With intact curbing, Catch Basin #1 drainage collects into a discharge sump outfitted with siphon overflows to the harbor, designated as discharge point NPDES-001. On the date of this inspection, no oily drainage was observed flowing into and through the discharge sump and no sheen was observed in the harbor around NPDES-001. See Photos #7, #8, #9, #10, #11, and #12 in Section 1.5 on pages 9 and 10.
- Catch Basin #2 Drainage – Catch Basin #2 encompasses buildings and pier side landings north and east of the 3000-ton dry dock. Catch Basin #2 was observed to have some spent blasting grit on the landings north of the dry dock. It was otherwise swept, in order,



and cleaned, with no other significant pollutant sources exposed to contact with rainfall run-off. There is curbing along the open harbor but not on the pier around the 3000-ton dry dock. The drainage collects to a sump outfitted with siphon overflows to the harbor, designated as discharge point NPDES-002. No sheen was observed in the harbor around NPDES-002. See Photo #13 in Section 1.5 on page 10.

- Catch Basin #3 Drainage – Catch Basin #3 includes the South Dock and the pier side landings between the fabrication and machining buildings and the 3000-ton dry dock. Catch Basin #3 was observed to have deposits of spent blasting grit on the landing north of the dry dock, and tsunami-related excavation soils and debris bins uncovered and exposed to contact with rainfall run-off. There were no materials, scrap, or debris stored outside and around the fabrication and machining buildings, and no boat repair work done by the ship crews on the South Dock. There is curbing along the South Dock but not on the pier around the 3000-ton dry dock. Around the dry dock, the landing slants toward the open gap over the harbor between the uncurbed pier and the dry dock. Most of the drainage collects to a sump outfitted with siphon overflows to a short canal leading to the harbor, and designated as discharge point NPDES-003. However, tsunami damage to the South Dock fractured the pavement and curbing, and some drainage drains through cracks to the harbor. No sheen was observed in the canal and harbor around NPDES-003. See Photos #5, #6, and #14 in Section 1.5 on pages 9 and 10.
- Dry dock Drainage – Rainfall runoff can drain through the gaps in the dry dock decking or directly to into the open gap over the harbor between the uncurbed dry dock and the pier. Deposits of spent blasting grit were observed on the 3000-ton dry dock. The deposits of spent grit onto the surrounding pier landings indicates that MYD Samoa grit blasted without unfurling wind break curtains. See Photos #2, #3, and #4 in Section 1.5 on pages 8 and 9.

## 1.5 Photo Documentation

Twelve of the 14 digital photographs taken during this inspection are depicted here. For comparison, two of the 14 taken during the 2009 inspection are also depicted here.



Photo #1: Engine Winch Room – 6' tsunami levels  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #2: 3000-Ton Dry Dock – wind break curtains  
Taken By: Greg V. Arthur  
Date: 09/29/10





The 2010 photos are saved as *samoa-12-092910.jpg* through *samoa-26-092910.jpg*. The 2009 photos are saved as *samoa-myd-27.jpg* through *samoa-myd-36.jpg*.



Photo #3: 3000-Ton Dry Dock Decking – Sept 2010  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #4: 3000-Ton Dry Dock Decking – April 2009  
Taken By: Greg V. Arthur  
Date: 04/27/09



Photo #5: Catch Basin #3 – South Dock  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #6: Catch Basin #3 – South Dock  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #7: Catch Basin #1 – near 800-ton dry dock  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #8: Catch Basin #1 – near 800-ton dry dock  
Taken By: Greg V. Arthur  
Date: 09/29/10





The 2010 photos are saved as *samoa-12-092910.jpg* through *samoa-26-092910.jpg*. The 2009 photos are saved as *samoa-myd-27.jpg* through *samoa-myd-36.jpg*.



Photo #9: Catch Basin #1 - Sept 2010  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #10: Catch Basin #1 - April 2009  
Taken By: Greg V. Arthur  
Date: 04/30/09



Photo #11: Catch Basin #1 - discharge sump 001  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #12: Catch Basin #1 - damaged waterfront  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #13: Discharge Sump 002 - Sept 2010  
Taken By: Greg V. Arthur  
Date: 09/29/10



Photo #14: Discharge Sump 003 - Sept 2010  
Taken By: Greg V. Arthur  
Date: 09/29/10

US EPA ARCHIVE DOCUMENT



## 2.0 NPDES Permit Requirements

*The NPDES permit must apply Federal BAT/NSPS standards to all regulated sources and the American Samoa water quality standards to the discharge to the ocean.*

### **Summary**

The NPDES permit authorizes the discharge of storm water run-off through three discharge points. The current 2010 NPDES permit incorporates the corrective actions earlier required by the September 19, 2008 EPA Administrative Order. MYD Samoa operated without an NPDES permit in effect for nearly three years after expiration of the previous permit in 2008. The permit imposes discharge limits that apply the American Samoa water quality standards, and BMPs meant to ensure the capture of blasting grit and compliance with the water quality standards. The permit specifically prohibits the discharge of shipboard wastewaters. The underlying objective of the permit is to prevent, through full implementation of proper BMPs, all shipyard discharges that could cause or contribute to water quality standards violations in the harbor.

### **Requirements**

- None.

### **Recommendations**

- None.

## 2.1 Permit Applicability

NPDES Permit AS0020036 was issued on October 1, 2010 and is set to expire on September 30, 2015. The previous version of the NPDES permit expired on February 8, 2008. MYD Samoa did not submit a permit application for renewal at least 180 days before expiration, and thus operated the Satala Shipyard without an NPDES permit in effect from February 8, 2008 until reissuance on October 1, 2011. The 2010 NPDES permit applies American Samoa water quality standards and technology-based limits to the discharges through three catch basins of industrial storm water drainage and process-related industrial wastewaters (*hydroblasting, hose cleaning*). Catch Basins #1, #2 and #3 each discharge through dedicated sump siphons into Pago Pago Harbor. The NPDES permit designates the catch basin sumps as the sample points NPDES-001, NPDES-002, and NPDES-003.

The NPDES permit also explicitly authorizes the discharge of industrial storm water drainage and process-related industrial wastewaters (*hydroblasting*) from both the perimeter and through deck gaps of the 3000-ton dry dock into the harbor waters beneath, if MYD Samoa successfully implements the BMPs for the dry dock. The NPDES does not explicitly permit the discharge of pollutants from other sources through other points of discharge.



## 2.2 Federal BAT/NSPS Categorical Standards

There are no Federal categorical standards for ship repair. MYD Samoa does not generate any wastewaters regulated under any Federal categorical standard in 40 CFR 407-471.

## 2.3 NPDES Permit Limits

Effluent Limits - The NPDES permit applies technology-based effluent limits for four parameters (*oil and grease @ 15 mg/l d-max, 10 mg/l mo-avg; pH @ 6.5 to 8.6 s.u.; no visual sheen; and turbidity @ 0.75 NTU*) to all permitted wastewater discharges to the harbor. The NPDES permit also applies water quality standards as effluent limits for anti-fouling agents (*copper, tributyltin*), petroleum indicators (*benzene, ethylbenzene, toluene, xylene*), and ship repair materials (*copper, lead, zinc, chromium*), as well as for Pago Pago Harbor TMDL-limited pollutants (*arsenic, mercury, PCBs*). The effluent limits are applied to the three catch basin sumps, designated in this report as the sample points NPDES-001, NPDES-002 and NPDES-003. There are no effluent limits applied to the discharges from the dry docks.

**Table 2.3.1**  
Discharge Standards and Limits, for MYD Samoa, Inc., Satala Shipyard

NPDES Permit AS0020036 § I.A. 1-2	Catch Basins ① (Instant-max)	Catch Basis ① (daily-max)	Catch Basins ① (month-avg)	monitoring frequency	sample type ②
flow (mgd)	-	-	-	continuous	n/a
visible sheen/foam	-	-	-	daily	visual
pH min/max (s.u.)	6.5 to 8.6 s.u.	-	-	monthly	grab
TSS (mg/l)	-	-	-	monthly	grab
turbidity (NTU)	-	0.75 NTU	-	monthly	grab
oil and grease (mg/l)	-	20 mg/l	10 mg/l	monthly	grab
total arsenic (µg/l)	-	0.37 µg/l	0.14 µg/l	quarterly	grab
total mercury (µg/l)	-	-	0.0425 µg/l	quarterly	grab
PCBs (µg/l)	-	-	0.0000544µg/l	quarterly	grab
hex chromium (µg/l)	-	82 µg/l	41 µg/l	quarterly	grab
total copper (µg/l)	-	2.9 µg/l	2.4 µg/l	quarterly	grab
total lead (µg/l)	-	13.3 µg/l	6.6 µg/l	quarterly	grab
total zinc (µg/l)	-	90 µg/l	45 µg/l	quarterly	grab
tributyltin (µg/l)	-	0.012 µg/l	0.006 µg/l	quarterly	grab
benzene (µg/l)	-	103 µg/l	51 µg/l	quarterly	grab
ethylbenzene (µg/l)	-	4221 µg/l	2100 µg/l	quarterly	grab
toluene (µg/l)	-	30150 µg/l	15000 µg/l	quarterly	grab
xylene (µg/l)	-	20100 µg/l	10000 µg/l	quarterly	grab

① At sample points NPDES-001, NPDES-002, NPDES-003, for Catch Basins #1, #2, and #3.

② Samples collected during the first 30 minutes of a storm event greater than 0.1 inches.

Site-specific Prohibitions - The NPDES permit specifies prohibitions against (1) discharges of visible floating materials, debris, scum, foam, grease, oil, sewage, shipboard wastes, and





visible turbidity, (2) discharges that produce toxicity, or objectionable color, odor, or taste in the harbor or the biota, or produce nuisance aquatic life, or form objectionable bottom deposits, and (3) discharges other than those authorized by the permit.

## 2.4 NPDES Permit BMP Requirements

The NPDES permit establishes a number of specific best management practices (“BMPs”) in recognition that compliance is achieved only through the elimination of contact of pollutant sources with process-related and storm water drainage.

Dry Dock BMPs - The NPDES permit requires the implementation of BMPs meant to control the discharge of spent blasting grit and paint overspray. These include (1) greatest possible sealing through complete covering of the deck during sandblasting and painting, (2) unfurling curtains during sandblasting and painting, (3) no deck rinsing, (4) dry sweep or vacuum deck cleaning and removal of debris after each shift, (5) hydroblasting and vessel washing only after deck cleaning, (6) no on deck hose cleaning or hydrotesting, (7) deck submergence only after prior notification and approval of the dry dock condition by ASEPA, (8) no wet sandblasting with corrosion inhibitors, (9) the separation of paint wastes from slag grit, and (10) proper storage and disposal of spent grit. The NPDES permit implicitly allows storm water drainage from the dry dock with successful implementation of these BMPs.

Shipyard BMPs - The NPDES permit authorizes discharge of only storm water run-off from the three catch basin sumps. Toward these requirements, the permit implements BMPs intended to result in compliance with the water quality standards. The BMPs include (1) deployment of secondary containment around all materials, equipment, and waste, (2) covered storage of used batteries, scrap, machinery, materials, and spent blasting grit, (3) the treatment of all pier side drainage through settling and skimming, (4) maintaining all pier side curbs along the harbor, (5) maintaining the landings around the dry dock swept, cleaned, and in order, (6) removal or covering of tsunami debris, (7) secondary containment on sealed pavement of used oils, paints, and solvents, (8) no discharge self-certifications for vessel wastewaters, (9) deployment of spill containment booms when vessels are in dock, and (10) regular removal of scrap and trash. The NPDES permit implicitly allows storm water drainage from the pier side landings next to the dry dock into the gap to the harbor between the dock and pier with the successful implementation of these BMPs, but if not, requires the installation of curbing on the landings around the dry dock.



### 3.0 Compliance with NPDES Permit Requirements

Shipyard discharges are only authorized from three permitted catch basin sumps and must comply with the discharge limitations set forth as the application of the water quality standards. [NPDES Permit §I.A, §I.B]

Shipyard and dry dock operations must follow the BMPs specified in the permit to result in compliance with the water quality standards. [NPDES Permit §III.B, §III.C]

Vessel sources of wastewaters are prohibited from discharge. [NPDES Permit §III.B.1(S6)]

#### *Summary*

Compliance at MYD Samoa depends on the implementation of BMP source controls. Numerous shortcomings observed in the 2008 inspection caused EPA to issue an Administrative Order. In addition, MYD Samoa operated without an NPDES permit from February 2008 until reissuance of the permit in October 2010. As a result, MYD Samoa operated under the temporary requirements of the Order to capture and control all discharges of process wastewaters, wastes, and storm water drainages from the dry docks, and to eliminate rainwater contact with all sources of contamination. In this inspection, conducted two days before the permit resumed in effect, MYD Samoa was found to be ineffective in capturing blasting grit and minimizing rain water contact. The excellent condition of the shipyard observed during the 2009 inspection was not evident, due partially to unrepaired tsunami damage, but also to a failure to consistently perform the BMP requirements in the Order and subsequently established in the new permit. Without consistent performance of the BMPs, the shipyard cannot be considered in compliance with the objectives of the Clean Water Act.

#### *Requirements*

- MYD Samoa must, to the greatest extent practical, seal the dry dock deck in order to prevent the loss of any solids into the harbor through gaps in the decking, always deploy curtains to capture all spent blasting grit on the dry dock, and after each shift keep the dry dock deck swept, clean, and in order.
- MYD Samoa must repair the tsunami-damaged curbing, and install either curbing or drainage trenching around the dry docks.
- MYD Samoa must, to the greatest extent practical, minimize storm water contact with all process equipment, materials, debris, and wastes.

#### *Recommendations*

- MYD Samoa should consider providing a connection for ships sanitary wastewaters to the ASPA domestic sewer system. See Figure 3.2.8 on page 18 of this report.



### 3.1 Dry Dock Wastewaters and Drainage

The NPDES permit requires implementation of a number of BMPs meant to control the discharge of spent blasting grit and paint overspray. The following findings and conclusions, based on this inspection conducted two days before the NPDES permit took effect, are listed by BMP as either effective (+), or ineffective, improvable, or missing (-).

#### 3.1.1 Sealing and Covering of the Deck (+/-)

Parts III.B.2(D1) and III.B.3(b)(4) of the NPDES permit requires the dry dock to be sealed to the greatest extent practical and the deck to be completely covered in order to prevent the loss of solids into the harbor through gaps in the decking. The dry dock was found with the sealable gaps for the most part sealed, although the condition of the plywood and the roofing felt underlayment showed some damage. MYD Samoa indicated that some of the damage was tsunami related, even though the tsunami occurred one year previous.

#### 3.1.2 Unfurling Curtains (-)

Part III.B.3(b)(4) of the NPDES permit requires curtains to be unfurled on the sides of the dry dock during sandblasting and painting in order to prevent the loss of spent blasting grit, paint chips, and paint overspray to the receiving waters. On the day of this inspection, there were deposits of spent blasting grit on the landings indicating that sandblasting and painting occurred without the effective unfurling of the curtains.

#### 3.1.3 No Deck Rinsing (+)

Part III.B.2(D2) of the NPDES permit prohibits rinsing of the dry dock to collect spent blasting grit or to remove solids from vessel hulls in order to prevent the loss of entrained solids into the harbor through gaps in the decking or over the deck edge. Deposits of spent blasting grit seen on the deck and the landings indicate that there was no rinsing of the deck.

#### 3.1.4 Dry Deck Cleaning and Debris Removal (-)

Parts III.B.2(D3) and III.B.3(b)(4) of the NPDES permit requires the dry dock deck to be dry broomed or vacuumed cleaned at the end of each shift to remove solids including spent blasting grit, removed scale, trash, and rust, in order to prevent the loss of storm water entrained solids into the harbor through gaps in the decking or over the deck edge. Deposits of spent blasting grit on the deck indicate that solids are not removed at the end of each shift.

#### 3.1.5 Hydroblasting and Vessel Washing (unk)

Part III.B.2(D4) of the NPDES permit requires the dry dock deck to be cleaned prior to any hydroblasting or vessel washing in order to prevent the entrainment of solids in tail water drainage into the harbor through gaps in the decking or over the deck edge. MYD Samoa indicates the hydroblasting and vessel washing are rarely performed and only to either desalinate or remove marine growth from vessel hulls. It is unknown whether the deck is cleaned before hydroblasting or vessel washing.



### **3.1.6 No Hose Cleaning or Hydrotesting (+)**

Part III.B.2(D5) of the NPDES permit requires hose cleaning and parts hydrotesting to be done pier side in order for the tail water drainage to discharge through one of the permitted outfalls. MYD Samoa indicated that all hose cleaning is performed pier side and that hydro-testing is not performed at all.

### **3.1.7 Deck Submergence (-)**

Part III.B.2(D6) of the NPDES permit requires notification of ASEPA the day before submergence and approval from ASEPA of the condition of the dry dock. ASEPA indicates that MYD Samoa has not notified them each time prior to submergence.

### **3.1.8 No Wet Sandblasting with Corrosion Inhibitors (+)**

Part III.B.2(D7) of the NPDES permit prohibits the use of corrosion inhibitors such as nitric acid in wet sandblasting. MYD Samoa indicated that no corrosion inhibitors are used.

### **3.1.9 Separation of Paint Wastes from Slag Grit (+)**

Part III.B.3(b)(4) of the NPDES permit requires paint wastes to be separated from the spent blasting grit. MYD Samoa vacuum cyclone separates paint chips from the spent grit with the grit hauled by truck to a landfill under ASEPA approval and the paint chips incinerated.

### **3.1.10 Proper Storage and Disposal of Spent Grit (+/-)**

Part III.B.3(b)(4) of the NPDES permit requires spent blasting grit to be properly disposed. Spent blasting grit was collected for storage under cover and surrounded with temporary adsorbent booming.

## **3.2 Shipyard Wastewaters and Drainage Sources**

The NPDES permit requires implementation of a number of BMPs meant to prevent rain-water contact with contamination sources and to limit discharges of storm water drainage to the siphon sump outfalls in compliance with water quality standards. The following findings and conclusions, based on this inspection conducted two days before the NPDES permit took effect, are listed by BMP as either effective (+), or ineffective, improvable, or missing (-).

### **3.2.1 Secondary Containment (+/-)**

Part III.B.1(S1) of the NPDES permit requires secondary containment around all materials, paints, fuel, containers, drums, trash heaps, hazardous materials storage, tooling and equipment exposed to rainfall. There were trash heaps and drums found exposed to rainfall without secondary containment. However, there were no materials, paints, fuels, containers, hazardous materials storage, tooling or equipment found uncovered and exposed to rainfall.



### **3.2.2 Covered Storage (+)**

Part III.B.1(S2,S3) of the NPDES permit requires anodes, ballast, and spent blasting grit to be covered, and spent anodes and ballast to be contained in drums or sealed crates. No anodes, ballast, or spents were found uncovered and exposed to rainfall.

### **3.2.3 Treatment Through Settling and Skimming (-)**

Part III.B.1(S4) of the NPDES permit requires all drainage from the three catchment basins to be discharged through the settling and oil skimming provided by the permitted siphon sumps. Tsunami damages to the perimeter curbing allow drainage from Catch Basins #1 and #3 to bypass the permitted siphon sumps and discharge directly to the harbor.

### **3.2.4 Pier Side Curbing Along the Harbor (-)**

Part III.B.1(S5) of the NPDES permit requires curbing along the harbor to be maintained. Tsunami damage includes the fractured South Dock sea wall and the missing curbing west of outfall 001.

### **3.2.5 Landings Swept, Cleaned and in Order (-)**

Part III.B.1(S5) of the NPDES permit requires the landings around the dry docks to be maintained swept, cleaned, and in order. The landings around both dry docks were found with blasting grit deposits (near 3000-ton dry dock) or blasting grit under cover with oil stained pavement (near 800-ton dry dock). This exposes solids to drainage that can discharge over the landing edges into the gaps to the harbor between the landings and the dry docks. If there are solids exposed to contact on the landings, the permit requires the building of curbs (or perhaps drainage trenches) around the dry docks to drain through the siphon sumps.

### **3.2.6 Removal of Tsunami Debris (-)**

Part III.B.1(S7) of the NPDES permit requires the tsunami-related debris to be either removed or covered and contained to prevent contact with rainfall. On the day of this inspection, an excavation pile on the South Dock remained uncovered and exposed to rainwater.

### **3.2.7 Secondary Containment of Oils, Paints, and Solvents (+)**

Part III.B.3(b)(3,5) of the NPDES permit requires used oils to be stored in secondary contained containers on impervious pads, and paint and solvents to be mixed in a designated secondary contained mixing area. There were no materials, paints, fuels, containers, oil tanks, hazardous materials storage, tooling or mechanized equipment found uncovered and exposed to rainfall. However, there were spent drums left exposed to rainwater.

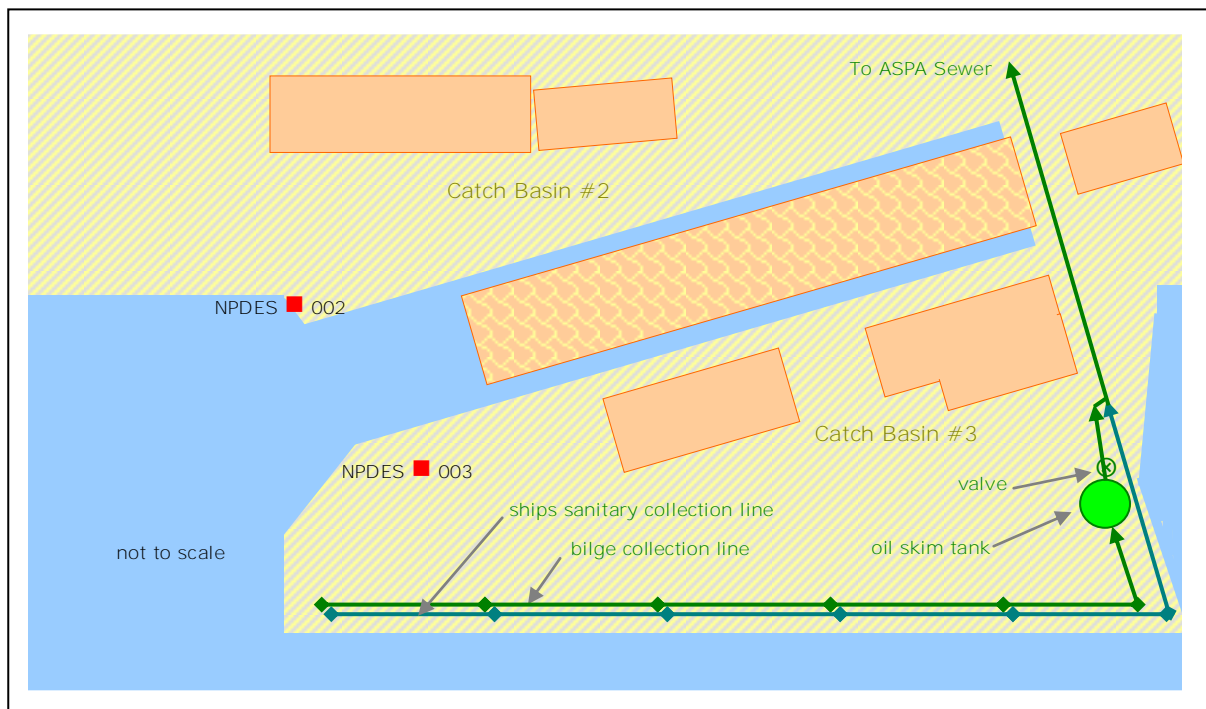
### **3.2.8 No Discharge of Vessel Wastewaters (+)**

Part III.B.1(S6) of the NPDES permit requires self-certification of no discharge to the harbor of fuel oil, oil sludge, oil refuse, bilge water, ballast waters, or ships sanitary, since there are



no shipyard facilities to handle vessel-related wastewaters. Although ships continue to generate shipboard wastewaters while in dock, there was no observed evidence of discharge from shipboard sources. MYD Samoa further indicates that no shipboard wastewaters are accepted, and that they would consider the connection of dock facilities to the ASPA sewers.

**Figure 3.2.8**  
Schematic of Possible Upgrades - Shipboard Wastewater Handling



### 3.2.9 Containment Booming (+)

Part III.B.3(b)(3) of the NPDES permit requires oil containment booms to be deployed across the entrance to the dry dock when ships are in dock. On the day of this inspection containment booms were observed across the entrance.

### 3.2.10 Removal of Scrap and Trash (-)

Part III.C.3(p) of the NPDES permit requires regular removal of scrap metal, wood, plastic, trash, and other debris. There were numerous debris and scrap piles on-site.

## 3.3 Compliance with Effluent Limits

On the day of this inspection, no oily sheen was observed in the harbor waters around the three permitted outfalls. MYD Samoa always deploys oil adsorbent pads in each of the siphon sumps. Otherwise, compliance is achieved only through effective implementation of the BMPs. There are nearly no other sampling results for the three outfalls.





#### 4.0 Compliance with NPDES Permit Monitoring Requirements

The three catch basin sumps must be self-monitored for conventionals, and toxics. [NPDES Permit §A(1), B(Table 1)]

Samples must be representative of the sampling day's operations and of the conditions occurring during the reporting period. 40 CFR 403.12(g) and 403.12(h).

##### *Summary*

While the NPDES permit was expired, the September 19, 2008 EPA Order established the self-monitoring requirements for the discharges from the three catch basin sumps to the harbors. MYD Samoa performed nearly none of the required self-monitoring.

The October 2010 NPDES permit now establishes self-monitoring for each of the three catch basin sumps that includes (1) daily inspection and logging for visible sheen, (2) monthly measurements for pH and grab sampling for total suspended solids, turbidity, and oil and grease, and (3) quarterly grab sampling for arsenic, mercury, PCBs, total chromium, copper, lead, zinc, tributyltin, benzene, ethylbenzene, toluene, and xylene. The first quarterly discharge monitoring report for October-December 2010 was due February 28, 2011. EPA has not received this first discharge monitoring report.

##### *Requirements*

- MYD Samoa must self-monitor as required by the NPDES permit.

##### *Recommendations*

- None.